FOR INFORMATION ONLY

APPENDIX C: SOIL AND MISCELLANEOUS SAMPLE ANALYTICAL RESULTS

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

PROJECT NO. 313010.202

Hematite Site

Lot #: F7K210247

Paul Ely

Energy Solutions, LLC
1009 Commerce Park Drive
Suite 100
Oak Ridge, TN 37830

TESTAMERICA LABORATORIES, INC.

For Ivan Vania
Project Manager

December 19, 2007

Case Narrative
LOT NUMBER: F7K210247

This report contains the analytical results for the 40 samples received under chain of custody by TestAmerica St. Louis on November 21, 2007. These samples are associated with your Hematite Site project.

The analytical results included in this report meet all applicable quality control procedure requirements except as noted on the following page.

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

All chemical analysis results are based upon sample as received, wet weight, unless noted otherwise. All radiochemistry results are based upon sample as dried and ground with the exception of tritium, unless requested wet weight by the client.

Observations/Nonconformances

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

Neptunium by Alpha Spectroscopy

The Neptunium LCS tracer recovery is outside acceptance limits. LCS spike recoveries are within QC limits demonstrating acceptable sample preparation and instrument performance. There is an apparent anomaly in the sample preparation, isolated to the LCS and not indicative of the batch.
Affected Samples:
F7K210247 (1): BD-38-2.5-SL
F7K210247 (3): BD-38-5-SL
F7K210247 (5): BD-42-4.5-SL
F7K210247 (7): BD-43-2.5-SL
F7K210247 (10): BD-44-2.5-SL
F7K210247 (13): BD-45-2.5-SL
F7K210247 (16): BD-46-2.5-SL
F7K210247 (22): BD-48-2.5-SL
F7K210247 (24): BD-48-5.5-SL
F7K210247 (25): NB-136-0.5-SL
F7K210247 (28): NB-137-0.5-SL
F7K210247 (29): NB-137-4.5-SL
F7K210247 (31): NB-138-0.5-SL
F7K210247 (34): NB-139-0.5-SL
F7K210247 (36): NB-140-0.5-SL
F7K210247 (39): NB-141-0.5-SL

Technetium-99 by LSC

The RPD/RER is not within method acceptance criteria. The sample is non-homogeneous. Method performance is demonstrated by acceptable LCS recovery.
Affected Samples:
F7K210247 (34): NB-139-0.5-SL
F7K210247 (36): NB-140-0.5-SL
F7K210247 (39): NB-141-0.5-SL

There were no nonconformances or observations noted with any other analysis on this lot.

METHODS SUMMARY

F7K210247

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Gamma Spectroscopy - Cesium-137 & Hits	EML GA-01-R MOD	
Isotopic Plutonium by Alpha Spectroscopy	EML A-01-R	
Isotopic Uranium by Alpha Spectroscopy	EML A-01-R MOD	
Neptunium by Alpha Spectroscopy	EML A-01-R MOD	
TC-99 by LSC	EML TC-02-RC MO	

References:

EML "ENVIRONMENTAL MEASUREMENTS LABORATORY PROCEDURES MANUAL"
HASL-300 28TH EDITION, VOLUME I and II DEPARTMENT OF ENERGY

SAMPLE SUMMARY

F7K210247

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
KCQR5	001	BD-38-2.5-SL	11/20/07	14:10
KCQR8	002	BD-38-4.5-SL	11/20/07	14:10
KCQTA	003	BD-38-5-SL	11/20/07	14:15
KCQTF	004	BD-42-2.5-SL	11/20/07	14:00
KCQTK	005	BD-42-4.5-SL	11/20/07	14:00
KCQTQ	006	BD-42-9-SL	11/20/07	15:40
KCQT0	007	BD-43-2.5-SL	11/20/07	13:10
KCQT2	008	BD-43-4.5-SL	11/20/07	13:10
KCQT6	009	BD-43-5-SL	11/20/07	13:20
KCQT8	010	BD-44-2.5-SL	11/19/07	17:25
KCQT9	011	BD-44-4.5-SL	11/19/07	17:25
KCQVA	012	BD-44-8.5-SL	11/19/07	17:40
KCQVC	013	BD-45-2.5-SL	11/08/07	18:20
KCQVD	014	BD-45-4.5-SL	11/08/07	18:20
KCQVF	015	BD-45-13-SL	11/08/07	18:30
KCQVG	016	BD-46-2.5-SL	11/20/07	10:50
KCQVH	017	BD-46-4.5-SL	11/20/07	10:50
KCQVJ	018	BD-46-5-SL	11/20/07	11:00
KCQVL	019	BD-47-2.5-SL	11/19/07	08:25
KCQVN	020	BD-47-4.5-SL	11/19/07	08:25
KCQVQ	021	BD-47-6.5-SL	11/19/07	08:30
KCQVT	022	BD-48-2.5-SL	11/19/07	09:00
KCQV0	023	BD-48-4.5-SL	11/19/07	09:00
KCQV2	024	BD-48-5.5-SL	11/19/07	09:04
KCQV4	025	NB-136-0.5-SL	11/14/07	17:48
KCQV5	026	NB-136-4.5-SL	11/14/07	17:53
KCQV6	027	NB-136-17.5-SL	11/14/07	18:10
KCQV8	028	NB-137-0.5-SL	11/13/07	16:35
KCQWE	029	NB-137-4.5-SL	11/13/07	16:38
KCQWH	030	NB-137-13.5-SL	11/13/07	16:50
KCQWK	031	NB-138-0.5-SL	11/15/07	14:45
KCQWP	032	NB-138-4.5-SL	11/15/07	14:50
KCQWT	033	NB-138-14.5-SL	11/15/07	15:05
KCQWX	034	NB-139-0.5-SL	11/15/07	08:35
KCQW2	035	NB-139-15-SL	11/15/07	08:55
KCQW4	036	NB-140-0.5-SL	11/15/07	10:10

(Continued on next page)

SAMPLE SUMMARY

F7K210247

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
KCQW5	037	NB-140-4.5-SL	11/15/07	10:16
KCQW8	038	NB-140-12.5-SL	11/15/07	10:27
KCQXA	039	NB-141-0.5-SL	11/13/07	17:15
KCQXC	040	NB-141-4.5-SL	11/13/07	17:20

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Energy Solutions, LLC

Client Sample ID: BD-38-2.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210247-001
Work Order: KCQR5
Matrix: SOLID

Date Collected: 11/20/07 1410
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7339318**	**Yld % 99**
Neptunium 237	-0.0054	U	0.0063	1.00	0.052	12/05/07	12/08/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7339323**	**Yld % 91**
Plutonium 238	-0.014	U	0.010	1.00	0.071	12/05/07	12/12/07
Plutonium 239/40	-0.0039	U	0.0055	1.00	0.051	12/05/07	12/12/07
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7332482**	**Yld % 93**
Technetium 99	**0.67**	**J**	**0.31**	1.00	**0.46**	**11/28/07**	**12/04/07**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7339326**	**Yld % 95**
Uranium 233/234	**2.57**		**0.39**	1.00	**0.06**	**12/05/07**	**12/10/07**
Uranium 235/236	**0.084**	**J**	**0.066**	1.00	**0.053**	**12/05/07**	**12/10/07**
Uranium 238	**0.86**	**J**	**0.20**	1.00	**0.05**	**12/05/07**	**12/10/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7332236**	**Yld %**
Americium 241	0.062	U	0.098	1.00	0.16	11/28/07	12/08/07
Cesium 137	0.028	U	0.050	1.00	0.085	11/28/07	12/08/07
Thorium 232	0.27	U	0.21	1.00	0.30	11/28/07	12/08/07
Uranium 235	0.10	U	0.22	1.00	0.38	11/28/07	12/08/07
Uranium 238	1.33	U	0.69	1.00	1.5	11/28/07	12/08/07
--- Other Detected Radionuclides ---							
Bismuth 214	**0.47**		**0.14**		**0.14**	**11/28/07**	**12/08/07**
Lead 212	**0.44**		**0.11**		**0.11**	**11/28/07**	**12/08/07**
Lead 214	**0.50**		**0.13**		**0.15**	**11/28/07**	**12/08/07**
Potassium 40	**7.5**		**1.6**		**1.1**	**11/28/07**	**12/08/07**
Thallium 208	**0.128**		**0.066**		**0.089**	**11/28/07**	**12/08/07**

NOTE(S)

[illegible] are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-38-2.5-SL DUP

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210247-001X
Work Order: KCOR5
Matrix: SOLID

Date Collected: 11/20/07 1410
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7332236**		**Yld %**
Americium 241	0.0003	U	0.11	1.00	0.20	11/28/07	12/08/07
Cesium 137	0.037	U	0.049	1.00	0.080	11/28/07	12/08/07
Thorium 232	0.29	U	0.17	1.00	0.35	11/28/07	12/08/07
Uranium 235	0.16	U	0.26	1.00	0.43	11/28/07	12/08/07
Uranium 238	1.14	U	0.75	1.00	1.6	11/28/07	12/08/07
--- Other Detected Radionuclides ---							
Bismuth 214	**0.61**		**0.15**		**0.18**	**11/28/07**	**12/08/07**
Lead 212	**0.70**		**0.18**		**0.16**	**11/28/07**	**12/08/07**
Lead 214	**0.81**		**0.17**		**0.13**	**11/28/07**	**12/08/07**
Potassium 40	**8.8**		**1.5**		**1.3**	**11/28/07**	**12/08/07**
Thallium 208	**0.220**		**0.078**		**0.081**	**11/28/07**	**12/08/07**
C-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7332482**		**Yld % 96**
Technetium 99	0.29	U	0.28	1.00	0.45	11/28/07	12/04/07
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7339318**		**Yld % 94**
Neptunium 237	-0.0116	U	0.0096	1.00	0.067	12/05/07	12/08/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7339323**		**Yld % 97**
Plutonium 238	-0.0006	U	0.031	1.00	0.078	12/05/07	12/12/07
Plutonium 239/40	0.008	U	0.020	1.00	0.042	12/05/07	12/12/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7339326**		**Yld % 92**
Uranium 233/234	**2.39**		**0.38**	1.00	**0.06**	**12/05/07**	**12/10/07**
Uranium 235/236	**0.116**	**J**	**0.080**	1.00	**0.056**	**12/05/07**	**12/10/07**
Uranium 238	**0.85**	**J**	**0.20**	1.00	**0.06**	**12/05/07**	**12/10/07**

E(S)

s are incomplete without the case narrative.

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-38-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210247-002
Work Order: KCOR8
Matrix: SOLID

Date Collected: 11/20/07 1410
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7332482**	**Yld % 93**
Technetium 99	0.03	U	0.22	1.00	0.46	11/28/07	12/04/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7332236**	**Yld %**
Americium 241	0.0003	U	0.16	1.00	0.27	11/28/07	12/08/07
Cesium 137	-0.011	U	0.060	1.00	0.11	11/28/07	12/08/07
Thorium 232	**1.40**		**0.32**	1.00	**0.20**	**11/28/07**	**12/08/07**
Uranium 235	0.1	U	0.34	1.00	0.57	11/28/07	12/08/07
Uranium 238	0.3	U	1.2	1.0	2.1	11/28/07	12/08/07
--- Other Detected Radionuclides ---							
Actinium 228	**1.40**		**0.32**		**0.20**	**11/28/07**	**12/08/07**
Bismuth 214	**1.05**		**0.20**		**0.20**	**11/28/07**	**12/08/07**
Lead 212	**1.16**		**0.19**		**0.15**	**11/28/07**	**12/08/07**
Lead 214	**1.26**		**0.20**		**0.15**	**11/28/07**	**12/08/07**
Potassium 40	**17.5**		**2.1**		**0.9**	**11/28/07**	**12/08/07**
Thallium 208	**0.397**		**0.095**		**0.077**	**11/28/07**	**12/08/07**

NOTE(S)

Results are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-38-5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210247-003
Work Order: KCOTA
Matrix: SOLID

Date Collected: 11/20/07 1415
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7339318**		**Yld % 98**
Neptunium 237	-0.005	U	0.023	1.00	0.072	12/05/07	12/08/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7339323**		**Yld % 93**
Plutonium 238	0.005	U	0.030	1.00	0.071	12/05/07	12/12/07
Plutonium 239/40	-0.0038	U	0.0053	1.00	0.049	12/05/07	12/12/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7339326**		**Yld % 94**
Uranium 233/234	**0.87**	**J**	**0.20**	1.00	**0.06**	**12/05/07**	**12/10/07**
Uranium 235/236	**0.062**	**J**	**0.056**	1.00	**0.034**	**12/05/07**	**12/10/07**
Uranium 238	**0.57**	**J**	**0.16**	1.00	**0.05**	**12/05/07**	**12/10/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7332236**		**Yld %**
Americium 241	-0.03	U	0.18	1.00	0.30	11/28/07	12/08/07
Cesium 137	-0.005	U	0.070	1.00	0.13	11/28/07	12/08/07
Thorium 232	**0.75**	**J**	**0.28**	1.00	**0.59**	**11/28/07**	**12/08/07**
Uranium 235	0.20	U	0.35	1.00	0.58	11/28/07	12/08/07
Uranium 238	0.8	U	1.4	1.0	2.5	11/28/07	12/08/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.75**		**0.28**		**0.59**	**11/28/07**	**12/08/07**
Bismuth 214	**1.20**		**0.27**		**0.19**	**11/28/07**	**12/08/07**
Lead 212	**1.42**		**0.31**		**0.25**	**11/28/07**	**12/08/07**
Lead 214	**1.27**		**0.24**		**0.25**	**11/28/07**	**12/08/07**
Potassium 40	**16.4**		**2.8**		**1.1**	**11/28/07**	**12/08/07**
Thallium 208	**0.50**		**0.14**		**0.1**	**11/28/07**	**12/08/07**

NOTE(S)

Results are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-42-2.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210247-004
Work Order: KCQTF
Matrix: SOLID

Date Collected: 11/20/07 1400
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7332482**		**Yld % 95**
Technetium 99	0.41	U	0.29	1.00	0.46	11/28/07	12/04/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7332236**		**Yld %**
Americium 241	0.016	U	0.064	1.00	0.11	11/28/07	12/08/07
Cesium 137	-0.01	U	0.13	1.00	0.1	11/28/07	12/08/07
Thorium 232	0.08	U	0.15	1.00	0.25	11/28/07	12/08/07
Uranium 235	-0.06	U	0.34	1.00	0.26	11/28/07	12/08/07
Uranium 238	0.01	U	0.47	1.00	0.91	11/28/07	12/08/07
--- Other Detected Radionuclides ---							
Lead 212	**0.109**		**0.054**		**0.070**	**11/28/07**	**12/08/07**
Lead 214	**0.172**		**0.085**		**0.12**	**11/28/07**	**12/08/07**
Potassium 40	**2.10**		**0.78**		**0.61**	**11/28/07**	**12/08/07**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7339326**		**Yld % 31**
Uranium 233/234	**0.71**	**J**	**0.29**	1.00	**0.16**	**12/05/07**	**12/10/07**
Uranium 235/236	**0.10**	**J**	**0.12**	1.00	**0.09**	**12/05/07**	**12/10/07**
Uranium 238	**1.00**		**0.35**	1.00	**0.08**	**12/05/07**	**12/10/07**

NOTE(S)

Results are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-42-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210247-005
Work Order: KCQTK
Matrix: SOLID

Date Collected: 11/20/07 1400
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7339318	Yld % 91
Neptunium 237	-0.005	U	0.023	1.00	0.072	12/05/07	12/08/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7339323	Yld % 92
Plutonium 238	0.007	U	0.029	1.00	0.065	12/05/07	12/12/07
Plutonium 239/40	0.004	U	0.020	1.00	0.052	12/05/07	12/12/07
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g		Batch # 7332482	Yld % 99
Technetium 99	0.02	U	0.22	1.00	0.44	11/28/07	12/04/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7339326	Yld % 88
Uranium 233/234	**0.40**	**J**	**0.14**	1.00	**0.06**	**12/05/07**	**12/10/07**
Uranium 235/236	-0.0050	U	0.0071	1.00	0.066	12/05/07	12/10/07
Uranium 238	**0.34**	**J**	**0.13**	1.00	**0.07**	**12/05/07**	**12/10/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7332236	Yld %
Americium 241	0.019	U	0.076	1.00	0.13	11/28/07	12/08/07
Cesium 137	0.020	U	0.037	1.00	0.064	11/28/07	12/08/07
Thorium 232	**0.25**	**J**	**0.16**	1.00	**0.22**	**11/28/07**	**12/08/07**
Uranium 235	0.02	U	0.15	1.00	0.27	11/28/07	12/08/07
Uranium 238	0.30	U	0.59	1.00	1.0	11/28/07	12/08/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.25**		**0.16**		**0.22**	**11/28/07**	**12/08/07**
Bismuth 214	**0.50**		**0.11**		**0.05**	**11/28/07**	**12/08/07**
Lead 212	**0.44**		**0.10**		**0.09**	**11/28/07**	**12/08/07**
Lead 214	**0.422**		**0.097**		**0.069**	**11/28/07**	**12/08/07**
Potassium 40	**5.4**		**1.1**		**0.7**	**11/28/07**	**12/08/07**
Thallium 208	**0.189**		**0.048**		**0.027**	**11/28/07**	**12/08/07**

TE(S)

s are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-42-9-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210247-006
Work Order: KCOTO
Matrix: SOLID

Date Collected: 11/20/07 1540
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7332236**		**Yld %**
Americium 241	0.05	U	0.17	1.00	0.30	11/28/07	12/08/07
Cesium 137	-0.012	U	0.084	1.00	0.15	11/28/07	12/08/07
Thorium 232	**0.75**	**J**	**0.24**	1.00	**0.40**	**11/28/07**	**12/08/07**
Uranium 235	0.13	U	0.34	1.00	0.59	11/28/07	12/08/07
Uranium 238	1.60	U	0.90	1.00	2.0	11/28/07	12/08/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.75**		**0.24**		**0.40**	**11/28/07**	**12/08/07**
Bismuth 214	**1.05**		**0.25**		**0.25**	**11/28/07**	**12/08/07**
Lead 212	**1.28**		**0.30**		**0.25**	**11/28/07**	**12/08/07**
Lead 214	**1.01**		**0.19**		**0.20**	**11/28/07**	**12/08/07**
Potassium 40	**14.8**		**2.4**		**1.1**	**11/28/07**	**12/08/07**
Thallium 208	**0.273**		**0.096**		**0.11**	**11/28/07**	**12/08/07**

TE(S)

s are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-43-2.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210247-007
Work Order: KCOT0
Matrix: SOLID

Date Collected: 11/20/07 1310
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7339318**	**Yld % 82**
Neptunium 237	-0.0108	U	0.0098	1.00	0.072	12/05/07	12/08/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7339323**	**Yld % 89**
Plutonium 238	0.016	U	0.038	1.00	0.075	12/05/07	12/12/07
Plutonium 239/40	-0.014	U	0.011	1.00	0.072	12/05/07	12/12/07
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7332482**	**Yld % 100**
Technetium 99	0.15	U	0.26	1.00	0.43	11/28/07	12/04/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7339326**	**Yld % 98**
Uranium 233/234	**1.86**		**0.31**	1.00	**0.06**	**12/05/07**	**12/10/07**
Uranium 235/236	**0.104**	**J**	**0.072**	1.00	**0.050**	**12/05/07**	**12/10/07**
Uranium 238	**0.73**	**J**	**0.18**	1.00	**0.04**	**12/05/07**	**12/10/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7332236**	**Yld %**
Americium 241	0.03	U	0.15	1.00	0.26	11/28/07	12/08/07
Cesium 137	0.023	U	0.048	1.00	0.083	11/28/07	12/08/07
Thorium 232	**0.62**	**J**	**0.22**	1.00	**0.32**	**11/28/07**	**12/08/07**
Uranium 235	0.17	U	0.34	1.00	0.58	11/28/07	12/08/07
Uranium 238	1.11	U	0.72	1.00	1.7	11/28/07	12/08/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.62**		**0.22**		**0.32**	**11/28/07**	**12/08/07**
Bismuth 214	**0.78**		**0.18**		**0.19**	**11/28/07**	**12/08/07**
Lead 212	**0.82**		**0.19**		**0.18**	**11/28/07**	**12/08/07**
Lead 214	**1.07**		**0.20**		**0.16**	**11/28/07**	**12/08/07**
Potassium 40	**12.4**		**1.8**		**1.0**	**11/28/07**	**12/08/07**
Thallium 208	**0.322**		**0.087**		**0.083**	**11/28/07**	**12/08/07**

NOTE(S)

Results are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-43-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210247-008
Work Order: KCQT2
Matrix: SOLID

Date Collected: 11/20/07 1310
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7332482**		**Yld % 103**
Technetium 99	0.21	U	0.26	1.00	0.42	11/28/07	12/04/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7332236**		**Yld %**
Americium 241	0.01	U	0.17	1.00	0.29	11/28/07	12/08/07
Cesium 137	0.059	U	0.072	1.00	0.12	11/28/07	12/08/07
Thorium 232	**0.81**	**J**	**0.22**	1.00	**0.39**	**11/28/07**	**12/08/07**
Uranium 235	-0.08	U	0.69	1.00	0.66	11/28/07	12/08/07
Uranium 238	1.1	U	1.3	1.0	2.3	11/28/07	12/08/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.81**		**0.22**		**0.39**	**11/28/07**	**12/08/07**
Bismuth 214	**1.06**		**0.22**		**0.22**	**11/28/07**	**12/08/07**
Lead 212	**1.54**		**0.25**		**0.20**	**11/28/07**	**12/08/07**
Lead 214	**1.40**		**0.27**		**0.20**	**11/28/07**	**12/08/07**
Potassium 40	**21.5**		**2.6**		**1.1**	**11/28/07**	**12/08/07**
Thallium 208	**0.306**		**0.096**		**0.12**	**11/28/07**	**12/08/07**

NOTE(S)

Results are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Samole ID: BD-43-5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210247-009
Work Order: KCQT6
Matrix: SOLID

Date Collected: 11/20/07 1320
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7332482**		**Yld % 85**
Technetium 99	0.20	U	0.30	1.00	0.51	11/28/07	12/04/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7332236**		**Yld %**
Americium 241	-0.04	U	0.24	1.00	0.41	11/28/07	12/08/07
Cesium 137	0.04	U	0.10	1.00	0.18	11/28/07	12/08/07
Thorium 232	**1.22**		**0.40**	1.00	**0.48**	**11/28/07**	**12/08/07**
Uranium 235	0.34	U	0.46	1.00	0.77	11/28/07	12/08/07
Uranium 238	2.4	U	1.3	1.0	3.0	11/28/07	12/08/07
--- Other Detected Radionuclides ---							
Actinium 228	**1.22**		**0.40**		**0.48**	**11/28/07**	**12/08/07**
Bismuth 214	**1.34**		**0.35**		**0.29**	**11/28/07**	**12/08/07**
Lead 212	**1.25**		**0.22**		**0.21**	**11/28/07**	**12/08/07**
Lead 214	**1.62**		**0.34**		**0.27**	**11/28/07**	**12/08/07**
Potassium 40	**20.5**		**3.4**		**1.3**	**11/28/07**	**12/08/07**
Thallium 208	**0.53**		**0.14**		**0.10**	**11/28/07**	**12/08/07**

TE(S)

Results are incomplete without the case narrative.

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Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-44-2.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210247-010
Work Order: KCOT8
Matrix: SOLID

Date Collected: 11/19/07 1725
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7339318	Yld % 87
Neptunium 237	0.0007	U	0.024	1.00	0.068	12/05/07	12/08/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7339323	Yld % 93
Plutonium 238	-0.022	U	0.013	1.00	0.081	12/05/07	12/12/07
Plutonium 239/40	-0.0056	U	0.0065	1.00	0.054	12/05/07	12/12/07
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g		Batch # 7332482	Yld % 85
Technetium 99	**0.52**	**J**	**0.32**	1.00	**0.51**	**11/28/07**	**12/04/07**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7339326	Yld % 93
Uranium 233/234	**0.81**	**J**	**0.19**	1.00	**0.04**	**12/05/07**	**12/10/07**
Uranium 235/236	**0.035**	**J**	**0.041**	1.00	**0.032**	**12/05/07**	**12/10/07**
Uranium 238	**0.45**	**J**	**0.14**	1.00	**0.03**	**12/05/07**	**12/10/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7332236	Yld %
Americium 241	0.03	U	0.10	1.00	0.18	11/28/07	12/08/07
Cesium 137	0.002	U	0.055	1.00	0.11	11/28/07	12/08/07
Thorium 232	**0.46**	**J**	**0.19**	1.00	**0.29**	**11/28/07**	**12/08/07**
Uranium 235	-0.02	U	2.3	1.0	0.3	11/28/07	12/08/07
Uranium 238	1.15	U	0.94	1.00	1.2	11/28/07	12/08/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.46**		**0.19**		**0.29**	**11/28/07**	**12/08/07**
Bismuth 214	**0.68**		**0.16**		**0.12**	**11/28/07**	**12/08/07**
Lead 212	**0.49**		**0.12**		**0.11**	**11/28/07**	**12/08/07**
Lead 214	**0.54**		**0.14**		**0.15**	**11/28/07**	**12/08/07**
Potassium 40	**7.6**		**1.5**		**0.7**	**11/28/07**	**12/08/07**
Thallium 208	**0.182**		**0.058**		**0.048**	**11/28/07**	**12/08/07**

E(S)

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U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-44-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210247-011
Work Order: KCOT9
Matrix: SOLID

Date Collected: 11/19/07 1725
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7332482**		**Yld % 96**
Technetium 99	0.43	U	0.29	1.00	0.45	11/28/07	12/04/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7332236**		**Yld %**
Americium 241	0.004	U	0.078	1.00	0.14	11/28/07	12/08/07
Cesium 137	-0.005	U	0.15	1.00	0.08	11/28/07	12/08/07
Thorium 232	**0.28**	**J**	**0.14**	1.00	**0.26**	**11/28/07**	**12/08/07**
Uranium 235	0.20	U	0.25	1.00	0.40	11/28/07	12/08/07
Uranium 238	**2.39**		**0.71**	1.00	**1.3**	**11/28/07**	**12/08/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.28**		**0.14**		**0.26**	**11/28/07**	**12/08/07**
Bismuth 214	**0.67**		**0.13**		**0.06**	**11/28/07**	**12/08/07**
Lead 212	**0.477**		**0.0999**		**0.091**	**11/28/07**	**12/08/07**
Lead 214	**0.55**		**0.11**		**0.08**	**11/28/07**	**12/08/07**
Potassium 40	**8.3**		**1.6**		**1.3**	**11/28/07**	**12/08/07**
Thallium 208	**0.134**		**0.055**		**0.070**	**11/28/07**	**12/08/07**
Thorium 234	**2.39**		**0.71**		**1.3**	**11/28/07**	**12/08/07**

NOTE(S)

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-44-8.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210247-012
Work Order: KCQVA
Matrix: SOLID

Date Collected: 11/19/07 1740
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7332236**		**Yld %**
Americium 241	0.0	U	0.20	1.00	0.34	11/28/07	12/08/07
Cesium 137	-0.005	U	0.083	1.00	0.15	11/28/07	12/08/07
Thorium 232	**0.94**	**J**	**0.33**	**1.00**	**0.40**	**11/28/07**	**12/08/07**
Uranium 235	0.30	U	0.47	1.00	0.79	11/28/07	12/08/07
Uranium 238	1.5	U	1.6	1.0	2.2	11/28/07	12/08/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.94**		**0.33**		**0.40**	**11/28/07**	**12/08/07**
Bismuth 214	**1.13**		**0.25**		**0.22**	**11/28/07**	**12/08/07**
Lead 212	**1.29**		**0.27**		**0.23**	**11/28/07**	**12/08/07**
Lead 214	**1.49**		**0.23**		**0.15**	**11/28/07**	**12/08/07**
Potassium 40	**20.7**		**3.0**		**0.9**	**11/28/07**	**12/08/07**
Thallium 208	**0.59**		**0.15**		**0.1**	**11/28/07**	**12/08/07**

(S)

are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-45-2.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210247-013
Work Order: KCOVC
Matrix: SOLID

Date Collected: 11/08/07 1820
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7339318**	**Yld % 92**
Neptunium 237	0.003	U	0.022	1.00	0.059	12/05/07	12/08/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7339323**	**Yld % 93**
Plutonium 238	-0.0104	U	0.0086	1.00	0.061	12/05/07	12/12/07
Plutonium 239/40	-0.0070	U	0.0070	1.00	0.054	12/05/07	12/12/07
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7332482**	**Yld % 94**
Technetium 99	0.09	U	0.26	1.00	0.46	11/28/07	12/04/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7339326**	**Yld % 92**
Uranium 233/234	**0.89**	**J**	**0.20**	1.00	**0.06**	**12/05/07**	**12/10/07**
Uranium 235/236	**0.075**	**J**	**0.061**	1.00	**0.034**	**12/05/07**	**12/10/07**
Uranium 238	**0.73**	**J**	**0.18**	1.00	**0.05**	**12/05/07**	**12/10/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7332236**	**Yld %**
Americium 241	0.004	U	0.12	1.00	0.20	11/28/07	12/08/07
Cesium 137	0.042	U	0.051	1.00	0.083	11/28/07	12/08/07
Thorium 232	**0.53**	**J**	**0.19**	1.00	**0.37**	**11/28/07**	**12/08/07**
Uranium 235	0.08	U	0.32	1.00	0.56	11/28/07	12/08/07
Uranium 238	0.9	U	1.3	1.0	1.7	11/28/07	12/08/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.53**		**0.19**		**0.37**	**11/28/07**	**12/08/07**
Bismuth 214	**0.54**		**0.16**		**0.19**	**11/28/07**	**12/08/07**
Lead 212	**0.64**		**0.14**		**0.15**	**11/28/07**	**12/08/07**
Lead 214	**0.76**		**0.15**		**0.20**	**11/28/07**	**12/08/07**
Potassium 40	**10.8**		**1.7**		**1.0**	**11/28/07**	**12/08/07**
Thallium 208	**0.131**		**0.067**		**0.10**	**11/28/07**	**12/08/07**

Y(S)

are incomplete without the case narrative.

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-45-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210247-014
Work Order: KCOVD
Matrix: SOLID

Date Collected: 11/08/07 1820
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7332482**		**Yld % 82**
Technetium 99	0.34	U	0.32	1.00	0.53	11/28/07	12/04/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7332236**		**Yld %**
Americium 241	-0.07	U	0.13	1.00	0.22	11/28/07	12/08/07
Cesium 137	0.048	U	0.081	1.00	0.14	11/28/07	12/08/07
Thorium 232	**0.93**	**J**	**0.28**	1.00	**0.45**	**11/28/07**	**12/08/07**
Uranium 235	0.18	U	0.40	1.00	0.67	11/28/07	12/08/07
Uranium 238	1.35	U	0.78	1.00	2.3	11/28/07	12/08/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.93**		**0.28**		**0.45**	**11/28/07**	**12/08/07**
Bismuth 214	**1.43**		**0.27**		**0.19**	**11/28/07**	**12/08/07**
Lead 212	**1.56**		**0.27**		**0.22**	**11/28/07**	**12/08/07**
Lead 214	**1.53**		**0.25**		**0.20**	**11/28/07**	**12/08/07**
Potassium 40	**19.1**		**2.7**		**1.9**	**11/28/07**	**12/08/07**
Thallium 208	**0.50**		**0.12**		**0.09**	**11/28/07**	**12/08/07**

E(S)

Results are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-45-13-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210247-015
Work Order: KCOVF
Matrix: SOLID

Date Collected: 11/08/07 1830
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7332236**		**Yld %**
Americium 241	0.04	U	0.12	1.00	0.21	11/28/07	12/08/07
Cesium 137	-0.015	U	0.099	1.00	0.18	11/28/07	12/08/07
Thorium 232	**1.36**		**0.30**	1.00	**0.18**	**11/28/07**	**12/08/07**
Uranium 235	0.16	U	0.37	1.00	0.62	11/28/07	12/08/07
Uranium 238	0.5	U	1.5	1.0	2.6	11/28/07	12/08/07
--- Other Detected Radionuclides ---							
Actinium 228	**1.36**		**0.30**		**0.18**	**11/28/07**	**12/08/07**
Bismuth 214	**1.16**		**0.25**		**0.18**	**11/28/07**	**12/08/07**
Lead 210	**3.8**		**2.8**		**3.4**	**11/28/07**	**12/08/07**
Lead 212	**1.28**		**0.20**		**0.16**	**11/28/07**	**12/08/07**
Lead 214	**1.23**		**0.24**		**0.24**	**11/28/07**	**12/08/07**
Potassium 40	**18.9**		**3.0**		**1.0**	**11/28/07**	**12/08/07**
Thallium 208	**0.41**		**0.11**		**0.08**	**11/28/07**	**12/08/07**

TE(S)

...ts are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-46-2.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210247-016
Work Order: KCOVG
Matrix: SOLID

Date Collected: 11/20/07 1050
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7339318	Yld % 91
Neptunium 237	0.003	U	0.023	1.00	0.061	12/05/07	12/08/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7339323	Yld % 91
Plutonium 238	0.010	U	0.057	1.00	0.11	12/05/07	12/12/07
Plutonium 239/40	-0.005	U	0.023	1.00	0.071	12/05/07	12/12/07
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g		Batch # 7332482	Yld % 96
Technetium 99	**0.65**	**J**	**0.30**	1.00	**0.45**	**11/28/07**	**12/04/07**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7339326	Yld % 100
Uranium 233/234	**1.30**		**0.25**	1.00	**0.05**	**12/05/07**	**12/11/07**
Uranium 235/236	**0.104**	**J**	**0.071**	1.00	**0.050**	**12/05/07**	**12/11/07**
Uranium 238	**0.56**	**J**	**0.15**	1.00	**0.05**	**12/05/07**	**12/11/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7332236	Yld %
Americium 241	0.02	U	0.10	1.00	0.18	11/28/07	12/08/07
Cesium 137	0.034	U	0.072	1.00	0.13	11/28/07	12/08/07
Thorium 232	**0.48**	**J**	**0.20**	**1.00**	**0.40**	**11/28/07**	**12/08/07**
Uranium 235	0.11	U	0.25	1.00	0.43	11/28/07	12/08/07
Uranium 238	0.29	U	0.90	1.00	1.6	11/28/07	12/08/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.48**		**0.20**		**0.40**	**11/28/07**	**12/08/07**
Bismuth 214	**0.65**		**0.19**		**0.18**	**11/28/07**	**12/08/07**
Lead 212	**0.57**		**0.12**		**0.11**	**11/28/07**	**12/08/07**
Lead 214	**0.62**		**0.15**		**0.19**	**11/28/07**	**12/08/07**
Potassium 40	**9.9**		**1.8**		**0.7**	**11/28/07**	**12/08/07**
Thallium 208	**0.238**		**0.081**		**0.096**	**11/28/07**	**12/08/07**

NOTE(S)

[illegible]s are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-46-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210247-017
Work Order: KCOVH
Matrix: SOLID

Date Collected: 11/20/07 1050
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7332482**	**Yld % 102**
Technetium 99	0.17	U	0.26	1.00	0.43	11/28/07	12/04/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7332236**	**Yld %**
Americium 241	-0.11	U	0.17	1.00	0.27	11/28/07	12/08/07
Cesium 137	-0.001	U	0.13	1.00	0.12	11/28/07	12/08/07
Thorium 232	**1.06**		**0.26**	1.00	**0.47**	**11/28/07**	**12/08/07**
Uranium 235	0.16	U	0.31	1.00	0.52	11/28/07	12/08/07
Uranium 238	**2.8**		**1.5**	1.0	**1.7**	**11/28/07**	**12/08/07**
--- Other Detected Radionuclides ---							
Actinium 228	**1.06**		**0.26**		**0.47**	**11/28/07**	**12/08/07**
Bismuth 214	**1.47**		**0.25**		**0.12**	**11/28/07**	**12/08/07**
Lead 212	**1.19**		**0.19**		**0.15**	**11/28/07**	**12/08/07**
Lead 214	**1.31**		**0.23**		**0.15**	**11/28/07**	**12/08/07**
Potassium 40	**19.3**		**2.6**		**0.5**	**11/28/07**	**12/08/07**
Thallium 208	**0.47**		**0.10**		**0.06**	**11/28/07**	**12/08/07**
Thorium 234	**2.8**		**1.5**		**1.7**	**11/28/07**	**12/08/07**

NE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-46-5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210247-018
Work Order: KCOVJ
Matrix: SOLID

Date Collected: 11/20/07 1100
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Kits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7332236**		**Yld %**
Americium 241	0.009	U	0.16	1.00	0.28	11/28/07	12/08/07
Cesium 137	0.027	U	0.067	1.00	0.12	11/28/07	12/08/07
Thorium 232	**0.70**	**J**	**0.26**	1.00	**0.47**	**11/28/07**	**12/08/07**
Uranium 235	0.13	U	0.29	1.00	0.51	11/28/07	12/08/07
Uranium 238	1.0	U	1.1	1.0	1.7	11/28/07	12/08/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.70**		**0.26**		**0.47**	**11/28/07**	**12/08/07**
Bismuth 214	**0.94**		**0.23**		**0.21**	**11/28/07**	**12/08/07**
Lead 210	**2.5**		**1.7**		**2.3**	**11/28/07**	**12/08/07**
Lead 212	**0.94**		**0.18**		**0.15**	**11/28/07**	**12/08/07**
Lead 214	**0.88**		**0.18**		**0.19**	**11/28/07**	**12/08/07**
Potassium 40	**13.6**		**2.3**		**0.8**	**11/28/07**	**12/08/07**
Thallium 208	**0.37**		**0.13**		**0.10**	**11/28/07**	**12/08/07**

NOTE(S)

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MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-47-2.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210247-019
Work Order: KCOVL
Matrix: SOLID

Date Collected: 11/19/07 0825
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7342064	Yld % 71
Neptunium 237	-0.006	U	0.040	1.00	0.091	12/08/07	12/10/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7339323	Yld % 97
Plutonium 238	0.002	U	0.021	1.00	0.057	12/05/07	12/12/07
Plutonium 239/40	0.0006	U	0.021	1.00	0.061	12/05/07	12/12/07
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g		Batch # 7332482	Yld % 100
Technetium 99	0.21	U	0.26	1.00	0.44	11/28/07	12/04/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7339326	Yld % 96
Uranium 233/234	**0.186**	**J**	**0.089**	1.00	**0.054**	**12/05/07**	**12/11/07**
Uranium 235/236	0.023	U	0.036	1.00	0.053	12/05/07	12/11/07
Uranium 238	**0.143**	**J**	**0.079**	1.00	**0.058**	**12/05/07**	**12/11/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7332236	Yld %
Americium 241	0.03	U	0.11	1.00	0.19	11/28/07	12/08/07
Cesium 137	0.035	U	0.048	1.00	0.079	11/28/07	12/08/07
Thorium 232	**0.63**	**J**	**0.18**	1.00	**0.26**	**11/28/07**	**12/08/07**
Uranium 235	-0.05	U	1.0	1.0	0.5	11/28/07	12/08/07
Uranium 238	**2.24**		**0.99**	1.00	**1.5**	**11/28/07**	**12/08/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.63**		**0.18**		**0.26**	**11/28/07**	**12/08/07**
Bismuth 214	**0.93**		**0.18**		**0.18**	**11/28/07**	**12/08/07**
Lead 210	**3.2**		**2.0**		**2.3**	**11/28/07**	**12/08/07**
Lead 212	**1.02**		**0.19**		**0.16**	**11/28/07**	**12/08/07**
Lead 214	**1.03**		**0.19**		**0.17**	**11/28/07**	**12/08/07**
Potassium 40	**14.4**		**1.8**		**0.8**	**11/28/07**	**12/08/07**
Thallium 208	**0.322**		**0.070**		**0.055**	**11/28/07**	**12/08/07**
Thorium 234	**2.24**		**0.99**		**1.5**	**11/28/07**	**12/08/07**

NOTE(S)

Results are incomplete without the case narrative.

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-47-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210247-020
Work Order: KCOVN
Matrix: SOLID

Date Collected: 11/19/07 0825
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7332482**		**Yld % 99**
Technetium 99	0.02	U	0.22	1.00	0.44	11/28/07	12/04/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7332236**		**Yld %**
Americium 241	0.0	U	0.073	1.00	0.13	11/28/07	12/08/07
Cesium 137	0.0007	U	0.035	1.00	0.066	11/28/07	12/08/07
Thorium 232	0.04	U	0.10	1.00	0.19	11/28/07	12/08/07
Uranium 235	-0.07	U	0.36	1.00	0.36	11/28/07	12/08/07
Uranium 238	-0.14	U	0.74	1.00	0.97	11/28/07	12/08/07
--- Other Detected Radionuclides ---							
Lead 212	**0.222**		**0.094**		**0.11**	**11/28/07**	**12/08/07**

NOTE(S)

...a are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-47-6.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210247-021
Work Order: KCQVO
Matrix: SOLID

Date Collected: 11/19/07 0830
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7332293**		**Yld %**
Americium 241	-0.02	U	0.18	1.00	0.31	11/28/07	12/07/07
Cesium 137	0.040	U	0.071	1.00	0.12	11/28/07	12/07/07
Thorium 232	**1.11**		**0.33**	1.00	**0.45**	**11/28/07**	**12/07/07**
Uranium 235	0.21	U	0.44	1.00	0.75	11/28/07	12/07/07
Uranium 238	**2.3**		**1.8**	1.0	**2.3**	**11/28/07**	**12/07/07**
--- Other Detected Radionuclides ---							
Actinium 228	**1.11**		**0.33**		**0.45**	**11/28/07**	**12/07/07**
Bismuth 214	**1.17**		**0.26**		**0.29**	**11/28/07**	**12/07/07**
Lead 212	**1.38**		**0.22**		**0.19**	**11/28/07**	**12/07/07**
Lead 214	**1.20**		**0.22**		**0.19**	**11/28/07**	**12/07/07**
Potassium 40	**19.2**		**2.6**		**1.3**	**11/28/07**	**12/07/07**
Thallium 208	**0.57**		**0.14**		**0.12**	**11/28/07**	**12/07/07**
Thorium 234	**2.3**		**1.8**		**2.3**	**11/28/07**	**12/07/07**

TE(S)

[illegible]a are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-47-6.5-SL DUP

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210247-021X
Work Order: KCOVQ
Matrix: SOLID

Date Collected: 11/19/07 0830
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7332293**		**Yld %**
Americium 241	-0.02	U	2.3	1.0	0.4	11/28/07	12/07/07
Cesium 137	0.0005	U	0.12	1.00	0.22	11/28/07	12/07/07
Thorium 232	**1.08**		**0.35**	1.00	**0.64**	**11/28/07**	**12/07/07**
Uranium 235	0.20	U	0.41	1.00	0.69	11/28/07	12/07/07
Uranium 238	**4.0**		**1.9**	1.0	**2.2**	**11/28/07**	**12/07/07**
--- Other Detected Radionuclides ---							
Actinium 228	**1.08**		**0.35**		**0.64**	**11/28/07**	**12/07/07**
Bismuth 214	**1.61**		**0.33**		**0.24**	**11/28/07**	**12/07/07**
Lead 212	**1.30**		**0.26**		**0.23**	**11/28/07**	**12/07/07**
Lead 214	**1.99**		**0.36**		**0.25**	**11/28/07**	**12/07/07**
Potassium 40	**20.9**		**3.5**		**2.5**	**11/28/07**	**12/07/07**
Thallium 208	**0.65**		**0.14**		**0.08**	**11/28/07**	**12/07/07**
Thorium 234	**4.0**		**1.9**		**2.2**	**11/28/07**	**12/07/07**

TE(S)

ca are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-48-2.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210247-022
Work Order: KCOVT
Matrix: SOLID

Date Collected: 11/19/07 0900
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7339318**		**Yld % 99**
Neptunium 237	0.0	U	0.0087	1.00	0.027	12/05/07	12/08/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7339323**		**Yld % 93**
Plutonium 238	0.038	U	0.045	1.00	0.063	12/05/07	12/12/07
Plutonium 239/40	0.008	U	0.020	1.00	0.042	12/05/07	12/12/07
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7332482**		**Yld % 90**
Technetium 99	0.21	U	0.29	1.00	0.48	11/28/07	12/04/07
ISO URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7339326**		**Yld % 96**
Uranium 233/234	**2.75**		**0.40**	1.00	**0.06**	**12/05/07**	**12/11/07**
Uranium 235/236	**0.133**	**J**	**0.081**	1.00	**0.033**	**12/05/07**	**12/11/07**
Uranium 238	**1.21**		**0.24**	1.00	**0.05**	**12/05/07**	**12/11/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7332293**		**Yld %**
Americium 241	0.0003	U	0.15	1.00	0.25	11/28/07	12/07/07
Cesium 137	0.074	U	0.069	1.00	0.10	11/28/07	12/07/07
Thorium 232	0.40	U	0.23	1.00	0.44	11/28/07	12/07/07
Uranium 235	0.25	U	0.30	1.00	0.49	11/28/07	12/07/07
Uranium 238	1.61	U	0.82	1.00	1.8	11/28/07	12/07/07
--- Other Detected Radionuclides ---							
Bismuth 214	**0.97**		**0.22**		**0.14**	**11/28/07**	**12/07/07**
Lead 212	**0.59**		**0.15**		**0.15**	**11/28/07**	**12/07/07**
Lead 214	**1.09**		**0.22**		**0.14**	**11/28/07**	**12/07/07**
Potassium 40	**11.6**		**2.2**		**1**	**11/28/07**	**12/07/07**
Thallium 208	**0.222**		**0.073**		**0.053**	**11/28/07**	**12/07/07**

U(S)

[illegible] are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-48-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210247-023
Work Order: KCOV0
Matrix: SOLID

Date Collected: 11/19/07 0900
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7332482**		**Yld % 94**
Technetium 99	0.11	U	0.26	1.00	0.46	11/28/07	12/04/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7332293**		**Yld %**
Americium 241	0.05	U	0.17	1.00	0.29	11/28/07	12/07/07
Cesium 137	0.054	U	0.077	1.00	0.13	11/28/07	12/07/07
Thorium 232	**0.93**	**J**	**0.25**	1.00	**0.40**	**11/28/07**	**12/07/07**
Uranium 235	0.20	U	0.37	1.00	0.63	11/28/07	12/07/07
Uranium 238	**3.6**		**1.1**	1.0	**2.2**	**11/28/07**	**12/07/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.93**		**0.25**		**0.40**	**11/28/07**	**12/07/07**
Bismuth 214	**1.23**		**0.25**		**0.17**	**11/28/07**	**12/07/07**
Lead 212	**1.42**		**0.23**		**0.18**	**11/28/07**	**12/07/07**
Lead 214	**1.38**		**0.28**		**0.21**	**11/28/07**	**12/07/07**
Potassium 40	**18.8**		**2.4**		**1.1**	**11/28/07**	**12/07/07**
Thallium 208	**0.50**		**0.11**		**0.09**	**11/28/07**	**12/07/07**
Thorium 234	**3.6**		**1.1**		**2.2**	**11/28/07**	**12/07/07**

NOTE(S)

Results are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-48-5.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210247-024
Work Order: KCOV2
Matrix: SOLID

Date Collected: 11/19/07 0904
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7339318**	**Yld % 91**
Neptunium 237	-0.001	U	0.023	1.00	0.068	12/05/07	12/08/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7339323**	**Yld % 89**
Plutonium 238	0.033	U	0.046	1.00	0.074	12/05/07	12/12/07
Plutonium 239/40	0.004	U	0.021	1.00	0.054	12/05/07	12/12/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7339326**	**Yld % 93**
Uranium 233/234	**1.71**		**0.29**	1.00	**0.05**	**12/05/07**	**12/11/07**
Uranium 235/236	**0.035**	**J**	**0.041**	1.00	**0.032**	**12/05/07**	**12/11/07**
Uranium 238	**1.36**		**0.25**	1.00	**0.03**	**12/05/07**	**12/11/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7332293**	**Yld %**
Americium 241	-0.04	U	0.17	1.00	0.29	11/28/07	12/07/07
Cesium 137	0.058	U	0.066	1.00	0.11	11/28/07	12/07/07
Thorium 232	**0.90**	**J**	**0.36**	1.00	**0.46**	**11/28/07**	**12/07/07**
Uranium 235	0.04	U	0.31	1.00	0.54	11/28/07	12/07/07
Uranium 238	**2.77**		**0.87**	1.00	**1.8**	**11/28/07**	**12/07/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.90**		**0.36**		**0.46**	**11/28/07**	**12/07/07**
Bismuth 214	**1.39**		**0.29**		**0.18**	**11/28/07**	**12/07/07**
Lead 212	**1.10**		**0.16**		**0.13**	**11/28/07**	**12/07/07**
Lead 214	**1.33**		**0.24**		**0.15**	**11/28/07**	**12/07/07**
Potassium 40	**17.8**		**2.6**		**0.6**	**11/28/07**	**12/07/07**
Thallium 208	**0.489**		**0.098**		**0.044**	**11/28/07**	**12/07/07**
Thorium 234	**2.77**		**0.87**		**1.8**	**11/28/07**	**12/07/07**

TE(S)

...ce are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-136-0.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210247-025
Work Order: KCQV4
Matrix: SOLID

Date Collected: 11/14/07 1748
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7339318**		**Yld % 48**
Neptunium 237	-0.0036	U	0.0072	1.00	0.082	12/05/07	12/08/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7339323**		**Yld % 97**
Plutonium 238	0.008	U	0.027	1.00	0.058	12/05/07	12/13/07
Plutonium 239/40	0.011	U	0.026	1.00	0.052	12/05/07	12/13/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7339326**		**Yld % 94**
Uranium 233/234	**9.5**		**1.0**	1.0	**0.06**	**12/05/07**	**12/11/07**
Uranium 235/236	**0.42**	**J**	**0.15**	1.00	**0.06**	**12/05/07**	**12/11/07**
Uranium 238	**2.48**		**0.38**	1.00	**0.07**	**12/05/07**	**12/11/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7332293**		**Yld %**
Americium 241	0.02	U	0.14	1.00	0.24	11/28/07	12/07/07
Cesium 137	**0.448**	**J**	**0.091**	1.00	**0.031**	**11/28/07**	**12/07/07**
Thorium 232	**1.04**		**0.27**	1.00	**0.40**	**11/28/07**	**12/07/07**
Uranium 235	0.62	U	0.42	1.00	0.67	11/28/07	12/07/07
Uranium 238	**3.7**		**1.2**	1.0	**2.2**	**11/28/07**	**12/07/07**
--- Other Detected Radionuclides ---							
Actinium 228	**1.04**		**0.27**		**0.40**	**11/28/07**	**12/07/07**
Bismuth 214	**1.40**		**0.25**		**0.18**	**11/28/07**	**12/07/07**
Lead 212	**1.06**		**0.18**		**0.17**	**11/28/07**	**12/07/07**
Lead 214	**1.04**		**0.22**		**0.23**	**11/28/07**	**12/07/07**
Potassium 40	**18.4**		**2.4**		**1.1**	**11/28/07**	**12/07/07**
Thallium 208	**0.40**		**0.13**		**0.11**	**11/28/07**	**12/07/07**
Thorium 234	**3.7**		**1.2**		**2.2**	**11/28/07**	**12/07/07**
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7332482**		**Yld % 93**
Technetium 99	0.44	U	0.30	1.00	0.47	11/28/07	12/04/07

NE(S)

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MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-136-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210247-026
Work Order: KCQV5
Matrix: SOLID

Date Collected: 11/14/07 1753
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 @ Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7332293**		**Yld %**
Americium 241	0.09	U	0.21	1.00	0.36	11/28/07	12/07/07
Cesium 137	0.03	U	0.10	1.00	0.18	11/28/07	12/07/07
Thorium 232	**1.19**		**0.39**	1.00	**0.65**	**11/28/07**	**12/07/07**
Uranium 235	-0.03	U	0.45	1.00	0.78	11/28/07	12/07/07
Uranium 238	**3.5**		**1.2**	1.0	**2.6**	**11/28/07**	**12/07/07**
--- Other Detected Radionuclides ---							
Actinium 228	**1.19**		**0.39**		**0.65**	**11/28/07**	**12/07/07**
Bismuth 214	**1.55**		**0.33**		**0.23**	**11/28/07**	**12/07/07**
Lead 212	**1.41**		**0.28**		**0.23**	**11/28/07**	**12/07/07**
Lead 214	**1.37**		**0.25**		**0.27**	**11/28/07**	**12/07/07**
Potassium 40	**18.5**		**3.2**		**1.2**	**11/28/07**	**12/07/07**
Thallium 208	**0.36**		**0.13**		**0.16**	**11/28/07**	**12/07/07**
Thorium 234	**3.5**		**1.2**		**2.6**	**11/28/07**	**12/07/07**

NOTE(S)

Results are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-136-17.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210247-027
Work Order: KCOV6
Matrix: SOLID

Date Collected: 11/14/07 1810
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7332293**		**Yld %**
Americium 241	0.04	U	0.12	1.00	0.19	11/28/07	12/07/07
Cesium 137	0.0005	U	0.053	1.00	0.095	11/28/07	12/07/07
Thorium 232	**0.95**	**J**	**0.22**	1.00	**0.37**	**11/28/07**	**12/07/07**
Uranium 235	0.12	U	0.32	1.00	0.55	11/28/07	12/07/07
Uranium 238	**1.76**		**0.58**	1.00	**1.5**	**11/28/07**	**12/07/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.95**		**0.22**		**0.37**	**11/28/07**	**12/07/07**
Bismuth 214	**0.96**		**0.20**		**0.24**	**11/28/07**	**12/07/07**
Lead 212	**1.20**		**0.15**		**0.14**	**11/28/07**	**12/07/07**
Lead 214	**1.25**		**0.20**		**0.16**	**11/28/07**	**12/07/07**
Potassium 40	**19.0**		**2.3**		**1.4**	**11/28/07**	**12/07/07**
Thallium 208	**0.322**		**0.084**		**0.10**	**11/28/07**	**12/07/07**
horium 234	**1.76**		**0.58**		**1.5**	**11/28/07**	**12/07/07**

E(S)

a are incomplete without the case narrative.

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-137-0.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210247-028
Work Order: KCQV8
Matrix: SOLID

Date Collected: 11/13/07 1635
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7339318**	**Yld % 85**
Neptunium 237	0.005	U	0.024	1.00	0.061	12/05/07	12/09/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7339323**	**Yld % 95**
Plutonium 238	-0.015	U	0.011	1.00	0.071	12/05/07	12/13/07
Plutonium 239/40	-0.0130	U	0.0099	1.00	0.068	12/05/07	12/13/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7339326**	**Yld % 93**
Uranium 233/234	**2.52**		**0.38**	1.00	**0.06**	**12/05/07**	**12/11/07**
Uranium 235/236	**0.073**	**J**	**0.062**	1.00	**0.053**	**12/05/07**	**12/11/07**
Uranium 238	**0.87**	**J**	**0.20**	1.00	**0.04**	**12/05/07**	**12/11/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7332293**	**Yld %**
Americium 241	0.01	U	0.21	1.00	0.36	11/28/07	12/07/07
Cesium 137	0.060	U	0.094	1.00	0.16	11/28/07	12/07/07
Thorium 232	**0.90**	**J**	**0.32**	1.00	**0.55**	**11/28/07**	**12/07/07**
Uranium 235	0.17	U	0.34	1.00	0.58	11/28/07	12/07/07
Uranium 238	0.9	U	1.4	1.0	2.3	11/28/07	12/07/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.90**		**0.32**		**0.55**	**11/28/07**	**12/07/07**
Bismuth 214	**1.14**		**0.30**		**0.24**	**11/28/07**	**12/07/07**
Lead 212	**1.07**		**0.26**		**0.24**	**11/28/07**	**12/07/07**
Lead 214	**0.98**		**0.20**		**0.31**	**11/28/07**	**12/07/07**
Potassium 40	**20.9**		**3.3**		**1.1**	**11/28/07**	**12/07/07**
Thallium 208	**0.45**		**0.13**		**0.11**	**11/28/07**	**12/07/07**
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7332482**	**Yld % 90**
Technetium 99	**0.53**	**J**	**0.31**	1.00	**0.48**	**11/28/07**	**12/04/07**

NE(S)

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-137-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210247-029
Work Order: KCOWE
Matrix: SOLID

Date Collected: 11/13/07 1638
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7339318**		**Yld % 93**
Neptunium 237	-0.0118	U	0.0097	1.00	0.069	12/05/07	12/09/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7339323**		**Yld % 97**
Plutonium 238	-0.021	U	0.013	1.00	0.077	12/05/07	12/13/07
Plutonium 239/40	0.004	U	0.020	1.00	0.052	12/05/07	12/13/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7339326**		**Yld % 96**
Uranium 233/234	**1.23**		**0.23**	1.00	**0.04**	**12/05/07**	**12/11/07**
Uranium 235/236	**0.090**	**J**	**0.064**	1.00	**0.030**	**12/05/07**	**12/11/07**
Uranium 238	**0.64**	**J**	**0.16**	1.00	**0.02**	**12/05/07**	**12/11/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7332293**		**Yld %**
Americium 241	0.02	U	0.16	1.00	0.28	11/28/07	12/07/07
Cesium 137	0.01	U	0.081	1.00	0.15	11/28/07	12/07/07
Thorium 232	**0.98**	**J**	**0.28**	1.00	**0.42**	**11/28/07**	**12/07/07**
Uranium 235	0.08	U	0.32	1.00	0.56	11/28/07	12/07/07
Uranium 238	1.17	U	0.72	1.00	2.3	11/28/07	12/07/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.98**		**0.28**		**0.42**	**11/28/07**	**12/07/07**
Bismuth 214	**1.48**		**0.28**		**0.17**	**11/28/07**	**12/07/07**
Lead 212	**0.93**		**0.18**		**0.15**	**11/28/07**	**12/07/07**
Lead 214	**1.20**		**0.24**		**0.24**	**11/28/07**	**12/07/07**
Potassium 40	**21.4**		**2.9**		**0.6**	**11/28/07**	**12/07/07**
Thallium 208	**0.56**		**0.14**		**0.10**	**11/28/07**	**12/07/07**

NOTE(S)

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MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-137-13.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210247-030
Work Order: KCOWH
Matrix: SOLID

Date Collected: 11/13/07 1650
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**		**Batch # 7332293**		**Yld %**
Americium 241	-0.01	U	0.15	1.00	0.26	11/28/07	12/07/07
Cesium 137	0.031	U	0.078	1.00	0.14	11/28/07	12/07/07
Thorium 232	**0.72**	**J**	**0.27**	1.00	**0.49**	**11/28/07**	**12/07/07**
Uranium 235	0.03	U	0.34	1.00	0.59	11/28/07	12/07/07
Uranium 238	**1.97**		**0.97**	1.00	**1.9**	**11/28/07**	**12/07/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.72**		**0.27**		**0.49**	**11/28/07**	**12/07/07**
Bismuth 214	**1.25**		**0.25**		**0.16**	**11/28/07**	**12/07/07**
Lead 212	**1.73**		**0.29**		**0.21**	**11/28/07**	**12/07/07**
Lead 214	**1.49**		**0.24**		**0.20**	**11/28/07**	**12/07/07**
Potassium 40	**19.8**		**2.8**		**0.6**	**11/28/07**	**12/07/07**
Thallium 208	**0.55**		**0.11**		**0.05**	**11/28/07**	**12/07/07**
Thorium 234	**1.97**		**0.97**		**1.9**	**11/28/07**	**12/07/07**

TE(S)

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MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-138-0.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210247-031
Work Order: KCOWK
Matrix: SOLID

Date Collected: 11/15/07 1445
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7339318**	**Yld % 96**
Neptunium 237	-0.005	U	0.023	1.00	0.073	12/05/07	12/09/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7339323**	**Yld % 85**
Plutonium 238	-0.021	U	0.048	1.00	0.12	12/05/07	12/13/07
Plutonium 239/40	-0.005	U	0.024	1.00	0.076	12/05/07	12/13/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7339326**	**Yld % 95**
Uranium 233/234	**0.35**	**J**	**0.12**	1.00	**0.06**	**12/05/07**	**12/11/07**
Uranium 235/236	0.012	U	0.024	1.00	0.032	12/05/07	12/11/07
Uranium 238	**0.149**	**J**	**0.077**	1.00	**0.047**	**12/05/07**	**12/11/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7332293**	**Yld %**
Americium 241	-0.012	U	0.064	1.00	0.11	11/28/07	12/07/07
Cesium 137	0.00008	U	0.038	1.00	0.075	11/28/07	12/07/07
Thorium 232	0.03	U	0.12	1.00	0.23	11/28/07	12/07/07
Uranium 235	0.08	U	0.14	1.00	0.23	11/28/07	12/07/07
Uranium 238	-0.05	U	0.59	1.00	0.98	11/28/07	12/07/07
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7332482**	**Yld % 81**
Technetium 99	0.20	U	0.32	1.00	0.54	11/28/07	12/04/07

NE(S)

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-138-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210247-032
Work Order: KCOWP
Matrix: SOLID

Date Collected: 11/15/07 1450
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Nits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7332293**		**Yld %**
Americium 241	-0.02	U	0.91	1.00	0.25	11/28/07	12/07/07
Cesium 137	0.013	U	0.080	1.00	0.15	11/28/07	12/07/07
Thorium 232	**0.62**	**J**	**0.25**	1.00	**0.39**	**11/28/07**	**12/07/07**
Uranium 235	0.22	U	0.34	1.00	0.58	11/28/07	12/07/07
Uranium 238	**2.65**		**0.90**	1.00	**1.8**	**11/28/07**	**12/07/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.62**		**0.25**		**0.39**	**11/28/07**	**12/07/07**
Bismuth 214	**0.80**		**0.23**		**0.20**	**11/28/07**	**12/07/07**
Lead 212	**0.73**		**0.17**		**0.17**	**11/28/07**	**12/07/07**
Lead 214	**0.99**		**0.18**		**0.19**	**11/28/07**	**12/07/07**
Potassium 40	**11.8**		**2.3**		**1.2**	**11/28/07**	**12/07/07**
Thallium 208	**0.31**		**0.10**		**0.12**	**11/28/07**	**12/07/07**
Thorium 234	**2.65**		**0.90**		**1.8**	**11/28/07**	**12/07/07**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-138-14.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210247-033
Work Order: KCQWT
Matrix: SOLID

Date Collected: 11/15/07 1505
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**		**Batch # 7332293**		**Yld %**
Americium 241	0.001	U	0.16	1.00	0.27	11/28/07	12/07/07
Cesium 137	0.049	U	0.079	1.00	0.13	11/28/07	12/07/07
Thorium 232	**0.87**	**J**	**0.29**	1.00	**0.47**	**11/28/07**	**12/07/07**
Uranium 235	-0.09	U	5.0	1.0	0.8	11/28/07	12/07/07
Uranium 238	0.2	U	1.5	1.0	2.7	11/28/07	12/07/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.87**		**0.29**		**0.47**	**11/28/07**	**12/07/07**
Bismuth 214	**1.20**		**0.27**		**0.27**	**11/28/07**	**12/07/07**
Lead 212	**1.31**		**0.23**		**0.18**	**11/28/07**	**12/07/07**
Lead 214	**1.33**		**0.26**		**0.23**	**11/28/07**	**12/07/07**
Potassium 40	**20.5**		**3.0**		**0.9**	**11/28/07**	**12/07/07**
Thallium 208	**0.25**		**0.10**		**0.13**	**11/28/07**	**12/07/07**

NOTE(S)

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MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-139-0.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210247-034
Work Order: KCOWX
Matrix: SOLID

Date Collected: 11/15/07 0835
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7339318**	**Yld % 98**
Neptunium 237	0.005	U	0.029	1.00	0.067	12/05/07	12/09/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7339323**	**Yld % 96**
Plutonium 238	-0.005	U	0.022	1.00	0.070	12/05/07	12/12/07
Plutonium 239/40	-0.003	U	0.022	1.00	0.068	12/05/07	12/12/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7339326**	**Yld % 87**
Uranium 233/234	**1.19**		**0.25**	1.00	**0.06**	**12/05/07**	**12/11/07**
Uranium 235/236	0.038	U	0.048	1.00	0.058	12/05/07	12/11/07
Uranium 238	**0.90**	**J**	**0.21**	1.00	**0.06**	**12/05/07**	**12/11/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7332293**	**Yld %**
Americium 241	0.1	U	0.17	1.00	0.28	11/28/07	12/07/07
Cesium 137	**0.30**	**J**	**0.14**	1.00	**0.12**	**11/28/07**	**12/07/07**
Thorium 232	**0.66**	**J**	**0.29**	1.00	**0.40**	**11/28/07**	**12/07/07**
Uranium 235	0.03	U	0.38	1.00	0.67	11/28/07	12/07/07
Uranium 238	**2.4**		**1.0**	1.0	**2.2**	**11/28/07**	**12/07/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.66**		**0.29**		**0.40**	**11/28/07**	**12/07/07**
Bismuth 212	**0.79**		**0.53**		**0.78**	**11/28/07**	**12/07/07**
Bismuth 214	**1.02**		**0.22**		**0.24**	**11/28/07**	**12/07/07**
Lead 212	**1.14**		**0.18**		**0.16**	**11/28/07**	**12/07/07**
Lead 214	**1.40**		**0.24**		**0.19**	**11/28/07**	**12/07/07**
Potassium 40	**18.2**		**2.4**		**1.1**	**11/28/07**	**12/07/07**
Thallium 208	**0.359**		**0.099**		**0.092**	**11/28/07**	**12/07/07**
Thorium 234	**2.4**		**1.0**		**2.2**	**11/28/07**	**12/07/07**
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7333215**	**Yld % 98**
Technetium 99	-0.04	U	0.28	1.00	0.44	11/29/07	12/03/07

TE(S)

nuts are incomplete without the case narrative.

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-139-15-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210247-035
Work Order: KCOW2
Matrix: SOLID

Date Collected: 11/15/07 0855
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7332293**		**Yld %**
Americium 241	0.1	U	0.16	1.00	0.27	11/28/07	12/07/07
Cesium 137	-0.016	U	0.078	1.00	0.14	11/28/07	12/07/07
Thorium 232	**0.94**	**J**	**0.26**	1.00	**0.41**	**11/28/07**	**12/07/07**
Uranium 235	0.22	U	0.41	1.00	0.69	11/28/07	12/07/07
Uranium 238	**2.08**		**0.87**	1.00	**1.7**	**11/28/07**	**12/07/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.94**		**0.26**		**0.41**	**11/28/07**	**12/07/07**
Bismuth 212	**0.78**		**0.48**		**0.69**	**11/28/07**	**12/07/07**
Bismuth 214	**1.24**		**0.21**		**0.14**	**11/28/07**	**12/07/07**
Lead 212	**1.74**		**0.28**		**0.21**	**11/28/07**	**12/07/07**
Lead 214	**1.41**		**0.22**		**0.18**	**11/28/07**	**12/07/07**
Potassium 40	**20.9**		**2.6**		**1.1**	**11/28/07**	**12/07/07**
Thallium 208	**0.58**		**0.13**		**0.09**	**11/28/07**	**12/07/07**
Thorium 234	**2.08**		**0.87**		**1.7**	**11/28/07**	**12/07/07**

TE(S)

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-140-0.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210247-036
Work Order: KCOW4
Matrix: SOLID

Date Collected: 11/15/07 1010
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7339318**	**Yld % 94**
Neptunium 237	0.0006	U	0.022	1.00	0.063	12/05/07	12/09/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7339323**	**Yld % 90**
Plutonium 238	-0.003	U	0.032	1.00	0.084	12/05/07	12/12/07
Plutonium 239/40	0.015	U	0.030	1.00	0.056	12/05/07	12/12/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7339326**	**Yld % 85**
Uranium 233/234	**1.73**		**0.32**	1.00	**0.06**	**12/05/07**	**12/11/07**
Uranium 235/236	**0.141**	**J**	**0.092**	1.00	**0.061**	**12/05/07**	**12/11/07**
Uranium 238	**0.85**	**J**	**0.21**	1.00	**0.07**	**12/05/07**	**12/11/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7332293**	**Yld %**
Americium 241	0.03	U	0.18	1.00	0.32	11/28/07	12/07/07
Cesium 137	**0.24**	**J**	**0.11**	1.00	**0.14**	**11/28/07**	**12/07/07**
Thorium 232	**0.81**	**J**	**0.33**	1.00	**0.52**	**11/28/07**	**12/07/07**
Uranium 235	0.26	U	0.33	1.00	0.55	11/28/07	12/07/07
Uranium 238	0.7	U	1.5	1.0	2.6	11/28/07	12/07/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.81**		**0.33**		**0.52**	**11/28/07**	**12/07/07**
Bismuth 214	**0.98**		**0.26**		**0.27**	**11/28/07**	**12/07/07**
Lead 212	**1.40**		**0.26**		**0.21**	**11/28/07**	**12/07/07**
Lead 214	**0.99**		**0.20**		**0.23**	**11/28/07**	**12/07/07**
Potassium 40	**18.3**		**3.0**		**1.1**	**11/28/07**	**12/07/07**
Thallium 208	**0.45**		**0.11**		**0.06**	**11/28/07**	**12/07/07**
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7333215**	**Yld % 97**
Technetium 99	0.33	U	0.27	1.00	0.44	11/29/07	12/03/07

TE(S)

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J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-140-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210247-037
Work Order: KCOW5
Matrix: SOLID

Date Collected: 11/15/07 1016
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7332293**		**Yld %**
Americium 241	-0.02	U	7.4	1.0	0.3	11/28/07	12/07/07
Cesium 137	-0.02	U	0.37	1.00	0.21	11/28/07	12/07/07
Thorium 232	**1.03**		**0.42**	1.00	**0.61**	**11/28/07**	**12/07/07**
Uranium 235	0.09	U	0.41	1.00	0.71	11/28/07	12/07/07
Uranium 238	2.2	U	1.4	1.0	2.3	11/28/07	12/07/07
--- Other Detected Radionuclides ---							
Actinium 228	**1.02**		**0.42**		**0.61**	**11/28/07**	**12/07/07**
Bismuth 214	**1.17**		**0.27**		**0.21**	**11/28/07**	**12/07/07**
Lead 212	**1.27**		**0.23**		**0.19**	**11/28/07**	**12/07/07**
Lead 214	**1.18**		**0.26**		**0.29**	**11/28/07**	**12/07/07**
Potassium 40	**15.7**		**2.9**		**1.8**	**11/28/07**	**12/07/07**
Thallium 208	**0.50**		**0.15**		**0.13**	**11/28/07**	**12/07/07**

TE(S)

ts are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-140-12.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210247-038
Work Order: KCOW8
Matrix: SOLID

Date Collected: 11/15/07 1027
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7332293**		**Yld %**
Americium 241	0.06	U	0.17	1.00	0.29	11/28/07	12/07/07
Cesium 137	0.003	U	0.080	1.00	0.15	11/28/07	12/07/07
Thorium 232	**0.98**	**J**	**0.27**	1.00	**0.46**	**11/28/07**	**12/07/07**
Uranium 235	0.03	U	0.40	1.00	0.70	11/28/07	12/07/07
Uranium 238	1.2	U	1.5	1.0	2.5	11/28/07	12/07/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.98**		**0.27**		**0.46**	**11/28/07**	**12/07/07**
Bismuth 214	**1.50**		**0.29**		**0.19**	**11/28/07**	**12/07/07**
Lead 212	**1.33**		**0.24**		**0.20**	**11/28/07**	**12/07/07**
Lead 214	**1.23**		**0.25**		**0.25**	**11/28/07**	**12/07/07**
Potassium 40	**18.1**		**2.7**		**0.8**	**11/28/07**	**12/07/07**
Thallium 208	**0.28**		**0.11**		**0.14**	**11/28/07**	**12/07/07**

TE(S)

ata are incomplete without the case narrative.

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-141-0.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210247-039
Work Order: KCOXA
Matrix: SOLID

Date Collected: 11/13/07 1715
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7339318	Yld % 94
Neptunium 237	-0.0096	U	0.0087	1.00	0.064	12/05/07	12/09/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7339323	Yld % 90
Plutonium 238	-0.001	U	0.021	1.00	0.063	12/05/07	12/12/07
Plutonium 239/40	-0.0072	U	0.0073	1.00	0.056	12/05/07	12/12/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7339326	Yld % 100
Uranium 233/234	**3.86**		**0.50**	1.00	**0.06**	**12/05/07**	**12/11/07**
Uranium 235/236	**0.186**	**J**	**0.094**	1.00	**0.032**	**12/05/07**	**12/11/07**
Uranium 238	**1.04**		**0.22**	1.00	**0.05**	**12/05/07**	**12/11/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7332293	Yld %
mericium 241	0.008	U	0.16	1.00	0.28	11/28/07	12/07/07
esium 137	0.043	U	0.065	1.00	0.11	11/28/07	12/07/07
Thorium 232	**0.82**	**J**	**0.32**	1.00	**0.49**	**11/28/07**	**12/07/07**
Uranium 235	0.16	U	0.44	1.00	0.75	11/28/07	12/07/07
Uranium 238	**2.5**		**1.1**	1.0	**2.3**	**11/28/07**	**12/07/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.82**		**0.32**		**0.49**	**11/28/07**	**12/07/07**
Bismuth 214	**0.75**		**0.22**		**0.27**	**11/28/07**	**12/07/07**
Lead 212	**1.03**		**0.19**		**0.17**	**11/28/07**	**12/07/07**
Lead 214	**1.28**		**0.25**		**0.22**	**11/28/07**	**12/07/07**
Potassium 40	**14.8**		**2.3**		**1.8**	**11/28/07**	**12/07/07**
Thallium 208	**0.396**		**0.096**		**0.082**	**11/28/07**	**12/07/07**
Thorium 234	**2.5**		**1.1**		**2.3**	**11/28/07**	**12/07/07**
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g		Batch # 7333215	Yld % 99
Technetium 99	**1.01**		**0.32**	1.00	**0.44**	**11/29/07**	**12/03/07**

TE(S)

ta are incomplete without the case narrative.

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J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-141-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210247-040
Work Order: KCQXC
Matrix: SOLID

Date Collected: 11/13/07 1720
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7332293**		**Yld %**
Americium 241	0.01	U	0.17	1.00	0.30	11/28/07	12/07/07
Cesium 137	0.013	U	0.080	1.00	0.14	11/28/07	12/07/07
Thorium 232	**0.97**	**J**	**0.27**	1.00	**0.38**	**11/28/07**	**12/07/07**
Uranium 235	0.14	U	0.34	1.00	0.57	11/28/07	12/07/07
Uranium 238	0.6	U	1.3	1.0	2.3	11/28/07	12/07/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.97**		**0.27**		**0.38**	**11/28/07**	**12/07/07**
Bismuth 214	**1.18**		**0.23**		**0.24**	**11/28/07**	**12/07/07**
Lead 212	**1.80**		**0.32**		**0.24**	**11/28/07**	**12/07/07**
Lead 214	**1.60**		**0.26**		**0.20**	**11/28/07**	**12/07/07**
Potassium 40	**20.3**		**2.6**		**1.2**	**11/28/07**	**12/07/07**
Thallium 208	**0.50**		**0.12**		**0.10**	**11/28/07**	**12/07/07**

TE(S)

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J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

METHOD BLANK REPORT

Severn Trent Laboratories - Radiochemistry

Client Lot ID: F7K210247
Matrix: SOLID

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC		Prep Date	Analysis Date	Lab Sample ID
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**	**Batch #**	**7332236**	**Yld %**			**F7K280000-236B**
Americium 241	-0.024	U	0.076	1.00	0.13		11/28/07	12/08/07	
Cesium 137	0.005	U	0.033	1.00	0.065		11/28/07	12/08/07	
Thorium 232	0.0	U	0.037	1.00	0.14		11/28/07	12/08/07	
Uranium 235	0.06	U	0.14	1.00	0.24		11/28/07	12/08/07	
Uranium 238	0.03	U	0.49	1.00	0.99		11/28/07	12/08/07	
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**	**Batch #**	**7332293**	**Yld %**			**F7K280000-293B**
Americium 241	0.013	U	0.059	1.00	0.11		11/28/07	12/07/07	
Cesium 137	-0.004	U	0.050	1.00	0.094		11/28/07	12/07/07	
Thorium 232	0.02	U	0.12	1.00	0.24		11/28/07	12/07/07	
Uranium 235	0.03	U	0.14	1.00	0.25		11/28/07	12/07/07	
Uranium 238	0.16	U	0.52	1.00	1.0		11/28/07	12/07/07	
TC-99 by LSC by DOE TC-02-RC Mod.			**pCi/g**	**Batch #**	**7332482**	**Yld %**	**106**		**F7K280000-482B**
Technetium 99	0.24	U	0.25	1.00	0.41		11/28/07	12/04/07	
TC-99 by LSC by DOE TC-02-RC Mod.			**pCi/g**	**Batch #**	**7333215**	**Yld %**	**100**		**F7K290000-215B**
Technetium 99	-0.08	U	0.26	1.00	0.43		11/29/07	12/03/07	
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**	**Batch #**	**7339318**	**Yld %**	**93**		**F7L050000-318B**
Neptunium 237	0.003	U	0.022	1.00	0.059		12/05/07	12/09/07	
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**	**Batch #**	**7339323**	**Yld %**	**93**		**F7L050000-323B**
Plutonium 238	0.006	U	0.020	1.00	0.048		12/05/07	12/12/07	
Plutonium 239/40	-0.0037	U	0.0052	1.00	0.048		12/05/07	12/12/07	
Iso URANIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**	**Batch #**	**7339326**	**Yld %**	**104**		**F7L050000-326B**
Uranium 233/234	0.045	U	0.042	1.00	0.049		12/05/07	12/11/07	
Uranium 235/236	0.011	U	0.021	1.00	0.029		12/05/07	12/11/07	
Uranium 238	**0.076**	**J**	**0.051**	1.00	**0.023**		**12/05/07**	**12/11/07**	
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**	**Batch #**	**7342064**	**Yld %**	**91**		**F7L080000-064B**
Neptunium 237	0.003	U	0.028	1.00	0.060		12/08/07	12/10/07	

/TE(S)

Data are incomplete without the case narrative.

MDC is determined using instrument performance only
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

Laboratory Control Sample Report

Severn Trent Laboratories - Radiochemistry

Client Lot ID: F7K210247
Matrix: SOLID

Parameter	Spike Amount	Result	Total Uncert. (2 σ+/-)	MDC	% Yld	% Rec	Lab Sample ID / QC Control Limits
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**	**GA-01-R MOD**			**F7K280000-236C**
Americium 241	103	111	8.8	1.4		107	(85 - 118)
Cesium 137	40.0	43.3	2.7	0.5		108	(91 - 120)
Cobalt 60	62.7	65.6	3.9	0.09		104	(91 - 112)
	Batch #:	7332236		**Analysis Date:**	12/08/07		
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**	**GA-01-R MOD**			**F7K280000-293C**
Americium 241	103	110	8.7	1.4		107	(85 - 118)
Cesium 137	40.0	44.1	2.8	0.5		110	(91 - 120)
Cobalt 60	62.7	67.2	4.1	0.2		107	(91 - 112)
	Batch #:	7332293		**Analysis Date:**	12/07/07		
TC-99 by LSC by DOE TC-02-RC Mod.			**pCi/g**	**TC-02-RC MOD**			**F7K280000-482C**
Technetium 99	33.3	30.7	3.2	0.4	104	92	(64 - 114)
	Batch #:	7332482		**Analysis Date:**	12/04/07		
TC-99 by LSC by DOE TC-02-RC Mod.			**pCi/g**	**TC-02-RC MOD**			**F7K290000-215C**
Technetium 99	33.3	29.9	3.1	0.4	104	90	(64 - 114)
	Batch #:	7333215		**Analysis Date:**	12/03/07		
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**	**A-01-R MOD**			**F7L050000-318C**
Neptunium 237	13.3	11.6	1.2	0.02	116	87	(75 - 119)
	Batch #:	7339318		**Analysis Date:**	12/09/07		
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**	**A-01-R**			**F7L050000-323C**
Plutonium 238	6.13	6.35	0.74	0.05	93	104	(77 - 112)
Plutonium 239/40	5.77	6.58	0.76	0.04	93	114	(82 - 119)
	Batch #:	7339323		**Analysis Date:**	12/12/07		
Iso URANIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**	**A-01-R MOD**			**F7L050000-326C**
Uranium 233/234	19.6	15.7	2.5	0.4	105	80	(76 - 128)
Uranium 238	19.6	16.7	2.6	0.4	105	85	(74 - 125)
	Batch #:	7339326		**Analysis Date:**	12/11/07		
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**	**A-01-R MOD**			**F7L080000-064C**
Neptunium 237	13.3	13.0	1.5	0.05	110	98	(75 - 119)
	Batch #:	7342064		**Analysis Date:**	12/10/07		

NOTE(S)

MDC is determined by instrument performance only

DUPLICATE EVALUATION REPORT

Severn Trent Laboratories - Radiochemistry

Client Lot ID: F7K210247
Matrix: SOLID

Date Sampled: 11/20/07
Date Received: 11/21/07

Parameter	SAMPLE Result		Total Uncert. (2σ+/-)	% Yld	DUPLICATE Result		Total Uncert. (2 σ+/-)	% Yld	QC Sample ID Precision	
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**GA-01-R MOD**				**F7K210247-001**	
Americium 241	0.062	U	0.098		0.0003	U	0.11		198	%RPD
Cesium 137	0.028	U	0.050		0.037	U	0.049		29	%RPD
Thorium 232	0.27	U	0.21		0.29	U	0.17		8	%RPD
Uranium 235	0.10	U	0.22		0.16	U	0.26		43	%RPD
Uranium 238	1.33	U	0.69		1.14	U	0.75		15	%RPD
---Other Dedected Radionuclides---										
Bismuth 214	0.47		0.14		0.61		0.15		25	%RPD
Lead 212	0.44		0.11		0.70		0.18		45	%RPD
Lead 214	0.50		0.13		0.81		0.17		47	%RPD
Potassium 40	7.5		1.6		8.8		1.5		16	%RPD
Thallium 208	0.128		0.066		0.220		0.078		53	%RPD
	Batch #:		7332236	(Sample)	7332236		(Duplicate)			
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**TC-02-RC MOD**				**F7K210247-001**	
Technetium 99	0.67	J	0.31	93	0.29	U	0.28	96	78	%RPD
	Batch #:		7332482	(Sample)	7332482		(Duplicate)			
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**A-01-R MOD**				**F7K210247-001**	
Neptunium 237	-0.0054	U	0.0063	99	-0.0116	U	0.0096	94	73	%RPD
	Batch #:		7339318	(Sample)	7339318		(Duplicate)			
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**A-01-R**				**F7K210247-001**	
Plutonium 238	-0.014	U	0.010	91	-0.0006	U	0.031	97	182	%RPD
Plutonium 239/40	-0.0039	U	0.0055	91	0.008	U	0.020	97	574	%RPD
	Batch #:		7339323	(Sample)	7339323		(Duplicate)			
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**A-01-R MOD**				**F7K210247-001**	
Uranium 233/234	2.57		0.39	95	2.39		0.38	92	7	%RPD
Uranium 235/236	0.084	J	0.066	95	0.116	J	0.080	92	31	%RPD
Uranium 238	0.86	J	0.20	95	0.85	J	0.20	92	1	%RPD
	Batch #:		7339326	(Sample)	7339326		(Duplicate)			
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**GA-01-R MOD**				**F7K210247-021**	
Americium 241	-0.02	U	0.18		-0.02	U	2.3		8	%RPD
Cesium 137	0.040	U	0.071		0.0005	U	0.12		195	%RPD
Thorium 232	1.11		0.33		1.08		0.35		3	%RPD
Uranium 235	0.21	U	0.44		0.20	U	0.41		6	%RPD
Uranium 238	2.3		1.8		4.0		1.9		54	%RPD
---Other Dedected Radionuclides---										
Actinium 228	1.11		0.33		1.08		0.35		3	%RPD
Bismuth 214	1.17		0.26		1.61		0.33		32	%RPD
Lead 212	1.38		0.22		1.30		0.26		6	%RPD
Lead 214	1.20		0.22		1.99		0.36		50	%RPD
Potassium 40	19.2		2.6		20.9		3.5		9	%RPD
Thallium 208	0.57		0.14		0.65		0.14		13	%RPD
Thorium 234	2.3		1.8		4.0		1.9		54	%RPD
	Batch #:		7332293	(Sample)	7332293		(Duplicate)			

DUPLICATE EVALUATION REPORT

Severn Trent Laboratories - Radiochemistry

Client Lot ID: F7K210247
Matrix: SOLID

Date Sampled: 11/17/07
Date Received: 11/21/07

Parameter	SAMPLE Result	Total Uncert. (2σ+/-)	% Yld	DUPLICATE Result	Total Uncert. (2 σ+/-)	% Yld	QC Sample ID Precision	
TC-99 by LSC by DOE TC-02-RC Mod.			**pCi/g**	**TC-02-RC MOD**			**F7K210350-001**	
Technetium 99	4.26	0.60	105	2.44	0.45	96	54	%RPD
	Batch #:	7333215	(Sample)	7333215	(Duplicate)			

NOTE(S)

Data are incomplete without the case narrative.
Calculations are performed before rounding to avoid round-off error in calculated results

J Result is greater than sample detection limit but less than stated reporting limit.

Attachment 5.2-Chain of Custody Record

Client: WEC
Address:
City: Festus MO
State: Zip Code:

Project Manager: Diane Quayle
Telephone Number: 865-368-7477
Site Contact:
Lab Contact: Ivan Venia

Date: 11/21/07
CoC Number: SC-01
Page: 1 of 28

Project Name: Hematite Characterization
Project Location:
Carrier/Waybill Number:
Contract/PO Number: 313010.202

Analysis (Attach list if more space is needed)

Sample ID Number	Date	Time	Air	Aqueous	Sediment	Soil		Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH		Xrayc	Isotopic Tc-99	Isotopic U	Isotopic Pu	Isotopic Th					
BD-38-2.5-SL	11-20-07	1410				✓									✓	✓	✓	✓	✓					
BD-38-4.5-SL	11-20-07	1410				✓									✓	✓								
BD-38-5-SL	11-20-07	1415				✓									✓		✓	✓	✓					
BD-42-2.5-SL	11-20-07	1400				✓									✓	✓	✓							
BD-42-4.5-SL	11-20-07	1400				✓									✓	✓	✓	✓	✓					
BD-42-9-SL	11-20-07	1540				✓									✓									
BD-43-2.5-SL	11-20-07	1310				✓									✓	✓	✓	✓	✓					
BD-43-4.5-SL	11-20-07	1310				✓									✓	✓								

Possible Hazard Identification: Non-haz. ☐ Radioactive ✓ Flammable ☐ Skin Irritant ☐ Unknown ☐

Sample Disposal: Return to client ✓ Disposal by lab ☐ Archive for ___ months ☐

Turn Around Time: 24 hrs ☐ 48 hrs ☐ 7 days ☐ 14 days ☐ 20days ✓ Other ☐

Comments:

	Date	Time		Date	Time
Relinquished by: [signature]	11/21/07	11:30	Received by: [signature]	11/21/07	11:30
Relinquished by:			Received by:		
Relinquished by:			Received by:		

Attachment 5.2-Chain of Custody Record

Client: WEC
Address:
City:
State: Zip Code:

Project Manager: Duane Quayle
Telephone Number: 865-368-7477
Site Contact:
Lab Contact: Ivan Venia

Date: 11/21/07
CoC Number: 50-01
Page: 2 of 28

Project Name: Hematite Characterization
Project Location:
Carrier/Waybill Number:
Contract/PO Number:

Sample ID Number	Date	Time	Matrix: Air	Aqueous	Sediment	Soil		Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH		Analysis (Attach list if more space is needed): Xrays	Isotopic Tc-99	Isotopic U	Isotopic Pu	Isotopic Np					
BD-43-5-SL	11-20-07	1330				✓									✓	✓								
BD-44-2.5-SL	11-19-07	1725				✓									✓	✓	✓	✓	✓					
BD-44-4.5-SL	11-19-07	1725				✓									✓	✓								
BD-44-8.5-SL	11-19-07	1740				✓									✓									
BD-45-2.5-SL	11-8-07	1820				✓									✓	✓	✓	✓	✓					
BD-45-4.5-SL	11-8-07	1820				✓									✓	✓								
BD-45-13-SL	11-8-07	1820				✓									✓									
BD-46-2.5-SL	11-20-07	1050				✓									✓	✓	✓	✓	✓					

Possible Hazard Identification: Non-haz. ☐ Radioactive ☐ Flammable ☐ Skin Irritant ☐ Unknown ☐

Sample Disposal: Return to client ✓ Disposal by lab ☐ Archive for __ months ☐

Turn Around Time: 24 hrs ☐ 48 hrs ☐ 7 days ☐ 14 days ✓ 21 days ☐ Other ☐

Comments:

	Date	Time		Date	Time
Relinquished by: [signature]	11/21/07	11:30	Received by: Angela Bison	11/21/07	11:30
Relinquished by:			Received by:		
Relinquished by:			Received by:		

Attachment 5.2-Chain of Custody Record

Client: WEC
Address:
City:
State: Zip Code:

Project Manager: Duane Quayle
Telephone Number: 865-368-7477
Site Contact:
Lab Contact: Ivan Venia

Date: 11/21/07
CoC Number: SC-01
Page: 3 of 28

Project Name: Hematite Characterization
Project Location:
Carrier/Waybill Number:
Contract/PO Number:

Sample ID Number	Date	Time	Matrix: Air	Aqueous	Sediment	Soil		Containers & Preservatives: Unpres.	H_2SO_4	HNO_3	HCl	NaOH	ZnAc/ NaOH		Analysis (Attach list if more space is needed): γ Spec	Isotopic T-99	Isotopic U	Isotopic Pu	Isotopic Np					
BD-46-4.5-SL	11-20-07	1050				✓									✓	✓								
BD-46-5-SL	11-20-07	1100				✓									✓									
BD-47-2.5-SL	11-19-07	0825				✓									✓	✓	✓	✓	✓					
BD-47-4.5-SL	11-19-07	0825				✓									✓	✓								
BD-47-6.5-SL	11-19-07	0830				✓									✓									
BD-48-2.5-SL	11-19-07	0900				✓									✓	✓	✓	✓	✓					
BD-48-4.5-SL	11-19-07	0900				✓									✓	✓								
BD-48-5.5-SL	11-19-07	0904				✓									✓		✓	✓	✓					

Possible Hazard Identification: Non-haz. ☐ Radioactive ☐ Flammable ☐ Skin Irritant ☐ Unknown ☐

Sample Disposal: Return to client ✓ Disposal by lab ☐ Archive for __ months ☐

Turn Around Time: 24 hrs ☐ 48 hrs ☐ 7 days ☐ 14 days ☐ 21 days ✓ Other ☐

Comments:

	Date	Time		Date	Time
Relinquished by: [signature]	11/21/07	11:30	Received by: [signature]	11/21/07	11:30
Relinquished by:			Received by:		
Relinquished by:			Received by:		

Attachment 5.2-Chain of Custody Record

Client: WEC
Address:
City:
State: Zip Code:

Project Manager: Duane Quayle
Telephone Number: 865-368-9477
Site Contact:
Lab Contact: Ivan Venia

Date: 11/21/07
CoC Number: 26-07
Page: 4 of 28

Project Name: Hematite Characterization
Project Location:
Carrier/Waybill Number:
Contract/PO Number:

Sample ID Number	Date	Time	Matrix: Air	Aqueous	Sediment	Soil	Containers & Preservatives: Unpres.	H_2SO_4	HNO_3	HCl	NaOH	Zn-Ac/NaOH	Analysis: X-ray	Isotopic Tc-99	Isotopic U	Isotopic Pu	Isotopic Np
NB-136-0.5-SL	11-14-07	1748				✓							✓	✓	✓	✓	✓
NB-136-4.5-SL	11-14-07	1753				✓							✓				
NB-136-17.5-SL	11-14-07	1810				✓							✓				
NB-137-0.5-SL	11-13-07	1635				✓							✓	✓	✓	✓	✓
NB-137-4.5-SL	11-13-07	1638				✓							✓		✓	✓	✓
NB-137-13.5-SL	11-13-07	1650				✓							✓				
NB-138-0.5-SL	11-15-07	1445				✓							✓	✓	✓	✓	✓
NB-138-4.5-SL	11-15-07	1450				✓							✓				

Yes on Tc-99

Possible Hazard Identification: Non-haz. ☐ Radioactive ☐ Flammable ☐ Skin Irritant ☐ Unknown ☐

Sample Disposal: Return to client ✓ Disposal by lab ☐ Archive for __ months ☐

Turn Around Time: 24 hrs ☐ 48 hrs ☐ 7 days ☐ 14 days ☐ 20 days ✓ Other ☐

Comments:

	Date	Time		Date	Time
Relinquished by: [signature]	11/21/07	1130	Received by: [signature]	11/21/07	11:30
Relinquished by:			Received by:		
Relinquished by:			Received by:		

TestAmerica St. Louis

Attachment 5.2-Chain of Custody Record

Client: WEC
Address:
City:
State: Zip Code:

Project Manager: Duane Quayle
Telephone Number: 865-368-7477
Site Contact:
Lab Contact: Juan Venia

Date: 11/21/07
CoC Number: 5C-01
Page: 5 of 28

Project Name: Hematite Characterization
Project Location:
Carrier/Waybill Number:
Contract/PO Number:

Sample ID Number	Date	Time	Matrix: Air	Aqueous	Sediment	Soil		Containers & Preservatives: Unpres.	H_2SO_4	HNO_3	HCl	NaOH	ZnAc/NaOH		Analysis (Attach list if more space is needed): X-ray	Isotopic Tc-99	Isotopic U	Isotopic Pu	Isotopic Np					
NB-138-14.5-SL	11-15-07	1505				✓									✓									
NB-139-0.5-SL	11-15-07	1800				✓									✓	✓	✓	✓	✓					
NB-139-15-SL	11-15-07	0965				✓									✓									
NB-140-0.5-SL	11-15-07	1010				✓									✓	✓	✓	✓	✓					
NB-140-4.5-SL	11-15-07	1016				✓									✓									
NB-140-12.5-SL	11-15-07	1027				✓									✓									
NB-141-0.5-SL	11-13-07	1715				✓									✓	✓	✓	✓	✓					
NB-141-4.5-SL	11-13-07	1720				✓									✓									

Possible Hazard Identification
- Non-haz. ☐
- Radioactive ☐
- Flammable ☐
- Skin Irritant ☐
- Unknown ☐

Sample Disposal
- Return to client ✓
- Disposal by lab ☐
- Archive for __ months ☐

Turn Around Time
- 24 hrs ☐
- 48 hrs ☐
- 7 days ☐
- 14 days ☐
- 28 days ✓
- Other ☐

Comments:

	Date	Time		Date	Time
Relinquished by: [signature]	11/21/07	11[illegible]	Received by: Angela Boon	11/21/07	1130
Relinquished by:			Received by:		
Relinquished by:			Received by:		

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Lot #(s): F7K210852 (F7K210247)
277 883
~~377~~
~~883~~

- 1167 -

Condition Upon Receipt Form

Client: Energy Solutions COC/RFA No: SL-11 Date: 11/21/07
Quote No: 77705 Initiated By: GD Time: 1130

Shipping Information

Shipper Name: client Multiple Packages: (Y) N

Shipping # (s):*
1. 2. 3. 4. 5. 6. 7. 8. 9. 10.

Sample Temperature (s):**
1. Ambient 2. 3. 4. 5. 6. Ambient 7. 8. 9. 10.

*Numbered shipping lines correspond to Numbered Sample Temp lines

**Sample must be received at 4°C ± 2°C. If not, note contents below. Temperature variance does NOT affect the following: Metals-Liquid or Rad tests-Liquid or Solids

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

1.	Y (N)	Are there custody seals present on the cooler?	8.	(Y) N	Are there custody seals present on bottles?
2.	Y N (N/A)	Do custody seals on cooler appear to be tampered with?	9.	Y (N) N/A	Do custody seals on bottles appear to be tampered with?
3.	(Y) N	Were contents of cooler frisked after opening, but before unpacking?	10.	Y N (N/A)	Was sample received with proper pH[1]? (If not, make note below)
4.	(Y) N	Sample received with Chain of Custody?	11.	Y N	If N/A- Was pH taken by original TestAmerica lab?
5.	(Y) N N/A	Does the Chain of Custody match sample ID's on the container(s)?	12.	(Y) N	Sample received in proper containers?
6.	Y (N)	Was sample received broken?	13.	Y N (N/A)	Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below)
7.	(Y) N	Is sample volume sufficient for analysis?	14.	Y N	Was internal COC/Workshare received?

[1] For DOE-AL (Pantex, LANL, Sandia) sites, pH of ALL containers received must be verified, EXCEPT VOA, TOX and soils.

Notes:

Corrective Action:
- ☐ Client Contact Name: Informed by:
- ☐ Sample(s) processed "as is"
- ☐ Sample(s) on hold until: If released, notify:

Project Management Review: Date: 12-3-07 1167

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIAL AND THE DATE NEXT TO THAT ITEM.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

REVISED

PROJECT NO. 313010.202

Hematite Site

Lot #: F7K210252

Paul Ely

Energy Solutions, LLC
1009 Commerce Park Drive
Suite 100
Oak Ridge, TN 37830

TESTAMERICA LABORATORIES, INC.

Ivan Vania
Project Manager

January 2, 2008

Case Narrative
LOT NUMBER: F7K210252 – Revision 1

This report contains the analytical results for the 40 samples received under chain of custody by TestAmerica St. Louis on November 21, 2007. These samples are associated with your Hematite Site project.

The analytical results included in this report meet all applicable quality control procedure requirements except as noted on the following page.

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

All chemical analysis results are based upon sample as received, wet weight, unless noted otherwise. All radiochemistry results are based upon sample as dried and ground with the exception of tritium, unless requested wet weight by the client.

This revision contains corrected sample identification for F7K210252-024 from "NB-19-0.5-SL" to "BD-19-0.5-SL."

Observations/Nonconformances

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

Isotopic Plutonium by Alpha Spectroscopy

The LCS recovery for Plutonium 238 is outside the upper QC limit, indicating a potential positive bias for that analyte. This analyte was not observed above the reporting limit in the associated samples; therefore the sample data was not adversely affected by this excursion. The Plutonium samples F7K210252-002, -002x, -011, -014, -017, -024, -027, -031, and -038 have tracer recoveries below the QC limit of 30 % indicating a potential high bias in the sample results. Plutonium 238 and 239 were not detected in the samples above the MDC.

Affected Samples:

F7K210252 (2): NB-142-0.5-SL
F7K210252 (5): NB-143-0.5-SL
F7K210252 (8): NB-144-0.5-SL
F7K210252 (9): NB-144-4.5-SL
F7K210252 (11): NB-104-0.5-SL
F7K210252 (14): NB-106-4.5-SL
F7K210252 (17): NB-107-0.5-SL
F7K210252 (21): NB-108-0.5-SL
F7K210252 (24): NB-19-0.5-SL
F7K210252 (27): BD-28-0.5-SL
F7K210252 (31): BD-34-2.5-SL
F7K210252 (34): BD-35-2.5-SL
F7K210252 (37): BD-40-2.5-SL
F7K210252 (38): BD-40-4.5-SL
F7K210252 (40): BD-41-2.5-SL

There were no nonconformances or observations noted with any other analysis on this lot.

METHODS SUMMARY

F7K210252

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Gamma Spectroscopy - Cesium-137 & Hits	EML GA-01-R MOD	
Isotopic Plutonium by Alpha Spectroscopy	EML A-01-R	
Isotopic Uranium by Alpha Spectroscopy	EML A-01-R MOD	
Neptunium by Alpha Spectroscopy	EML A-01-R MOD	
TC-99 by LSC	EML TC-02-RC MO	

References:

EML "ENVIRONMENTAL MEASUREMENTS LABORATORY PROCEDURES MANUAL"
HASL-300 28TH EDITION, VOLUME I and II DEPARTMENT OF ENERGY

SAMPLE SUMMARY

F7K210252

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
KCQXH	001	NB-141-17.5-SL	11/13/07	17:40
KCQXL	002	NB-142-0.5-SL	11/15/07	09:21
KCQXM	003	NB-142-4.5-SL	11/15/07	09:25
KCQXP	004	NB-142-9-SL	11/15/07	09:34
KCQXQ	005	NB-143-0.5-SL	11/13/07	17:55
KCQXR	006	NB-143-4.5-SL	11/13/07	18:00
KCQXT	007	NB-143-6.5-SL	11/13/07	18:05
KCQXW	008	NB-144-0.5-SL	11/14/07	12:55
KCQX0	009	NB-144-4.5-SL	11/14/07	13:00
KCQX2	010	NB-144-7-SL	11/14/07	13:05
KCQX4	011	NB-104-0.5-SL	11/19/07	10:25
KCQX7	012	NB-104-4.5-SL	11/19/07	10:35
KCQX9	013	NB-104-12.5-SL	11/19/07	10:50
KCQ0C	014	NB-106-4.5-SL	11/19/07	16:20
KCQ0H	015	NB-106-7.5-SL	11/19/07	16:25
KCQ0J	016	NB-106-2.5-SL	11/19/07	16:20
KCQ0L	017	NB-107-0.5-SL	11/19/07	13:45
KCQ0P	018	NB-107-4.5-SL	11/19/07	13:50
KCQ0V	019	NB-107-17-SL	11/19/07	14:10
KCQ0X	020	NB-108-4.5-SL	11/19/07	11:18
KCQ03	021	NB-108-0.5-SL	11/19/07	11:10
KCQ06	022	NB-139-4.5-SL	11/19/07	11:18
KCQ08	023	NB-108-9-SL	11/19/07	11:25
KCQ1D	024	BD-19-0.5-SL	11/19/07	15:50
KCQ1F	025	BD-19-4.5-SL	11/19/07	16:00
KCQ1R	026	BD-19-10.5-SL	11/19/07	16:10
KCQ2A	027	BD-28-0.5-SL	11/17/07	11:50
KCQ2E	028	BD-28-2.5-SL	11/17/07	11:56
KCQ2H	029	BD-28-4.5-SL	11/17/07	11:56
KCQ2V	030	BD-28-12.5-SL	11/17/07	12:07
KCQ2X	031	BD-34-2.5-SL	11/19/07	14:40
KCQ21	032	BD-34-4.5-SL	11/19/07	14:40
KCQ29	033	BD-34-13-SL	11/19/07	15:00
KCQ3E	034	BD-35-2.5-SL	11/16/07	18:15
KCQ3J	035	BD-35-4.5-SL	11/16/07	18:15
KCQ3L	036	BD-35-6.5-SL	11/16/07	18:20

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SAMPLE SUMMARY

F7K210252

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
KCQ3M	037	BD-40-2.5-SL	11/15/07	17:10
KCQ3T	038	BD-40-4.5-SL	11/15/07	17:10
KCQ3X	039	BD-40-18-SL	11/15/07	17:35
KCQ32	040	BD-41-2.5-SL	11/09/07	08:25

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Energy Solutions, LLC

Client Sample ID: NB-141-17.5-SL

Radiochemistry

Lab Sample ID: F7K210252-001
Work Order: KCQXH
Matrix: SOLID

Date Collected: 11/13/07 1740
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7332371**		**Yld %**
Americium 241	0.004	U	0.17	1.00	0.29	11/28/07	11/29/07
Cesium 137	0.032	U	0.073	1.00	0.13	11/28/07	11/29/07
Thorium 232	**0.96**	J	**0.27**	1.00	**0.43**	11/28/07	11/29/07
Uranium 235	0.19	U	0.37	1.00	0.62	11/28/07	11/29/07
Uranium 238	**2.9**		**1.0**	1.0	**2.1**	11/28/07	11/29/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.96**		**0.27**		**0.43**	11/28/07	11/29/07
Bismuth 214	**0.84**		**0.22**		**0.25**	11/28/07	11/29/07
Lead 212	**1.84**		**0.29**		**0.21**	11/28/07	11/29/07
Lead 214	**1.04**		**0.23**		**0.20**	11/28/07	11/29/07
Potassium 40	**19.8**		**2.6**		**1.2**	11/28/07	11/29/07
Thallium 208	**0.498**		**0.099**		**0.066**	11/28/07	11/29/07
horium 234	**2.9**		**1.0**		**2.1**	11/28/07	11/29/07

NOTE(S)

:a are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

J **Result is greater than sample detection limit but less than stated reporting limit.**
U **Result is less than the sample detection limit.**

Energy Solutions, LLC

Client Sample ID: NB-141-17.5-SL DUP

Radiochemistry

Lab Sample ID: F7K210252-001X
Work Order: KCQXH
Matrix: SOLID

Date Collected: 11/13/07 1740
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**		**Batch # 7332371**		**Yld %**
Americium 241	0.05	U	0.17	1.00	0.29	11/28/07	11/29/07
Cesium 137	0.008	U	0.060	1.00	0.11	11/28/07	11/29/07
Thorium 232	1.27		0.29	1.00	0.43	11/28/07	11/29/07
Uranium 235	0.17	U	0.43	1.00	0.73	11/28/07	11/29/07
Uranium 238	2.1		1.1	1.0	2.1	11/28/07	11/29/07
--- Other Detected Radionuclides ---							
Actinium 228	1.27		0.29		0.43	11/28/07	11/29/07
Bismuth 212	1.11		0.49		0.41	11/28/07	11/29/07
Bismuth 214	0.91		0.22		0.26	11/28/07	11/29/07
Lead 212	1.46		0.32		0.28	11/28/07	11/29/07
Lead 214	1.27		0.32		0.26	11/28/07	11/29/07
Potassium 40	21.5		2.7		1.3	11/28/07	11/29/07
hallium 208	0.40		0.11		0.10	11/28/07	11/29/07
Thorium 234	2.1		1.1		2.1	11/28/07	11/29/07

NOTE(S)

ta are incomplete without the case narrative.

oC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-142-0.5-SL

Radiochemistry

Lab Sample ID: F7K210252-002
Work Order: KCQXL
Matrix: SOLID

Date Collected: 11/15/07 0921
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7339445	Yld % 10
Plutonium 238	-0.19	U	0.12	1.00	0.73	12/05/07	12/11/07
Plutonium 239/40	0.02	U	0.20	1.00	0.54	12/05/07	12/11/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7339447	Yld % 88
Uranium 233/234	4.06		0.65	1.00	0.06	12/05/07	12/10/07
Uranium 235/236	0.172	J	0.095	1.00	0.058	12/05/07	12/10/07
Uranium 238	1.45		0.31	1.00	0.07	12/05/07	12/10/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7332371	Yld %
Americium 241	0.05	U	0.20	1.00	0.34	11/28/07	11/28/07
Cesium 137	0.35	J	0.11	1.00	0.07	11/28/07	11/28/07
Thorium 232	0.84	J	0.26	1.00	0.47	11/28/07	11/28/07
Uranium 235	0.39	U	0.41	1.00	0.66	11/28/07	11/28/07
Uranium 238	3.4		1.2	1.0	2.3	11/28/07	11/28/07
--- Other Detected Radionuclides ---							
Actinium 228	0.84		0.26		0.47	11/28/07	11/28/07
Bismuth 214	0.74		0.21		0.24	11/28/07	11/28/07
Lead 212	1.15		0.20		0.19	11/28/07	11/28/07
Lead 214	0.88		0.19		0.25	11/28/07	11/28/07
Potassium 40	18.9		2.6		1.3	11/28/07	11/28/07
Thallium 208	0.60		0.11		0.07	11/28/07	11/28/07
Thorium 234	3.4		1.2		2.3	11/28/07	11/28/07
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g		Batch # 7346170	Yld % 96
Technetium 99	-0.003	U	0.39	1.00	0.65	12/12/07	12/16/07
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7349081	Yld % 83
Neptunium 237	-0.0088	U	0.0088	1.00	0.068	12/15/07	12/18/07

NOTE(S)

ata are incomplete without the case narrative.

DC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-142-0.5-SL DUP

Radiochemistry

Lab Sample ID: F7K210252-002X
Work Order: KCQXL
Matrix: SOLID

Date Collected: 11/15/07 0921
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7339445**	**Yld % 10**
Plutonium 238	-0.100	U	0.082	1.00	0.58	12/05/07	12/11/07
Plutonium 239/40	-0.067	U	0.067	1.00	0.52	12/05/07	12/11/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7339447**	**Yld % 95**
Uranium 233/234	3.10		0.51	1.00	0.06	12/05/07	12/10/07
Uranium 235/236	0.106	J	0.070	1.00	0.046	12/05/07	12/10/07
Uranium 238	1.37		0.29	1.00	0.04	12/05/07	12/10/07

NOTE(S)

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Bold results are greater than the MDC

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U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-142-4.5-SL

Radiochemistry

Lab Sample ID: F7K210252-003
Work Order: KCQXM
Matrix: SOLID

Date Collected: 11/15/07 0925
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7332371**		**Yld %**
Americium 241	-0.04	U	0.17	1.00	0.30	11/28/07	11/28/07
Cesium 137	-0.003	U	0.078	1.00	0.14	11/28/07	11/28/07
Thorium 232	1.30		0.31	1.00	0.33	11/28/07	11/28/07
Uranium 235	0.15	U	0.39	1.00	0.66	11/28/07	11/28/07
Uranium 238	2.6		1.1	1.0	2.0	11/28/07	11/28/07
--- Other Detected Radionuclides ---							
Actinium 228	1.30		0.31		0.33	11/28/07	11/28/07
Bismuth 214	0.93		0.24		0.19	11/28/07	11/28/07
Lead 212	1.38		0.29		0.23	11/28/07	11/28/07
Lead 214	0.87		0.20		0.21	11/28/07	11/28/07
Potassium 40	15.9		2.7		1.4	11/28/07	11/28/07
Thallium 208	0.422		0.100		0.052	11/28/07	11/28/07
horium 234	2.6		1.1		2.0	11/28/07	11/28/07

NOTE(S)

ta are incomplete without the case narrative.

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Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-142-9-SL

Radiochemistry

Lab Sample ID: F7K210252-004
Work Order: KCQXP
Matrix: SOLID

Date Collected: 11/15/07 0934
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g	Batch # 7332371		Yld %
Americium 241	0.008	U	0.11	1.00	0.18	11/28/07	11/30/07
Cesium 137	0.104	J	0.042	1.00	0.061	11/28/07	11/30/07
Thorium 232	1.26		0.22	1.00	0.19	11/28/07	11/30/07
Uranium 235	0.12	U	0.24	1.00	0.40	11/28/07	11/30/07
Uranium 238	1.65		0.43	1.00	1.1	11/28/07	11/30/07
--- Other Detected Radionuclides ---							
Actinium 228	1.26		0.22		0.19	11/28/07	11/30/07
Bismuth 212	1.28		0.50		0.43	11/28/07	11/30/07
Bismuth 214	1.12		0.18		0.15	11/28/07	11/30/07
Lead 212	1.30		0.12		0.10	11/28/07	11/30/07
Lead 214	1.34		0.17		0.14	11/28/07	11/30/07
Potassium 40	21.4		1.9		0.8	11/28/07	11/30/07
Thallium 208	0.431		0.072		0.064	11/28/07	11/30/07
Thorium 234	1.65		0.43		1.1	11/28/07	11/30/07

NOTE(S)

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OC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-143-0.5-SL

Radiochemistry

Lab Sample ID: F7K210252-005
Work Order: KCQXQ
Matrix: SOLID

Date Collected: 11/13/07 1755
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7339445	Yld % 48
Plutonium 238	-0.024	U	0.085	1.00	0.21	12/05/07	12/11/07
Plutonium 239/40	0.013	U	0.057	1.00	0.13	12/05/07	12/11/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7339447	Yld % 89
Uranium 233/234	1.23		0.27	1.00	0.04	12/05/07	12/10/07
Uranium 235/236	0.064	J	0.057	1.00	0.029	12/05/07	12/10/07
Uranium 238	0.65	J	0.18	1.00	0.03	12/05/07	12/10/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7332371	Yld %
Americium 241	0.080	U	0.090	1.00	0.15	11/28/07	11/28/07
Cesium 137	0.031	U	0.049	1.00	0.083	11/28/07	11/28/07
Thorium 232	0.49	J	0.22	1.00	0.31	11/28/07	11/28/07
Uranium 235	0.13	U	0.23	1.00	0.38	11/28/07	11/28/07
Uranium 238	0.62	U	0.88	1.00	1.5	11/28/07	11/28/07
--- Other Detected Radionuclides ---							
Actinium 228	0.49		0.22		0.31	11/28/07	11/28/07
Bismuth 214	0.42		0.17		0.22	11/28/07	11/28/07
Lead 212	0.64		0.15		0.13	11/28/07	11/28/07
Lead 214	0.40		0.13		0.18	11/28/07	11/28/07
Potassium 40	10.5		2.0		1.4	11/28/07	11/28/07
Thallium 208	0.302		0.075		0.043	11/28/07	11/28/07
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g		Batch # 7346170	Yld % 95
Technetium 99	0.04	U	0.39	1.00	0.66	12/12/07	12/16/07
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7349081	Yld % 81
Neptunium 237	0.013	U	0.035	1.00	0.073	12/15/07	12/18/07

NOTE(S)

ata are incomplete without the case narrative.

DC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-143-4.5-SL

Radiochemistry

Lab Sample ID: F7K210252-006
Work Order: KCQXR
Matrix: SOLID

Date Collected: 11/13/07 1800
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			pCi/g		Batch # 7332371		Yld %
Americium 241	0.01	U	0.16	1.00	0.27	11/28/07	11/28/07
Cesium 137	0.0003	U	0.043	1.00	0.081	11/28/07	11/28/07
Thorium 232	0.95	J	0.21	1.00	0.37	11/28/07	11/28/07
Uranium 235	-0.05	U	2.6	1.0	0.7	11/28/07	11/28/07
Uranium 238	1.9		1.0	1.0	1.8	11/28/07	11/28/07
--- Other Detected Radionuclides ---							
Actinium 228	0.95		0.21		0.37	11/28/07	11/28/07
Bismuth 214	0.74		0.19		0.23	11/28/07	11/28/07
Lead 212	1.34		0.25		0.21	11/28/07	11/28/07
Lead 214	0.83		0.16		0.19	11/28/07	11/28/07
Potassium 40	18.2		2.3		1.0	11/28/07	11/28/07
Thallium 208	0.432		0.095		0.076	11/28/07	11/28/07
Thorium 234	1.9		1.0		1.8	11/28/07	11/28/07

NOTE(S)

ta are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-143-6.5-SL

Radiochemistry

Lab Sample ID: F7K210252-007
Work Order: KCQXT
Matrix: SOLID

Date Collected: 11/13/07 1805
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**		**Batch # 7332371**		**Yld %**
Americium 241	0.079	U	0.068	1.00	0.11	11/28/07	11/28/07
Cesium 137	-0.007	U	0.051	1.00	0.089	11/28/07	11/28/07
Thorium 232	0.86	J	0.19	1.00	0.31	11/28/07	11/28/07
Uranium 235	0.03	U	0.24	1.00	0.42	11/28/07	11/28/07
Uranium 238	1.31		0.46	1.00	0.87	11/28/07	11/28/07
--- Other Detected Radionuclides ---							
Actinium 228	0.86		0.19		0.31	11/28/07	11/28/07
Bismuth 214	1.09		0.19		0.14	11/28/07	11/28/07
Lead 212	1.37		0.20		0.15	11/28/07	11/28/07
Lead 214	0.79		0.13		0.16	11/28/07	11/28/07
Potassium 40	15.8		1.9		1	11/28/07	11/28/07
Thallium 208	0.416		0.096		0.084	11/28/07	11/28/07
Thorium 234	1.31		0.46		0.87	11/28/07	11/28/07

NOTE(S)

ts are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-144-0.5-SL

Radiochemistry

Lab Sample ID: F7K210252-008
Work Order: KCQXW
Matrix: SOLID

Date Collected: 11/14/07 1255
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7339445	Yld % 61
Plutonium 238	-0.001	U	0.049	1.00	0.12	12/05/07	12/11/07
Plutonium 239/40	-0.026	U	0.018	1.00	0.12	12/05/07	12/11/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7339447	Yld % 91
Uranium 233/234	2.86		0.49	1.00	0.06	12/05/07	12/10/07
Uranium 235/236	0.154	J	0.087	1.00	0.030	12/05/07	12/10/07
Uranium 238	0.63	J	0.18	1.00	0.05	12/05/07	12/10/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7332371	Yld %
Americium 241	-0.008	U	0.075	1.00	0.13	11/28/07	11/28/07
Cesium 137	0.0005	U	0.049	1.00	0.093	11/28/07	11/28/07
Thorium 232	0.05	U	0.13	1.00	0.23	11/28/07	11/28/07
Uranium 235	0.11	U	0.20	1.00	0.33	11/28/07	11/28/07
Uranium 238	0.06	U	0.55	1.00	1.1	11/28/07	11/28/07
--- Other Detected Radionuclides ---							
Bismuth 214	0.30		0.11		0.11	11/28/07	11/28/07
Lead 212	0.164		0.065		0.079	11/28/07	11/28/07
Potassium 40	1.60		0.83		1.1	11/28/07	11/28/07
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g		Batch # 7346170	Yld % 89
Technetium 99	0.83	J	0.44	1.00	0.70	12/12/07	12/16/07
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7349081	Yld % 79
Neptunium 237	0.068	U	0.061	1.00	0.070	12/15/07	12/18/07

NOTE(S)

ata are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-144-4.5-SL

Radiochemistry

Lab Sample ID: F7K210252-009
Work Order: KCQX0
Matrix: SOLID

Date Collected: 11/14/07 1300
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7339445	Yld % 59
Plutonium 238	0.026	U	0.047	1.00	0.080	12/05/07	12/11/07
Plutonium 239/40	-0.0030	U	0.0061	1.00	0.069	12/05/07	12/11/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7339447	Yld % 85
Uranium 233/234	1.39		0.29	1.00	0.06	12/05/07	12/10/07
Uranium 235/236	0.068	J	0.061	1.00	0.031	12/05/07	12/10/07
Uranium 238	0.98	J	0.24	1.00	0.03	12/05/07	12/10/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7332371	Yld %
Americium 241	-0.03	U	0.81	1.00	0.25	11/28/07	11/28/07
Cesium 137	0.055	U	0.082	1.00	0.16	11/28/07	11/28/07
Thorium 232	0.49	J	0.23	1.00	0.40	11/28/07	11/28/07
Uranium 235	0.13	U	0.25	1.00	0.44	11/28/07	11/28/07
Uranium 238	1.4	U	1.0	1.0	1.8	11/28/07	11/28/07
--- Other Detected Radionuclides ---							
Actinium 228	0.49		0.23		0.40	11/28/07	11/28/07
Bismuth 214	0.73		0.21		0.20	11/28/07	11/28/07
Lead 212	0.73		0.15		0.14	11/28/07	11/28/07
Lead 214	0.62		0.18		0.21	11/28/07	11/28/07
Potassium 40	10		2.1		1.0	11/28/07	11/28/07
Thallium 208	0.262		0.079		0.063	11/28/07	11/28/07
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7349081	Yld % 80
Neptunium 237	-0.0091	U	0.0091	1.00	0.070	12/15/07	12/18/07

NOTE(S)

ata are incomplete without the case narrative.

DC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-144-7-SL

Radiochemistry

Lab Sample ID: F7K210252-010
Work Order: KCQX2
Matrix: SOLID

Date Collected: 11/14/07 1305
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			pCi/g		Batch # 7332371		Yld %
Americium 241	0.045	U	0.092	1.00	0.15	11/28/07	11/30/07
Cesium 137	-0.016	U	0.038	1.00	0.064	11/28/07	11/30/07
Thorium 232	1.61		0.25	1.00	0.18	11/28/07	11/30/07
Uranium 235	0.06	U	0.20	1.00	0.34	11/28/07	11/30/07
Uranium 238	1.20		0.44	1.00	1.0	11/28/07	11/30/07
--- Other Detected Radionuclides ---							
Actinium 228	1.61		0.25		0.18	11/28/07	11/30/07
Bismuth 212	0.90		0.30		0.42	11/28/07	11/30/07
Bismuth 214	1.11		0.15		0.11	11/28/07	11/30/07
Lead 212	1.48		0.12		0.08	11/28/07	11/30/07
Lead 214	1.22		0.15		0.11	11/28/07	11/30/07
Potassium 40	19.5		1.7		0.7	11/28/07	11/30/07
Thallium 208	0.496		0.074		0.055	11/28/07	11/30/07
Thorium 234	1.20		0.44		1.0	11/28/07	11/30/07

NOTE(S)

ata are incomplete without the case narrative.

DC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-104-0.5-SL

Radiochemistry

Lab Sample ID: F7K210252-011
Work Order: KCQX4
Matrix: SOLID

Date Collected: 11/19/07 1025
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7339445	Yld % 26
Plutonium 238	-0.044	U	0.034	1.00	0.23	12/05/07	12/11/07
Plutonium 239/40	0.034	U	0.068	1.00	0.092	12/05/07	12/11/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7339447	Yld % 96
Uranium 233/234	1.87		0.35	1.00	0.06	12/05/07	12/10/07
Uranium 235/236	0.072	J	0.059	1.00	0.053	12/05/07	12/10/07
Uranium 238	1.02		0.24	1.00	0.06	12/05/07	12/10/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7332371	Yld %
Americium 241	0.15	U	0.15	1.00	0.25	11/28/07	11/28/07
Cesium 137	0.395	J	0.098	1.00	0.055	11/28/07	11/28/07
Thorium 232	0.81	J	0.28	1.00	0.43	11/28/07	11/28/07
Uranium 235	0.27	U	0.42	1.00	0.70	11/28/07	11/28/07
ranium 238	3.6		2.2	1.0	2.4	11/28/07	11/28/07
--- Other Detected Radionuclides ---							
Actinium 228	0.81		0.28		0.43	11/28/07	11/28/07
Bismuth 214	0.98		0.22		0.20	11/28/07	11/28/07
Lead 212	1.40		0.24		0.20	11/28/07	11/28/07
Lead 214	0.84		0.20		0.24	11/28/07	11/28/07
Potassium 40	19.3		2.6		1.3	11/28/07	11/28/07
Thallium 208	0.47		0.14		0.12	11/28/07	11/28/07
Thorium 234	3.6		2.2		2.4	11/28/07	11/28/07
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g		Batch # 7346170	Yld % 95
Technetium 99	0.24	U	0.40	1.00	0.66	12/12/07	12/16/07
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7349081	Yld % 82
Neptunium 237	0.024	U	0.042	1.00	0.072	12/15/07	12/18/07

NOTE(S)

'ta are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-104-4.5-SL

Radiochemistry

Lab Sample ID: F7K210252-012
Work Order: KCQX7
Matrix: SOLID

Date Collected: 11/19/07 1035
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**		**Batch # 7332371**		**Yld %**
Americium 241	0.002	U	0.079	1.00	0.13	11/28/07	11/30/07
Cesium 137	0.020	U	0.033	1.00	0.055	11/28/07	11/30/07
Thorium 232	1.23		0.16	1.00	0.14	11/28/07	11/30/07
Uranium 235	0.002	U	0.18	1.00	0.31	11/28/07	11/30/07
Uranium 238	1.58		0.81	1.00	0.97	11/28/07	11/30/07
--- Other Detected Radionuclides ---							
Actinium 228	1.23		0.16		0.14	11/28/07	11/30/07
Bismuth 212	1.28		0.51		0.41	11/28/07	11/30/07
Bismuth 214	1.05		0.15		0.11	11/28/07	11/30/07
Lead 212	1.19		0.10		0.07	11/28/07	11/30/07
Lead 214	1.07		0.14		0.11	11/28/07	11/30/07
Potassium 40	19.9		1.7		0.4	11/28/07	11/30/07
hallium 208	0.413		0.068		0.051	11/28/07	11/30/07
horium 234	1.58		0.81		0.97	11/28/07	11/30/07

NOTE(S)

ta are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-104-12.5-SL

Radiochemistry

Lab Sample ID: F7K210252-013
Work Order: KCQX9
Matrix: SOLID

Date Collected: 11/19/07 1050
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**		**Batch # 7332371**		**Yld %**
Americium 241	0.007	U	0.094	1.00	0.16	11/28/07	11/30/07
Cesium 137	-0.009	U	0.075	1.00	0.086	11/28/07	11/30/07
Thorium 232	1.60		0.25	1.00	0.21	11/28/07	11/30/07
Uranium 235	0.05	U	0.21	1.00	0.35	11/28/07	11/30/07
Uranium 238	1.22		0.50	1.00	1.2	11/28/07	11/30/07
--- Other Detected Radionuclides ---							
Actinium 228	1.60		0.25		0.21	11/28/07	11/30/07
Bismuth 212	1.33		0.40		0.33	11/28/07	11/30/07
Bismuth 214	1.02		0.17		0.14	11/28/07	11/30/07
Lead 212	1.37		0.19		0.14	11/28/07	11/30/07
Lead 214	1.07		0.15		0.13	11/28/07	11/30/07
Potassium 40	19.6		1.9		0.2	11/28/07	11/30/07
Thallium 208	0.434		0.095		0.076	11/28/07	11/30/07
Thorium 234	1.22		0.50		1.2	11/28/07	11/30/07

NOTE(S)

ta are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-106-4.5-SL

Radiochemistry

Lab Sample ID: F7K210252-014
Work Order: KCQ0C
Matrix: SOLID

Date Collected: 11/19/07 1620
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7339445**	**Yld % 20**
Plutonium 238	0.07	U	0.22	1.00	0.44	12/05/07	12/11/07
Plutonium 239/40	-0.02	U	0.18	1.00	0.43	12/05/07	12/11/07
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7346170**	**Yld % 98**
Technetium 99	0.11	U	0.38	1.00	0.63	12/12/07	12/16/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7339447**	**Yld % 89**
Uranium 233/234	1.09		0.25	1.00	0.06	12/05/07	12/10/07
Uranium 235/236	0.067	J	0.058	1.00	0.049	12/05/07	12/10/07
Uranium 238	0.77	J	0.20	1.00	0.04	12/05/07	12/10/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7332371**	**Yld %**
Americium 241	0.07	U	0.15	1.00	0.26	11/28/07	11/28/07
Cesium 137	0.0	U	0.086	1.00	0.15	11/28/07	11/28/07
Thorium 232	0.84	J	0.26	1.00	0.38	11/28/07	11/28/07
Uranium 235	0.24	U	0.30	1.00	0.49	11/28/07	11/28/07
Uranium 238	0.8	U	1.2	1.0	2.0	11/28/07	11/28/07
--- Other Detected Radionuclides ---							
Actinium 228	0.84		0.26		0.38	11/28/07	11/28/07
Bismuth 214	1.20		0.22		0.12	11/28/07	11/28/07
Lead 212	1.16		0.18		0.13	11/28/07	11/28/07
Lead 214	0.96		0.20		0.16	11/28/07	11/28/07
Potassium 40	18.7		2.6		0.5	11/28/07	11/28/07
Thallium 208	0.66		0.13		0.07	11/28/07	11/28/07
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7349081**	**Yld % 82**
Neptunium 237	0.020	U	0.031	1.00	0.046	12/15/07	12/18/07

NOTE(S)

ata are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-106-4.5-SL DUP

Radiochemistry

Lab Sample ID: F7K210252-014X
Work Order: KCQ0C
Matrix: SOLID

Date Collected: 11/19/07 1620
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7346170**		**Yld % 96**
Technetium 99	0.18	U	0.39	1.00	0.65	12/12/07	12/16/07

NOTE(S)

ata are incomplete without the case narrative.

DC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-106-7.5-SL

Radiochemistry

Lab Sample ID: F7K210252-015
Work Order: KCQ0H
Matrix: SOLID

Date Collected: 11/19/07 1625
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7332371	Yld %
Americium 241	0.017	U	0.057	1.00	0.096	11/28/07	11/30/07
Cesium 137	-0.01	U	0.66	1.00	0.07	11/28/07	11/30/07
Thorium 232	1.04		0.20	1.00	0.27	11/28/07	11/30/07
Uranium 235	0.12	U	0.17	1.00	0.28	11/28/07	11/30/07
Uranium 238	1.37		0.44	1.00	0.80	11/28/07	11/30/07
--- Other Detected Radionuclides ---							
Actinium 228	1.04		0.20		0.27	11/28/07	11/30/07
Bismuth 214	0.79		0.17		0.16	11/28/07	11/30/07
Lead 212	0.96		0.13		0.12	11/28/07	11/30/07
Lead 214	0.80		0.12		0.15	11/28/07	11/30/07
Potassium 40	19.3		2.1		0.7	11/28/07	11/30/07
Thallium 208	0.360		0.089		0.084	11/28/07	11/30/07
Thorium 234	1.37		0.44		0.80	11/28/07	11/30/07

NOTE(S)

ta are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-106-2.5-SL

Radiochemistry

Lab Sample ID: F7K210252-016
Work Order: KCQ0J
Matrix: SOLID

Date Collected: 11/19/07 1620
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g	Batch # 7346170		Yld % 96
Technetium 99	-0.33	U	0.38	1.00	0.65	12/12/07	12/16/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g	Batch # 7332371		Yld %
Americium 241	-0.014	U	0.076	1.00	0.13	11/28/07	11/28/07
Cesium 137	0.01	U	0.030	1.00	0.054	11/28/07	11/28/07
Thorium 232	0.06	U	0.15	1.00	0.26	11/28/07	11/28/07
Uranium 235	0.26	J	0.17	1.00	0.26	11/28/07	11/28/07
Uranium 238	0.22	U	0.56	1.00	1.0	11/28/07	11/28/07
--- Other Detected Radionuclides ---							
Bismuth 214	0.132		0.077		0.12	11/28/07	11/28/07
Lead 212	0.208		0.088		0.095	11/28/07	11/28/07
Lead 214	0.195		0.073		0.12	11/28/07	11/28/07
Potassium 40	2.76		0.79		0.89	11/28/07	11/28/07
Thallium 208	0.070		0.036		0.046	11/28/07	11/28/07

NOTE(S)

ata are incomplete without the case narrative.

DC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-107-0.5-SL

Radiochemistry

Lab Sample ID: F7K210252-017
Work Order: KCQ0L
Matrix: SOLID

Date Collected: 11/19/07 1345
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7339445**	**Yld % 22**
Plutonium 238	-0.12	U	0.11	1.00	0.42	12/05/07	12/11/07
Plutonium 239/40	-0.024	U	0.028	1.00	0.23	12/05/07	12/11/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7339447**	**Yld % 92**
Uranium 233/234	1.98		0.36	1.00	0.04	12/05/07	12/10/07
Uranium 235/236	0.133	J	0.078	1.00	0.028	12/05/07	12/10/07
Uranium 238	0.86	J	0.21	1.00	0.03	12/05/07	12/10/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7332371**	**Yld %**
Americium 241	-0.06	U	0.20	1.00	0.35	11/28/07	11/28/07
Cesium 137	0.37	J	0.11	1.00	0.05	11/28/07	11/28/07
Thorium 232	1.01		0.32	1.00	0.55	11/28/07	11/28/07
Uranium 235	0.04	U	0.41	1.00	0.72	11/28/07	11/28/07
Uranium 238	3.2		1.2	1.0	2.2	11/28/07	11/28/07
--- Other Detected Radionuclides ---							
Actinium 228	1.01		0.32		0.55	11/28/07	11/28/07
Bismuth 214	0.61		0.21		0.25	11/28/07	11/28/07
Lead 212	0.96		0.20		0.18	11/28/07	11/28/07
Lead 214	0.84		0.24		0.25	11/28/07	11/28/07
Potassium 40	20.6		3.3		1.2	11/28/07	11/28/07
Thallium 208	0.46		0.13		0.09	11/28/07	11/28/07
Thorium 234	3.2		1.2		2.2	11/28/07	11/28/07
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7346170**	**Yld % 99**
Technetium 99	0.46	U	0.39	1.00	0.63	12/12/07	12/16/07
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7349081**	**Yld % 84**
Neptunium 237	0.0007	U	0.026	1.00	0.073	12/15/07	12/18/07

NOTE(S)

ata are incomplete without the case narrative.

DC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-107-4.5-SL

Radiochemistry

Lab Sample ID: F7K210252-018
Work Order: KCQ0P
Matrix: SOLID

Date Collected: 11/19/07 1350
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7332371**		**Yld %**
Americium 241	0.026	U	0.082	1.00	0.14	11/28/07	11/30/07
Cesium 137	0.012	U	0.038	1.00	0.069	11/28/07	11/30/07
Thorium 232	1.34		0.23	1.00	0.18	11/28/07	11/30/07
Uranium 235	0.06	U	0.17	1.00	0.28	11/28/07	11/30/07
Uranium 238	1.48		0.81	1.00	0.98	11/28/07	11/30/07
--- Other Detected Radionuclides ---							
Actinium 228	1.34		0.23		0.18	11/28/07	11/30/07
Bismuth 212	0.71		0.31		0.46	11/28/07	11/30/07
Bismuth 214	0.97		0.13		0.10	11/28/07	11/30/07
Lead 212	1.22		0.11		0.08	11/28/07	11/30/07
Lead 214	1.16		0.14		0.10	11/28/07	11/30/07
Potassium 40	21.9		1.8		0.1	11/28/07	11/30/07
Thallium 208	0.513		0.070		0.047	11/28/07	11/30/07
Thorium 234	1.48		0.81		0.98	11/28/07	11/30/07

NOTE(S)

ta are incomplete without the case narrative.

OC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-107-17-SL

Radiochemistry

Lab Sample ID: F7K210252-019
Work Order: KCQ0V
Matrix: SOLID

Date Collected: 11/19/07 1410
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**		**Batch # 7332371**		**Yld %**
Americium 241	0.012	U	0.083	1.00	0.14	11/28/07	11/30/07
Cesium 137	-0.000003	U	0.037	1.00	0.064	11/28/07	11/30/07
Thorium 232	1.26		0.19	1.00	0.18	11/28/07	11/30/07
Uranium 235	0.1	U	0.19	1.00	0.33	11/28/07	11/30/07
Uranium 238	2.12		0.998	1.00	1.1	11/28/07	11/30/07
--- Other Detected Radionuclides ---							
Actinium 228	1.26		0.19		0.18	11/28/07	11/30/07
Bismuth 212	0.72		0.28		0.39	11/28/07	11/30/07
Bismuth 214	1.11		0.13		0.10	11/28/07	11/30/07
Lead 212	1.23		0.11		0.08	11/28/07	11/30/07
Lead 214	1.19		0.15		0.11	11/28/07	11/30/07
Potassium 40	20.8		1.8		0.4	11/28/07	11/30/07
Thallium 208	0.461		0.070		0.050	11/28/07	11/30/07
Thorium 234	2.12		0.998		1.1	11/28/07	11/30/07

NOTE(S)

a are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-108-4.5-SL

Radiochemistry

Lab Sample ID: F7K210252-020
Work Order: KCQ0X
Matrix: SOLID

Date Collected: 11/19/07 1118
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**		**Batch # 7332371**		**Yld %**
Americium 241	0.19	U	0.18	1.00	0.28	11/28/07	11/28/07
Cesium 137	0.021	U	0.081	1.00	0.15	11/28/07	11/28/07
Thorium 232	0.91	J	0.31	1.00	0.39	11/28/07	11/28/07
Uranium 235	0.39	U	0.38	1.00	0.63	11/28/07	11/28/07
Uranium 238	2.8		1.2	1.0	2.5	11/28/07	11/28/07
--- Other Detected Radionuclides ---							
Actinium 228	0.91		0.31		0.39	11/28/07	11/28/07
Bismuth 214	0.90		0.26		0.29	11/28/07	11/28/07
Lead 212	1.36		0.23		0.18	11/28/07	11/28/07
Lead 214	0.95		0.26		0.29	11/28/07	11/28/07
Potassium 40	23.3		3.3		1	11/28/07	11/28/07
Thallium 208	0.42		0.13		0.15	11/28/07	11/28/07
orium 234	2.8		1.2		2.5	11/28/07	11/28/07

NOTE(S)

a are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-108-0.5-SL

Radiochemistry

Lab Sample ID: F7K210252-021
Work Order: KCQ03
Matrix: SOLID

Date Collected: 11/19/07 1110
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7339445	Yld % 51
Plutonium 238	-0.015	U	0.041	1.00	0.13	12/05/07	12/11/07
Plutonium 239/40	0.011	U	0.037	1.00	0.087	12/05/07	12/11/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7339447	Yld % 95
Uranium 233/234	1.92		0.36	1.00	0.06	12/05/07	12/10/07
Uranium 235/236	0.084	J	0.064	1.00	0.029	12/05/07	12/10/07
Uranium 238	1.10		0.25	1.00	0.05	12/05/07	12/10/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7332437	Yld %
Americium 241	0.05	U	0.18	1.00	0.31	11/28/07	12/07/07
Cesium 137	0.07	U	0.12	1.00	0.21	11/28/07	12/07/07
Thorium 232	0.99	J	0.33	1.00	0.54	11/28/07	12/07/07
Uranium 235	0.17	U	0.45	1.00	0.77	11/28/07	12/07/07
Uranium 238	3.1		1.2	1.0	2.2	11/28/07	12/07/07
--- Other Detected Radionuclides ---							
Actinium 228	0.99		0.33		0.54	11/28/07	12/07/07
Bismuth 214	1.23		0.28		0.22	11/28/07	12/07/07
Lead 212	1.10		0.21		0.17	11/28/07	12/07/07
Lead 214	1.10		0.22		0.26	11/28/07	12/07/07
Potassium 40	23.2		3.5		0.8	11/28/07	12/07/07
Thallium 208	0.44		0.13		0.11	11/28/07	12/07/07
Thorium 234	3.1		1.2		2.2	11/28/07	12/07/07
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g		Batch # 7346170	Yld % 96
Technetium 99	0.41	U	0.40	1.00	0.65	12/12/07	12/16/07
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7349081	Yld % 83
Neptunium 237	0.006	U	0.033	1.00	0.079	12/15/07	12/18/07

NOTE(S)

ata are incomplete without the case narrative.

DC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-108-0.5-SL DUP

Radiochemistry

Lab Sample ID: F7K210252-021X
Work Order: KCQ03
Matrix: SOLID

Date Collected: 11/19/07 1110
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7332437**		**Yld %**
Americium 241	0.01	U	0.19	1.00	0.34	11/28/07	12/07/07
Cesium 137	0.18	J	0.12	1.00	0.17	11/28/07	12/07/07
Thorium 232	0.89	J	0.33	1.00	0.61	11/28/07	12/07/07
Uranium 235	0.40	U	0.39	1.00	0.62	11/28/07	12/07/07
Uranium 238	2.8		1.2	1.0	2.2	11/28/07	12/07/07
--- Other Detected Radionuclides ---							
Actinium 228	0.89		0.33		0.61	11/28/07	12/07/07
Bismuth 214	0.90		0.28		0.33	11/28/07	12/07/07
Lead 212	1.39		0.24		0.17	11/28/07	12/07/07
Lead 214	1.43		0.31		0.24	11/28/07	12/07/07
Potassium 40	20.6		3.4		1.3	11/28/07	12/07/07
Thallium 208	0.34		0.13		0.15	11/28/07	12/07/07
Thorium 234	2.8		1.2		2.2	11/28/07	12/07/07

NOTE(S)

\ta are incomplete without the case narrative.

.DC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-139-4.5-SL

Radiochemistry

Lab Sample ID: F7K210252-022
Work Order: KCQ06
Matrix: SOLID

Date Collected: 11/19/07 1118
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7335109**		**Yld %**
Americium 241	0.0	U	0.17	1.00	0.29	12/01/07	12/07/07
Cesium 137	0.025	U	0.070	1.00	0.12	12/01/07	12/07/07
Thorium 232	0.99	J	0.25	1.00	0.41	12/01/07	12/07/07
Uranium 235	0.1	U	0.38	1.00	0.66	12/01/07	12/07/07
Uranium 238	1.8	U	1.0	1.0	2.1	12/01/07	12/07/07
--- Other Detected Radionuclides ---							
Actinium 228	0.99		0.25		0.41	12/01/07	12/07/07
Bismuth 214	1.25		0.23		0.22	12/01/07	12/07/07
Lead 212	1.12		0.21		0.20	12/01/07	12/07/07
Lead 214	1.16		0.21		0.22	12/01/07	12/07/07
Potassium 40	18.5		2.3		1.1	12/01/07	12/07/07
Thallium 208	0.49		0.12		0.09	12/01/07	12/07/07

NOTE(S)

ta are incomplete without the case narrative.

DC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-139-4.5-SL DUP

Radiochemistry

Lab Sample ID: F7K210252-022X
Work Order: KCQ06
Matrix: SOLID

Date Collected: 11/19/07 1118
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			pCi/g		Batch # 7335109		Yld %
Americium 241	0.01	U	0.17	1.00	0.29	12/01/07	12/08/07
Cesium 137	-0.0008	U	0.080	1.00	0.15	12/01/07	12/08/07
Thorium 232	1.04		0.27	1.00	0.33	12/01/07	12/08/07
Uranium 235	-0.08	U	21	1	0.6	12/01/07	12/08/07
Uranium 238	1.15	U	0.82	1.00	2.5	12/01/07	12/08/07
--- Other Detected Radionuclides ---							
Actinium 228	1.04		0.27		0.33	12/01/07	12/08/07
Bismuth 214	0.89		0.22		0.24	12/01/07	12/08/07
Lead 212	1.49		0.26		0.20	12/01/07	12/08/07
Lead 214	1.25		0.24		0.15	12/01/07	12/08/07
Potassium 40	20.4		2.8		0.7	12/01/07	12/08/07
Thallium 208	0.50		0.13		0.08	12/01/07	12/08/07

NOTE(S)

ta are incomplete without the case narrative.

DC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-108-9-SL

Radiochemistry

Lab Sample ID: F7K210252-023
Work Order: KCQ08
Matrix: SOLID

Date Collected: 11/19/07 1125
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7332437	Yld %
Americium 241	-0.02	U	0.16	1.00	0.27	11/28/07	12/01/07
Cesium 137	0.007	U	0.076	1.00	0.14	11/28/07	12/01/07
Thorium 232	0.89	J	0.29	1.00	0.39	11/28/07	12/01/07
Uranium 235	0.24	U	0.36	1.00	0.60	11/28/07	12/01/07
Uranium 238	1.0	U	1.4	1.0	2.3	11/28/07	12/01/07
--- Other Detected Radionuclides ---							
Actinium 228	0.89		0.29		0.39	11/28/07	12/01/07
Bismuth 214	1.01		0.28		0.23	11/28/07	12/01/07
Lead 212	1.50		0.30		0.23	11/28/07	12/01/07
Lead 214	1.01		0.22		0.23	11/28/07	12/01/07
Potassium 40	18.2		2.8		1	11/28/07	12/01/07
Thallium 208	0.33		0.10		0.11	11/28/07	12/01/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7339447	Yld % 95
Uranium 233/234	1.01		0.24	1.00	0.06	12/05/07	12/10/07
Uranium 235/236	0.031	U	0.039	1.00	0.047	12/05/07	12/10/07
Uranium 238	0.88	J	0.22	1.00	0.05	12/05/07	12/10/07

NOTE(S)

a are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-19-0.5-SL

Radiochemistry

Lab Sample ID: F7K210252-024
Work Order: KCQ1D
Matrix: SOLID

Date Collected: 11/19/07 1550
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7339445**	**Yld % 10**
Plutonium 238	-0.05	U	0.21	1.00	0.67	12/05/07	12/13/07
Plutonium 239/40	-0.018	U	0.036	1.00	0.40	12/05/07	12/13/07
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7346170**	**Yld % 89**
Technetium 99	0.03	U	0.42	1.00	0.71	12/12/07	12/16/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7339447**	**Yld % 92**
Uranium 233/234	3.02		0.51	1.00	0.06	12/05/07	12/10/07
Uranium 235/236	0.160	J	0.090	1.00	0.049	12/05/07	12/10/07
Uranium 238	0.62	J	0.18	1.00	0.06	12/05/07	12/10/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7332437**	**Yld %**
Americium 241	0.001	U	0.15	1.00	0.27	11/28/07	12/01/07
Cesium 137	0.080	U	0.077	1.00	0.12	11/28/07	12/01/07
Thorium 232	0.05	U	0.28	1.00	0.54	11/28/07	12/01/07
Uranium 235	-0.04	U	2.1	1.0	0.8	11/28/07	12/01/07
Uranium 238	1.25	U	0.63	1.00	2.2	11/28/07	12/01/07
--- Other Detected Radionuclides ---							
Lead 212	0.36		0.15		0.19	11/28/07	12/01/07
Lead 214	0.26		0.16		0.26	11/28/07	12/01/07
Potassium 40	3.9		1.3		1.7	11/28/07	12/01/07
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7349081**	**Yld % 83**
Neptunium 237	-0.0067	U	0.0077	1.00	0.064	12/15/07	12/18/07

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-19-4.5-SL

Radiochemistry

Lab Sample ID: F7K210252-025
Work Order: KCQ1F
Matrix: SOLID

Date Collected: 11/19/07 1600
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7346170**	**Yld % 95**
Technetium 99	-0.04	U	0.39	1.00	0.66	12/12/07	12/16/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7332437**	**Yld %**
Americium 241	0.004	U	0.085	1.00	0.14	11/28/07	12/06/07
Cesium 137	0.017	U	0.033	1.00	0.056	11/28/07	12/06/07
Thorium 232	1.24		0.17	1.00	0.14	11/28/07	12/06/07
Uranium 235	0.1	U	0.19	1.00	0.31	11/28/07	12/06/07
Uranium 238	1.53		0.76	1.00	0.93	11/28/07	12/06/07
--- Other Detected Radionuclides ---							
Actinium 228	1.24		0.17		0.14	11/28/07	12/06/07
Bismuth 212	0.80		0.28		0.40	11/28/07	12/06/07
Bismuth 214	0.93		0.13		0.1	11/28/07	12/06/07
ead 212	1.15		0.10		0.07	11/28/07	12/06/07
ead 214	1.07		0.14		0.10	11/28/07	12/06/07
Potassium 40	18.5		1.6		0.6	11/28/07	12/06/07
Thallium 208	0.393		0.054		0.044	11/28/07	12/06/07
Thorium 234	1.53		0.76		0.93	11/28/07	12/06/07

NOTE(S)

ta are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-19-10.5-SL

Radiochemistry

Lab Sample ID: F7K210252-026
Work Order: KCQ1R
Matrix: SOLID

Date Collected: 11/19/07 1610
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			pCi/g		Batch # 7332437		Yld %
Americium 241	0.01	U	0.13	1.00	0.23	11/28/07	12/01/07
Cesium 137	-0.03	U	0.70	1.00	0.12	11/28/07	12/01/07
Thorium 232	0.80	J	0.25	1.00	0.44	11/28/07	12/01/07
Uranium 235	-0.01	U	0.83	1.00	0.56	11/28/07	12/01/07
Uranium 238	0.7	U	1.0	1.0	1.7	11/28/07	12/01/07
--- Other Detected Radionuclides ---							
Actinium 228	0.80		0.25		0.44	11/28/07	12/01/07
Bismuth 214	1.50		0.24		0.12	11/28/07	12/01/07
Lead 212	0.90		0.16		0.14	11/28/07	12/01/07
Lead 214	1.29		0.20		0.13	11/28/07	12/01/07
Potassium 40	13.3		2.1		0.5	11/28/07	12/01/07
Thallium 208	0.41		0.12		0.09	11/28/07	12/01/07

NOTE(S)

a are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-28-0.5-SL

Radiochemistry

Lab Sample ID: F7K210252-027
Work Order: KCQ2A
Matrix: SOLID

Date Collected: 11/17/07 1150
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7339445	Yld % 11
Plutonium 238	0.21	U	0.30	1.00	0.46	12/05/07	12/11/07
Plutonium 239/40	-0.080	U	0.072	1.00	0.53	12/05/07	12/11/07
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g		Batch # 7346170	Yld % 92
Technetium 99	0.69	J	0.42	1.00	0.67	12/12/07	12/16/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7339447	Yld % 93
Uranium 233/234	12.7		1.7	1.0	0.06	12/05/07	12/10/07
Uranium 235/236	0.41	J	0.14	1.00	0.03	12/05/07	12/10/07
Uranium 238	2.04		0.38	1.00	0.05	12/05/07	12/10/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7332437	Yld %
Americium 241	-0.005	U	0.11	1.00	0.19	11/28/07	12/01/07
Cesium 137	0.027	U	0.045	1.00	0.077	11/28/07	12/01/07
Thorium 232	0.32	J	0.19	1.00	0.28	11/28/07	12/01/07
Uranium 235	0.43	U	0.28	1.00	0.44	11/28/07	12/01/07
Uranium 238	1.83		0.82	1.00	1.3	11/28/07	12/01/07
--- Other Detected Radionuclides ---							
Actinium 228	0.32		0.19		0.28	11/28/07	12/01/07
Bismuth 214	0.60		0.14		0.15	11/28/07	12/01/07
Lead 212	0.47		0.12		0.12	11/28/07	12/01/07
Lead 214	0.63		0.14		0.16	11/28/07	12/01/07
Potassium 40	6.8		1.2		0.8	11/28/07	12/01/07
Thallium 208	0.120		0.053		0.076	11/28/07	12/01/07
Thorium 234	1.83		0.82		1.3	11/28/07	12/01/07
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7349081	Yld % 80
Neptunium 237	0.017	U	0.034	1.00	0.063	12/15/07	12/18/07

NOTE(S)

ata are incomplete without the case narrative.

DC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-28-2.5-SL

Radiochemistry

Lab Sample ID: F7K210252-028
Work Order: KCQ2E
Matrix: SOLID

Date Collected: 11/17/07 1156
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g		Batch # 7346170	Yld % 96
Technetium 99	0.26	U	0.39	1.00	0.65	12/12/07	12/16/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7332437	Yld %
Americium 241	-0.07	U	0.17	1.00	0.28	11/28/07	12/01/07
Cesium 137	0.015	U	0.068	1.00	0.12	11/28/07	12/01/07
Thorium 232	0.82	J	0.26	1.00	0.48	11/28/07	12/01/07
Uranium 235	0.29	U	0.32	1.00	0.52	11/28/07	12/01/07
Uranium 238	0.87	U	0.63	1.00	1.9	11/28/07	12/01/07
--- Other Detected Radionuclides ---							
Actinium 228	0.82		0.26		0.48	11/28/07	12/01/07
Bismuth 214	0.64		0.19		0.17	11/28/07	12/01/07
Lead 212	1.03		0.21		0.16	11/28/07	12/01/07
Lead 214	0.64		0.17		0.15	11/28/07	12/01/07
Potassium 40	13.7		2.4		0.9	11/28/07	12/01/07
Thallium 208	0.340		0.097		0.072	11/28/07	12/01/07

NOTE(S)

ta are incomplete without the case narrative.

DC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-28-4.5-SL

Radiochemistry

Lab Sample ID: F7K210252-029
Work Order: KCQ2H
Matrix: SOLID

Date Collected: 11/17/07 1156
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7332437**		**Yld %**
Americium 241	0.06	U	0.17	1.00	0.29	11/28/07	12/01/07
Cesium 137	-0.02	U	0.44	1.00	0.14	11/28/07	12/01/07
Thorium 232	1.13		0.31	1.00	0.15	11/28/07	12/01/07
Uranium 235	0.15	U	0.39	1.00	0.66	11/28/07	12/01/07
Uranium 238	1.51	U	0.81	1.00	2.0	11/28/07	12/01/07
--- Other Detected Radionuclides ---							
Actinium 228	1.13		0.31		0.15	11/28/07	12/01/07
Bismuth 214	1.37		0.27		0.20	11/28/07	12/01/07
Lead 212	1.26		0.23		0.19	11/28/07	12/01/07
Lead 214	1.26		0.24		0.24	11/28/07	12/01/07
Potassium 40	17.6		2.6		0.6	11/28/07	12/01/07
Thallium 208	0.43		0.13		0.11	11/28/07	12/01/07
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7346170**		**Yld % 100**
Technetium 99	0.14	U	0.37	1.00	0.62	12/12/07	12/17/07

NOTE(S)

.ta are incomplete without the case narrative.

)C is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-28-12.5-SL

Radiochemistry

Lab Sample ID: F7K210252-030
Work Order: KCQ2V
Matrix: SOLID

Date Collected: 11/17/07 1207
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			pCi/g		Batch # 7332437		Yld %
Americium 241	0.12	U	0.18	1.00	0.30	11/28/07	12/01/07
Cesium 137	-0.027	U	0.071	1.00	0.12	11/28/07	12/01/07
Thorium 232	1.04		0.27	1.00	0.38	11/28/07	12/01/07
Uranium 235	0.18	U	0.43	1.00	0.73	11/28/07	12/01/07
Uranium 238	2.9		1.3	1.0	2.5	11/28/07	12/01/07
--- Other Detected Radionuclides ---							
Actinium 228	1.04		0.27		0.38	11/28/07	12/01/07
Bismuth 214	1.14		0.24		0.26	11/28/07	12/01/07
Lead 212	1.29		0.18		0.15	11/28/07	12/01/07
Lead 214	1.44		0.25		0.19	11/28/07	12/01/07
Potassium 40	22.4		2.7		1.2	11/28/07	12/01/07
Thallium 208	0.48		0.12		0.1	11/28/07	12/01/07
Thorium 234	2.9		1.3		2.5	11/28/07	12/01/07

NOTE(S)

:ta are incomplete without the case narrative.

)C is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-34-2.5-SL

Radiochemistry

Lab Sample ID: F7K210252-031
Work Order: KCQ2X
Matrix: SOLID

Date Collected: 11/19/07 1440
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7339445	Yld % 23
Plutonium 238	0.08	U	0.15	1.00	0.28	12/05/07	12/13/07
Plutonium 239/40	0.027	U	0.088	1.00	0.21	12/05/07	12/13/07
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g		Batch # 7346170	Yld % 94
Technetium 99	50.1		4.4	1.0	0.7	12/12/07	12/17/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7339447	Yld % 83
Uranium 233/234	91		11	1	0.06	12/05/07	12/10/07
Uranium 235/236	3.52		0.59	1.00	0.03	12/05/07	12/10/07
Uranium 238	7.2		1.0	1.0	0.03	12/05/07	12/10/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7332437	Yld %
Americium 241	0.02	U	0.17	1.00	0.30	11/28/07	12/01/07
'esium 137	0.026	U	0.060	1.00	0.10	11/28/07	12/01/07
Thorium 232	0.21	U	0.15	1.00	0.33	11/28/07	12/01/07
Uranium 235	5.03		0.85	1.00	0.67	11/28/07	12/01/07
Uranium 238	3.5		1.1	1.0	2.1	11/28/07	12/01/07
--- Other Detected Radionuclides ---							
Bismuth 214	0.75		0.20		0.15	11/28/07	12/01/07
Lead 212	0.41		0.12		0.13	11/28/07	12/01/07
Lead 214	0.60		0.14		0.11	11/28/07	12/01/07
Potassium 40	7.4		1.6		0.8	11/28/07	12/01/07
Thorium 234	3.5		1.1		2.1	11/28/07	12/01/07
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7349081	Yld % 86
Neptunium 237	0.42	J	0.14	1.00	0.07	12/15/07	12/18/07

NOTE(S)

\ta are incomplete without the case narrative.

JC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-34-4.5-SL

Radiochemistry

Lab Sample ID: F7K210252-032
Work Order: KCQ21
Matrix: SOLID

Date Collected: 11/19/07 1440
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7332437**	**Yld %**
Americium 241	0.02	U	0.15	1.00	0.26	11/28/07	12/01/07
Cesium 137	-0.03	U	55	1	0.1	11/28/07	12/01/07
Thorium 232	0.89	J	0.29	1.00	0.38	11/28/07	12/01/07
Uranium 235	0.56	U	0.37	1.00	0.58	11/28/07	12/01/07
Uranium 238	3.4		1.1	1.0	2.1	11/28/07	12/01/07
--- Other Detected Radionuclides ---							
Actinium 228	0.89		0.29		0.38	11/28/07	12/01/07
Bismuth 212	0.89		0.60		0.87	11/28/07	12/01/07
Bismuth 214	1.06		0.24		0.18	11/28/07	12/01/07
Lead 212	1.02		0.20		0.16	11/28/07	12/01/07
Lead 214	0.86		0.20		0.16	11/28/07	12/01/07
Potassium 40	16.4		2.5		0.6	11/28/07	12/01/07
'hallium 208	0.461		0.099		0.056	11/28/07	12/01/07
Thorium 234	3.4		1.1		2.1	11/28/07	12/01/07
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7346170**	**Yld % 99**
Technetium 99	3.90		0.57	1.00	0.63	12/12/07	12/17/07

NOTE(S)

\ta are incomplete without the case narrative.

JC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-34-13-SL

Radiochemistry

Lab Sample ID: F7K210252-033
Work Order: KCQ29
Matrix: SOLID

Date Collected: 11/19/07 1500
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**		**Batch # 7332437**		**Yld %**
Americium 241	-0.05	U	0.18	1.00	0.30	11/28/07	12/01/07
Cesium 137	0.0	U	0.084	1.00	0.15	11/28/07	12/01/07
Thorium 232	0.88	J	0.24	1.00	0.38	11/28/07	12/01/07
Uranium 235	0.54	U	0.37	1.00	0.59	11/28/07	12/01/07
Uranium 238	3.4		1.2	1.0	2.2	11/28/07	12/01/07
--- Other Detected Radionuclides ---							
Actinium 228	0.88		0.24		0.38	11/28/07	12/01/07
Bismuth 212	0.99		0.52		0.71	11/28/07	12/01/07
Bismuth 214	1.01		0.20		0.15	11/28/07	12/01/07
Lead 212	1.30		0.18		0.15	11/28/07	12/01/07
Lead 214	1.18		0.24		0.21	11/28/07	12/01/07
Potassium 40	19.5		2.4		1.1	11/28/07	12/01/07
Thallium 208	0.48		0.13		0.12	11/28/07	12/01/07
Thorium 234	3.4		1.2		2.2	11/28/07	12/01/07

NOTE(S)

ıts are incomplete without the case narrative.

DC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-35-2.5-SL

Radiochemistry

Lab Sample ID: F7K210252-034
Work Order: KCQ3E
Matrix: SOLID

Date Collected: 11/16/07 1815
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7339445	Yld % 71
Plutonium 238	0.029	U	0.046	1.00	0.076	12/05/07	12/13/07
Plutonium 239/40	0.006	U	0.028	1.00	0.071	12/05/07	12/13/07
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g		Batch # 7346170	Yld % 100
Technetium 99	0.14	U	0.38	1.00	0.62	12/12/07	12/17/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7339447	Yld % 88
Uranium 233/234	2.37		0.43	1.00	0.06	12/05/07	12/10/07
Uranium 235/236	0.113	J	0.077	1.00	0.058	12/05/07	12/10/07
Uranium 238	0.28	J	0.12	1.00	0.07	12/05/07	12/10/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7332437	Yld %
Americium 241	0.028	U	0.077	1.00	0.13	11/28/07	12/01/07
Cesium 137	0.024	U	0.038	1.00	0.065	11/28/07	12/01/07
Thorium 232	0.16	U	0.16	1.00	0.23	11/28/07	12/01/07
Uranium 235	0.11	U	0.20	1.00	0.34	11/28/07	12/01/07
Uranium 238	0.16	U	0.62	1.00	1.2	11/28/07	12/01/07
--- Other Detected Radionuclides ---							
Bismuth 214	0.21		0.12		0.17	11/28/07	12/01/07
Lead 212	0.42		0.11		0.1	11/28/07	12/01/07
Lead 214	0.42		0.11		0.13	11/28/07	12/01/07
Potassium 40	4.1		1.2		1.0	11/28/07	12/01/07
Thallium 208	0.139		0.051		0.041	11/28/07	12/01/07
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7349081	Yld % 76
Neptunium 237	0.006	U	0.039	1.00	0.091	12/15/07	12/18/07

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-35-4.5-SL

Radiochemistry

Lab Sample ID: F7K210252-035
Work Order: KCQ3J
Matrix: SOLID

Date Collected: 11/16/07 1815
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7346170**	**Yld % 93**
Technetium 99	-0.18	U	0.39	1.00	0.66	12/12/07	12/17/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7332437**	**Yld %**
Americium 241	-0.02	U	2.2	1.0	0.3	11/28/07	12/01/07
Cesium 137	0.014	U	0.083	1.00	0.16	11/28/07	12/01/07
Thorium 232	1.01		0.33	1.00	0.63	11/28/07	12/01/07
Uranium 235	-0.03	U	1.9	1.0	0.8	11/28/07	12/01/07
Uranium 238	1.6	U	1.0	1.0	2.0	11/28/07	12/01/07
--- Other Detected Radionuclides ---							
Actinium 228	1.01		0.33		0.63	11/28/07	12/01/07
Bismuth 212	0.99		0.67		0.94	11/28/07	12/01/07
Bismuth 214	1.18		0.29		0.22	11/28/07	12/01/07
Lead 212	1.25		0.26		0.23	11/28/07	12/01/07
Lead 214	0.57		0.21		0.28	11/28/07	12/01/07
Potassium 40	17.9		3.0		1.6	11/28/07	12/01/07
Thallium 208	0.59		0.13		0.07	11/28/07	12/01/07

NOTE(S)

ta are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-35-6.5-SL

Radiochemistry

Lab Sample ID: F7K210252-036
Work Order: KCQ3L
Matrix: SOLID

Date Collected: 11/16/07 1820
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g	Batch # 7332437		Yld %
Americium 241	-0.002	U	0.11	1.00	0.18	11/28/07	12/06/07
Cesium 137	0.004	U	0.060	1.00	0.10	11/28/07	12/06/07
Thorium 232	1.33		0.24	1.00	0.17	11/28/07	12/06/07
Uranium 235	0.08	U	0.24	1.00	0.40	11/28/07	12/06/07
Uranium 238	2.6		1.4	1.0	1.5	11/28/07	12/06/07
--- Other Detected Radionuclides ---							
Actinium 228	1.33		0.24		0.17	11/28/07	12/06/07
Bismuth 212	1.71		0.69		0.56	11/28/07	12/06/07
Bismuth 214	1.55		0.21		0.13	11/28/07	12/06/07
Lead 212	1.35		0.13		0.09	11/28/07	12/06/07
Lead 214	1.43		0.19		0.15	11/28/07	12/06/07
Potassium 40	21.5		2.1		0.7	11/28/07	12/06/07
Thallium 208	0.56		0.11		0.08	11/28/07	12/06/07
Thorium 234	2.6		1.4		1.5	11/28/07	12/06/07

NOTE(S)

ata are incomplete without the case narrative.

DC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-40-2.5-SL

Radiochemistry

Lab Sample ID: F7K210252-037
Work Order: KCQ3M
Matrix: SOLID

Date Collected: 11/15/07 1710
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7339445	Yld % 47
Plutonium 238	-0.038	U	0.066	1.00	0.19	12/05/07	12/12/07
Plutonium 239/40	0.029	U	0.058	1.00	0.11	12/05/07	12/12/07
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g		Batch # 7346170	Yld % 101
Technetium 99	0.18	U	0.37	1.00	0.62	12/12/07	12/17/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7339447	Yld % 91
Uranium 233/234	1.06		0.25	1.00	0.06	12/05/07	12/10/07
Uranium 235/236	0.110	J	0.073	1.00	0.048	12/05/07	12/10/07
Uranium 238	0.54	J	0.16	1.00	0.04	12/05/07	12/10/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7332437	Yld %
Americium 241	0.042	U	0.097	1.00	0.17	11/28/07	12/01/07
Cesium 137	-0.017	U	0.063	1.00	0.11	11/28/07	12/01/07
Thorium 232	0.23	U	0.16	1.00	0.30	11/28/07	12/01/07
Uranium 235	0.06	U	0.18	1.00	0.31	11/28/07	12/01/07
Uranium 238	0.51	U	0.81	1.00	1.4	11/28/07	12/01/07
--- Other Detected Radionuclides ---							
Bismuth 214	0.22		0.13		0.18	11/28/07	12/01/07
Lead 214	0.34		0.11		0.15	11/28/07	12/01/07
Potassium 40	3.9		1.2		1.1	11/28/07	12/01/07
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7349081	Yld % 81
Neptunium 237	0.006	U	0.033	1.00	0.079	12/15/07	12/18/07

NOTE(S)

ata are incomplete without the case narrative.

RC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-40-4.5-SL

Radiochemistry

Lab Sample ID: F7K210252-038
Work Order: KCQ3T
Matrix: SOLID

Date Collected: 11/15/07 1710
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7339445	Yld % 9
Plutonium 238	0.11	U	0.37	1.00	0.77	12/05/07	12/12/07
Plutonium 239/40	-0.038	U	0.054	1.00	0.50	12/05/07	12/12/07
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g		Batch # 7346170	Yld % 100
Technetium 99	0.25	U	0.38	1.00	0.62	12/12/07	12/17/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7339447	Yld % 93
Uranium 233/234	1.20		0.26	1.00	0.04	12/05/07	12/10/07
Uranium 235/236	0.051	J	0.050	1.00	0.028	12/05/07	12/10/07
Uranium 238	0.86	J	0.21	1.00	0.03	12/05/07	12/10/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7332437	Yld %
Americium 241	0.03	U	0.15	1.00	0.26	11/28/07	12/01/07
Cesium 137	-0.008	U	0.14	1.00	0.18	11/28/07	12/01/07
Thorium 232	0.80	J	0.28	1.00	0.51	11/28/07	12/01/07
Uranium 235	0.20	U	0.33	1.00	0.56	11/28/07	12/01/07
Uranium 238	1.21	U	0.87	1.00	2.2	11/28/07	12/01/07
--- Other Detected Radionuclides ---							
Actinium 228	0.80		0.28		0.51	11/28/07	12/01/07
Bismuth 214	1.25		0.25		0.15	11/28/07	12/01/07
Lead 212	1.03		0.18		0.16	11/28/07	12/01/07
Lead 214	1.09		0.22		0.18	11/28/07	12/01/07
Potassium 40	18.8		2.9		0.7	11/28/07	12/01/07
Thallium 208	0.56		0.13		0.08	11/28/07	12/01/07
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7349081	Yld % 78
Neptunium 237	-0.011	U	0.010	1.00	0.074	12/15/07	12/18/07

NOTE(S)

ata are incomplete without the case narrative.

DC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-40-18-SL

Radiochemistry

Lab Sample ID: F7K210252-039
Work Order: KCQ3X
Matrix: SOLID

Date Collected: 11/15/07 1735
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g	Batch # 7332437		Yld %
Americium 241	-0.05	U	0.12	1.00	0.21	11/28/07	12/06/07
Cesium 137	-0.006	U	0.044	1.00	0.078	11/28/07	12/06/07
Thorium 232	0.99	J	0.19	1.00	0.29	11/28/07	12/06/07
Uranium 235	0.04	U	0.28	1.00	0.47	11/28/07	12/06/07
Uranium 238	1.84		0.73	1.00	1.6	11/28/07	12/06/07
--- Other Detected Radionuclides ---							
Actinium 228	0.99		0.19		0.29	11/28/07	12/06/07
Bismuth 212	0.67		0.36		0.53	11/28/07	12/06/07
Lead 212	1.14		0.13		0.11	11/28/07	12/06/07
Lead 214	1.36		0.19		0.16	11/28/07	12/06/07
Potassium 40	18.7		1.8		0.7	11/28/07	12/06/07
Radium (226)	1.24		0.20		0.15	11/28/07	12/06/07
Thallium 208	0.416		0.076		0.067	11/28/07	12/06/07
Thorium 234	1.84		0.73		1.6	11/28/07	12/06/07

NOTE(S)

ata are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-41-2.5-SL

Radiochemistry

Lab Sample ID: F7K210252-040
Work Order: KCQ32
Matrix: SOLID

Date Collected: 11/09/07 0825
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7339445	Yld % 43
Plutonium 238	0.001	U	0.080	1.00	0.18	12/05/07	12/12/07
Plutonium 239/40	-0.008	U	0.011	1.00	0.10	12/05/07	12/12/07
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g		Batch # 7346170	Yld % 99
Technetium 99	0.32	U	0.38	1.00	0.63	12/12/07	12/17/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7339447	Yld % 90
Uranium 233/234	1.30		0.28	1.00	0.06	12/05/07	12/10/07
Uranium 235/236	0.078	J	0.063	1.00	0.030	12/05/07	12/10/07
Uranium 238	0.68	J	0.19	1.00	0.05	12/05/07	12/10/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7332437	Yld %
Americium 241	0.017	U	0.092	1.00	0.16	11/28/07	12/01/07
Cesium 137	0.016	U	0.044	1.00	0.077	11/28/07	12/01/07
Thorium 232	0.36	J	0.14	1.00	0.26	11/28/07	12/01/07
Uranium 235	0.1	U	0.25	1.00	0.43	11/28/07	12/01/07
Uranium 238	0.29	U	0.72	1.00	1.3	11/28/07	12/01/07
--- Other Detected Radionuclides ---							
Actinium 228	0.36		0.14		0.26	11/28/07	12/01/07
Bismuth 214	0.23		0.11		0.17	11/28/07	12/01/07
Lead 212	0.62		0.16		0.14	11/28/07	12/01/07
Lead 214	0.350		0.0998		0.14	11/28/07	12/01/07
Potassium 40	7.5		1.3		1.0	11/28/07	12/01/07
Thallium 208	0.138		0.052		0.056	11/28/07	12/01/07
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7349081	Yld % 77
Neptunium 237	0.0008	U	0.027	1.00	0.077	12/15/07	12/18/07

NOTE(S)

ata are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

METHOD BLANK REPORT

Radiochemistry

Client Lot ID: F7K210252
Matrix: SOLID

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC		Prep Date	Lab Sample ID / Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			pCi/g	Batch # 7332437		Yld %		F7K280000-437B
Americium 241	-0.002	U	0.047	1.00	0.089		11/28/07	12/01/07
Cesium 137	-0.005	U	0.044	1.00	0.084		11/28/07	12/01/07
Thorium 232	0.0	U	0.037	1.00	0.14		11/28/07	12/01/07
Uranium 235	0.02	U	0.11	1.00	0.21		11/28/07	12/01/07
Uranium 238	0.07	U	0.49	1.00	0.97		11/28/07	12/01/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			pCi/g	Batch # 7332371		Yld %		F7K280000-371B
Americium 241	-0.010	U	0.055	1.00	0.098		11/28/07	11/28/07
Cesium 137	0.01	U	0.026	1.00	0.047		11/28/07	11/28/07
Thorium 232	0.02	U	0.12	1.00	0.23		11/28/07	11/28/07
Uranium 235	0.01	U	0.10	1.00	0.19		11/28/07	11/28/07
Uranium 238	-0.5	U	16	1	0.9		11/28/07	11/28/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			pCi/g	Batch # 7335109		Yld %		F7L010000-109B
Americium 241	-0.01	U	0.95	1.00	0.11		12/01/07	12/08/07
Cesium 137	-0.03	U	0.78	1.00	0.13		12/01/07	12/08/07
Thorium 232	0.0	U	0.23	1.00	0.43		12/01/07	12/08/07
Uranium 235	0.02	U	0.13	1.00	0.24		12/01/07	12/08/07
Uranium 238	0.21	U	0.45	1.00	0.86		12/01/07	12/08/07
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD			pCi/g	Batch # 7349081		Yld % 91		F7L150000-081B
Neptunium 237	0.003	U	0.022	1.00	0.060		12/15/07	12/18/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g	Batch # 7339447		Yld % 98		F7L050000-447B
Uranium 233/234	0.0	U	0.0	1.0	0.03		12/05/07	12/10/07
Uranium 235/236	0.0	U	0.0	1.0	0.03		12/05/07	12/10/07
Uranium 238	0.009	U	0.027	1.00	0.025		12/05/07	12/10/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD			pCi/g	Batch # 7339445		Yld % 85		F7L050000-445B
Plutonium 238	-0.001	U	0.024	1.00	0.070		12/05/07	12/11/07
Plutonium 239/40	-0.0040	U	0.0057	1.00	0.053		12/05/07	12/11/07
TC-99 by LSC by DOE TC-02-RC Mod.			pCi/g	Batch # 7346170		Yld % 109		F7L120000-170B
Technetium 99	0.06	U	0.34	1.00	0.57		12/12/07	12/16/07

NOTE(S)

ıta are incomplete without the case narrative.

MDC is determined using instrument performance only
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Laboratory Control Sample Report

Radiochemistry

Client Lot ID: F7K210252
Matrix: SOLID

Parameter	Spike Amount	Result		Total Uncert. (2 σ+/-)	MDC	% Yld	% Rec		Lab Sample ID / QC Control Limits
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			pCi/g		GA-01-R MOD				F7K280000-371C
Americium 241	103	108		8.6	1.4		105		(85 - 118)
Cesium 137	40.0	42.3		2.7	0.6		106		(91 - 120)
Cobalt 60	62.7	62.4		3.8	0.3		100		(91 - 112)
	Batch #:	7332371			Analysis Date:	11/28/07			
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			pCi/g		GA-01-R MOD				F7K280000-437C
Americium 241	103	105		8.3	1.6		102		(85 - 118)
Cesium 137	40.0	42.8		2.7	0.5		107		(91 - 120)
Cobalt 60	62.7	65.5		4.0	0.3		104		(91 - 112)
	Batch #:	7332437			Analysis Date:	12/01/07			
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			pCi/g		GA-01-R MOD				F7L010000-109C
Americium 241	103	105		8.3	1.3		102		(85 - 118)
Cesium 137	40.0	43.9		2.7	0.4		110		(91 - 120)
Cobalt 60	62.7	64.8		3.9	0.2		103		(91 - 112)
	Batch #:	7335109			Analysis Date:	12/08/07			
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD			pCi/g		A-01-R				F7L050000-445C
Plutonium 238	6.13	7.1	a	1.1	0.2	33	116	a	(77 - 112)
Plutonium 239/40	5.77	6.27		0.98	0.14	33	109		(82 - 119)
	Batch #:	7339445			Analysis Date:	12/13/07			
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		A-01-R MOD				F7L050000-447C
Uranium 233/234	19.6	16.7		3.0	0.3	96	85		(76 - 128)
Uranium 238	19.6	15.8		2.8	0.3	96	81		(74 - 125)
	Batch #:	7339447			Analysis Date:	12/10/07			
TC-99 by LSC by DOE TC-02-RC Mod.			pCi/g		TC-02-RC MOD				F7L120000-170C
Technetium 99	33.3	30.4		2.7	0.6	103	91		(64 - 114)
	Batch #:	7346170			Analysis Date:	12/16/07			
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD			pCi/g		A-01-R MOD				F7L150000-081C
Neptunium 237	13.3	14.2		1.4	0.06	100	107		(75 - 119)
	Batch #:	7349081			Analysis Date:	12/18/07			

NOTE(S)

MDC is determined by instrument performance only
Calculations are performed before rounding to avoid round-off error in calculated results

DUPLICATE EVALUATION REPORT

Radiochemistry

Client Lot ID: F7K210252 Date Sampled: 11/19/07
Matrix: SOLID Date Received: 11/21/07

Parameter	SAMPLE Result		Total Uncert. (2σ+/-)	% Yld	DUPLICATE Result		Total Uncert. (2 σ+/-)	% Yld	QC Sample ID Precision	
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**GA-01-R MOD**				**F7K210252-021**	
Americium 241	0.05	U	0.18		0.01	U	0.19		131	%RPD
Cesium 137	0.07	U	0.12		0.18	J	0.12		88	%RPD
Thorium 232	0.99	J	0.33		0.89	J	0.33		11	%RPD
Uranium 235	0.17	U	0.45		0.40	U	0.39		82	%RPD
Uranium 238	3.1		1.2		2.8		1.2		11	%RPD
---Other Dedected Radionuclides---										
Actinium 228	0.99		0.33		0.89		0.33		11	%RPD
Bismuth 214	1.23		0.28		0.90		0.28		30	%RPD
Lead 212	1.10		0.21		1.39		0.24		24	%RPD
Lead 214	1.10		0.22		1.43		0.31		26	%RPD
Potassium 40	23.2		3.5		20.6		3.4		12	%RPD
Thallium 208	0.44		0.13		0.34		0.13		27	%RPD
Thorium 234	3.1		1.2		2.8		1.2		11	%RPD
	Batch #:		7332437	(Sample)	7332437	(Duplicate)				
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**GA-01-R MOD**				**F7K210252-022**	
Americium 241	0.0	U	0.17		0.01	U	0.17		200	%RPD
Cesium 137	0.025	U	0.070		-0.0008	U	0.080		213	%RPD
Thorium 232	0.99	J	0.25		1.04		0.27		5	%RPD
Uranium 235	0.1	U	0.38		-0.08	U	21		1820	%RPD
Uranium 238	1.8	U	1.0		1.15	U	0.82		46	%RPD
---Other Dedected Radionuclides---										
Actinium 228	0.99		0.25		1.04		0.27		5	%RPD
Bismuth 214	1.25		0.23		0.89		0.22		34	%RPD
Lead 212	1.12		0.21		1.49		0.26		29	%RPD
Lead 214	1.16		0.21		1.25		0.24		8	%RPD
Potassium 40	18.5		2.3		20.4		2.8		10	%RPD
Thallium 208	0.49		0.12		0.50		0.13		2	%RPD
	Batch #:		7335109	(Sample)	7335109	(Duplicate)				
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**TC-02-RC MOD**				**F7K210252-014**	
Technetium 99	0.11	U	0.38	98	0.18	U	0.39	96	47	%RPD
	Batch #:		7346170	(Sample)	7346170	(Duplicate)				

DUPLICATE EVALUATION REPORT

Radiochemistry

Client Lot ID: F7K210252 Date Sampled: 11/13/07
Matrix: SOLID Date Received: 11/21/07

Parameter	SAMPLE Result		Total Uncert. (2σ +/-)	% Yld	DUPLICATE Result		Total Uncert. (2 σ +/-)	% Yld	QC Sample ID Precision	
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**GA-01-R MOD**				**F7K210252-001**	
Americium 241	0.004	U	0.17		0.05	U	0.17		171	%RPD
Cesium 137	0.032	U	0.073		0.008	U	0.060		118	%RPD
Thorium 232	0.96	J	0.27		1.27		0.29		27	%RPD
Uranium 235	0.19	U	0.37		0.17	U	0.43		8	%RPD
Uranium 238	2.9		1.0		2.1		1.1		29	%RPD
---Other Dedected Radionuclides---										
Actinium 228	0.96		0.27		1.27		0.29		27	%RPD
Bismuth 214	0.84		0.22		0.91		0.22		9	%RPD
Lead 212	1.84		0.29		1.46		0.32		23	%RPD
Lead 214	1.04		0.23		1.27		0.32		20	%RPD
Potassium 40	19.8		2.6		21.5		2.7		8	%RPD
Thallium 208	0.498		0.099		0.40		0.11		22	%RPD
Thorium 234	2.9		1.0		2.1		1.1		29	%RPD
	Batch #:		7332371	(Sample)	7332371	(Duplicate)				
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**A-01-R**				**F7K210252-002**	
Plutonium 238	-0.19	U	0.12	10	-0.100	U	0.082	10	63	%RPD
Plutonium 239/40	0.02	U	0.20	10	-0.067	U	0.067	10	413	%RPD
	Batch #:		7339445	(Sample)	7339445	(Duplicate)				
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**A-01-R MOD**				**F7K210252-002**	
Uranium 233/234	4.06		0.65	88	3.10		0.51	95	27	%RPD
Uranium 235/236	0.172	J	0.095	88	0.106	J	0.070	95	48	%RPD
Uranium 238	1.45		0.31	88	1.37		0.29	95	6	%RPD
	Batch #:		7339447	(Sample)	7339447	(Duplicate)				

NOTE(S)

Data are incomplete without the case narrative.
Calculations are performed before rounding to avoid round-off error in calculated results

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit

F7K210252 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD

Project Manager: IV | Quote #: 77705 | SDG:

Project: 313010.202 | Hematite Site

PO#: | Report to: Paul Ely

Client: 1381304 Energy Solutions, LLC

#SMPS in LOT: 40

Date Received: 2007-11-21
Analytical Due Date: 2007-12-21
Report Due Date: 2007-12-21
Report Type: W
EDD Code: 00

Gamma library MUST contain U-235, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
1	NB-141-17.5-SL			2007-11-13 / 1740	KCQXH	SOLID

SAMPLE COMMENTS:

	XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
	XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
X	XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
2	NB-142-0.5-SL			2007-11-15 / 921	KCQXL	SOLID

SAMPLE COMMENTS:

	XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
	XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
	XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
	XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
	XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
	XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
	XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
X	XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
X	XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
X	XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
X	XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
3	NB-142-4.5-SL			2007-11-15 / 925	KCQXM	SOLID

SAMPLE COMMENTS:

	XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
	XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
4	NB-142-9-SL			2007-11-15 / 934	KCQXP	SOLID

SAMPLE COMMENTS:

	XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
	XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
5	NB-143-0.5-SL			2007-11-13 / 1755	KCQXQ	SOLID

SAMPLE COMMENTS:

	XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
	XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
	XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

F7K210252 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD

Project Manager: IV | Quote #: 77705 | SDG:

Project: 313010.202 | Hematite Site

PO#: | Report to: Paul Ely

Client: 1381304 Energy Solutions, LLC

Date Received: 2007-11-21
Analytical Due Date: 2007-12-21
Report Due Date: 2007-12-21
Report Type: W
EDD Code: 00
#SMPS in LOT: 40

Gamma library MUST contain U-235, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
6	NB-143-4.5-SL			2007-11-13 / 1800	KCQXR	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
7	NB-143-6.5-SL			2007-11-13 / 1805	KCQXT	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
8	NB-144-0.5-SL			2007-11-14 / 1255	KCQXW	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
9	NB-144-4.5-SL			2007-11-14 / 1300	KCQX0	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
10	NB-144-7-SL			2007-11-14 / 1305	KCQX2	SOLID

SAMPLE COMMENTS:

F7K210252 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD

Project Manager: IV | Quote #: 77705 | SDG:

Project: 313010.202 | Hematite Site

PO#: | Report to: Paul Ely

Client: 1381304 Energy Solutions, LLC

Date Received: 2007-11-21
Analytical Due Date: 2007-12-21
Report Due Date: 2007-12-21
Report Type: W
#SMPS in LOT: 40 EDD Code: 00

Gamma library MUST contain U-235, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
11	NB-104-0.5-SL			2007-11-19 / 1025	KCQX4	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
12	NB-104-4.5-SL			2007-11-19 / 1035	KCQX7	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
13	NB-104-12.5-SL			2007-11-19 / 1050	KCQX9	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
14	NB-106-4.5-SL			2007-11-19 / 1620	KCQ0C	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
X XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
15	NB-106-7.5-SL			2007-11-19 / 1625	KCQ0H	SOLID

SAMPLE COMMENTS:

F7K210252 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD
Date Received: 2007-11-21
Analytical Due Date: 2007-12-21
Report Due Date: 2007-12-21
Report Type: W
EDD Code: 00

Project Manager: IV
Quote #: 77705
SDG:
Project: 313010.202
Hematite Site
PO#:
Report to: Paul Ely
Client: 1381304 Energy Solutions, LLC
#SMPS in LOT: 40

Gamma library MUST contain U-235, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
16	NB-106-2.5-SL			2007-11-19 / 1620	KCQ0J	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
17	NB-107-0.5-SL			2007-11-19 / 1345	KCQ0L	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
18	NB-107-4.5-SL			2007-11-19 / 1350	KCQ0P	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
19	NB-107-17-SL			2007-11-19 / 1410	KCQ0V	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
20	NB-108-4.5-SL			2007-11-19 / 1118	KCQ0X	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
21	NB-108-0.5-SL			2007-11-19 / 1110	KCQ03	SOLID

SAMPLE COMMENTS:

F7K210252 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD

Project Manager: IV | Quote #: 77705 | SDG:

Project: 313010.202 | Hematite Site

PO#: | Report to: Paul Ely

Client: 1381304 Energy Solutions, LLC | #SMPS in LOT: 40

Date Received: 2007-11-21
Analytical Due Date: 2007-12-21
Report Due Date: 2007-12-21
Report Type: W
EDD Code: 00

Gamma library MUST contain U-235, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

	XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
	XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
	XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
	XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
	XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
	XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
	XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
X	XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
22	NB-139-4.5-SL			2007-11-19 / 1118	KCQ06	SOLID

SAMPLE COMMENTS:

	XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
	XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
X	XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
23	NB-108-9-SL			2007-11-19 / 1125	KCQ08	SOLID

SAMPLE COMMENTS:

	XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
	XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
	XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
24	BD-19-0.5-SL			2007-11-19 / 1550	KCQ1D	SOLID

SAMPLE COMMENTS:

	XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
	XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
	XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
	XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
	XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
	XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
	XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
25	BD-19-4.5-SL			2007-11-19 / 1600	KCQ1F	SOLID

SAMPLE COMMENTS:

	XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
	XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
	XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

F7K210252 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD
Date Received: 2007-11-21
Analytical Due Date: 2007-12-21
Report Due Date: 2007-12-21
Report Type: W
EDD Code: 00

Project Manager: IV
Quote #: 77705
SDG:
roject: 313010.202
Hematite Site
PO#:
Report to: Paul Ely
Client: 1381304 Energy Solutions, LLC
#SMPS In LOT: 40

Gamma library MUST contain U-235, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
26	BD-19-10.5-SL			2007-11-19 / 1610	KCQ1R	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
27	BD-28-0.5-SL			2007-11-17 / 1150	KCQ2A	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
28	BD-28-2.5-SL			2007-11-17 / 1156	KCQ2E	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
29	BD-28-4.5-SL			2007-11-17 / 1156	KCQ2H	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
30	BD-28-12.5-SL			2007-11-17 / 1207	KCQ2V	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
31	BD-34-2.5-SL			2007-11-19 / 1440	KCQ2X	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

F7K210252 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD
Date Received: 2007-11-21
Analytical Due Date: 2007-12-21
Report Due Date: 2007-12-21
Report Type: W
EDD Code: 00

Project Manager: IV
Quote #: 77705
SDG:
roject: 313010.202
Hematite Site
PO#:
Report to: Paul Ely
Client: 1381304 Energy Solutions, LLC
#SMPS In LOT: 40

Gamma library MUST contain U-235, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
32	BD-34-4.5-SL			2007-11-19 / 1440	KCQ21	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
33	BD-34-13-SL			2007-11-19 / 1500	KCQ29	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
34	BD-35-2.5-SL			2007-11-16 / 1815	KCQ3E	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
35	BD-35-4.5-SL			2007-11-16 / 1815	KCQ3J	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
36	BD-35-6.5-SL			2007-11-16 / 1820	KCQ3L	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06

F7K210252 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD

Project Manager: IV | Quote #: 77705 | SDG:

Project: 313010.202 | Hematite Site

PO#: | Report to: Paul Ely

Client: 1381304 Energy Solutions, LLC | #SMPS in LOT: 40

Date Received: 2007-11-21
Analytical Due Date: 2007-12-21
Report Due Date: 2007-12-21
Report Type: W
EDD Code: 00

Gamma library MUST contain U-235, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

XX 0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
37	BD-40-2.5-SL			2007-11-15 / 1710	KCQ3M	SOLID

SAMPLE COMMENTS:

XX ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX 0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX 2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX 2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX 2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX 3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX 3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
38	BD-40-4.5-SL			2007-11-15 / 1710	KCQ3T	SOLID

SAMPLE COMMENTS:

XX ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX 0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX 2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX 2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX 2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX 3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX 3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
39	BD-40-18-SL			2007-11-15 / 1735	KCQ3X	SOLID

SAMPLE COMMENTS:

XX ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX 0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
40	BD-41-2.5-SL			2007-11-09 / 825	KCQ32	SOLID

SAMPLE COMMENTS:

XX ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX 0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX 2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX 2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX 2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX 3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX 3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

F7K210252

CLIENT COMMENTS SUMMARY

Storage Loc: RAD

Project Manager: IV
Quote #: 77705
SDG:
Date Received: 2007-11-21
Analytical Due Date: 2007-12-21
Report Due Date: 2007-12-21
Project: 313010.202
Hematite Site
PO#:
Report to: Paul Ely
Report Type: W
Client: 1381304 Energy Solutions, LLC
#SMPS In LOT: 40
EDD Code: 00

Gamma library MUST contain U-235, U-238, Th-232, and Am-2
Standard QA/QC acceptable.

Attachment 5.2-Chain of Custody Record

Client: WEC
Address:
City:
State: Zip Code:

Project Manager: Duane Quayle
Telephone Number: 865-368-4477
Site Contact:
Lab Contact: Ivan Venia

Date: 11/21/07
CoC Number: SC-01
Page: 6 of 28

Project Name: Hematite Characterization
Project Location:
Carrier/Waybill Number:
Contract/PO Number:

Sample ID Number	Date	Time	Matrix: Air	Aqueous	Sediment	Soil		Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH		Analysis (Attach list if more space is needed): γ Spec	Isotopic Tc-99	Isotopic U	Isotopic Pu	Isotopic Np					
NB-141-17.5-SL	11-13-07	1740				✓									✓									
NB-142-0.5-SL	11-15-07	0921				✓									✓	✓	✓	✓	✓					
NB-142-4.5-SL	11-15-07	0925				✓									✓									
NB-142-9-SL	11-15-07	0934				✓									✓									
NB-143-0.5-SL	11-13-07	1755				✓									✓	✓	✓	✓	✓					
NB-143-4.5-SL	11-13-07	1800				✓									✓									
NB-143-6.5-SL	11-13-07	1805				✓									✓									
NB-144-0.5-SL	11-14-07	1255				✓									✓	✓	✓	✓	✓					

Possible Hazard Identification: Non-haz. ☐ Radioactive ☐ Flammable ☐ Skin Irritant ☐ Unknown ☐

Sample Disposal: Return to client ✓ Disposal by lab ☐ Archive for __ months ☐

Turn Around Time: 24 hrs ☐ 48 hrs ☐ 7 days ☐ 14 days ✓ 21 days ☐ Other ☐

Comments:

	Date	Time		Date	Time
Relinquished by: [signature]	11/21/07	1132	Received by: [signature]	11/21/07	1130
Relinquished by:			Received by:		
Relinquished by:			Received by:		

Attachment 5.2-Chain of Custody Record

Client: WEC
Address:
City:
State: Zip Code:

Project Manager: Duane Quayle
Telephone Number: 865-368-7477
Site Contact:
Lab Contact: Ivan Venia

Date: 11/21/07
CoC Number: SC-01
Page: 7 of 28

Project Name: Hematite Characterization
Project Location:
Carrier/Waybill Number:
Contract/PO Number:

Sample ID Number	Date	Time	Matrix: Air	Aqueous	Sediment	Soil		Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH		Analysis (Attach list if more space is needed): Xspec	Isotopic Tc-99	Isotopic U	Isotopic Pu	Isotopic Np					
NB-144-4.5-SL	11-14-07	1300				✓									✓		✓	✓	✓					
NB-144-7-SL	11-14-07	1305				✓									✓									
NB-104-0.5-SL	11-19-07	1025				✓									✓	✓	✓	✓	✓					
NB-104-4.5-SL	11-19-07	1035				✓									✓									
NB-104-[illegible]-SL	11-19-07	1050				✓									✓									
NB-106-4.5-SL	11-19-07	1620				✓									✓	✓	✓	✓	✓					
NB-106-7.5-SL	11-19-07	1625				✓									✓									
~~NB~~ NB-106-25-SL	11-19-07	1620				✓									✓	✓								

Possible Hazard Identification: Non-haz. ☐ Radioactive ☐ Flammable ☐ Skin Irritant ☐ Unknown ☐

Sample Disposal: Return to client ✓ Disposal by lab ☐ Archive for __ months ☐

Turn Around Time: 24 hrs ☐ 48 hrs ☐ 7 days ☐ 14 days ☐ 28 days ✓ Other ☐

Comments:

	Date	Time		Date	Time
Relinquished by: [signature]	11/21/07	1130	Received by: [signature]	11/21/07	11:30
Relinquished by:			Received by:		
Relinquished by:			Received by:		

Attachment 5.2-Chain of Custody Record

Client: WEC
Address:
City:
State: Zip Code:

Project Manager: Duane Quayle
Telephone Number: 865-368-7477
Site Contact:
Lab Contact: Ivan Venia

Date: 11/21/07
CoC Number: 5C-01
Page: 8 of 28

Project Name: Hematite Characterization
Project Location:
Carrier/Waybill Number:
Contract/PO Number:

Sample ID Number	Date	Time	Matrix: Air	Aqueous	Sediment	Soil		Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH		Analysis (Attach list if more space is needed): X-ray	Isotopic Tc-99	Isotopic U	Isotopic Pu	Isotopic Np					
NB-107-0.5-SL	11-19-07	1345				✓									✓	✓	✓	✓	✓					
NB-107-4.5-SL	11-19-07	1350				✓									✓									
NB-107-17-SL	11-19-07	1410				✓									✓									
NB-108-4.5-SL	11-19-07	1118				✓									✓									
NB-108-0.5-SL	11-19-07	1110				✓									✓	✓	✓	✓	✓					
139 ~~NB-108~~-4.5-SL	11-19-07	1118				✓									✓									
11/21/07 NB-108-9-SL	11-19-07	1125				✓									✓									
BD-19-0.5-SL	11-19-07	1550				✓									✓	✓	✓	✓	✓					

Possible Hazard Identification: Non-haz. ☐ Radioactive ☐ Flammable ☐ Skin Irritant ☐ Unknown ☐

Sample Disposal: Return to client ✓ Disposal by lab ☐ Archive for __ months ☐

Turn Around Time: 24 hrs ☐ 48 hrs ☐ 7 days ☐ 14 days ☐ 20 days ✓ Other ☐

Comments:

	Date	Time		Date	Time
Relinquished by:	11/21/07	11:30	Received by: Angela Brown	11/21/07	11:30
Relinquished by:			Received by:		
Relinquished by:			Received by:		

Soil Surveys, Sample Collections, & Chain-of-Custody Procedure

Attachment 5.2-Chain of Custody Record

Client: WEC
Address:
City:
State: Zip Code:

Project Manager: Duane Quayle
Telephone Number: 865-368-7477
Site Contact:
Lab Contact: Ivan Venia

Date: 11/21/07
CoC Number: SC-01
Page: 9 of 28

Project Name: Hematite Characterization
Project Location:
Carrier/Waybill Number:
Contract/PO Number:

Sample ID Number	Date	Time	Matrix: Air	Aqueous	Sediment	Soil		Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH		Analysis (Attach list if more space is needed): γ spec	Isotopic Tc-99	Isotopic U	Isotopic Pu	Isotopic Np					
BD-19-4.5-SL	11-19-07	1600				✓									✓	✓								
BD-19-10.5-SL	11-19-07	1610				✓									✓									
BD-28-0.5-SL	11-17-07	1150				✓									✓	✓	✓	✓	✓					
BD-28-2.5-SL	11-17-07	1156				✓									✓	✓	✓							
BD-28-4.5-SL	11-17-07	1156				✓									✓	✓								
BD-28-12.5-SL	11-17-07	1207				✓									✓									
BD-34-2.5-SL	11-19-07	1440				✓									✓	✓	✓	✓	✓					
BD-34-4.5-SL	11-19-07	1440				✓									✓	✓								

Possible Hazard Identification: Non-haz. ☐ Radioactive ☐ Flammable ☐ Skin Irritant ☐ Unknown ☐

Sample Disposal: Return to client ✓ Disposal by lab ☐ Archive for __ months ☐

Turn Around Time: 24 hrs ☐ 48 hrs ☐ 7 days ☐ 14 days ✓ 20 days ☐ Other ☐

Comments:

	Date	Time		Date	Time
Relinquished by:	11/21/07	1130	Received by: Angela Brown	11/21/07	11:30
Relinquished by:			Received by:		
Relinquished by:			Received by:		

Attachment 5.2-Chain of Custody Record

Client: WEC
Address:
City:
State: Zip Code:

Project Manager: Duane Quayle
Telephone Number: 865-368-7477
Site Contact:
Lab Contact: Wan Venia

Date: 11/21/07
CoC Number: SC-01
Page: 10 of 28

Project Name: Hematite Characterization
Project Location:
Carrier/Waybill Number:
Contract/PO Number:

Sample ID Number	Date	Time	Matrix: Air	Aqueous	Sediment	Soil		Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH		Analysis (Attach list if more space is needed): Xspec	Isotopic Tc-99	Isotopic U	Isotopic Pu	Isotopic Np					
BD-34-13-SL	11-19-07	1500				✓									✓									
BD-35-2.5-SL	11-16-07	1815				✓									✓	✓	✓	✓	✓					
BD-35-4.5-SL	11-16-07	1815				✓									✓	✓								
BD-35-16.5-SL	11-16-07	1820				✓									✓									
BD-40-2.5-SL	11-15-07	1710				✓									✓	✓	✓	✓	✓					
BD-40-4.5-SL	11-15-07	1710				✓									✓	✓	✓	✓	✓					
BD-40-18-SL	11-15-07	1735				✓									✓									
BD-41-2.5-SL	11-9-07	0825				✓									✓	✓	✓	✓	✓					

Possible Hazard Identification: Non-haz. ☐ Radioactive ☐ Flammable ☐ Skin Irritant ☐ Unknown ☐

Sample Disposal: Return to client ✓ Disposal by lab ☐ Archive for __ months ☐

Turn Around Time: 24 hrs ☐ 48 hrs ☐ 7 days ☐ 14 days ☐ 21 days ✓ Other ☐

Comments:

	Date	Time		Date	Time
Relinquished by: [signature]	11/21/07	1132	Received by: Angela Boon	11/21/07	1135
Relinquished by:			Received by:		
Relinquished by:			Received by:		

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Lot #(s): F7K210252 F7K210247
277 273
350
337

-1167-

Condition Upon Receipt Form

Client: Energy Solutions COC/RFA No: SL-01 Date: 11/21/07
Quote No: 77705 Initiated By: 60 Time: 1130

Shipping Information

Shipper Name: client
Multiple Packages: (Y) N

Shipping # (s):*

1.	6.	1. ambient	6. ambient
2.	7.	2.	7.
3.	8.	3.	8.
4.	9.	4.	9.
5.	10.	5.	10.

Sample Temperature (s):**

*Numbered shipping lines correspond to Numbered Sample Temp lines

**Sample must be received at 4°C ± 2°C. If not, note contents below. Temperature variance does NOT affect the following: Metals-Liquid or Rad tests-Liquid or Solids

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

1.	Y (N)	Are there custody seals present on the cooler?	8.	(Y) N	Are there custody seals present on bottles?
2.	Y N (N/A)	Do custody seals on cooler appear to be tampered with?	9.	Y (N) N/A	Do custody seals on bottles appear to be tampered with?
3.	(Y) N	Were contents of cooler frisked after opening, but before unpacking?	10.	Y N (N/A)	Was sample received with proper pH[1]? (If not, make note below)
4.	(Y) N	Sample received with Chain of Custody?	11.	Y N	If N/A-Was pH taken by original TestAmerica lab?
5.	(Y) N N/A	Does the Chain of Custody match sample ID's on the container(s)?	12.	(Y) N	Sample received in proper containers?
6.	Y (N)	Was sample received broken?	13.	Y N (N/A)	Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below)
7.	(Y) N	Is sample volume sufficient for analysis?	14.	Y N	Was Internal COC/Worksharc received?

[1] For EOE-AL (Pantex, LANL, Sandia) sites, pH of ALL containers received must be verified, EXCEPT VOA, TOX and soils.

Notes:

Corrective Action:
- ☐ Client Contact Name: Informed by:
- ☐ Sample(s) processed "as is"
- ☐ Sample(s) on hold until: If released, notify:

Project Management Review: Date: 12-3-07

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIAL AND THE DATE NEXT TO THAT ITEM.

ADMIN-0004, REVISED 08/06/07\\Slsvr01\QA\FORMS\ST-LOUIS\ADMIN\Admin004 rev11.doc

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

PROJECT NO. 313010.202

Hematite Site

Lot #: F7K210277

Paul Ely

Energy Solutions, LLC
1009 Commerce Park Drive
Suite 100
Oak Ridge, TN 37830

TESTAMERICA LABORATORIES, INC.

Ivan Vania
Project Manager

December 10, 2007

Case Narrative
LOT NUMBER: F7K210277

This report contains the analytical results for the 40 samples received under chain of custody by TestAmerica St. Louis on November 21, 2007. These samples are associated with your Hematite Site project.

The analytical results included in this report meet all applicable quality control procedure requirements except as noted on the following page.

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

All chemical analysis results are based upon sample as received, wet weight, unless noted otherwise. All radiochemistry results are based upon sample as dried and ground with the exception of tritium, unless requested wet weight by the client.

Observations/Nonconformances

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

Gamma Spectroscopy - Cesium-137 & Hits (EML GA-01-R MOD)
The Uranium-238 reporting limit was not met due to the activity of the sample.
Affected Samples:
F7K210277 (1): NB-120-0.5-SL
F7K210277 (2): NB-120-2.5-SL
F7K210277 (3): NB-120-4.5-SL
F7K210277 (4): NB-120-16.5-SL
F7K210277 (7): NB-121-4.5-SL
F7K210277 (8): NB-121-12.5-SL
F7K210277 (11): NB-126-12.5-SL
F7K210277 (14): NB-128-0.5-SL
F7K210277 (15): NB-128-2.5-SL
F7K210277 (16): NB-128-4.5-SL
F7K210277 (17): NB-128-18.5-SL

Neptunium by Alpha Spectroscopy EML A-01-R MOD
The Neptunium sample has a tracer recovery below the 30% QC limit. The sample was re-prepared and reanalyzed.
Affected Samples:
F7K210277 (25): NB-131-0.5-SL

Tc-99 by LSC (EML TC-02-RC MOD)
The Technesium-99 LCS tracer recovery is outside acceptance limits. LCS spike recoveries are within QC limits demonstrating acceptable sample preparation and instrument performance. There is an apparent anomaly in the sample preparation, isolated to the LCS and not indicative of the batch.
Affected Samples:
F7K210277 (1): NB-120-0.5-SL
F7K210277 (2): NB-120-2.5-SL
F7K210277 (3): NB-120-4.5-SL
F7K210277 (5): NB-121-0.5-SL
F7K210277 (6): NB-121-2.5-SL
F7K210277 (7): NB-121-4.5-SL
F7K210277 (9): NB-126-0.5-SL
F7K210277 (14): NB-128-0.5-SL
F7K210277 (15): NB-128-2.5-SL
F7K210277 (16): NB-128-4.5-SL
F7K210277 (18): NB-129-0.5-SL
F7K210277 (19): NB-129-2.5-SL

There were no other nonconformances or observations noted with any analysis on this lot.

METHODS SUMMARY

F7K210277

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Gamma Spectroscopy - Cesium-137 & Hits	EML GA-01-R MOD	
Isotopic Plutonium by Alpha Spectroscopy	EML A-01-R	
Isotopic Uranium by Alpha Spectroscopy	EML A-01-R MOD	
Neptunium by Alpha Spectroscopy	EML A-01-R MOD	
TC-99 by LSC	EML TC-02-RC MO	

References:

EML "ENVIRONMENTAL MEASUREMENTS LABORATORY PROCEDURES MANUAL"
HASL-300 28TH EDITION, VOLUME I and II DEPARTMENT OF ENERGY

SAMPLE SUMMARY

F7K210277

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
KCQ4L	001	NB-120-0.5-SL	11/16/07	16:00
KCQ4T	002	NB-120-2.5-SL	11/16/07	16:05
KCQ4X	003	NB-120-4.5-SL	11/16/07	16:05
KCQ40	004	NB-120-16.5-SL	11/16/07	16:50
KCQ41	005	NB-121-0.5-SL	11/16/07	15:15
KCQ42	006	NB-121-2.5-SL	11/16/07	15:20
KCQ43	007	NB-121-4.5-SL	11/16/07	15:20
KCQ44	008	NB-121-12.5-SL	11/16/07	15:30
KCQ45	009	NB-126-0.5-SL	11/14/07	07:57
KCQ46	010	NB-126-4.5-SL	11/14/07	08:00
KCQ48	011	NB-126-12.5-SL	11/14/07	08:20
KCQ49	012	NB-127-4.5-SL	11/15/07	08:20
KCQ6D	013	NB-127-5-SL	11/15/07	08:24
KCQ6M	014	NB-128-0.5-SL	11/16/07	10:55
KCQ6Q	015	NB-128-2.5-SL	11/16/07	11:00
KCQ6R	016	NB-128-4.5-SL	11/16/07	11:00
KCQ6V	017	NB-128-18.5-SL	11/16/07	11:33
KCQ61	018	NB-129-0.5-SL	11/16/07	09:35
KCQ65	019	NB-129-2.5-SL	11/16/07	09:45
KCQ68	020	NB-129-4.5-SL	11/16/07	09:45
KCQ7C	021	NB-129-19-SL	11/16/07	10:10
KCQ7D	022	NB-130-0.5-SL	11/14/07	15:15
KCQ7H	023	NB-130-4.5-SL	11/14/07	15:30
KCQ7K	024	NB-130-11-SL	11/14/07	15:45
KCQ7M	025	NB-131-0.5-SL	11/15/07	13:20
KCQ7N	026	NB-131-4.5-SL	11/15/07	13:27
KCQ7Q	027	NB-131-6.5-SL	11/15/07	13:30
KCQ7V	028	NB-132-4.5-SL	11/15/07	17:55
KCQ7W	029	NB-132-13-SL	11/15/07	18:15
KCQ7X	030	NB-133-2.5-SL	11/15/07	16:05
KCQ71	031	NB-133-4.5-SL	11/15/07	16:05
KCQ72	032	NB-133-5.5-SL	11/15/07	16:10
KCQ73	033	NB-112-8.5-SL	11/15/07	09:45
KCQ75	034	NB-113-2.5-SL	11/17/07	10:55
KCQ76	035	NB-113-4.5-SL	11/17/07	10:55
KCQ78	036	NB-114-0.5-SL	11/16/07	14:20

(Continued on next page)

SAMPLE SUMMARY

F7K210277

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
KCQ8A	037	NB-114-2.5-SL	11/16/07	14:29
KCQ8F	038	NB-114-4.5-SL	11/16/07	14:29
KCQ8G	039	NB-114-10-SL	11/16/07	14:45
KCQ8L	040	NB-115-2.5-SL	11/17/07	10:12

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Energy Solutions, LLC

Client Sample ID: NB-120-0.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210277-001
Work Order: KC04L
Matrix: SOLID

Date Collected: 11/16/07 1600
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7337163**	**Yld % 90**
Neptunium 237	0.0	U	0.0	1.0	0.03	12/03/07	12/06/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7337279**	**Yld % 93**
Plutonium 238	0.007	U	0.046	1.00	0.081	12/03/07	12/05/07
Plutonium 239/40	0.044	U	0.048	1.00	0.054	12/03/07	12/05/07
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7338324**	**Yld % 96**
Technetium 99	**12.4**		**1.4**	1.0	**0.4**	**12/04/07**	**12/08/07**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7337288**	**Yld % 83**
Uranium 233/234	**19.1**		**2.7**	1.0	**0.06**	**12/03/07**	**12/06/07**
Uranium 235/236	**0.81**	**J**	**0.24**	1.00	**0.06**	**12/03/07**	**12/06/07**
Uranium 238	**3.18**		**0.57**	1.00	**0.07**	**12/03/07**	**12/06/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7333487**	**Yld %**
Americium 241	-0.02	U	0.66	1.00	0.21	11/29/07	11/30/07
Cesium 137	**0.156**	**J**	**0.089**	1.00	**0.13**	**11/29/07**	**11/30/07**
Thorium 232	0.28	U	0.23	1.00	0.34	11/29/07	11/30/07
Uranium 235	0.47	U	0.32	1.00	0.50	11/29/07	11/30/07
Uranium 238	**1.56**		**0.67**	1.00	**1.2**	**11/29/07**	**11/30/07**
--- Other Detected Radionuclides ---							
Bismuth 214	**0.60**		**0.18**		**0.17**	**11/29/07**	**11/30/07**
Lead 212	**0.47**		**0.11**		**0.1**	**11/29/07**	**11/30/07**
Lead 214	**0.32**		**0.11**		**0.21**	**11/29/07**	**11/30/07**
Potassium 40	**7.9**		**1.8**		**1.2**	**11/29/07**	**11/30/07**
Thallium 208	**0.245**		**0.073**		**0.057**	**11/29/07**	**11/30/07**
Thorium 234	**1.56**		**0.67**		**1.2**	**11/29/07**	**11/30/07**

NOTE(S)

a are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-120-0.5-SL DUP

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210277-001X
Work Order: KCO4L
Matrix: SOLID

Date Collected: 11/16/07 1600
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7333487**	**Yld %**
Americium 241	0.06	U	0.12	1.00	0.20	11/29/07	11/30/07
Cesium 137	**0.237**	**J**	**0.087**	1.00	**0.091**	**11/29/07**	**11/30/07**
Thorium 232	**0.60**	**J**	**0.27**	1.00	**0.29**	**11/29/07**	**11/30/07**
Uranium 235	**0.45**	**J**	**0.28**	1.00	**0.42**	**11/29/07**	**11/30/07**
Uranium 238	**2.04**		**0.80**	1.00	**1.4**	**11/29/07**	**11/30/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.60**		**0.27**		**0.29**	**11/29/07**	**11/30/07**
Bismuth 214	**0.50**		**0.15**		**0.13**	**11/29/07**	**11/30/07**
Lead 212	**0.44**		**0.13**		**0.14**	**11/29/07**	**11/30/07**
Lead 214	**0.46**		**0.15**		**0.19**	**11/29/07**	**11/30/07**
Potassium 40	**7.8**		**1.8**		**1.2**	**11/29/07**	**11/30/07**
Thallium 208	**0.174**		**0.071**		**0.082**	**11/29/07**	**11/30/07**
Thorium 234	**2.04**		**0.80**		**1.4**	**11/29/07**	**11/30/07**
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7337163**	**Yld % 96**
Neptunium 237	-0.001	U	0.029	1.00	0.064	12/03/07	12/06/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7337279**	**Yld % 99**
Plutonium 238	-0.001	U	0.027	1.00	0.061	12/03/07	12/05/07
Plutonium 239/40	0.013	U	0.030	1.00	0.050	12/03/07	12/05/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7337288**	**Yld % 83**
Uranium 233/234	**16.6**		**2.3**	1.0	**0.07**	**12/03/07**	**12/06/07**
Uranium 235/236	**0.75**	**J**	**0.23**	1.00	**0.04**	**12/03/07**	**12/06/07**
Uranium 238	**2.30**		**0.44**	1.00	**0.06**	**12/03/07**	**12/06/07**
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7338324**	**Yld % 90**
Technetium 99	**12.6**		**1.4**	1.0	**0.4**	**12/04/07**	**12/08/07**

NOTE(S)

ta are incomplete without the case narrative.

DC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-120-2.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210277-002
Work Order: KC04T
Matrix: SOLID

Date Collected: 11/16/07 1605
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7338324**	**Yld % 97**
Technetium 99	**8.31**		**0.998**	1.00	**0.41**	**12/04/07**	**12/08/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7333487**	**Yld %**
Americium 241	-0.03	U	0.14	1.00	0.24	11/29/07	11/30/07
Cesium 137	0.063	U	0.080	1.00	0.13	11/29/07	11/30/07
Thorium 232	**0.65**	**J**	**0.24**	1.00	**0.40**	**11/29/07**	**11/30/07**
Uranium 235	0.40	U	0.29	1.00	0.46	11/29/07	11/30/07
Uranium 238	**3.6**		**1.5**	1.0	**1.7**	**11/29/07**	**11/30/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.65**		**0.24**		**0.40**	**11/29/07**	**11/30/07**
Bismuth 214	**0.93**		**0.18**		**0.07**	**11/29/07**	**11/30/07**
Lead 212	**1.37**		**0.25**		**0.18**	**11/29/07**	**11/30/07**
Lead 214	**0.94**		**0.17**		**0.12**	**11/29/07**	**11/30/07**
Potassium 40	**19.5**		**2.6**		**0.5**	**11/29/07**	**11/30/07**
Thallium 208	**0.418**		**0.099**		**0.064**	**11/29/07**	**11/30/07**
Thorium 234	**3.6**		**1.5**		**1.7**	**11/29/07**	**11/30/07**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7337288**	**Yld % 93**
Uranium 233/234	**6.16**		**0.91**	1.00	**0.05**	**12/03/07**	**12/06/07**
Uranium 235/236	**0.28**	**J**	**0.12**	1.00	**0.03**	**12/03/07**	**12/06/07**
Uranium 238	**1.43**		**0.29**	1.00	**0.03**	**12/03/07**	**12/06/07**

NOTE(S)

ta are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-120-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210277-003
Work Order: KC04X
Matrix: SOLID

Date Collected: 11/16/07 1605
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7337163	Yld % 94
Neptunium 237	0.013	U	0.034	1.00	0.059	12/03/07	12/06/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7337279	Yld % 97
Plutonium 238	0.018	U	0.039	1.00	0.063	12/03/07	12/06/07
Plutonium 239/40	0.010	U	0.033	1.00	0.059	12/03/07	12/06/07
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g		Batch # 7338324	Yld % 101
Technetium 99	**2.60**		**0.44**	1.00	**0.38**	**12/04/07**	**12/08/07**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7337288	Yld % 82
Uranium 233/234	**2.04**		**0.41**	1.00	**0.07**	**12/03/07**	**12/06/07**
Uranium 235/236	**0.095**	**J**	**0.079**	1.00	**0.070**	**12/03/07**	**12/06/07**
Uranium 238	**1.00**		**0.25**	1.00	**0.08**	**12/03/07**	**12/06/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7333487	Yld %
Americium 241	-0.03	U	0.92	1.00	0.28	11/29/07	11/30/07
Cesium 137	0.005	U	0.084	1.00	0.16	11/29/07	11/30/07
Thorium 232	**0.94**	**J**	**0.32**	1.00	**0.55**	**11/29/07**	**11/30/07**
Uranium 235	0.04	U	0.37	1.00	0.65	11/29/07	11/30/07
Uranium 238	**2.3**		**1.0**	1.0	**1.7**	**11/29/07**	**11/30/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.94**		**0.32**		**0.55**	**11/29/07**	**11/30/07**
Bismuth 214	**1.05**		**0.25**		**0.20**	**11/29/07**	**11/30/07**
Lead 212	**1.34**		**0.22**		**0.18**	**11/29/07**	**11/30/07**
Lead 214	**1.16**		**0.24**		**0.17**	**11/29/07**	**11/30/07**
Potassium 40	**19.4**		**2.9**		**0.7**	**11/29/07**	**11/30/07**
Thallium 208	**0.56**		**0.13**		**0.09**	**11/29/07**	**11/30/07**
Thorium 234	**2.3**		**1.0**		**1.7**	**11/29/07**	**11/30/07**

NOTE(S)

ta are incomplete without the case narrative.

DC is determined by instrument performance only.

Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-120-16.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210277-004
Work Order: KC040
Matrix: SOLID

Date Collected: 11/16/07 1650
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7333487**		**Yld %**
Americium 241	-0.04	U	0.12	1.00	0.21	11/29/07	11/30/07
Cesium 137	0.016	U	0.066	1.00	0.12	11/29/07	11/30/07
Thorium 232	**0.83**	**J**	**0.25**	1.00	**0.41**	**11/29/07**	**11/30/07**
Uranium 235	0.08	U	0.33	1.00	0.57	11/29/07	11/30/07
Uranium 238	**3.2**		**1.6**	1.0	**1.8**	**11/29/07**	**11/30/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.83**		**0.25**		**0.41**	**11/29/07**	**11/30/07**
Bismuth 214	**1.25**		**0.22**		**0.11**	**11/29/07**	**11/30/07**
Lead 212	**1.56**		**0.24**		**0.16**	**11/29/07**	**11/30/07**
Lead 214	**1.16**		**0.23**		**0.16**	**11/29/07**	**11/30/07**
Potassium 40	**19.3**		**2.7**		**1.2**	**11/29/07**	**11/30/07**
Radium (226)	**1.25**		**0.22**		**0.11**	**11/29/07**	**11/30/07**
Thallium 208	**0.53**		**0.10**		**0.06**	**11/29/07**	**11/30/07**
Thorium 234	**3.2**		**1.6**		**1.8**	**11/29/07**	**11/30/07**

NOTE(S)

ata are incomplete without the case narrative.

JC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-121-0.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210277-005
Work Order: KC041
Matrix: SOLID

Date Collected: 11/16/07 1515
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7337163**	**Yld % 82**
Neptunium 237	0.0	U	0.0	1.0	0.03	12/03/07	12/06/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7337279**	**Yld % 90**
Plutonium 238	0.007	U	0.025	1.00	0.052	12/03/07	12/05/07
Plutonium 239/40	0.009	U	0.023	1.00	0.045	12/03/07	12/05/07
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7338324**	**Yld % 56**
Technetium 99	-0.08	U	0.39	1.00	0.67	12/04/07	12/08/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7337288**	**Yld % 73**
Uranium 233/234	0.25	J	0.12	1.00	0.08	12/03/07	12/06/07
Uranium 235/236	-0.003	U	0.034	1.00	0.067	12/03/07	12/06/07
Uranium 238	0.175	J	0.098	1.00	0.054	12/03/07	12/06/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7333487**	**Yld %**
Americium 241	-0.012	U	0.061	1.00	0.11	11/29/07	11/30/07
Cesium 137	0.0002	U	0.029	1.00	0.058	11/29/07	11/30/07
Thorium 232	0.05	U	0.14	1.00	0.24	11/29/07	11/30/07
Uranium 235	0.02	U	0.12	1.00	0.22	11/29/07	11/30/07
Uranium 238	-0.15	U	0.96	1.00	0.90	11/29/07	11/30/07
--- Other Detected Radionuclides ---							
Lead 212	0.10		0.049		0.064	11/29/07	11/30/07
Potassium 40	2.61		0.82		0.54	11/29/07	11/30/07

NOTE(S)

ta are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-121-2.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210277-006
Work Order: KC042
Matrix: SOLID

Date Collected: 11/16/07 1520
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7338324**	**Yld % 86**
Technetium 99	0.17	U	0.28	1.00	0.46	12/04/07	12/08/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7333487**	**Yld %**
Americium 241	0.026	U	0.093	1.00	0.17	11/29/07	11/30/07
Cesium 137	0.080	U	0.073	1.00	0.12	11/29/07	11/30/07
Thorium 232	0.08	U	0.23	1.00	0.42	11/29/07	11/30/07
Uranium 235	0.12	U	0.24	1.00	0.42	11/29/07	11/30/07
Uranium 238	0.15	U	0.87	1.00	1.6	11/29/07	11/30/07
--- Other Detected Radionuclides ---							
Bismuth 214	**0.61**		**0.21**		**0.19**	**11/29/07**	**11/30/07**
Lead 212	**0.46**		**0.13**		**0.13**	**11/29/07**	**11/30/07**
Lead 214	**0.43**		**0.14**		**0.17**	**11/29/07**	**11/30/07**
otassium 40	**11.4**		**2.2**		**1.5**	**11/29/07**	**11/30/07**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7337288**	**Yld % 84**
Uranium 233/234	**1.45**		**0.31**	**1.00**	**0.04**	**12/03/07**	**12/06/07**
Uranium 235/236	**0.051**	**J**	**0.058**	**1.00**	**0.035**	**12/03/07**	**12/06/07**
Uranium 238	**0.76**	**J**	**0.20**	**1.00**	**0.03**	**12/03/07**	**12/06/07**

NOTE(S)

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C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-121-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210277-007
Work Order: KC043
Matrix: SOLID

Date Collected: 11/16/07 1520
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7338324**	**Yld % 100**
Technetium 99	0.35	U	0.25	1.00	0.39	12/04/07	12/08/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7333487**	**Yld %**
Americium 241	0.04	U	0.15	1.00	0.25	11/29/07	11/30/07
Cesium 137	-0.004	U	0.12	1.00	0.15	11/29/07	11/30/07
Thorium 232	**0.69**	**J**	**0.23**	**1.00**	**0.52**	**11/29/07**	**11/30/07**
Uranium 235	0.11	U	0.28	1.00	0.47	11/29/07	11/30/07
Uranium 238	**2.04**		**0.81**	**1.00**	**1.7**	**11/29/07**	**11/30/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.69**		**0.23**		**0.52**	**11/29/07**	**11/30/07**
Bismuth 214	**1.34**		**0.22**		**0.08**	**11/29/07**	**11/30/07**
Lead 212	**1.01**		**0.17**		**0.14**	**11/29/07**	**11/30/07**
ead 214	**0.97**		**0.17**		**0.20**	**11/29/07**	**11/30/07**
otassium 40	**16.6**		**2.5**		**1.5**	**11/29/07**	**11/30/07**
Thallium 208	**0.45**		**0.11**		**0.08**	**11/29/07**	**11/30/07**
Thorium 234	**2.04**		**0.81**		**1.7**	**11/29/07**	**11/30/07**

NOTE(S)

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C is determined by instrument performance only.
old results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-121-12.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210277-008
Work Order: KC044
Matrix: SOLID

Date Collected: 11/16/07 1530
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7337163**	**Yld % 98**
Neptunium 237	-0.011	U	0.028	1.00	0.063	12/03/07	12/06/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7337279**	**Yld % 87**
Plutonium 238	0.038	U	0.052	1.00	0.070	12/03/07	12/05/07
Plutonium 239/40	0.0	U	0.0	1.0	0.03	12/03/07	12/05/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7337288**	**Yld % 88**
Uranium 233/234	**0.80**	**J**	**0.21**	1.00	**0.06**	**12/03/07**	**12/06/07**
Uranium 235/236	**0.052**	**J**	**0.058**	1.00	**0.035**	**12/03/07**	**12/06/07**
Uranium 238	**1.03**		**0.25**	1.00	**0.05**	**12/03/07**	**12/06/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7333487**	**Yld %**
Americium 241	-0.05	U	0.17	1.00	0.29	11/29/07	11/30/07
Cesium 137	0.019	U	0.055	1.00	0.096	11/29/07	11/30/07
Thorium 232	**0.95**	**J**	**0.27**	1.00	**0.40**	**11/29/07**	**11/30/07**
Uranium 235	-0.09	U	0.83	1.00	0.53	11/29/07	11/30/07
Uranium 238	**2.2**		**1.0**	1.0	**2.1**	**11/29/07**	**11/30/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.95**		**0.27**		**0.40**	**11/29/07**	**11/30/07**
Bismuth 214	**0.67**		**0.19**		**0.23**	**11/29/07**	**11/30/07**
Lead 212	**1.35**		**0.18**		**0.14**	**11/29/07**	**11/30/07**
Lead 214	**1.12**		**0.24**		**0.21**	**11/29/07**	**11/30/07**
Potassium 40	**21.9**		**2.6**		**1.1**	**11/29/07**	**11/30/07**
Thallium 208	**0.50**		**0.11**		**0.08**	**11/29/07**	**11/30/07**
Thorium 234	**2.2**		**1.0**		**2.1**	**11/29/07**	**11/30/07**

NOTE(S)

ta are incomplete without the case narrative.

DC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-126-0.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210277-009
Work Order: KC045
Matrix: SOLID

Date Collected: 11/14/07 0757
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7337163**	**Yld % 94**
Neptunium 237	0.008	U	0.021	1.00	0.042	12/03/07	12/06/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7337279**	**Yld % 86**
Plutonium 238	-0.027	U	0.046	1.00	0.10	12/03/07	12/05/07
Plutonium 239/40	-0.015	U	0.050	1.00	0.10	12/03/07	12/05/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7337288**	**Yld % 88**
Uranium 233/234	**2.83**		**0.50**	1.00	**0.06**	**12/03/07**	**12/06/07**
Uranium 235/236	**0.091**	**J**	**0.073**	1.00	**0.057**	**12/03/07**	**12/06/07**
Uranium 238	**1.03**		**0.25**	1.00	**0.06**	**12/03/07**	**12/06/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7333487**	**Yld %**
Americium 241	-0.06	U	0.18	1.00	0.30	11/29/07	11/30/07
Cesium 137	**0.148**	**J**	**0.090**	1.00	**0.13**	**11/29/07**	**11/30/07**
Thorium 232	**0.82**	**J**	**0.28**	1.00	**0.47**	**11/29/07**	**11/30/07**
Uranium 235	0.18	U	0.33	1.00	0.56	11/29/07	11/30/07
Uranium 238	1.54	U	0.92	1.00	2.1	11/29/07	11/30/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.82**		**0.28**		**0.47**	**11/29/07**	**11/30/07**
Bismuth 214	**0.78**		**0.19**		**0.14**	**11/29/07**	**11/30/07**
Lead 212	**0.94**		**0.19**		**0.18**	**11/29/07**	**11/30/07**
Lead 214	**0.78**		**0.16**		**0.15**	**11/29/07**	**11/30/07**
Potassium 40	**16.6**		**2.7**		**1.0**	**11/29/07**	**11/30/07**
Thallium 208	**0.45**		**0.12**		**0.08**	**11/29/07**	**11/30/07**
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7338324**	**Yld % 89**
Technetium 99	0.37	U	0.28	1.00	0.45	12/04/07	12/08/07

NOTE(S)

ata are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-126-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210277-010
Work Order: KC046
Matrix: SOLID

Date Collected: 11/14/07 0800
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**		**Batch # 7333487**		**Yld %**
Americium 241	-0.003	U	0.057	1.00	0.097	11/29/07	12/03/07
Cesium 137	-0.003	U	0.030	1.00	0.052	11/29/07	12/03/07
Thorium 232	**1.22**		**0.16**	1.00	**0.18**	**11/29/07**	**12/03/07**
Uranium 235	0.04	U	0.19	1.00	0.31	11/29/07	12/03/07
Uranium 238	**1.9**		**1.0**	1.0	**1.1**	**11/29/07**	**12/03/07**
--- Other Detected Radionuclides ---							
Actinium 228	**1.22**		**0.16**		**0.18**	**11/29/07**	**12/03/07**
Bismuth 212	**0.99**		**0.34**		**0.31**	**11/29/07**	**12/03/07**
Bismuth 214	**1.06**		**0.12**		**0.09**	**11/29/07**	**12/03/07**
Lead 212	**1.24**		**0.11**		**0.07**	**11/29/07**	**12/03/07**
Lead 214	**1.20**		**0.14**		**0.10**	**11/29/07**	**12/03/07**
Potassium 40	**19.1**		**1.5**		**0.5**	**11/29/07**	**12/03/07**
Thallium 208	**0.436**		**0.074**		**0.057**	**11/29/07**	**12/03/07**
Thorium 234	**1.9**		**1.0**		**1.1**	**11/29/07**	**12/03/07**

NOTE(S)

ta are incomplete without the case narrative.

JC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-126-12.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210277-011
Work Order: KC048
Matrix: SOLID

Date Collected: 11/14/07 0820
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7333487**		**Yld %**
Americium 241	0.007	U	0.13	1.00	0.22	11/29/07	11/30/07
Cesium 137	0.008	U	0.053	1.00	0.097	11/29/07	11/30/07
Thorium 232	**0.92**	**J**	**0.25**	1.00	**0.41**	**11/29/07**	**11/30/07**
Uranium 235	0.02	U	0.27	1.00	0.46	11/29/07	11/30/07
Uranium 238	**2.23**		**0.80**	1.00	**1.4**	**11/29/07**	**11/30/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.92**		**0.25**		**0.41**	**11/29/07**	**11/30/07**
Bismuth 214	**0.69**		**0.15**		**0.09**	**11/29/07**	**11/30/07**
Lead 212	**1.25**		**0.23**		**0.17**	**11/29/07**	**11/30/07**
Lead 214	**0.76**		**0.16**		**0.19**	**11/29/07**	**11/30/07**
Potassium 40	**16.2**		**2.3**		**0.5**	**11/29/07**	**11/30/07**
Thallium 208	**0.40**		**0.11**		**0.09**	**11/29/07**	**11/30/07**
Thorium 234	**2.23**		**0.80**		**1.4**	**11/29/07**	**11/30/07**

NOTE(S)

ts are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-127-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210277-012
Work Order: KC049
Matrix: SOLID

Date Collected: 11/15/07 0820
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7337163**	**Yld % 86**
Neptunium 237	-0.011	U	0.033	1.00	0.074	12/03/07	12/06/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7337279**	**Yld % 93**
Plutonium 238	0.011	U	0.059	1.00	0.098	12/03/07	12/05/07
Plutonium 239/40	0.004	U	0.025	1.00	0.054	12/03/07	12/05/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7337288**	**Yld % 91**
Uranium 233/234	**0.91**	**J**	**0.23**	1.00	**0.06**	**12/03/07**	**12/06/07**
Uranium 235/236	-0.002	U	0.029	1.00	0.056	12/03/07	12/06/07
Uranium 238	**0.59**	**J**	**0.18**	1.00	**0.06**	**12/03/07**	**12/06/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7333487**	**Yld %**
Americium 241	0.01	U	0.14	1.00	0.24	11/29/07	11/30/07
Cesium 137	0.030	U	0.053	1.00	0.091	11/29/07	11/30/07
Thorium 232	**0.56**	**J**	**0.20**	1.00	**0.35**	**11/29/07**	**11/30/07**
Uranium 235	0.01	U	0.29	1.00	0.50	11/29/07	11/30/07
Uranium 238	0.4	U	1.1	1.0	1.9	11/29/07	11/30/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.56**		**0.20**		**0.35**	**11/29/07**	**11/30/07**
Bismuth 214	**0.73**		**0.18**		**0.15**	**11/29/07**	**11/30/07**
Lead 212	**0.73**		**0.17**		**0.17**	**11/29/07**	**11/30/07**
Lead 214	**0.67**		**0.16**		**0.17**	**11/29/07**	**11/30/07**
Potassium 40	**13.3**		**1.8**		**1**	**11/29/07**	**11/30/07**
Thallium 208	**0.409**		**0.094**		**0.070**	**11/29/07**	**11/30/07**

NOTE(S)

ta are incomplete without the case narrative.

DC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-127-5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210277-013
Work Order: KC06D
Matrix: SOLID

Date Collected: 11/15/07 0824
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**		**Batch # 7333487**		**Yld %**
Americium 241	0.027	U	0.096	1.00	0.16	11/29/07	12/03/07
Cesium 137	0.009	U	0.038	1.00	0.065	11/29/07	12/03/07
Thorium 232	**1.55**		**0.30**	1.00	**0.20**	**11/29/07**	**12/03/07**
Uranium 235	0.18	U	0.20	1.00	0.32	11/29/07	12/03/07
Uranium 238	**1.52**		**0.80**	1.00	**1.0**	**11/29/07**	**12/03/07**
--- Other Detected Radionuclides ---							
Actinium 228	**1.55**		**0.30**		**0.20**	**11/29/07**	**12/03/07**
Bismuth 212	**1.03**		**0.48**		**0.42**	**11/29/07**	**12/03/07**
Bismuth 214	**1.04**		**0.16**		**0.12**	**11/29/07**	**12/03/07**
Lead 212	**1.18**		**0.12**		**0.08**	**11/29/07**	**12/03/07**
Lead 214	**1.0**		**0.18**		**0.14**	**11/29/07**	**12/03/07**
Potassium 40	**16.9**		**1.7**		**0.6**	**11/29/07**	**12/03/07**
Thallium 208	**0.373**		**0.067**		**0.055**	**11/29/07**	**12/03/07**
Thorium 234	**1.52**		**0.80**		**1.0**	**11/29/07**	**12/03/07**

NOTE(S)

ata are incomplete without the case narrative.

RC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-128-0.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210277-014
Work Order: KC06M
Matrix: SOLID

Date Collected: 11/16/07 1055
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7337163**	**Yld % 91**
Neptunium 237	0.01	U	0.039	1.00	0.072	12/03/07	12/06/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7337279**	**Yld % 88**
Plutonium 238	0.012	U	0.045	1.00	0.078	12/03/07	12/05/07
Plutonium 239/40	0.017	U	0.032	1.00	0.050	12/03/07	12/05/07
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7338324**	**Yld % 95**
Technetium 99	0.42	U	0.28	1.00	0.43	12/04/07	12/10/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7337288**	**Yld % 86**
Uranium 233/234	**4.26**		**0.70**	1.00	**0.07**	**12/03/07**	**12/06/07**
Uranium 235/236	**0.23**	**J**	**0.12**	1.00	**0.04**	**12/03/07**	**12/06/07**
Uranium 238	**1.28**		**0.29**	1.00	**0.05**	**12/03/07**	**12/06/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7333487**	**Yld %**
Americium 241	0.0163	U	0.0996	1.00	0.17	11/29/07	11/30/07
Cesium 137	**0.138**	**J**	**0.069**	1.00	**0.10**	**11/29/07**	**11/30/07**
Thorium 232	**0.36**	**J**	**0.18**	1.00	**0.36**	**11/29/07**	**11/30/07**
Uranium 235	0.17	U	0.24	1.00	0.39	11/29/07	11/30/07
Uranium 238	**1.39**		**0.70**	1.00	**1.2**	**11/29/07**	**11/30/07**
--- Other Detected Radionuclides ---							
Bismuth 214	**0.74**		**0.19**		**0.16**	**11/29/07**	**11/30/07**
Lead 212	**0.64**		**0.14**		**0.13**	**11/29/07**	**11/30/07**
Lead 214	**0.92**		**0.14**		**0.13**	**11/29/07**	**11/30/07**
Potassium 40	**16.2**		**2.2**		**0.4**	**11/29/07**	**11/30/07**
Thallium 208	**0.138**		**0.067**		**0.094**	**11/29/07**	**11/30/07**
Thorium 234	**1.39**		**0.70**		**1.2**	**11/29/07**	**11/30/07**

NOTE(S)

ta are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-128-2.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210277-015
Work Order: KC060
Matrix: SOLID

Date Collected: 11/16/07 1100
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7338324**	**Yld % 65**
Technetium 99	**3.32**		**0.62**	1.00	**0.60**	**12/04/07**	**12/08/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7333487**	**Yld %**
Americium 241	0.03	U	0.12	1.00	0.21	11/29/07	11/30/07
Cesium 137	0.020	U	0.059	1.00	0.10	11/29/07	11/30/07
Thorium 232	**0.67**	J	**0.24**	1.00	**0.40**	**11/29/07**	**11/30/07**
Uranium 235	**0.40**	J	**0.21**	1.00	**0.36**	**11/29/07**	**11/30/07**
Uranium 238	**1.97**		**0.79**	1.00	**1.5**	**11/29/07**	**11/30/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.67**		**0.24**		**0.40**	**11/29/07**	**11/30/07**
Bismuth 214	**0.74**		**0.17**		**0.18**	**11/29/07**	**11/30/07**
Lead 212	**1.0**		**0.20**		**0.15**	**11/29/07**	**11/30/07**
ead 214	**1.02**		**0.21**		**0.14**	**11/29/07**	**11/30/07**
otassium 40	**14.2**		**2.1**		**1.1**	**11/29/07**	**11/30/07**
Thallium 208	**0.287**		**0.095**		**0.078**	**11/29/07**	**11/30/07**
Thorium 234	**1.97**		**0.79**		**1.5**	**11/29/07**	**11/30/07**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7337288**	**Yld % 88**
Uranium 233/234	**2.66**		**0.47**	1.00	**0.06**	**12/03/07**	**12/06/07**
Uranium 235/236	**0.174**	J	**0.099**	1.00	**0.034**	**12/03/07**	**12/06/07**
Uranium 238	**1.13**		**0.26**	1.00	**0.03**	**12/03/07**	**12/06/07**

NOTE(S)

a are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-128-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210277-016
Work Order: KCO6R
Matrix: SOLID

Date Collected: 11/16/07 1100
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7337163**	**Yld % 89**
Neptunium 237	0.005	U	0.028	1.00	0.061	12/03/07	12/06/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7337279**	**Yld % 87**
Plutonium 238	-0.007	U	0.045	1.00	0.090	12/03/07	12/05/07
Plutonium 239/40	-0.004	U	0.025	1.00	0.052	12/03/07	12/05/07
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7338324**	**Yld % 86**
Technetium 99	0.22	U	0.26	1.00	0.43	12/04/07	12/08/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7337288**	**Yld % 86**
Uranium 233/234	**0.65**	**J**	**0.19**	1.00	**0.06**	**12/03/07**	**12/06/07**
Uranium 235/236	**0.131**	**J**	**0.090**	1.00	**0.067**	**12/03/07**	**12/06/07**
Uranium 238	**0.89**	**J**	**0.23**	1.00	**0.07**	**12/03/07**	**12/06/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7333487**	**Yld %**
Americium 241	0.06	U	0.18	1.00	0.30	11/29/07	11/30/07
Cesium 137	0.021	U	0.067	1.00	0.12	11/29/07	11/30/07
Thorium 232	**1.12**		**0.31**	1.00	**0.38**	**11/29/07**	**11/30/07**
Uranium 235	0.23	U	0.41	1.00	0.69	11/29/07	11/30/07
Uranium 238	**2.3**		**1.2**	1.0	**2.2**	**11/29/07**	**11/30/07**
--- Other Detected Radionuclides ---							
Actinium 228	**1.12**		**0.31**		**0.38**	**11/29/07**	**11/30/07**
Bismuth 212	**0.96**		**0.59**		**0.85**	**11/29/07**	**11/30/07**
Bismuth 214	**0.73**		**0.23**		**0.27**	**11/29/07**	**11/30/07**
Lead 212	**1.41**		**0.20**		**0.17**	**11/29/07**	**11/30/07**
Lead 214	**1.07**		**0.22**		**0.21**	**11/29/07**	**11/30/07**
Potassium 40	**20.4**		**2.6**		**1.2**	**11/29/07**	**11/30/07**
Thallium 208	**0.49**		**0.11**		**0.1**	**11/29/07**	**11/30/07**
Thorium 234	**2.3**		**1.2**		**2.2**	**11/29/07**	**11/30/07**

NOTE(S)

ata are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-128-18.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210277-017
Work Order: KC06V
Matrix: SOLID

Date Collected: 11/16/07 1133
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7333487**		**Yld %**
Americium 241	0.011	U	0.079	1.00	0.13	11/29/07	12/03/07
Cesium 137	**0.067**	**J**	**0.037**	1.00	**0.049**	**11/29/07**	**12/03/07**
Thorium 232	**1.18**		**0.18**	1.00	**0.16**	**11/29/07**	**12/03/07**
Uranium 235	0.02	U	0.18	1.00	0.31	11/29/07	12/03/07
Uranium 238	**2.21**		**0.90**	1.00	**1.0**	**11/29/07**	**12/03/07**
--- Other Detected Radionuclides ---							
Actinium 228	**1.18**		**0.18**		**0.16**	**11/29/07**	**12/03/07**
Bismuth 212	**0.75**		**0.33**		**0.35**	**11/29/07**	**12/03/07**
Bismuth 214	**1.09**		**0.16**		**0.12**	**11/29/07**	**12/03/07**
Lead 212	**1.08**		**0.11**		**0.08**	**11/29/07**	**12/03/07**
Lead 214	**1.10**		**0.14**		**0.11**	**11/29/07**	**12/03/07**
Potassium 40	**19.8**		**1.8**		**0.2**	**11/29/07**	**12/03/07**
Thallium 208	**0.449**		**0.079**		**0.061**	**11/29/07**	**12/03/07**
Thorium 234	**2.21**		**0.90**		**1.0**	**11/29/07**	**12/03/07**

NOTE(S)

:ta are incomplete without the case narrative.

.C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-129-0.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210277-018
Work Order: KC061
Matrix: SOLID

Date Collected: 11/16/07 0935
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7337163	Yld % 89
Neptunium 237	0.027	U	0.042	1.00	0.059	12/03/07	12/06/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7337279	Yld % 95
Plutonium 238	0.015	U	0.033	1.00	0.055	12/03/07	12/05/07
Plutonium 239/40	-0.01	U	0.028	1.00	0.063	12/03/07	12/05/07
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g		Batch # 7338324	Yld % 99
Technetium 99	**1.51**		**0.34**	1.00	**0.39**	**12/04/07**	**12/08/07**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7337288	Yld % 91
Uranium 233/234	**3.30**		**0.56**	1.00	**0.06**	**12/03/07**	**12/06/07**
Uranium 235/236	**0.151**	**J**	**0.091**	1.00	**0.054**	**12/03/07**	**12/06/07**
Uranium 238	**1.14**		**0.26**	1.00	**0.04**	**12/03/07**	**12/06/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7333487	Yld %
Americium 241	-0.02	U	0.80	1.00	0.20	11/29/07	11/30/07
Cesium 137	**0.129**	**J**	**0.070**	1.00	**0.10**	**11/29/07**	**11/30/07**
Thorium 232	**0.51**	**J**	**0.18**	1.00	**0.32**	**11/29/07**	**11/30/07**
Uranium 235	0.16	U	0.28	1.00	0.46	11/29/07	11/30/07
Uranium 238	1.08	U	0.77	1.00	1.5	11/29/07	11/30/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.51**		**0.18**		**0.32**	**11/29/07**	**11/30/07**
Bismuth 214	**0.71**		**0.22**		**0.19**	**11/29/07**	**11/30/07**
Lead 212	**0.65**		**0.14**		**0.13**	**11/29/07**	**11/30/07**
Lead 214	**1.02**		**0.20**		**0.15**	**11/29/07**	**11/30/07**
Potassium 40	**20.0**		**2.5**		**0.4**	**11/29/07**	**11/30/07**
Thallium 208	**0.159**		**0.070**		**0.096**	**11/29/07**	**11/30/07**

NOTE(S)

ta are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-129-2.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210277-019
Work Order: KC065
Matrix: SOLID

Date Collected: 11/16/07 0945
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7338324**	**Yld % 87**
Technetium 99	**1.08**		**0.34**	1.00	**0.46**	**12/04/07**	**12/08/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7333487**	**Yld %**
Americium 241	0.030	U	0.090	1.00	0.15	11/29/07	11/30/07
Cesium 137	-0.003	U	0.13	1.00	0.15	11/29/07	11/30/07
Thorium 232	**0.46**	**J**	**0.17**	1.00	**0.31**	**11/29/07**	**11/30/07**
Uranium 235	-0.06	U	0.21	1.00	0.37	11/29/07	11/30/07
Uranium 238	0.19	U	0.76	1.00	1.3	11/29/07	11/30/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.46**		**0.17**		**0.31**	**11/29/07**	**11/30/07**
Bismuth 214	**0.85**		**0.15**		**0.06**	**11/29/07**	**11/30/07**
Lead 212	**0.66**		**0.11**		**0.08**	**11/29/07**	**11/30/07**
Lead 214	**0.81**		**0.13**		**0.13**	**11/29/07**	**11/30/07**
Potassium 40	**12.5**		**1.9**		**1.1**	**11/29/07**	**11/30/07**
Thallium 208	**0.296**		**0.075**		**0.050**	**11/29/07**	**11/30/07**

NOTE(S)

ts are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-129-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210277-020
Work Order: KC068
Matrix: SOLID

Date Collected: 11/16/07 0945
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7338326**	**Yld % 67**
Technetium 99	0.10	U	0.38	1.00	0.63	12/04/07	12/08/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7333487**	**Yld %**
Americium 241	-0.005	U	0.12	1.00	0.20	11/29/07	11/30/07
Cesium 137	0.0	U	0.094	1.00	0.16	11/29/07	11/30/07
Thorium 232	**1.20**		**0.25**	1.00	**0.29**	**11/29/07**	**11/30/07**
Uranium 235	0.07	U	0.31	1.00	0.53	11/29/07	11/30/07
Uranium 238	1.18	U	0.60	1.00	1.4	11/29/07	11/30/07
--- Other Detected Radionuclides ---							
Actinium 228	**1.20**		**0.25**		**0.29**	**11/29/07**	**11/30/07**
Bismuth 214	**0.74**		**0.19**		**0.26**	**11/29/07**	**11/30/07**
Lead 212	**1.24**		**0.17**		**0.16**	**11/29/07**	**11/30/07**
ead 214	**0.94**		**0.22**		**0.21**	**11/29/07**	**11/30/07**
otassium 40	**18.5**		**2.3**		**1.3**	**11/29/07**	**11/30/07**
Thallium 208	**0.46**		**0.10**		**0.1**	**11/29/07**	**11/30/07**

NOTE(S)

ta are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-129-4.5-SL DUP

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210277-020X
Work Order: KC068
Matrix: SOLID

Date Collected: 11/16/07 0945
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7338326**		**Yld % 61**
Technetium 99	-0.08	U	0.41	1.00	0.70	12/04/07	12/08/07

NOTE(S)

ta are incomplete without the case narrative.

DC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-129-19-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210277-021
Work Order: KCO7C
Matrix: SOLID

Date Collected: 11/16/07 1010
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7333553**		**Yld %**
Americium 241	-0.02	U	0.13	1.00	0.22	11/29/07	12/06/07
Cesium 137	0.037	U	0.053	1.00	0.089	11/29/07	12/06/07
Thorium 232	**1.14**		**0.22**	1.00	**0.29**	**11/29/07**	**12/06/07**
Uranium 235	0.05	U	0.32	1.00	0.54	11/29/07	12/06/07
Uranium 238	**2.83**		**0.87**	1.00	**1.4**	**11/29/07**	**12/06/07**
--- Other Detected Radionuclides ---							
Actinium 228	**1.14**		**0.22**		**0.29**	**11/29/07**	**12/06/07**
Bismuth 212	**0.68**		**0.41**		**0.62**	**11/29/07**	**12/06/07**
Bismuth 214	**0.98**		**0.17**		**0.19**	**11/29/07**	**12/06/07**
Lead 212	**1.30**		**0.14**		**0.12**	**11/29/07**	**12/06/07**
Lead 214	**1.29**		**0.18**		**0.17**	**11/29/07**	**12/06/07**
Potassium 40	**19.5**		**2.0**		**0.8**	**11/29/07**	**12/06/07**
Thallium 208	**0.408**		**0.093**		**0.085**	**11/29/07**	**12/06/07**
Thorium 234	**2.83**		**0.87**		**1.4**	**11/29/07**	**12/06/07**

NOTE(S)

ta are incomplete without the case narrative.

DC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-129-19-SL DUP

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210277-021X
Work Order: KC07C
Matrix: SOLID

Date Collected: 11/16/07 1010
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7333553**		**Yld %**
Americium 241	-0.008	U	0.26	1.00	0.18	11/29/07	12/06/07
Cesium 137	-0.07	U	0.25	1.00	0.12	11/29/07	12/06/07
Thorium 232	**1.03**		**0.24**	1.00	**0.33**	**11/29/07**	**12/06/07**
Uranium 235	0.06	U	0.30	1.00	0.51	11/29/07	12/06/07
Uranium 238	**2.25**		**0.85**	1.00	**1.7**	**11/29/07**	**12/06/07**
--- Other Detected Radionuclides ---							
Actinium 228	**1.03**		**0.24**		**0.33**	**11/29/07**	**12/06/07**
Bismuth 212	**0.70**		**0.45**		**0.67**	**11/29/07**	**12/06/07**
Bismuth 214	**1.36**		**0.25**		**0.19**	**11/29/07**	**12/06/07**
Lead 212	**1.16**		**0.17**		**0.14**	**11/29/07**	**12/06/07**
Lead 214	**1.44**		**0.20**		**0.18**	**11/29/07**	**12/06/07**
Potassium 40	**19.8**		**2.3**		**0.4**	**11/29/07**	**12/06/07**
hallium 208	**0.60**		**0.13**		**0.1**	**11/29/07**	**12/06/07**
Thorium 234	**2.25**		**0.85**		**1.7**	**11/29/07**	**12/06/07**

NOTE(S)

ts are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-130-0.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210277-022
Work Order: KC07D
Matrix: SOLID

Date Collected: 11/14/07 1515
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7337163**	**Yld % 96**
Neptunium 237	-0.010	U	0.030	1.00	0.066	12/03/07	12/06/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7337279**	**Yld % 43**
Plutonium 238	-0.028	U	0.065	1.00	0.14	12/03/07	12/05/07
Plutonium 239/40	0.0	U	0.0	1.0	0.06	12/03/07	12/05/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7337288**	**Yld % 95**
Uranium 233/234	**2.14**		**0.39**	1.00	**0.04**	**12/03/07**	**12/06/07**
Uranium 235/236	**0.114**	**J**	**0.077**	1.00	**0.031**	**12/03/07**	**12/06/07**
Uranium 238	**1.12**		**0.25**	1.00	**0.02**	**12/03/07**	**12/06/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7333553**	**Yld %**
Americium 241	-0.04	U	0.45	1.00	0.28	11/29/07	11/30/07
esium 137	**0.39**	**J**	**0.11**	1.00	**0.09**	**11/29/07**	**11/30/07**
Thorium 232	**0.79**	**J**	**0.27**	1.00	**0.49**	**11/29/07**	**11/30/07**
Uranium 235	0.22	U	0.35	1.00	0.59	11/29/07	11/30/07
Uranium 238	**2.8**		**1.3**	1.0	**1.6**	**11/29/07**	**11/30/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.79**		**0.27**		**0.49**	**11/29/07**	**11/30/07**
Bismuth 214	**1.36**		**0.26**		**0.16**	**11/29/07**	**11/30/07**
Lead 212	**1.12**		**0.23**		**0.20**	**11/29/07**	**11/30/07**
Lead 214	**1.11**		**0.22**		**0.18**	**11/29/07**	**11/30/07**
Potassium 40	**16.7**		**2.7**		**0.7**	**11/29/07**	**11/30/07**
Thallium 208	**0.41**		**0.12**		**0.09**	**11/29/07**	**11/30/07**
Thorium 234	**2.8**		**1.3**		**1.6**	**11/29/07**	**11/30/07**
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7338326**	**Yld % 74**
Technetium 99	0.17	U	0.32	1.00	0.53	12/04/07	12/08/07

NOTE(S)

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C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-130-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210277-023
Work Order: KCO7H
Matrix: SOLID

Date Collected: 11/14/07 1530
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7333553**		**Yld %**
Americium 241	-0.03	U	0.17	1.00	0.29	11/29/07	11/30/07
Cesium 137	0.014	U	0.066	1.00	0.12	11/29/07	11/30/07
Thorium 232	**0.92**	**J**	**0.24**	1.00	**0.41**	**11/29/07**	**11/30/07**
Uranium 235	0.06	U	0.35	1.00	0.61	11/29/07	11/30/07
Uranium 238	**2.17**		**0.98**	1.00	**2.1**	**11/29/07**	**11/30/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.92**		**0.24**		**0.41**	**11/29/07**	**11/30/07**
Bismuth 212	**0.96**		**0.56**		**0.81**	**11/29/07**	**11/30/07**
Bismuth 214	**0.90**		**0.21**		**0.25**	**11/29/07**	**11/30/07**
Lead 212	**1.27**		**0.20**		**0.18**	**11/29/07**	**11/30/07**
Lead 214	**0.89**		**0.18**		**0.19**	**11/29/07**	**11/30/07**
Potassium 40	**18.9**		**2.4**		**1.1**	**11/29/07**	**11/30/07**
Thallium 208	**0.509**		**0.093**		**0.060**	**11/29/07**	**11/30/07**
Thorium 234	**2.17**		**0.98**		**2.1**	**11/29/07**	**11/30/07**

NOTE(S)

ata are incomplete without the case narrative.

DC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-130-11-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210277-024
Work Order: KCO7K
Matrix: SOLID

Date Collected: 11/14/07 1545
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7333553**		**Yld %**
Americium 241	-0.0006	U	0.15	1.00	0.26	11/29/07	11/30/07
Cesium 137	-0.012	U	0.067	1.00	0.12	11/29/07	11/30/07
Thorium 232	**1.04**		**0.27**	1.00	**0.36**	**11/29/07**	**11/30/07**
Uranium 235	0.16	U	0.35	1.00	0.60	11/29/07	11/30/07
Uranium 238	0.8	U	1.2	1.0	2.1	11/29/07	11/30/07
--- Other Detected Radionuclides ---							
Actinium 228	**1.04**		**0.27**		**0.36**	**11/29/07**	**11/30/07**
Bismuth 212	**0.82**		**0.49**		**0.71**	**11/29/07**	**11/30/07**
Bismuth 214	**0.80**		**0.20**		**0.25**	**11/29/07**	**11/30/07**
Lead 212	**1.45**		**0.29**		**0.22**	**11/29/07**	**11/30/07**
Lead 214	**0.90**		**0.16**		**0.22**	**11/29/07**	**11/30/07**
Potassium 40	**19.5**		**2.4**		**1.0**	**11/29/07**	**11/30/07**
Thallium 208	**0.47**		**0.11**		**0.09**	**11/29/07**	**11/30/07**

NOTE(S)

ıta are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-131-0.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210277-025
Work Order: KCO7M
Matrix: SOLID

Date Collected: 11/15/07 1320
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7337279**	**Yld % 90**
Plutonium 238	-0.010	U	0.035	1.00	0.078	12/03/07	12/05/07
Plutonium 239/40	-0.002	U	0.022	1.00	0.042	12/03/07	12/05/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7337288**	**Yld % 78**
Uranium 233/234	**1.69**		**0.36**	1.00	**0.07**	**12/03/07**	**12/06/07**
Uranium 235/236	0.029	U	0.051	1.00	0.039	12/03/07	12/06/07
Uranium 238	**0.56**	**J**	**0.18**	1.00	**0.06**	**12/03/07**	**12/06/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7333553**	**Yld %**
Americium 241	0.018	U	0.061	1.00	0.11	11/29/07	11/30/07
Cesium 137	-0.0008	U	0.051	1.00	0.098	11/29/07	11/30/07
Thorium 232	0.13	U	0.15	1.00	0.23	11/29/07	11/30/07
Uranium 235	0.05	U	0.15	1.00	0.27	11/29/07	11/30/07
Uranium 238	0.29	U	0.56	1.00	1.0	11/29/07	11/30/07
--- Other Detected Radionuclides ---							
Bismuth 214	**0.28**		**0.13**		**0.14**	**11/29/07**	**11/30/07**
Lead 212	**0.126**		**0.064**		**0.084**	**11/29/07**	**11/30/07**
Potassium 40	**2.12**		**0.94**		**1.1**	**11/29/07**	**11/30/07**
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7338326**	**Yld % 95**
Technetium 99	-0.13	U	0.25	1.00	0.44	12/04/07	12/08/07
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7342064**	**Yld % 92**
Neptunium 237	0.011	U	0.035	1.00	0.064	12/08/07	12/10/07

NOTE(S)

ıta are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-131-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210277-026
Work Order: KC07N
Matrix: SOLID

Date Collected: 11/15/07 1327
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7333553**		**Yld %**
Americium 241	0.008	U	0.045	1.00	0.076	11/29/07	11/30/07
Cesium 137	0.010	U	0.023	1.00	0.041	11/29/07	11/30/07
Thorium 232	**0.41**	**J**	**0.11**	1.00	**0.15**	**11/29/07**	**11/30/07**
Uranium 235	0.05	U	0.13	1.00	0.21	11/29/07	11/30/07
Uranium 238	0.16	U	0.36	1.00	0.55	11/29/07	11/30/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.41**		**0.11**		**0.15**	**11/29/07**	**11/30/07**
Bismuth 214	**0.352**		**0.088**		**0.078**	**11/29/07**	**11/30/07**
Lead 212	**0.428**		**0.071**		**0.064**	**11/29/07**	**11/30/07**
Lead 214	**0.352**		**0.078**		**0.080**	**11/29/07**	**11/30/07**
Potassium 40	**7.2**		**1.0**		**0.4**	**11/29/07**	**11/30/07**
Thallium 208	**0.137**		**0.044**		**0.042**	**11/29/07**	**11/30/07**

NOTE(S)

ts are incomplete without the case narrative.

DC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-131-6.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210277-027
Work Order: KC070
Matrix: SOLID

Date Collected: 11/15/07 1330
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**		**Batch # 7333553**		**Yld %**
Americium 241	0.002	U	0.057	1.00	0.096	11/29/07	12/07/07
Cesium 137	0.017	U	0.030	1.00	0.050	11/29/07	12/07/07
Thorium 232	**1.02**		**0.16**	1.00	**0.15**	**11/29/07**	**12/07/07**
Uranium 235	0.04	U	0.15	1.00	0.26	11/29/07	12/07/07
Uranium 238	0.58	U	0.27	1.00	0.68	11/29/07	12/07/07
--- Other Detected Radionuclides ---							
Actinium 228	**1.02**		**0.16**		**0.15**	**11/29/07**	**12/07/07**
Bismuth 212	**0.60**		**0.26**		**0.38**	**11/29/07**	**12/07/07**
Bismuth 214	**0.92**		**0.13**		**0.10**	**11/29/07**	**12/07/07**
Lead 212	**0.903**		**0.091**		**0.089**	**11/29/07**	**12/07/07**
Lead 214	**0.86**		**0.12**		**0.12**	**11/29/07**	**12/07/07**
Potassium 40	**17.0**		**1.5**		**0.7**	**11/29/07**	**12/07/07**
Thallium 208	**0.328**		**0.054**		**0.050**	**11/29/07**	**12/07/07**

NOTE(S)

ıta are incomplete without the case narrative.

JC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-132-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210277-028
Work Order: KC07V
Matrix: SOLID

Date Collected: 11/15/07 1755
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7338326**	**Yld % 96**
Technetium 99	**1.29**		**0.35**	1.00	**0.44**	**12/04/07**	**12/08/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7333553**	**Yld %**
Americium 241	-0.006	U	0.14	1.00	0.25	11/29/07	11/30/07
Cesium 137	0.0	U	0.090	1.00	0.16	11/29/07	11/30/07
Thorium 232	**0.77**	**J**	**0.26**	1.00	**0.45**	**11/29/07**	**11/30/07**
Uranium 235	0.27	U	0.33	1.00	0.55	11/29/07	11/30/07
Uranium 238	**2.6**		**1.2**	1.0	**2.1**	**11/29/07**	**11/30/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.77**		**0.26**		**0.45**	**11/29/07**	**11/30/07**
Bismuth 214	**0.64**		**0.19**		**0.21**	**11/29/07**	**11/30/07**
Lead 212	**1.19**		**0.20**		**0.15**	**11/29/07**	**11/30/07**
ead 214	**0.81**		**0.18**		**0.25**	**11/29/07**	**11/30/07**
otassium 40	**16.2**		**2.5**		**0.8**	**11/29/07**	**11/30/07**
Thallium 208	**0.440**		**0.098**		**0.038**	**11/29/07**	**11/30/07**
Thorium 234	**2.6**		**1.2**		**2.1**	**11/29/07**	**11/30/07**

NOTE(S)

a are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-132-13-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210277-029
Work Order: KCO7W
Matrix: SOLID

Date Collected: 11/15/07 1815
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7333553**		**Yld %**
Americium 241	-0.01	U	0.17	1.00	0.29	11/29/07	11/30/07
Cesium 137	-0.042	U	0.077	1.00	0.13	11/29/07	11/30/07
Thorium 232	**0.91**	**J**	**0.23**	1.00	**0.34**	**11/29/07**	**11/30/07**
Uranium 235	0.11	U	0.36	1.00	0.61	11/29/07	11/30/07
Uranium 238	1.4	U	1.2	1.0	2.1	11/29/07	11/30/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.91**		**0.23**		**0.34**	**11/29/07**	**11/30/07**
Bismuth 212	**1.04**		**0.51**		**0.67**	**11/29/07**	**11/30/07**
Bismuth 214	**0.71**		**0.19**		**0.24**	**11/29/07**	**11/30/07**
Lead 212	**1.21**		**0.19**		**0.16**	**11/29/07**	**11/30/07**
Lead 214	**1.19**		**0.23**		**0.18**	**11/29/07**	**11/30/07**
Potassium 40	**17.4**		**2.2**		**1.1**	**11/29/07**	**11/30/07**
Thallium 208	**0.276**		**0.083**		**0.10**	**11/29/07**	**11/30/07**

NOTE(S)

ata are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-133-2.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210277-030
Work Order: KC07X
Matrix: SOLID

Date Collected: 11/15/07 1605
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 7337163		Yld % 86
Neptunium 237	-0.006	U	0.028	1.00	0.060	12/03/07	12/06/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 7337279		Yld % 89
Plutonium 238	-0.008	U	0.032	1.00	0.073	12/03/07	12/06/07
Plutonium 239/40	-0.005	U	0.024	1.00	0.052	12/03/07	12/06/07
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g	Batch # 7338326		Yld % 70
Technetium 99	**1.46**		**0.46**	1.00	**0.61**	**12/04/07**	**12/08/07**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 7337288		Yld % 86
Uranium 233/234	**3.15**		**0.55**	1.00	**0.06**	**12/03/07**	**12/06/07**
Uranium 235/236	**0.154**	**J**	**0.095**	1.00	**0.065**	**12/03/07**	**12/06/07**
Uranium 238	**1.16**		**0.27**	1.00	**0.06**	**12/03/07**	**12/06/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g	Batch # 7333553		Yld %
Americium 241	-0.01	U	0.11	1.00	0.19	11/29/07	11/30/07
Cesium 137	0.042	U	0.055	1.00	0.091	11/29/07	11/30/07
Thorium 232	**0.58**	**J**	**0.22**	1.00	**0.31**	**11/29/07**	**11/30/07**
Uranium 235	0.13	U	0.28	1.00	0.47	11/29/07	11/30/07
Uranium 238	0.02	U	0.99	1.00	1.8	11/29/07	11/30/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.58**		**0.22**		**0.31**	**11/29/07**	**11/30/07**
Bismuth 212	**0.70**		**0.44**		**0.63**	**11/29/07**	**11/30/07**
Bismuth 214	**0.39**		**0.14**		**0.18**	**11/29/07**	**11/30/07**
Lead 212	**0.87**		**0.17**		**0.14**	**11/29/07**	**11/30/07**
Lead 214	**0.47**		**0.12**		**0.17**	**11/29/07**	**11/30/07**
Potassium 40	**12.1**		**1.8**		**0.9**	**11/29/07**	**11/30/07**
Thallium 208	**0.255**		**0.066**		**0.059**	**11/29/07**	**11/30/07**

NOTE(S)

ata are incomplete without the case narrative.

DC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-133-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210277-031
Work Order: KCQ71
Matrix: SOLID

Date Collected: 11/15/07 1605
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7338326**		**Yld % 37**
Technetium 99	**8.0**		**1.3**	1.0	**1.1**	**12/04/07**	**12/08/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7333553**		**Yld %**
Americium 241	0.05	U	0.14	1.00	0.23	11/29/07	11/30/07
Cesium 137	0.031	U	0.081	1.00	0.15	11/29/07	11/30/07
Thorium 232	**0.76**	**J**	**0.26**	1.00	**0.49**	**11/29/07**	**11/30/07**
Uranium 235	0.13	U	0.25	1.00	0.44	11/29/07	11/30/07
Uranium 238	1.44	U	0.79	1.00	1.7	11/29/07	11/30/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.76**		**0.26**		**0.49**	**11/29/07**	**11/30/07**
Bismuth 214	**1.11**		**0.25**		**0.18**	**11/29/07**	**11/30/07**
Lead 212	**1.02**		**0.17**		**0.13**	**11/29/07**	**11/30/07**
Lead 214	**0.81**		**0.20**		**0.22**	**11/29/07**	**11/30/07**
Potassium 40	**17.1**		**2.6**		**0.6**	**11/29/07**	**11/30/07**
Radium (226)	**1.11**		**0.25**		**0.18**	**11/29/07**	**11/30/07**
Thallium 208	**0.46**		**0.11**		**0.07**	**11/29/07**	**11/30/07**

NOTE(S)

ata are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J **Result is greater than sample detection limit but less than stated reporting limit.**
U **Result is less than the sample detection limit.**

Energy Solutions, LLC

Client Sample ID: NB-133-5.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210277-032
Work Order: KC072
Matrix: SOLID

Date Collected: 11/15/07 1610
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7333553**		**Yld %**
Americium 241	0.02	U	0.12	1.00	0.20	11/29/07	11/30/07
Cesium 137	-0.002	U	0.40	1.00	0.09	11/29/07	11/30/07
Thorium 232	**0.62**	**J**	**0.21**	1.00	**0.33**	**11/29/07**	**11/30/07**
Uranium 235	-0.02	U	0.29	1.00	0.49	11/29/07	11/30/07
Uranium 238	**1.69**		**0.80**	1.00	**1.6**	**11/29/07**	**11/30/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.62**		**0.21**		**0.33**	**11/29/07**	**11/30/07**
Bismuth 214	**0.86**		**0.18**		**0.10**	**11/29/07**	**11/30/07**
Lead 212	**1.19**		**0.20**		**0.14**	**11/29/07**	**11/30/07**
Lead 214	**0.83**		**0.17**		**0.16**	**11/29/07**	**11/30/07**
Potassium 40	**13.4**		**2.1**		**1.3**	**11/29/07**	**11/30/07**
Thallium 208	**0.422**		**0.098**		**0.067**	**11/29/07**	**11/30/07**
Thorium 234	**1.69**		**0.80**		**1.6**	**11/29/07**	**11/30/07**

NOTE(S)

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/C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-112-8.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210277-033
Work Order: KC073
Matrix: SOLID

Date Collected: 11/15/07 0945
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7333553**		**Yld %**
Americium 241	0.03	U	0.11	1.00	0.18	11/29/07	11/30/07
Cesium 137	0.014	U	0.055	1.00	0.099	11/29/07	11/30/07
Thorium 232	**1.03**		**0.25**	1.00	**0.34**	**11/29/07**	**11/30/07**
Uranium 235	0.20	U	0.29	1.00	0.48	11/29/07	11/30/07
Uranium 238	0.55	U	0.57	1.00	1.4	11/29/07	11/30/07
--- Other Detected Radionuclides ---							
Actinium 228	**1.03**		**0.25**		**0.34**	**11/29/07**	**11/30/07**
Bismuth 214	**0.82**		**0.19**		**0.17**	**11/29/07**	**11/30/07**
Lead 212	**0.94**		**0.16**		**0.15**	**11/29/07**	**11/30/07**
Lead 214	**0.80**		**0.15**		**0.16**	**11/29/07**	**11/30/07**
Potassium 40	**15.8**		**2.3**		**1**	**11/29/07**	**11/30/07**
Thallium 208	**0.42**		**0.10**		**0.08**	**11/29/07**	**11/30/07**

NOTE(S)

ta are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-113-2.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210277-034
Work Order: KC075
Matrix: SOLID

Date Collected: 11/17/07 1055
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7337163**	**Yld % 79**
Neptunium 237	-0.011	U	0.034	1.00	0.075	12/03/07	12/06/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7337279**	**Yld % 88**
Plutonium 238	0.0007	U	0.029	1.00	0.065	12/03/07	12/06/07
Plutonium 239/40	-0.006	U	0.026	1.00	0.057	12/03/07	12/06/07
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7338326**	**Yld % 86**
Technetium 99	0.37	U	0.30	1.00	0.48	12/04/07	12/08/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7337288**	**Yld % 89**
Uranium 233/234	**3.00**		**0.53**	1.00	**0.03**	**12/03/07**	**12/06/07**
Uranium 235/236	**0.118**	**J**	**0.082**	1.00	**0.057**	**12/03/07**	**12/06/07**
Uranium 238	**0.93**	**J**	**0.23**	1.00	**0.05**	**12/03/07**	**12/06/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7333553**	**Yld %**
Americium 241	-0.002	U	0.074	1.00	0.13	11/29/07	11/30/07
Cesium 137	0.002	U	0.039	1.00	0.073	11/29/07	11/30/07
Thorium 232	**0.31**	**J**	**0.18**	1.00	**0.24**	**11/29/07**	**11/30/07**
Uranium 235	0.17	U	0.18	1.00	0.31	11/29/07	11/30/07
Uranium 238	0.72	U	0.54	1.00	1.3	11/29/07	11/30/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.31**		**0.18**		**0.24**	**11/29/07**	**11/30/07**
Bismuth 214	**0.25**		**0.11**		**0.14**	**11/29/07**	**11/30/07**
Lead 212	**0.64**		**0.14**		**0.11**	**11/29/07**	**11/30/07**
Lead 214	**0.304**		**0.093**		**0.13**	**11/29/07**	**11/30/07**
Potassium 40	**7.3**		**1.4**		**0.5**	**11/29/07**	**11/30/07**
Thallium 208	**0.210**		**0.055**		**0.025**	**11/29/07**	**11/30/07**

NOTE(S)

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-113-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210277-035
Work Order: KC076
Matrix: SOLID

Date Collected: 11/17/07 1055
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7338326**	**Yld % 97**
Technetium 99	0.21	U	0.26	1.00	0.43	12/04/07	12/08/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7333553**	**Yld %**
Americium 241	-0.02	U	1.1	1.0	0.3	11/29/07	11/30/07
Cesium 137	-0.01	U	0.18	1.00	0.15	11/29/07	11/30/07
Thorium 232	**1.07**		**0.31**	1.00	**0.38**	**11/29/07**	**11/30/07**
Uranium 235	0.04	U	0.30	1.00	0.53	11/29/07	11/30/07
Uranium 238	1.62	U	0.83	1.00	1.7	11/29/07	11/30/07
--- Other Detected Radionuclides ---							
Actinium 228	**1.07**		**0.31**		**0.38**	**11/29/07**	**11/30/07**
Bismuth 214	**0.91**		**0.20**		**0.14**	**11/29/07**	**11/30/07**
Lead 212	**1.07**		**0.22**		**0.20**	**11/29/07**	**11/30/07**
ead 214	**0.90**		**0.21**		**0.24**	**11/29/07**	**11/30/07**
Potassium 40	**19.6**		**2.8**		**0.6**	**11/29/07**	**11/30/07**
Thallium 208	**0.298**		**0.099**		**0.12**	**11/29/07**	**11/30/07**

NOTE(S)

ta are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-114-0.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210277-036
Work Order: KC078
Matrix: SOLID

Date Collected: 11/16/07 1420
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7337163**	**Yld % 86**
Neptunium 237	-0.010	U	0.031	1.00	0.069	12/03/07	12/06/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7337279**	**Yld % 81**
Plutonium 238	0.006	U	0.043	1.00	0.082	12/03/07	12/06/07
Plutonium 239/40	-0.007	U	0.029	1.00	0.063	12/03/07	12/06/07
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7338326**	**Yld % 75**
Technetium 99	-0.08	U	0.33	1.00	0.56	12/04/07	12/08/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7337288**	**Yld % 78**
Uranium 233/234	**0.39**	**J**	**0.15**	1.00	**0.07**	**12/03/07**	**12/06/07**
Uranium 235/236	0.056	U	0.060	1.00	0.062	12/03/07	12/06/07
Uranium 238	**0.30**	**J**	**0.13**	1.00	**0.06**	**12/03/07**	**12/06/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7333553**	**Yld %**
Americium 241	0.003	U	0.070	1.00	0.12	11/29/07	12/01/07
Cesium 137	-0.009	U	0.038	1.00	0.069	11/29/07	12/01/07
Thorium 232	0.05	U	0.15	1.00	0.28	11/29/07	12/01/07
Uranium 235	0.10	U	0.20	1.00	0.35	11/29/07	12/01/07
Uranium 238	**1.08**		**0.57**	1.00	**1.0**	**11/29/07**	**12/01/07**
--- Other Detected Radionuclides ---							
Bismuth 214	**0.166**		**0.095**		**0.15**	**11/29/07**	**12/01/07**
Lead 212	**0.237**		**0.0997**		**0.11**	**11/29/07**	**12/01/07**
Lead 214	**0.223**		**0.078**		**0.13**	**11/29/07**	**12/01/07**
Potassium 40	**7.8**		**1.3**		**0.8**	**11/29/07**	**12/01/07**
Thorium 234	**1.08**		**0.57**		**1.0**	**11/29/07**	**12/01/07**

NOTE(S)

ta are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-114-2.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210277-037
Work Order: KC08A
Matrix: SOLID

Date Collected: 11/16/07 1429
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7338326**		**Yld % 87**
Technetium 99	-0.01	U	0.32	1.00	0.47	12/04/07	12/08/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7333553**		**Yld %**
Americium 241	0.04	U	0.10	1.00	0.17	11/29/07	12/01/07
Cesium 137	0.0008	U	0.037	1.00	0.070	11/29/07	12/01/07
Thorium 232	0.14	U	0.16	1.00	0.27	11/29/07	12/01/07
Uranium 235	0.02	U	0.15	1.00	0.28	11/29/07	12/01/07
Uranium 238	0.42	U	0.74	1.00	1.3	11/29/07	12/01/07
--- Other Detected Radionuclides ---							
Bismuth 214	**0.33**		**0.13**		**0.17**	**11/29/07**	**12/01/07**
Lead 212	**0.25**		**0.10**		**0.11**	**11/29/07**	**12/01/07**
Lead 214	**0.337**		**0.096**		**0.12**	**11/29/07**	**12/01/07**
Potassium 40	**11.6**		**1.6**		**0.8**	**11/29/07**	**12/01/07**
Thallium 208	0.070	U	0.047		0.074	11/29/07	12/01/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7337288**		**Yld % 76**
Uranium 233/234	**0.48**	**J**	**0.16**	1.00	**0.05**	**12/03/07**	**12/06/07**
Uranium 235/236	0.055	U	0.060	1.00	0.062	12/03/07	12/06/07
Uranium 238	**0.49**	**J**	**0.16**	1.00	**0.05**	**12/03/07**	**12/06/07**

NOTE(S)

ata are incomplete without the case narrative.

DC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-114-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210277-038
Work Order: KC08F
Matrix: SOLID

Date Collected: 11/16/07 1429
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7338326**	**Yld % 88**
Technetium 99	0.09	U	61	1	0.5	12/04/07	12/08/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7333553**	**Yld %**
Americium 241	-0.02	U	0.18	1.00	0.32	11/29/07	12/01/07
Cesium 137	0.04	U	0.10	1.00	0.18	11/29/07	12/01/07
Thorium 232	**0.96**	**J**	**0.29**	1.00	**0.39**	**11/29/07**	**12/01/07**
Uranium 235	0.23	U	0.38	1.00	0.64	11/29/07	12/01/07
Uranium 238	2.2	U	1.0	1.0	2.2	11/29/07	12/01/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.96**		**0.29**		**0.39**	**11/29/07**	**12/01/07**
Bismuth 214	**1.07**		**0.24**		**0.17**	**11/29/07**	**12/01/07**
Lead 212	**0.97**		**0.19**		**0.17**	**11/29/07**	**12/01/07**
ead 214	**1.01**		**0.20**		**0.26**	**11/29/07**	**12/01/07**
Potassium 40	**16.0**		**2.7**		**1.0**	**11/29/07**	**12/01/07**
Thallium 208	**0.44**		**0.12**		**0.09**	**11/29/07**	**12/01/07**

NOTE(S)

ta are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-114-10-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210277-039
Work Order: KC08G
Matrix: SOLID

Date Collected: 11/16/07 1445
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7333553**		**Yld %**
Americium 241	-0.03	U	0.10	1.00	0.18	11/29/07	11/30/07
Cesium 137	-0.028	U	0.070	1.00	0.12	11/29/07	11/30/07
Thorium 232	**0.89**	**J**	**0.24**	1.00	**0.31**	**11/29/07**	**11/30/07**
Uranium 235	0.02	U	0.25	1.00	0.43	11/29/07	11/30/07
Uranium 238	0.75	U	0.51	1.00	1.4	11/29/07	11/30/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.89**		**0.24**		**0.31**	**11/29/07**	**11/30/07**
Bismuth 214	**1.05**		**0.23**		**0.18**	**11/29/07**	**11/30/07**
Lead 212	**1.15**		**0.15**		**0.13**	**11/29/07**	**11/30/07**
Lead 214	**1.06**		**0.17**		**0.16**	**11/29/07**	**11/30/07**
Potassium 40	**15.7**		**2.2**		**0.8**	**11/29/07**	**11/30/07**
Thallium 208	**0.329**		**0.086**		**0.092**	**11/29/07**	**11/30/07**

NOTE(S)

ata are incomplete without the case narrative.

DC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-115-2.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210277-040
Work Order: KC08L
Matrix: SOLID

Date Collected: 11/17/07 1012
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7337163**	**Yld % 85**
Neptunium 237	-0.008	U	0.029	1.00	0.064	12/03/07	12/06/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7337279**	**Yld % 96**
Plutonium 238	0.008	U	0.034	1.00	0.063	12/03/07	12/06/07
Plutonium 239/40	-0.004	U	0.023	1.00	0.047	12/03/07	12/06/07
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7338326**	**Yld % 95**
Technetium 99	0.27	U	0.28	1.00	0.45	12/04/07	12/08/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7337288**	**Yld % 84**
Uranium 233/234	**8.2**		**1.2**	1.0	**0.06**	**12/03/07**	**12/06/07**
Uranium 235/236	**0.49**	**J**	**0.18**	1.00	**0.06**	**12/03/07**	**12/06/07**
Uranium 238	**2.16**		**0.42**	1.00	**0.06**	**12/03/07**	**12/06/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7333553**	**Yld %**
Americium 241	0.022	U	0.082	1.00	0.14	11/29/07	12/01/07
Cesium 137	-0.008	U	0.098	1.00	0.11	11/29/07	12/01/07
Thorium 232	0.15	U	0.11	1.00	0.34	11/29/07	12/01/07
Uranium 235	0.15	U	0.21	1.00	0.35	11/29/07	12/01/07
Uranium 238	0.84	U	0.43	1.00	1.3	11/29/07	12/01/07
--- Other Detected Radionuclides ---							
Bismuth 214	**0.38**		**0.12**		**0.12**	**11/29/07**	**12/01/07**
Lead 212	**0.260**		**0.073**		**0.071**	**11/29/07**	**12/01/07**
Lead 214	**0.228**		**0.092**		**0.15**	**11/29/07**	**12/01/07**
Potassium 40	**4.1**		**1.1**		**0.5**	**11/29/07**	**12/01/07**
Thallium 208	**0.138**		**0.051**		**0.049**	**11/29/07**	**12/01/07**

NOTE(S)

ıts are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

METHOD BLANK REPORT

Severn Trent Laboratories - Radiochemistry

Client Lot ID: F7K210277
Matrix: SOLID

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC		Prep Date	Analysis Date	Lab Sample ID
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			pCi/g	Batch # 7333487		Yld %			F7K290000-487B
Americium 241	0.0	U	0.059	1.00	0.11		11/29/07	11/30/07	
Cesium 137	0.0	U	0.0097	1.00	0.036		11/29/07	11/30/07	
Thorium 232	0.003	U	0.12	1.00	0.25		11/29/07	11/30/07	
Uranium 235	0.05	U	0.14	1.00	0.24		11/29/07	11/30/07	
Uranium 238	0.16	U	0.29	1.00	0.67		11/29/07	11/30/07	
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			pCi/g	Batch # 7333553		Yld %			F7K290000-553B
Americium 241	-0.005	U	0.040	1.00	0.073		11/29/07	12/01/07	
Cesium 137	-0.003	U	0.042	1.00	0.058		11/29/07	12/01/07	
Thorium 232	0.019	U	0.076	1.00	0.15		11/29/07	12/01/07	
Uranium 235	0.062	U	0.096	1.00	0.16		11/29/07	12/01/07	
Uranium 238	0.38	U	0.21	1.00	0.59		11/29/07	12/01/07	
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD			pCi/g	Batch # 7337279		Yld % 94			F7L030000-279B
Plutonium 238	0.009	U	0.034	1.00	0.063		12/03/07	12/05/07	
Plutonium 239/40	-0.004	U	0.023	1.00	0.048		12/03/07	12/05/07	
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g	Batch # 7337288		Yld % 94			F7L030000-288B
Uranium 233/234	0.028	U	0.036	1.00	0.043		12/03/07	12/06/07	
Uranium 235/236	-0.005	U	0.029	1.00	0.062		12/03/07	12/06/07	
Uranium 238	0.008	U	0.022	1.00	0.043		12/03/07	12/06/07	
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD			pCi/g	Batch # 7337163		Yld % 84			F7L030000-163B
Neptunium 237	0.009	U	0.025	1.00	0.049		12/03/07	12/06/07	
TC-99 by LSC by DOE TC-02-RC Mod.			pCi/g	Batch # 7338324		Yld % 101			F7L040000-324B
Technetium 99	-0.06	U	0.25	1.00	0.41		12/04/07	12/08/07	
TC-99 by LSC by DOE TC-02-RC Mod.			pCi/g	Batch # 7338326		Yld % 99			F7L040000-326B
Technetium 99	-0.02	U	0.29	1.00	0.43		12/04/07	12/08/07	
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD			pCi/g	Batch # 7342064		Yld % 91			F7L080000-064B
Neptunium 237	0.003	U	0.028	1.00	0.060		12/08/07	12/10/07	

NOTE(S)

ts are incomplete without the case narrative.

MDC is determined using instrument performance only
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Laboratory Control Sample Report

Severn Trent Laboratories - Radiochemistry

Client Lot ID: F7K210277
Matrix: SOLID

Parameter	Spike Amount	Result	Total Uncert. (2 σ+/-)	MDC	% Yld	% Rec	Lab Sample ID / QC Control Limits
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**	**GA-01-R MOD**			**F7K290000-487C**
Americium 241	103	108	8.5	1.4		104	(85 - 118)
Cesium 137	40.0	42.6	2.7	0.5		106	(91 - 120)
Cobalt 60	62.7	65.0	3.9	0.3		104	(91 - 112)
	Batch #:	7333487		**Analysis Date:**	11/30/07		
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**	**GA-01-R MOD**			**F7K290000-553C**
Americium 241	103	104	8.2	1.3		100	(85 - 118)
Cesium 137	40.0	43.1	2.6	0.3		108	(91 - 120)
Cobalt 60	62.7	63.7	3.8	0.2		102	(91 - 112)
	Batch #:	7333553		**Analysis Date:**	12/01/07		
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**	**A-01-R MOD**			**F7L030000-163C**
Neptunium 237	13.3	11.5	1.3	0.04	108	87	(75 - 119)
	Batch #:	7337163		**Analysis Date:**	12/06/07		
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**	**A-01-R**			**F7L030000-279C**
Plutonium 238	6.13	6.11	0.92	0.05	98	100	(77 - 112)
Plutonium 239/40	5.77	5.92	0.89	0.03	98	103	(82 - 119)
	Batch #:	7337279		**Analysis Date:**	12/05/07		
Iso URANIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**	**A-01-R MOD**			**F7L030000-288C**
Uranium 233/234	19.6	18.1	3.2	0.2	96	92	(76 - 128)
Uranium 238	19.6	15.5	2.9	0.2	96	79	(74 - 125)
	Batch #:	7337288		**Analysis Date:**	12/06/07		
TC-99 by LSC by DOE TC-02-RC Mod.			**pCi/g**	**TC-02-RC MOD**			**F7L040000-324C**
Technetium 99	33.3	27.1	2.8	0.4	113	81	(64 - 114)
	Batch #:	7338324		**Analysis Date:**	12/08/07		
TC-99 by LSC by DOE TC-02-RC Mod.			**pCi/g**	**TC-02-RC MOD**			**F7L040000-326C**
Technetium 99	33.3	29.6	3.2	0.7	62	89	(64 - 114)
	Batch #:	7338326		**Analysis Date:**	12/08/07		
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**	**A-01-R MOD**			**F7L080000-064C**
Neptunium 237	13.3	13.0	1.5	0.05	110	98	(75 - 119)
	Batch #:	7342064		**Analysis Date:**	12/10/07		

NOTE(S)

MDC is determined by instrument performance only
Calculations are performed before rounding to avoid round-off error in calculated results

DUPLICATE EVALUATION REPORT

Severn Trent Laboratories - Radiochemistry

Client Lot ID: F7K210277 Date Sampled: 11/16/07
Matrix: SOLID Date Received: 11/21/07

Parameter	SAMPLE Result		Total Uncert. (2σ+/-)	% Yld	DUPLICATE Result		Total Uncert. (2 σ+/-)	% Yld	QC Sample ID Precision	
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**GA-01-R MOD**				**F7K210277-001**	
Americium 241	-0.02	U	0.66		0.06	U	0.12		476	%RPD
Cesium 137	0.156	J	0.089		0.237	J	0.087		42	%RPD
Thorium 232	0.28	U	0.23		0.60	J	0.27		72	%RPD
Uranium 235	0.47	U	0.32		0.45	J	0.28		4	%RPD
Uranium 238	1.56		0.67		2.04		0.80		27	%RPD
---Other Dedected Radionuclides---										
Bismuth 214	0.60		0.18		0.50		0.15		18	%RPD
Lead 212	0.47		0.11		0.44		0.13		7	%RPD
Lead 214	0.32		0.11		0.46		0.15		35	%RPD
Potassium 40	7.9		1.8		7.8		1.8		2	%RPD
Thallium 208	0.245		0.073		0.174		0.071		34	%RPD
Thorium 234	1.56		0.67		2.04		0.80		27	%RPD
	Batch #:		7333487	(Sample)	7333487	(Duplicate)				
90 NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**A-01-R MOD**				**F7K210277-001**	
Neptunium 237	0.0	U	0.0	90	-0.001	U	0.029	96	200	%RPD
	Batch #:		7337163	(Sample)	7337163	(Duplicate)				
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**A-01-R**				**F7K210277-001**	
Plutonium 238	0.007	U	0.046	93	-0.001	U	0.027	99	273	%RPD
Plutonium 239/40	0.044	U	0.048	93	0.013	U	0.030	99	107	%RPD
	Batch #:		7337279	(Sample)	7337279	(Duplicate)				
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**A-01-R MOD**				**F7K210277-001**	
Uranium 233/234	19.1		2.7	83	16.6		2.3	83	14	%RPD
Uranium 235/236	0.81	J	0.24	83	0.75	J	0.23	83	8	%RPD
Uranium 238	3.18		0.57	83	2.30		0.44	83	32	%RPD
	Batch #:		7337288	(Sample)	7337288	(Duplicate)				
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**TC-02-RC MOD**				**F7K210277-001**	
Technetium 99	12.4		1.4	96	12.6		1.4	90	2	%RPD
	Batch #:		7338324	(Sample)	7338324	(Duplicate)				
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**TC-02-RC MOD**				**F7K210277-020**	
Technetium 99	0.10	U	0.38	67	-0.08	U	0.41	61	1320	%RPD
	Batch #:		7338326	(Sample)	7338326	(Duplicate)				

DUPLICATE EVALUATION REPORT

Severn Trent Laboratories - Radiochemistry

Client Lot ID: F7K210277 Date Sampled: 11/16/07
Matrix: SOLID Date Received: 11/21/07

Parameter	SAMPLE Result		Total Uncert. (2σ+/-)	% Yld	DUPLICATE Result		Total Uncert. (2 σ+/-)	% Yld	QC Sample ID Precision	
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**GA-01-R MOD**				**F7K210277-021**	
Americium 241	-0.02	U	0.13		-0.008	U	0.26		76	%RPD
Cesium 137	0.037	U	0.053		-0.07	U	0.25		683	%RPD
Thorium 232	1.14		0.22		1.03		0.24		10	%RPD
Uranium 235	0.05	U	0.32		0.06	U	0.30		32	%RPD
Uranium 238	2.83		0.87		2.25		0.85		23	%RPD
---Other Dedected Radionuclides---										
Actinium 228	1.14		0.22		1.03		0.24		10	%RPD
Bismuth 212	0.68		0.41		0.70		0.45		3	%RPD
Bismuth 214	0.98		0.17		1.36		0.25		33	%RPD
Lead 212	1.30		0.14		1.16		0.17		11	%RPD
Lead 214	1.29		0.18		1.44		0.20		11	%RPD
Potassium 40	19.5		2.0		19.8		2.3		2	%RPD
Thallium 208	0.408		0.093		0.60		0.13		38	%RPD
Thorium 234	2.83		0.87		2.25		0.85		23	%RPD
	Batch #:		7333553	(Sample)	7333553	(Duplicate)				

NOTE(S)

Data are incomplete without the case narrative.
Calculations are performed before rounding to avoid round-off error in calculated results

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

F7K210277 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD

Project Manager: IV | Quote #: 77705 | SDG:

Project: 313010.202 | Hematite Site

PO#: | Report to: Paul Ely

Client: 1381304 Energy Solutions, LLC

Date Received: 2007-11-21
Analytical Due Date: 2007-12-10
Report Due Date: 2007-12-11
Report Type: W
EDD Code: 00
#SMPS in LOT: 40

Gamma library MUST contain U-235, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
1	NB-120-0.5-SL			2007-11-16 / 1600	KCQ4L	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
2	NB-120-2.5-SL			2007-11-16 / 1605	KCQ4T	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
3	NB-120-4.5-SL			2007-11-16 / 1605	KCQ4X	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
4	NB-120-16.5-SL			2007-11-16 / 1650	KCQ40	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
5	NB-121-0.5-SL			2007-11-16 / 1515	KCQ41	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

F7K210277 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD

Project Manager: IV | Quote #: 77705 | SDG:

Project: 313010.202 | Hematite Site

PO#: | Report to: Paul Ely

Client: 1381304 Energy Solutions, LLC

Date Received: 2007-11-21
Analytical Due Date: 2007-12-10
Report Due Date: 2007-12-11
Report Type: W
EDD Code: 00
#SMPS in LOT: 40

Gamma library MUST contain U-236, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
6	NB-121-2.5-SL			2007-11-16 / 1520	KCQ42	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
7	NB-121-4.5-SL			2007-11-16 / 1520	KCQ43	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
8	NB-121-12.5-SL			2007-11-16 / 1530	KCQ44	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
9	NB-126-0.5-SL			2007-11-14 / 757	KCQ45	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
10	NB-126-4.5-SL			2007-11-14 / 800	KCQ46	SOLID

SAMPLE COMMENTS:

F7K210277 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD

Project Manager: IV | Quote #: 77705 | SDG:

Date Received: 2007-11-21

Project: 313010.202 | Hematite Site

Analytical Due Date: 2007-12-10

PO#: | Report to: Paul Ely

Report Due Date: 2007-12-11

Client: 1381304 Energy Solutions, LLC

Report Type: W

#SMPS in LOT: 40 | EDD Code: 00

Gamma library MUST contain U-235, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
11	NB-128-12.5-SL			2007-11-14 / 820	KCQ48	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
12	NB-127-4.5-SL			2007-11-15 / 820	KCQ49	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
13	NB-127-5-SL			2007-11-15 / 824	KCQ6D	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
14	NB-128-0.5-SL			2007-11-16 / 1055	KCQ6M	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
15	NB-128-2.5-SL			2007-11-16 / 1100	KCQ6Q	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

F7K210277 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD
Date Received: 2007-11-21
Analytical Due Date: 2007-12-10
Report Due Date: 2007-12-11
Report Type: W
EDD Code: 00

Project Manager: IV
Quote #: 77705
SDG:
Project: 313010.202
Hematite Site
PO#:
Report to: Paul Ely
Client: 1381304 Energy Solutions, LLC
#SMPS In LOT: 40

Gamma library MUST contain U-235, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
16	NB-128-4.5-SL			2007-11-16 / 1100	KCQ6R	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
17	NB-128-18.5-SL			2007-11-16 / 1133	KCQ6V	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
18	NB-129-0.5-SL			2007-11-16 / 935	KCQ61	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
19	NB-129-2.5-SL			2007-11-16 / 945	KCQ65	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
20	NB-129-4.5-SL			2007-11-16 / 945	KCQ68	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A

F7K210277 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD

Project Manager: IV | Quote #: 77705 | SDG:

Date Received: 2007-11-21

Project: 313010.202 | Hematite Site

Analytical Due Date: 2007-12-10

PO#: | Report to: Paul Ely

Report Due Date: 2007-12-11

Client: 1381304 Energy Solutions, LLC

Report Type: W

#SMPS In LOT: 40 | EDD Code: 00

Gamma library MUST contain U-235, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
21	NB-129-19-SL			2007-11-16 / 1010	KCQ7C	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
22	NB-130-0.5-SL			2007-11-14 / 1515	KCQ7D	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
23	NB-130-4.5-SL			2007-11-14 / 1530	KCQ7H	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
24	NB-130-11-SL			2007-11-14 / 1545	KCQ7K	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
25	NB-131-0.5-SL			2007-11-15 / 1320	KCQ7M	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
26	NB-131-4.5-SL			2007-11-15 / 1327	KCQ7N	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

F7K210277 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD
Date Received: 2007-11-21
Analytical Due Date: 2007-12-10
Report Due Date: 2007-12-11
Report Type: W
EDD Code: 00

Project Manager: IV
Quote #: 77705
SDG:
Project: 313010.202
Hematite Site
PO#:
Report to: Paul Ely
Client: 1361304 Energy Solutions, LLC
#SMPS in LOT: 40

Gamma library MUST contain U-235, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
27	NB-131-6.5-SL			2007-11-15 / 1330	KCQ7Q	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
28	NB-132-4.5-SL			2007-11-15 / 1755	KCQ7V	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
29	NB-132-13-SL			2007-11-15 / 1815	KCQ7W	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
30	NB-133-2.5-SL			2007-11-15 / 1605	KCQ7X	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
31	NB-133-4.5-SL			2007-11-15 / 1605	KCQ71	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
32	NB-133-5.5-SL			2007-11-15 / 1610	KCQ72	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

F7K210277 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD
Date Received: 2007-11-21
Analytical Due Date: 2007-12-10
Report Due Date: 2007-12-11
Report Type: W
EDD Code: 00

Project Manager: IV
Quote #: 77705
SDG:
Project: 313010.202
Hematite Site
PO#:
Report to: Paul Ely
Client: 1381304 Energy Solutions, LLC
#SMPS in LOT: 40

Gamma library MUST contain U-235, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
33	NB-112-8.5-SL			2007-11-15 / 945	KCQ73	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
34	NB-113-2.5-SL			2007-11-17 / 1055	KCQ75	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
35	NB-113-4.5-SL			2007-11-17 / 1055	KCQ76	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
36	NB-114-0.5-SL			2007-11-16 / 1420	KCQ78	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
37	NB-114-2.5-SL			2007-11-16 / 1429	KCQ8A	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

F7K210277

CLIENT ANALYSIS SUMMARY

Storage Loc: RAD

Project Manager: IV | Quote #: 77705 | SDG:

Date Received: 2007-11-21

Project: 313010.202 | Hematite Site

Analytical Due Date: 2007-12-10

PO#: | Report to: Paul Ely

Report Due Date: 2007-12-11

Client: 1381304 Energy Solutions, LLC

Report Type: W

#SMPS In LOT: 40 | EDD Code: 00

Gamma library MUST contain U-235, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
38	NB-114-4.5-SL			2007-11-16 / 1429	KCQ8F	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
39	NB-114-10-SL			2007-11-16 / 1445	KCQ8G	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
40	NB-115-2.5-SL			2007-11-17 / 1012	KCQ8L	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

Attachment 5.2-Chain of Custody Record

Client: WEC
Address:
City:
State: Zip Code:

Project Manager: Diane Quayle
Telephone Number: 865-368-7479
Site Contact:
Lab Contact: Ivan Venia

Date: 11/21/07
CoC Number: SC-01
Page: 11 of 28

Project Name: Hematite Characterization
Project Location:
Carrier/Waybill Number:
Contract/PO Number:

Sample ID Number	Date	Time	Matrix: Air	Aqueous	Sediment	Soil		Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH		Analysis (Attach list if more space is needed): X-ray	Isotopic Tc-99	Isotopic U	Isotopic Pu	Isotopic Np					
NB-120-0.5-SL	11-16-07	1600				✓									✓	✓	✓	✓	✓					
NB-120-2.5-SL	11-16-07	1605				✓									✓	✓	✓							
NB-120-4.5-SL	11-16-07	1605				✓									✓	✓	✓	✓	✓					
NB-120-16.5-SL	11-16-07	1650				✓									✓									
NB-121-0.5-SL	11-16-07	1515				✓									✓	✓	✓	✓	✓					
NB-121-2.5-SL	11-16-07	1520				✓									✓	✓	✓							
NB-121-4.5-SL	11-16-07	1520				✓									✓	✓								
NB-121-12.5-SL	11-16-07	1530				✓									✓		✓	✓	✓					

Possible Hazard Identification: Non-haz. ☐ Radioactive ☐ Flammable ☐ Skin Irritant ☐ Unknown ☐

Sample Disposal: Return to client ✓ Disposal by lab ☐ Archive for __ months ☐

Turn Around Time: 24 hrs ☐ 48 hrs ☐ 7 days ☐ 14 days ☐ 28 days ✓ Other ☐

Comments:

	Date	Time		Date	Time
Relinquished by: [signature]	11/21/07	11:30	Received by: [signature]	11/21/07	11:30
Relinquished by:			Received by:		
Relinquished by:			Received by:		

TestAmerica St. Louis

Soil Surveys, Sample Collections, & Chain-of-Custody Procedure

Attachment 5.2-Chain of Custody Record

Client: WEC
Address:
City:
State: Zip Code:

Project Manager: Dagne Quayle
Telephone Number: 865-368-7077
Site Contact:
Lab Contact: Ivan Venia

Date: 11/21/07
CoC Number: SC-01
Page: 12 of 28

Project Name: Hematite Characterization
Project Location:
Carrier/Waybill Number:
Contract/PO Number:

Sample ID Number	Date	Time	Matrix: Air	Aqueous	Sediment	Soil		Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH		Analysis (Attach list if more space is needed): Gamma	Isotopic Tc-99	Isotopic U	Isotopic Pu	Isotopic Np					
NB-126-0.5-SL	11-14-07	0757				✓									✓	✓	✓	✓	✓					
NB-126-4.5-SL	11-14-07	0800				✓									✓									
NB-126-12.5-SL	11-14-07	0820				✓									✓									
NB-127-4.5-SL	11-15-07	0820				✓									✓		✓	✓	✓					
NB-127-5-SL	11-15-07	0824				✓									✓									
NB-128-0.5-SL	11-15-07	1055				✓									✓	✓	✓	✓	✓					
NB-128-2.5-SL	11-16-07	1100				✓									✓	✓	✓							
NB-128-4.5-SL	11-16-07	1100				✓									✓	✓	✓	✓	✓					

Possible Hazard Identification: Non-haz. ☐ Radioactive ☐ Flammable ☐ Skin Irritant ☐ Unknown ☐

Sample Disposal: Return to client ✓ Disposal by lab ☐ Archive for __ months ☐

Turn Around Time: 24 hrs ☐ 48 hrs ☐ 7 days ☐ 14 days ☐ 28 days ✓ Other ☐

Comments:

	Date	Time		Date	Time
Relinquished by:	11/21/07	1130	Received by: Angela Brown	11/21/07	1130
Relinquished by:			Received by:		
Relinquished by:			Received by:		

Attachment 5.2-Chain of Custody Record

Client: WEC
Address:
City:
State: Zip Code:

Project Manager: Duane Quayle
Telephone Number: 865-368-7477
Site Contact:
Lab Contact:

Date: 11/21/07
CoC Number: 96-01
Page: 13 of 28

Project Name: Hematite Characterization
Project Location:
Carrier/Waybill Number:
Contract/PO Number:

Sample ID Number	Date	Time	Matrix: Air	Aqueous	Sediment	Soil		Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH		Analysis (Attach list if more space is needed): Gamma Spec	Isotopic Tc-99	Isotopic U	Isotopic Pu	Isotopic Np					
NB-128-18.5-SL	11-16-07	1133				✓									✓									
NB-129-0.5-SL	11-16-07	0935				✓									✓	✓	✓	✓	✓					
NB-129-2.5-SL	11-16-07	0945				✓									✓	✓								
NB-129-4.5-SL	11-16-07	0945				✓									✓	✓								
NB-129-19-SL	11-16-07	1010				✓									✓									
NB-130-0.5-SL	11-14-07	1515				✓									✓	✓	✓	✓	✓					
NB-130-4.5-SL	11-14-07	1530				✓									✓									
NB-130-11-SL	11-14-07	1545				✓									✓									

Possible Hazard Identification: Non-haz. ☐ Radioactive ☐ Flammable ☐ Skin Irritant ☐ Unknown ☐

Sample Disposal: Return to client ✓ Disposal by lab ☐ Archive for __ months ☐

Turn Around Time: 24 hrs ☐ 48 hrs ☐ 7 days ☐ 14 days ✓ 20 days ☐ Other ☐

Comments:

	Date	Time		Date	Time
Relinquished by: [signature]	11/21/07	1130	Received by: Duane Quayle	11/21/07	11:30
Relinquished by:			Received by:		
Relinquished by:			Received by:		

Attachment 5.2-Chain of Custody Record

Client: WEC
Address:
City:
State: Zip Code:

Project Manager: Duane Quayle
Telephone Number: 865-368-7497
Site Contact:
Lab Contact: Ivan Venia

Date: 11/21/07
CoC Number: SC-01
Page: 14 of 28

Project Name: Hematite Characterization
Project Location:
Carrier/Waybill Number:
Contract/PO Number:

Sample ID Number	Date	Time	Matrix: Air	Aqueous	Sediment	Soil		Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH		Analysis (Attach list if more space is needed): Xsample	Isotopic Tc-99	Isotopic U	Isotopic Pu	Isotopic Np					
NB-131-0.5-SL	11-15-07	1320				✓									✓	✓	✓	✓	✓					
NB-131-4.5-SL	11-15-07	1327				✓									✓									
NB-131-6.5-SL	11-15-07	1330				✓									✓									
NB-132-4.5-SL	11-15-07	1755				✓									✓	✓								
NB-132-13-SL	11-15-07	1815				✓									✓									
NB-133-25-SL	11-15-07	1605				✓									✓	✓	✓	✓	✓					
NB-133-4.5-SL	11-15-07	1605				✓									✓	✓								
NB-133-5.5-SL	11-15-07	1610				✓									✓									

Possible Hazard Identification
- Non-haz. ☐
- Radioactive ☐
- Flammable ☐
- Skin Irritant ☐
- Unknown ☐

Sample Disposal
- Return to client ✓
- Disposal by lab ☐
- Archive for __ months ☐

Turn Around Time
- 24 hrs ☐
- 48 hrs ☐
- 7 days ☐
- 14 days ☐
- 28 days ✓
- Other ☐

Comments:

	Date	Time		Date	Time
Relinquished by:	11/21/07	1130	Received by:	11/21/07	11:30
Relinquished by:			Received by:		
Relinquished by:			Received by:		

Attachment 5.2-Chain of Custody Record

Client: WEC
Address:
City:
State: Zip Code:

Project Manager: Duane Quayle
Telephone Number: 865-368-7477
Site Contact:
Lab Contact: Ivan Venia

Date: 11/21/07
CoC Number: SC-01
Page: 15 of 28

Project Name: Hematite Characterization
Project Location:
Carrier/Waybill Number:
Contract/PO Number:

Sample ID Number	Date	Time	Matrix: Air	Aqueous	Sediment	Soil		Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH		Analysis (Attach list if more space is needed): X spec	Isotopic Tc-99	Isotopic U	Isotopic Pu	Isotopic Np					
NB-112-8.5-SL	11-15-07	0945				✓									✓									
NB-113-2.5-SL	11-17-07	1055				✓									✓	✓	✓	✓	✓					
NB-113-4.5-SL	11-17-07	1055				✓									✓	✓								
NB-114-0.5-SL	11-16-07	1420				✓									✓	✓	✓	✓	✓					
NB-114-2.5-SL	11-16-07	1429				✓									✓	✓	✓							
NB-114-4.5-SL	11-16-07	1429				✓									✓	✓								
NB-114-10-SL	11-16-07	1445				✓									✓									
NB-115-2.5-SL	11-17-07	~~1002~~ 1012				✓									✓	✓	✓	✓	✓					

Possible Hazard Identification: Non-haz ☐ Radioactive ☐ Flammable ☐ Skin Irritant ☐ Unknown ☐

Sample Disposal: Return to client ✓ Disposal by lab ☐ Archive for __ months ☐

Turn Around Time: 24 hrs ☐ 48 hrs ☐ 7 days ☐ 14 days ☐ 21 days ✓ Other ☐

Comments:

	Date	Time		Date	Time
Relinquished by: [signature]	11/21/07	1130	Received by: [signature]	11/21/07	11:30
Relinquished by:			Received by:		
Relinquished by:			Received by:		

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

- 1167 -

Lot #(s): F7K210252 F7K210247
277 273
330
337

Condition Upon Receipt Form

Client: Energy Solutions COC/RFA No: SL-01 Date: 11/21/07
Quote No: 77705 Initiated By: DD Time: 1130

Shipping Information

Shipper Name: client
Multiple Packages (Y) N
Shipping # (s):*
1. 2. 3. 4. 5. 6. 7. 8. 9. 10.

Sample Temperature (s):**
1. ambient 2. 3. 4. 5. 6. ambient 7. 8. 9. 10.

*Numbered shipping lines correspond to Numbered Sample Temp lines

**Sample must be received at 4°C ± 2°C- If not, note contents below. Temperature variance does NOT affect the following: Metals-Liquid or Rad tests- Liquid or Solids

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

1.	Y N	Are there custody seals present on the cooler?	8.	Y N	Are there custody seals present on bottles?
2.	Y N N/A	Do custody seals on cooler appear to be tampered with?	9.	Y N N/A	Do custody seals on bottles appear to be tampered with?
3.	Y N	Were contents of cooler frisked after opening, but before unpacking?	10.	Y N N/A	Was sample received with proper pH[1]? (If not, make note below)
4.	Y N	Sample received with Chain of Custody?	11.	Y N	If N/A- Was pH taken by original TestAmerica lab?
5.	Y N N/A	Does the Chain of Custody match sample ID's on the container(s)?	12.	Y N	Sample received in proper containers?
6.	Y N	Was sample received broken?	13.	Y N N/A	Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below)
7.	Y N	Is sample volume sufficient for analysis?	14.	Y N	Was Internal COC/Workshare received?

[1] For DOE-AL (Pantex, LANL, Sandia) sites, pH of ALL containers received must be verified, EXCEPT VOA, TOX and soils.

Notes:

Corrective Action:
☐ Client Contact Name: Informed by:
☐ Sample(s) processed "as is"
☐ Sample(s) on hold until: If released, notify:
Project Management Review: Date: 12-3-7 1167

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIAL AND THE DATE NEXT TO THAT ITEM.

ADMIN-0004, REVISED 08/06/07\\Slsvr01\QA\FORMS\ST-LOUIS\ADMIN\Admin004 rev11.doc

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

PROJECT NO. 313010.202

Hematite Site

Lot #: F7K210313

Paul Ely

Energy Solutions, LLC
1009 Commerce Park Drive
Suite 100
Oak Ridge, TN 37830

TESTAMERICA LABORATORIES, INC.

Ivan Vania
Project Manager

December 10, 2007

Case Narrative
LOT NUMBER: F7K210313

This report contains the analytical results for the 37 samples received under chain of custody by TestAmerica St. Louis on November 21, 2007. These samples are associated with your Hematite Site project.

The analytical results included in this report meet all applicable quality control procedure requirements except as noted on the following page.

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

All chemical analysis results are based upon sample as received, wet weight, unless noted otherwise. All radiochemistry results are based upon sample as dried and ground with the exception of tritium, unless requested wet weight by the client.

Observations/Nonconformances

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

Tc-99 by LSC (EML TC-02-RC MOD)
The Technetium-99 tracer recovered high in the samples and LCS, indicating a potential low bias for sample results. The yields were truncated at 100% to eliminate a biased result. Technetium-99 was not detected in the samples. The LCS recovered within the required limits.
Affected Samples:
F7K210313 (25): BD-24-0.5-SL
F7K210313 (26): BD-24-2.5-SL

There were no other nonconformances or observations noted with any analysis on this lot.

METHODS SUMMARY

F7K210313

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Gamma Spectroscopy - Cesium-137 & Hits	EML GA-01-R MOD	
Isotopic Plutonium by Alpha Spectroscopy	EML A-01-R	
Isotopic Uranium by Alpha Spectroscopy	EML A-01-R MOD	
Neptunium by Alpha Spectroscopy	EML A-01-R MOD	
TC-99 by LSC	EML TC-02-RC MO	

References:

EML "ENVIRONMENTAL MEASUREMENTS LABORATORY PROCEDURES MANUAL"
HASL-300 28TH EDITION, VOLUME I and II DEPARTMENT OF ENERGY

SAMPLE SUMMARY

F7K210313

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
KCQ90	001	NB-115-4.5-SL	11/17/07	10:12
KCRAH	002	NB-115-12.5-SL	11/17/07	10:23
KCRAN	003	NB-116-0.5-SL	11/14/07	08:55
KCRAQ	004	NB-116-4.5-SL	11/14/07	09:00
KCRAR	005	NB-117-4.5-SL	11/15/07	09:05
KCRAW	006	NB-116-12.5-SL	11/14/07	09:20
KCRAX	007	NB-117-13.5-SL	11/15/07	09:23
KCRA5	008	NB-118-0.5-SL	11/15/07	16:05
KCRCE	009	NB-118-4.5-SL	11/15/07	16:09
KCRCK	010	NB-118-10.5-SL	11/15/07	16:25
KCRCN	011	NB-119-0.5-SL	11/15/07	17:00
KCRCV	012	NB-119-2.5-SL	11/15/07	17:05
KCRCW	013	NB-119-4.5-SL	11/15/07	17:05
KCRC0	014	NB-119-13.5-SL	11/15/07	17:30
KCRC7	015	NB-109-5-SL	11/15/07	11:08
KCRDG	016	NB-110-0.5-SL	11/15/07	13:07
KCRDH	017	NB-110-4.5-SL	11/15/07	13:08
KCRDK	018	NB-110-5-SL	11/15/07	13:31
KCRDN	019	NB-111-0.5-SL	11/15/07	14:29
KCRDR	020	NB-111-4.5-SL	11/15/07	14:34
KCRDT	021	NB-111-8.5-SL	11/15/07	14:40
KCRD0	022	NB-112-4.5-SL	11/15/07	09:42
KCRD5	023	BD-41-4.5-SL	11/09/07	08:25
KCREE	024	BD-41-6-SL	11/09/07	08:30
KCREN	025	BD-24-0.5-SL	11/20/07	09:55
KCREQ	026	BD-24-2.5-SL	11/20/07	10:00
KCRET	027	BD-24-4.5-SL	11/20/07	10:00
KCRE0	028	BD-24-13-SL	11/20/07	10:15
KCRE3	029	NB-113-19.5-SL	11/20/07	11:10
KCRE9	030	NB-87-4.5-SL	11/09/07	10:00
KCRFC	031	NB-87-18-SL	11/09/07	10:20
KCRFG	032	NB-88-0.5-SL	11/16/07	08:55
KCRFL	033	NB-88-4.5-SL	11/16/07	09:00
KCRFN	034	NB-88-20-SL	11/16/07	09:12
KCRFR	035	NB-89-0.5-SL	11/13/07	10:00
KCRFX	036	NB-89-4.5-SL	11/13/07	10:05

(Continued on next page)

SAMPLE SUMMARY

F7K210313

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
KCRF2	037	NB-89-19.5-SL	11/13/07	10:25

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Energy Solutions, LLC

Client Sample ID: NB-115-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210313-001
Work Order: KC090
Matrix: SOLID

Date Collected: 11/17/07 1012
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7333629**	**Yld % 100**
Technetium 99	-0.15	U	0.41	1.00	0.63	11/30/07	12/04/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7334378**	**Yld %**
Americium 241	0.07	U	0.16	1.00	0.27	11/30/07	12/04/07
Cesium 137	-0.024	U	0.094	1.00	0.17	11/30/07	12/04/07
Thorium 232	**1.10**		**0.30**	1.00	**0.44**	**11/30/07**	**12/04/07**
Uranium 235	0.11	U	0.40	1.00	0.69	11/30/07	12/04/07
Uranium 238	1.1	U	1.3	1.0	2.1	11/30/07	12/04/07
--- Other Detected Radionuclides ---							
Actinium 228	**1.10**		**0.30**		**0.44**	**11/30/07**	**12/04/07**
Bismuth 214	**1.24**		**0.24**		**0.14**	**11/30/07**	**12/04/07**
Lead 212	**1.43**		**0.24**		**0.18**	**11/30/07**	**12/04/07**
Lead 214	**1.38**		**0.23**		**0.20**	**11/30/07**	**12/04/07**
Potassium 40	**19.4**		**3.0**		**1.0**	**11/30/07**	**12/04/07**
Thallium 208	**0.46**		**0.12**		**0.08**	**11/30/07**	**12/04/07**

NOTE(S)

ata are incomplete without the case narrative.

DC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-115-4.5-SL DUP

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210313-001X
Work Order: KC090
Matrix: SOLID

Date Collected: 11/17/07 1012
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7333629**	**Yld % 105**
Technetium 99	0.15	U	0.33	1.00	0.60	11/30/07	12/04/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7334378**	**Yld %**
Americium 241	0.18	U	0.16	1.00	0.26	11/30/07	12/04/07
Cesium 137	-0.02	U	0.27	1.00	0.17	11/30/07	12/04/07
Thorium 232	**0.92**	**J**	**0.27**	1.00	**0.39**	**11/30/07**	**12/04/07**
Uranium 235	0.27	U	0.31	1.00	0.52	11/30/07	12/04/07
Uranium 238	**2.20**		**0.97**	1.00	**2.0**	**11/30/07**	**12/04/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.92**		**0.27**		**0.39**	**11/30/07**	**12/04/07**
Bismuth 214	**0.86**		**0.23**		**0.26**	**11/30/07**	**12/04/07**
Lead 212	**1.29**		**0.23**		**0.18**	**11/30/07**	**12/04/07**
Lead 214	**1.25**		**0.24**		**0.17**	**11/30/07**	**12/04/07**
Potassium 40	**20.0**		**2.9**		**0.7**	**11/30/07**	**12/04/07**
Thallium 208	**0.30**		**0.10**		**0.12**	**11/30/07**	**12/04/07**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-115-12.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210313-002
Work Order: KCRAH
Matrix: SOLID

Date Collected: 11/17/07 1023
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7334378**		**Yld %**
Americium 241	-0.06	U	0.32	1.00	0.30	11/30/07	12/04/07
Cesium 137	0.007	U	0.078	1.00	0.15	11/30/07	12/04/07
Thorium 232	**1.02**		**0.31**	1.00	**0.48**	**11/30/07**	**12/04/07**
Uranium 235	-0.02	U	1.5	1.0	0.7	11/30/07	12/04/07
Uranium 238	1.1	U	1.4	1.0	2.4	11/30/07	12/04/07
--- Other Detected Radionuclides ---							
Bismuth 214	**1.34**		**0.32**		**0.24**	**11/30/07**	**12/04/07**
Lead 212	**1.16**		**0.24**		**0.22**	**11/30/07**	**12/04/07**
Lead 214	**1.39**		**0.27**		**0.22**	**11/30/07**	**12/04/07**
Potassium 40	**18.3**		**3.0**		**1.9**	**11/30/07**	**12/04/07**
Thallium 208	**0.60**		**0.12**		**0.07**	**11/30/07**	**12/04/07**

NOTE(S)

ata are incomplete without the case narrative.

DC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-116-0.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210313-003
Work Order: KCRAN
Matrix: SOLID

Date Collected: 11/14/07 0855
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7338146	Yld % 88
Neptunium 237	-0.011	U	0.032	1.00	0.071	12/04/07	12/06/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7338148	Yld % 90
Plutonium 238	0.005	U	0.039	1.00	0.074	12/04/07	12/07/07
Plutonium 239/40	-0.002	U	0.023	1.00	0.045	12/04/07	12/07/07
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g		Batch # 7333629	Yld % 99
Technetium 99	**1.63**		**0.45**	1.00	**0.63**	**11/30/07**	**12/04/07**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7338150	Yld % 80
Uranium 233/234	**21.9**		**3.0**	1.0	**0.07**	**12/04/07**	**12/07/07**
Uranium 235/236	**1.13**		**0.30**	1.00	**0.07**	**12/04/07**	**12/07/07**
Uranium 238	**6.00**		**0.95**	1.00	**0.08**	**12/04/07**	**12/07/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7334378	Yld %
Americium 241	0.09	U	0.19	1.00	0.31	11/30/07	12/04/07
Cesium 137	0.090	U	0.069	1.00	0.11	11/30/07	12/04/07
Thorium 232	**0.78**	J	**0.24**	1.00	**0.43**	**11/30/07**	**12/04/07**
Uranium 235	**1.06**		**0.48**	1.00	**0.54**	**11/30/07**	**12/04/07**
Uranium 238	**4.4**		**1.2**	1.0	**2.4**	**11/30/07**	**12/04/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.78**		**0.24**		**0.43**	**11/30/07**	**12/04/07**
Bismuth 214	**1.21**		**0.23**		**0.18**	**11/30/07**	**12/04/07**
Lead 212	**0.98**		**0.21**		**0.19**	**11/30/07**	**12/04/07**
Lead 214	**1.03**		**0.19**		**0.19**	**11/30/07**	**12/04/07**
Potassium 40	**15.1**		**2.1**		**1.1**	**11/30/07**	**12/04/07**
Thallium 208	**0.41**		**0.11**		**0.09**	**11/30/07**	**12/04/07**
Thorium 234	**4.4**		**1.2**		**2.4**	**11/30/07**	**12/04/07**

NOTE(S)

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C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-116-0.5-SL DUP

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210313-003X
Work Order: KCRAN
Matrix: SOLID

Date Collected: 11/14/07 0855
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338146**	**Yld % 88**
Neptunium 237	0.01	U	0.040	1.00	0.074	12/04/07	12/06/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338148**	**Yld % 89**
Plutonium 238	-0.001	U	0.032	1.00	0.071	12/04/07	12/07/07
Plutonium 239/40	0.007	U	0.026	1.00	0.054	12/04/07	12/07/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338150**	**Yld % 78**
Uranium 233/234	**18.9**		**2.7**	1.0	**0.07**	**12/04/07**	**12/07/07**
Uranium 235/236	**1.10**		**0.29**	1.00	**0.06**	**12/04/07**	**12/07/07**
Uranium 238	**4.43**		**0.74**	1.00	**0.05**	**12/04/07**	**12/07/07**

NOTE(S)

ta are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-116-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210313-004
Work Order: KCRAQ
Matrix: SOLID

Date Collected: 11/14/07 0900
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7333629**	**Yld % 105**
Technetium 99	0.04	U	0.67	1.00	0.60	11/30/07	12/04/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7334378**	**Yld %**
Americium 241	0.05	U	0.15	1.00	0.25	11/30/07	12/04/07
Cesium 137	0.117	U	0.078	1.00	0.12	11/30/07	12/04/07
Thorium 232	**0.91**	**J**	**0.24**	1.00	**0.38**	**11/30/07**	**12/04/07**
Uranium 235	0.15	U	0.31	1.00	0.53	11/30/07	12/04/07
Uranium 238	**3.6**		**1.1**	1.0	**1.8**	**11/30/07**	**12/04/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.91**		**0.24**		**0.38**	**11/30/07**	**12/04/07**
Bismuth 214	**1.21**		**0.28**		**0.19**	**11/30/07**	**12/04/07**
Lead 212	**1.39**		**0.23**		**0.17**	**11/30/07**	**12/04/07**
Lead 214	**1.39**		**0.21**		**0.15**	**11/30/07**	**12/04/07**
Potassium 40	**20.3**		**2.6**		**0.5**	**11/30/07**	**12/04/07**
Thallium 208	**0.222**		**0.080**		**0.10**	**11/30/07**	**12/04/07**
Thorium 234	**3.6**		**1.1**		**1.8**	**11/30/07**	**12/04/07**

NOTE(S)

ata are incomplete without the case narrative.

DC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-117-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210313-005
Work Order: KCRAR
Matrix: SOLID

Date Collected: 11/15/07 0905
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338146**	**Yld % 89**
Neptunium 237	0.028	U	0.043	1.00	0.061	12/04/07	12/06/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338148**	**Yld % 93**
Plutonium 238	0.013	U	0.033	1.00	0.058	12/04/07	12/07/07
Plutonium 239/40	0.014	U	0.032	1.00	0.054	12/04/07	12/07/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338150**	**Yld % 88**
Uranium 233/234	**0.61**	**J**	**0.17**	1.00	**0.04**	**12/04/07**	**12/07/07**
Uranium 235/236	0.025	U	0.043	1.00	0.033	12/04/07	12/07/07
Uranium 238	**0.81**	**J**	**0.21**	1.00	**0.03**	**12/04/07**	**12/07/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7334378**	**Yld %**
Americium 241	0.09	U	0.13	1.00	0.22	11/30/07	12/04/07
esium 137	-0.002	U	0.070	1.00	0.13	11/30/07	12/04/07
Thorium 232	**0.82**	**J**	**0.26**	1.00	**0.33**	**11/30/07**	**12/04/07**
Uranium 235	0.23	U	0.29	1.00	0.47	11/30/07	12/04/07
Uranium 238	0.9	U	1.1	1.0	1.8	11/30/07	12/04/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.82**		**0.26**		**0.33**	**11/30/07**	**12/04/07**
Bismuth 214	**1.21**		**0.26**		**0.16**	**11/30/07**	**12/04/07**
Lead 212	**0.95**		**0.15**		**0.11**	**11/30/07**	**12/04/07**
Lead 214	**1.0**		**0.21**		**0.16**	**11/30/07**	**12/04/07**
Potassium 40	**13.6**		**2.2**		**0.8**	**11/30/07**	**12/04/07**
Thallium 208	**0.282**		**0.094**		**0.11**	**11/30/07**	**12/04/07**

NOTE(S)

ta are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-116-12.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210313-006
Work Order: KCRAW
Matrix: SOLID

Date Collected: 11/14/07 0920
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7334378**		**Yld %**
Americium 241	0.009	U	0.15	1.00	0.26	11/30/07	12/04/07
Cesium 137	-0.005	U	0.061	1.00	0.11	11/30/07	12/04/07
Thorium 232	**1.27**		**0.31**	1.00	**0.25**	**11/30/07**	**12/04/07**
Uranium 235	0.15	U	0.41	1.00	0.70	11/30/07	12/04/07
Uranium 238	1.8	U	1.6	1.0	2.1	11/30/07	12/04/07
--- Other Detected Radionuclides ---							
Actinium 228	**1.27**		**0.31**		**0.25**	**11/30/07**	**12/04/07**
Bismuth 214	**1.05**		**0.21**		**0.24**	**11/30/07**	**12/04/07**
Lead 212	**1.23**		**0.17**		**0.15**	**11/30/07**	**12/04/07**
Lead 214	**1.32**		**0.27**		**0.21**	**11/30/07**	**12/04/07**
Potassium 40	**21.0**		**2.5**		**1.1**	**11/30/07**	**12/04/07**
Thallium 208	**0.53**		**0.13**		**0.1**	**11/30/07**	**12/04/07**

NOTE(S)

ata are incomplete without the case narrative.

DC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-117-13.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210313-007
Work Order: KCRAX
Matrix: SOLID

Date Collected: 11/15/07 0923
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**		**Batch # 7334378**		**Yld %**
Americium 241	0.02	U	0.16	1.00	0.28	11/30/07	12/04/07
Cesium 137	0.033	U	0.074	1.00	0.13	11/30/07	12/04/07
Thorium 232	**0.92**	**J**	**0.28**	1.00	**0.48**	**11/30/07**	**12/04/07**
Uranium 235	0.28	U	0.39	1.00	0.65	11/30/07	12/04/07
Uranium 238	0.3	U	1.4	1.0	2.5	11/30/07	12/04/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.92**		**0.28**		**0.48**	**11/30/07**	**12/04/07**
Bismuth 214	**0.90**		**0.23**		**0.22**	**11/30/07**	**12/04/07**
Lead 212	**1.32**		**0.21**		**0.16**	**11/30/07**	**12/04/07**
Lead 214	**1.09**		**0.21**		**0.19**	**11/30/07**	**12/04/07**
Potassium 40	**14.9**		**2.5**		**0.7**	**11/30/07**	**12/04/07**
Thallium 208	**0.37**		**0.12**		**0.14**	**11/30/07**	**12/04/07**

NOTE(S)

ta are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-118-0.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210313-008
Work Order: KCRA5
Matrix: SOLID

Date Collected: 11/15/07 1605
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338146**	**Yld % 94**
Neptunium 237	-0.006	U	0.026	1.00	0.057	12/04/07	12/06/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338148**	**Yld % 83**
Plutonium 238	0.003	U	0.028	1.00	0.062	12/04/07	12/07/07
Plutonium 239/40	0.005	U	0.027	1.00	0.057	12/04/07	12/07/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338150**	**Yld % 94**
Uranium 233/234	**1.12**		**0.26**	1.00	**0.07**	**12/04/07**	**12/07/07**
Uranium 235/236	**0.077**	**J**	**0.066**	1.00	**0.056**	**12/04/07**	**12/07/07**
Uranium 238	**0.35**	**J**	**0.13**	1.00	**0.05**	**12/04/07**	**12/07/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7334378**	**Yld %**
Americium 241	0.03	U	0.12	1.00	0.21	11/30/07	12/04/07
Cesium 137	0.061	U	0.086	1.00	0.16	11/30/07	12/04/07
Thorium 232	0.1	U	0.32	1.00	0.57	11/30/07	12/04/07
Uranium 235	0.10	U	0.24	1.00	0.43	11/30/07	12/04/07
Uranium 238	0.29	U	0.84	1.00	1.6	11/30/07	12/04/07
--- Other Detected Radionuclides ---							
Bismuth 214	**0.31**		**0.17**		**0.26**	**11/30/07**	**12/04/07**
Lead 212	**0.219**		**0.098**		**0.12**	**11/30/07**	**12/04/07**
Lead 214	**0.25**		**0.13**		**0.18**	**11/30/07**	**12/04/07**
Potassium 40	**3.4**		**1.3**		**1**	**11/30/07**	**12/04/07**
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7333629**	**Yld % 82**
Technetium 99	-1.57	U	0.40	1.00	0.82	11/30/07	12/04/07

NOTE(S)

Data are incomplete without the case narrative.

RL is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-118-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210313-009
Work Order: KCRCE
Matrix: SOLID

Date Collected: 11/15/07 1609
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7334378**		**Yld %**
Americium 241	0.057	U	0.063	1.00	0.10	11/30/07	12/04/07
Cesium 137	0.014	U	0.048	1.00	0.086	11/30/07	12/04/07
Thorium 232	0.19	U	0.15	1.00	0.23	11/30/07	12/04/07
Uranium 235	0.07	U	0.17	1.00	0.29	11/30/07	12/04/07
Uranium 238	0.005	U	0.66	1.00	1.2	11/30/07	12/04/07
--- Other Detected Radionuclides ---							
Bismuth 214	**0.48**		**0.14**		**0.11**	**11/30/07**	**12/04/07**
Lead 212	**0.57**		**0.11**		**0.09**	**11/30/07**	**12/04/07**
Lead 214	**0.389**		**0.093**		**0.098**	**11/30/07**	**12/04/07**
Potassium 40	**8.1**		**1.4**		**0.4**	**11/30/07**	**12/04/07**
Thallium 208	**0.215**		**0.052**		**0.029**	**11/30/07**	**12/04/07**

NOTE(S)

ıta are incomplete without the case narrative.

ɔC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-118-10.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210313-010
Work Order: KCRCK
Matrix: SOLID

Date Collected: 11/15/07 1625
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7334378**		**Yld %**
Americium 241	0.02	U	0.17	1.00	0.29	11/30/07	12/04/07
Cesium 137	0.026	U	0.088	1.00	0.15	11/30/07	12/04/07
Thorium 232	**1.0**	**J**	**0.28**	1.00	**0.51**	**11/30/07**	**12/04/07**
Uranium 235	0.28	U	0.41	1.00	0.69	11/30/07	12/04/07
Uranium 238	1.8	U	1.1	1.0	2.1	11/30/07	12/04/07
--- Other Detected Radionuclides ---							
Actinium 228	**1.0**		**0.28**		**0.51**	**11/30/07**	**12/04/07**
Bismuth 214	**0.88**		**0.23**		**0.29**	**11/30/07**	**12/04/07**
Lead 212	**1.35**		**0.22**		**0.21**	**11/30/07**	**12/04/07**
Lead 214	**1.49**		**0.27**		**0.23**	**11/30/07**	**12/04/07**
Potassium 40	**23.3**		**3.0**		**1.4**	**11/30/07**	**12/04/07**
Thallium 208	**0.40**		**0.11**		**0.11**	**11/30/07**	**12/04/07**

NOTE(S)

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-119-0.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210313-011
Work Order: KCRCN
Matrix: SOLID

Date Collected: 11/15/07 1700
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7338146**		**Yld % 92**
Neptunium 237	0.015	U	0.033	1.00	0.056	12/04/07	12/06/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7338148**		**Yld % 96**
Plutonium 238	-0.013	U	0.030	1.00	0.067	12/04/07	12/07/07
Plutonium 239/40	-0.009	U	0.027	1.00	0.061	12/04/07	12/07/07
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7333629**		**Yld % 95**
Technetium 99	**8.2**		**1.0**	1.0	**0.7**	**11/30/07**	**12/04/07**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7338150**		**Yld % 80**
Uranium 233/234	**9.7**		**1.5**	1.0	**0.07**	**12/04/07**	**12/07/07**
Uranium 235/236	**0.35**	**J**	**0.16**	1.00	**0.08**	**12/04/07**	**12/07/07**
Uranium 238	**1.97**		**0.40**	1.00	**0.08**	**12/04/07**	**12/07/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7334378**		**Yld %**
Americium 241	0.03	U	0.15	1.00	0.26	11/30/07	12/04/07
Cesium 137	0.007	U	0.076	1.00	0.15	11/30/07	12/04/07
Thorium 232	0.45	U	0.24	1.00	0.48	11/30/07	12/04/07
Uranium 235	0.19	U	0.35	1.00	0.60	11/30/07	12/04/07
Uranium 238	**2.18**		**0.94**	1.00	**1.7**	**11/30/07**	**12/04/07**
--- Other Detected Radionuclides ---							
Bismuth 214	**0.90**		**0.24**		**0.20**	**11/30/07**	**12/04/07**
Lead 212	**0.68**		**0.15**		**0.14**	**11/30/07**	**12/04/07**
Lead 214	**0.51**		**0.18**		**0.23**	**11/30/07**	**12/04/07**
Potassium 40	**9.4**		**2.0**		**1.2**	**11/30/07**	**12/04/07**
Thallium 208	**0.170**		**0.091**		**0.13**	**11/30/07**	**12/04/07**
Thorium 234	**2.18**		**0.94**		**1.7**	**11/30/07**	**12/04/07**

NOTE(S)

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J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-119-2.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210313-012
Work Order: KCRCV
Matrix: SOLID

Date Collected: 11/15/07 1705
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7333629**	**Yld % 92**
Technetium 99	**7.30**		**0.92**	1.00	**0.68**	**11/30/07**	**12/04/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7334378**	**Yld %**
Americium 241	0.05	U	0.11	1.00	0.18	11/30/07	12/04/07
Cesium 137	0.014	U	0.054	1.00	0.096	11/30/07	12/04/07
Thorium 232	**0.67**	J	**0.18**	1.00	**0.27**	**11/30/07**	**12/04/07**
Uranium 235	**0.41**	J	**0.24**	1.00	**0.36**	**11/30/07**	**12/04/07**
Uranium 238	**2.15**		**0.66**	1.00	**1.1**	**11/30/07**	**12/04/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.67**		**0.18**		**0.27**	**11/30/07**	**12/04/07**
Bismuth 214	**0.76**		**0.17**		**0.12**	**11/30/07**	**12/04/07**
Lead 212	**0.60**		**0.11**		**0.10**	**11/30/07**	**12/04/07**
Lead 214	**0.56**		**0.12**		**0.13**	**11/30/07**	**12/04/07**
otassium 40	**12.0**		**1.8**		**0.4**	**11/30/07**	**12/04/07**
Thallium 208	**0.228**		**0.080**		**0.066**	**11/30/07**	**12/04/07**
Thorium 234	**2.15**		**0.66**		**1.1**	**11/30/07**	**12/04/07**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338150**	**Yld % 71**
Uranium 233/234	**9.1**		**1.4**	1.0	**0.08**	**12/04/07**	**12/07/07**
Uranium 235/236	**0.38**	J	**0.17**	1.00	**0.04**	**12/04/07**	**12/07/07**
Uranium 238	**2.02**		**0.42**	1.00	**0.06**	**12/04/07**	**12/07/07**

NOTE(S)

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U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-119-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210313-013
Work Order: KCRCW
Matrix: SOLID

Date Collected: 11/15/07 1705
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7334378**		**Yld %**
Americium 241	-0.05	U	0.30	1.00	0.29	11/30/07	12/04/07
Cesium 137	-0.009	U	0.12	1.00	0.14	11/30/07	12/04/07
Thorium 232	1.00		0.26	1.00	0.15	11/30/07	12/04/07
Uranium 235	0.27	U	0.33	1.00	0.54	11/30/07	12/04/07
Uranium 238	0.3	U	1.1	1.0	2.0	11/30/07	12/04/07
--- Other Detected Radionuclides ---							
Actinium 228	1.00		0.26		0.15	11/30/07	12/04/07
Bismuth 214	0.96		0.23		0.18	11/30/07	12/04/07
Lead 212	0.97		0.21		0.18	11/30/07	12/04/07
Lead 214	1.13		0.23		0.17	11/30/07	12/04/07
Potassium 40	16.7		2.6		0.6	11/30/07	12/04/07
Thallium 208	0.237		0.089		0.11	11/30/07	12/04/07
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7333629**		**Yld % 109**
Technetium 99	7.01		0.86	1.00	0.58	11/30/07	12/04/07

NOTE(S)

ta are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-119-13.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210313-014
Work Order: KCRC0
Matrix: SOLID

Date Collected: 11/15/07 1730
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**		**Batch # 7334378**		**Yld %**
Americium 241	0.05	U	0.16	1.00	0.26	11/30/07	12/04/07
Cesium 137	0.012	U	0.068	1.00	0.12	11/30/07	12/04/07
Thorium 232	**1.08**		**0.28**	1.00	**0.42**	**11/30/07**	**12/04/07**
Uranium 235	**0.63**	**J**	**0.34**	1.00	**0.52**	**11/30/07**	**12/04/07**
Uranium 238	**2.46**		**0.86**	1.00	**1.6**	**11/30/07**	**12/04/07**
--- Other Detected Radionuclides ---							
Bismuth 214	**1.08**		**0.19**		**0.07**	**11/30/07**	**12/04/07**
Lead 212	**1.39**		**0.25**		**0.19**	**11/30/07**	**12/04/07**
Lead 214	**1.11**		**0.17**		**0.18**	**11/30/07**	**12/04/07**
Potassium 40	**19.9**		**2.6**		**0.5**	**11/30/07**	**12/04/07**
Thallium 208	**0.247**		**0.080**		**0.094**	**11/30/07**	**12/04/07**

NOTE(S)

ts are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-109-5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210313-015
Work Order: KCRC7
Matrix: SOLID

Date Collected: 11/15/07 1108
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**		**Batch # 7334378**		**Yld %**
Americium 241	0.003	U	0.088	1.00	0.15	11/30/07	12/04/07
Cesium 137	0.033	U	0.050	1.00	0.083	11/30/07	12/04/07
Thorium 232	**0.74**	**J**	**0.24**	1.00	**0.32**	**11/30/07**	**12/04/07**
Uranium 235	0.22	U	0.26	1.00	0.44	11/30/07	12/04/07
Uranium 238	**1.78**		**0.59**	1.00	**1.2**	**11/30/07**	**12/04/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.74**		**0.24**		**0.32**	**11/30/07**	**12/04/07**
Bismuth 214	**0.80**		**0.15**		**0.18**	**11/30/07**	**12/04/07**
Lead 212	**0.75**		**0.12**		**0.13**	**11/30/07**	**12/04/07**
Lead 214	**0.95**		**0.15**		**0.15**	**11/30/07**	**12/04/07**
Potassium 40	**14.8**		**1.8**		**1.1**	**11/30/07**	**12/04/07**
Thallium 208	**0.386**		**0.095**		**0.084**	**11/30/07**	**12/04/07**
Thorium 234	**1.78**		**0.59**		**1.2**	**11/30/07**	**12/04/07**

NOTE(S)

ata are incomplete without the case narrative.

MC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-110-0.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210313-016
Work Order: KCRDG
Matrix: SOLID

Date Collected: 11/15/07 1307
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338146**	**Yld % 81**
Neptunium 237	-0.014	U	0.035	1.00	0.079	12/04/07	12/06/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338148**	**Yld % 85**
Plutonium 238	-0.011	U	0.038	1.00	0.084	12/04/07	12/07/07
Plutonium 239/40	0.003	U	0.028	1.00	0.063	12/04/07	12/07/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338150**	**Yld % 81**
Uranium 233/234	8.5		1.3	1.0	0.06	12/04/07	12/07/07
Uranium 235/236	0.42	J	0.17	1.00	0.06	12/04/07	12/07/07
Uranium 238	1.79		0.37	1.00	0.06	12/04/07	12/07/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7334378**	**Yld %**
Americium 241	0.07	U	0.11	1.00	0.19	11/30/07	12/05/07
Cesium 137	0.47	J	0.11	1.00	0.09	11/30/07	12/05/07
Thorium 232	0.31	U	0.22	1.00	0.32	11/30/07	12/05/07
Uranium 235	0.38	U	0.31	1.00	0.49	11/30/07	12/05/07
Uranium 238	2.22		0.72	1.00	1.4	11/30/07	12/05/07
--- Other Detected Radionuclides ---							
Bismuth 214	0.95		0.19		0.12	11/30/07	12/05/07
Lead 212	0.61		0.13		0.11	11/30/07	12/05/07
Lead 214	0.58		0.17		0.21	11/30/07	12/05/07
Potassium 40	11.4		1.9		0.5	11/30/07	12/05/07
Thallium 208	0.165		0.072		0.094	11/30/07	12/05/07
Thorium 234	2.22		0.72		1.4	11/30/07	12/05/07
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7333629**	**Yld % 102**
Technetium 99	0.24	U	0.35	1.00	0.62	11/30/07	12/04/07

NOTE(S)

Data are incomplete without the case narrative.

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-110-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210313-017
Work Order: KCRDH
Matrix: SOLID

Date Collected: 11/15/07 1308
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**		**Batch # 7334378**		**Yld %**
Americium 241	-0.03	U	0.14	1.00	0.24	11/30/07	12/05/07
Cesium 137	-0.002	U	0.61	1.00	0.10	11/30/07	12/05/07
Thorium 232	**0.84**	**J**	**0.25**	1.00	**0.38**	**11/30/07**	**12/05/07**
Uranium 235	0.03	U	0.29	1.00	0.50	11/30/07	12/05/07
Uranium 238	0.4	U	1.1	1.0	1.9	11/30/07	12/05/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.84**		**0.25**		**0.38**	**11/30/07**	**12/05/07**
Bismuth 214	**1.11**		**0.21**		**0.12**	**11/30/07**	**12/05/07**
Lead 212	**1.26**		**0.25**		**0.20**	**11/30/07**	**12/05/07**
Lead 214	**1.11**		**0.20**		**0.14**	**11/30/07**	**12/05/07**
Potassium 40	**19.5**		**2.5**		**0.5**	**11/30/07**	**12/05/07**
Thallium 208	**0.46**		**0.12**		**0.08**	**11/30/07**	**12/05/07**

NOTE(S)

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: is determined by instrument performance only.
old results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-110-5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210313-018
Work Order: KCRDK
Matrix: SOLID

Date Collected: 11/15/07 1331
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**		**Batch # 7334378**		**Yld %**
Americium 241	-0.06	U	0.17	1.00	0.28	11/30/07	12/05/07
Cesium 137	0.033	U	0.066	1.00	0.11	11/30/07	12/05/07
Thorium 232	**0.87**	**J**	**0.26**	1.00	**0.32**	**11/30/07**	**12/05/07**
Uranium 235	-0.08	U	1.2	1.0	0.6	11/30/07	12/05/07
Uranium 238	**3.7**		**2.0**	1.0	**2.2**	**11/30/07**	**12/05/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.87**		**0.26**		**0.32**	**11/30/07**	**12/05/07**
Bismuth 214	**1.42**		**0.24**		**0.17**	**11/30/07**	**12/05/07**
Lead 212	**1.17**		**0.17**		**0.16**	**11/30/07**	**12/05/07**
Lead 214	**1.35**		**0.26**		**0.20**	**11/30/07**	**12/05/07**
Potassium 40	**22.1**		**2.6**		**1.1**	**11/30/07**	**12/05/07**
Thallium 208	**0.390**		**0.092**		**0.081**	**11/30/07**	**12/05/07**
Thorium 234	**3.7**		**2.0**		**2.2**	**11/30/07**	**12/05/07**

NOTE(S)

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U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-111-0.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210313-019
Work Order: KCRDN
Matrix: SOLID

Date Collected: 11/15/07 1429
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338146**	**Yld % 47**
Neptunium 237	-0.010	U	0.066	1.00	0.15	12/04/07	12/06/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338148**	**Yld % 76**
Plutonium 238	0.01	U	0.040	1.00	0.074	12/04/07	12/07/07
Plutonium 239/40	-0.009	U	0.030	1.00	0.066	12/04/07	12/07/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338150**	**Yld % 58**
Uranium 233/234	**4.06**		**0.77**	1.00	**0.08**	**12/04/07**	**12/07/07**
Uranium 235/236	0.090	U	0.096	1.00	0.11	12/04/07	12/07/07
Uranium 238	**1.37**		**0.36**	1.00	**0.08**	**12/04/07**	**12/07/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7334378**	**Yld %**
Americium 241	0.01	U	0.18	1.00	0.31	11/30/07	12/05/07
esium 137	0.060	U	0.091	1.00	0.15	11/30/07	12/05/07
Thorium 232	**0.0**	**J**	**0.0**	1.0	**0.0**	**11/30/07**	**12/05/07**
Uranium 235	0.31	U	0.35	1.00	0.57	11/30/07	12/05/07
Uranium 238	0.8	U	1.3	1.0	2.3	11/30/07	12/05/07
--- Other Detected Radionuclides ---							
Bismuth 214	**1.14**		**0.27**		**0.19**	**11/30/07**	**12/05/07**
Lead 212	**0.86**		**0.18**		**0.16**	**11/30/07**	**12/05/07**
Lead 214	**0.82**		**0.19**		**0.22**	**11/30/07**	**12/05/07**
Potassium 40	**14.6**		**2.6**		**1.1**	**11/30/07**	**12/05/07**
Thallium 208	**0.28**		**0.11**		**0.15**	**11/30/07**	**12/05/07**
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7333629**	**Yld % 95**
Technetium 99	0.17	U	0.36	1.00	0.66	11/30/07	12/04/07

NOTE(S)

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-111-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210313-020
Work Order: KCRDR
Matrix: SOLID

Date Collected: 11/15/07 1434
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**		**Batch # 7334378**		**Yld %**
Americium 241	0.04	U	0.13	1.00	0.22	11/30/07	12/05/07
Cesium 137	0.073	U	0.070	1.00	0.12	11/30/07	12/05/07
Thorium 232	**0.75**	**J**	**0.29**	1.00	**0.43**	**11/30/07**	**12/05/07**
Uranium 235	0.24	U	0.29	1.00	0.48	11/30/07	12/05/07
Uranium 238	1.25	U	0.70	1.00	1.8	11/30/07	12/05/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.75**		**0.29**		**0.43**	**11/30/07**	**12/05/07**
Bismuth 214	**0.54**		**0.18**		**0.23**	**11/30/07**	**12/05/07**
Lead 212	**0.80**		**0.17**		**0.15**	**11/30/07**	**12/05/07**
Lead 214	**0.76**		**0.18**		**0.20**	**11/30/07**	**12/05/07**
Potassium 40	**15.1**		**2.3**		**0.6**	**11/30/07**	**12/05/07**
Thallium 208	**0.299**		**0.090**		**0.078**	**11/30/07**	**12/05/07**

NOTE(S)

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U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-111-8.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210313-021
Work Order: KCRDT
Matrix: SOLID

Date Collected: 11/15/07 1440
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7334409**		**Yld %**
Americium 241	0.10	U	0.18	1.00	0.31	11/30/07	12/02/07
Cesium 137	0.030	U	0.060	1.00	0.10	11/30/07	12/02/07
Thorium 232	**0.97**	**J**	**0.26**	1.00	**0.44**	**11/30/07**	**12/02/07**
Uranium 235	0.07	U	0.32	1.00	0.56	11/30/07	12/02/07
Uranium 238	1.58	U	0.81	1.00	1.7	11/30/07	12/02/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.97**		**0.26**		**0.44**	**11/30/07**	**12/02/07**
Bismuth 214	**1.07**		**0.22**		**0.23**	**11/30/07**	**12/02/07**
Lead 212	**1.05**		**0.23**		**0.22**	**11/30/07**	**12/02/07**
Lead 214	**1.55**		**0.30**		**0.22**	**11/30/07**	**12/02/07**
Potassium 40	**21.9**		**2.6**		**1.1**	**11/30/07**	**12/02/07**
Thallium 208	**0.43**		**0.13**		**0.11**	**11/30/07**	**12/02/07**

NOTE(S)

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U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-111-8.5-SL DUP

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210313-021X
Work Order: KCRDT
Matrix: SOLID

Date Collected: 11/15/07 1440
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7334409**		**Yld %**
Americium 241	0.007	U	0.18	1.00	0.31	11/30/07	12/02/07
Cesium 137	0.004	U	0.063	1.00	0.12	11/30/07	12/02/07
Thorium 232	**0.94**	**J**	**0.31**	1.00	**0.54**	**11/30/07**	**12/02/07**
Uranium 235	0.30	U	0.37	1.00	0.61	11/30/07	12/02/07
Uranium 238	0.6	U	1.4	1.0	2.4	11/30/07	12/02/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.94**		**0.31**		**0.54**	**11/30/07**	**12/02/07**
Bismuth 214	**1.16**		**0.26**		**0.19**	**11/30/07**	**12/02/07**
Lead 212	**1.64**		**0.29**		**0.23**	**11/30/07**	**12/02/07**
Lead 214	**1.39**		**0.26**		**0.27**	**11/30/07**	**12/02/07**
Potassium 40	**20.6**		**3.1**		**1.0**	**11/30/07**	**12/02/07**
Thallium 208	**0.38**		**0.12**		**0.14**	**11/30/07**	**12/02/07**

NOTE(S)

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-112-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210313-022
Work Order: KCRD0
Matrix: SOLID

Date Collected: 11/15/07 0942
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**		**Batch # 7334409**		**Yld %**
Americium 241	0.02	U	0.13	1.00	0.22	11/30/07	12/02/07
Cesium 137	-0.015	U	0.068	1.00	0.12	11/30/07	12/02/07
Thorium 232	**0.53**	**J**	**0.21**	1.00	**0.37**	**11/30/07**	**12/02/07**
Uranium 235	-0.05	U	0.25	1.00	0.44	11/30/07	12/02/07
Uranium 238	0.5	U	1.1	1.0	1.9	11/30/07	12/02/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.53**		**0.21**		**0.37**	**11/30/07**	**12/02/07**
Bismuth 214	**0.92**		**0.20**		**0.12**	**11/30/07**	**12/02/07**
Lead 212	**0.79**		**0.15**		**0.12**	**11/30/07**	**12/02/07**
Lead 214	**0.59**		**0.15**		**0.21**	**11/30/07**	**12/02/07**
Potassium 40	**14.3**		**2.3**		**0.9**	**11/30/07**	**12/02/07**
Thallium 208	**0.355**		**0.086**		**0.046**	**11/30/07**	**12/02/07**

NOTE(S)

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-41-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210313-023
Work Order: KCRD5
Matrix: SOLID

Date Collected: 11/09/07 0825
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7333629**		**Yld % 101**
Technetium 99	0.46	U	0.37	1.00	0.62	11/30/07	12/04/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7334409**		**Yld %**
Americium 241	0.02	U	0.12	1.00	0.21	11/30/07	12/02/07
Cesium 137	0.047	U	0.074	1.00	0.13	11/30/07	12/02/07
Thorium 232	**0.79**	**J**	**0.29**	1.00	**0.42**	**11/30/07**	**12/02/07**
Uranium 235	0.17	U	0.30	1.00	0.51	11/30/07	12/02/07
Uranium 238	0.8	U	1.2	1.0	2.0	11/30/07	12/02/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.79**		**0.29**		**0.42**	**11/30/07**	**12/02/07**
Bismuth 214	**0.63**		**0.21**		**0.26**	**11/30/07**	**12/02/07**
Lead 212	**0.77**		**0.17**		**0.16**	**11/30/07**	**12/02/07**
ead 214	**0.53**		**0.15**		**0.21**	**11/30/07**	**12/02/07**
otassium 40	**15.9**		**2.5**		**0.6**	**11/30/07**	**12/02/07**
Thallium 208	**0.33**		**0.12**		**0.10**	**11/30/07**	**12/02/07**

NOTE(S)

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J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-41-6-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210313-024
Work Order: KCREE
Matrix: SOLID

Date Collected: 11/09/07 0830
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**		**Batch # 7334409**		**Yld %**
Americium 241	0.02	U	0.15	1.00	0.26	11/30/07	12/02/07
Cesium 137	-0.0009	U	0.10	1.00	0.12	11/30/07	12/02/07
Thorium 232	**1.05**		**0.32**	1.00	**0.45**	**11/30/07**	**12/02/07**
Uranium 235	0.13	U	0.29	1.00	0.50	11/30/07	12/02/07
Uranium 238	**3.2**		**1.8**	1.0	**2.0**	**11/30/07**	**12/02/07**
--- Other Detected Radionuclides ---							
Actinium 228	**1.05**		**0.32**		**0.45**	**11/30/07**	**12/02/07**
Bismuth 214	**1.33**		**0.22**		**0.08**	**11/30/07**	**12/02/07**
Lead 212	**1.16**		**0.18**		**0.17**	**11/30/07**	**12/02/07**
Lead 214	**1.36**		**0.25**		**0.17**	**11/30/07**	**12/02/07**
Potassium 40	**20.2**		**2.7**		**0.6**	**11/30/07**	**12/02/07**
Thallium 208	**0.52**		**0.11**		**0.07**	**11/30/07**	**12/02/07**
Thorium 234	**3.2**		**1.8**		**2.0**	**11/30/07**	**12/02/07**

NOTE(S)

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Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-24-0.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210313-025
Work Order: KCREN
Matrix: SOLID

Date Collected: 11/20/07 0955
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7338146	Yld % 76
Neptunium 237	-0.006	U	0.038	1.00	0.086	12/04/07	12/06/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7338148	Yld % 92
Plutonium 238	-0.012	U	0.060	1.00	0.11	12/04/07	12/07/07
Plutonium 239/40	-0.003	U	0.030	1.00	0.068	12/04/07	12/07/07
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g		Batch # 7333629	Yld % 100
Technetium 99	0.77	J	0.39	1.00	0.63	11/30/07	12/04/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7338150	Yld % 82
Uranium 233/234	8.6		1.3	1.0	0.07	12/04/07	12/07/07
Uranium 235/236	0.37	J	0.15	1.00	0.07	12/04/07	12/07/07
Uranium 238	1.96		0.39	1.00	0.06	12/04/07	12/07/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7334409	Yld %
Americium 241	0.05	U	0.17	1.00	0.28	11/30/07	12/02/07
Cesium 137	0.145	J	0.079	1.00	0.11	11/30/07	12/02/07
Thorium 232	1.06		0.26	1.00	0.38	11/30/07	12/02/07
Uranium 235	0.38	U	0.39	1.00	0.63	11/30/07	12/02/07
Uranium 238	2.83		0.98	1.00	2.2	11/30/07	12/02/07
--- Other Detected Radionuclides ---							
Actinium 228	1.06		0.26		0.38	11/30/07	12/02/07
Bismuth 214	0.83		0.20		0.23	11/30/07	12/02/07
Lead 212	0.98		0.18		0.17	11/30/07	12/02/07
Lead 214	1.26		0.23		0.18	11/30/07	12/02/07
Potassium 40	14.9		2.1		1.1	11/30/07	12/02/07
Thallium 208	0.45		0.10		0.08	11/30/07	12/02/07
Thorium 234	2.83		0.98		2.2	11/30/07	12/02/07

NOTE(S)

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old results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-24-2.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210313-026
Work Order: KCREO
Matrix: SOLID

Date Collected: 11/20/07 1000
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7333629**	**Yld % 100**
Technetium 99	0.59	U	0.38	1.00	0.63	11/30/07	12/04/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7334409**	**Yld %**
Americium 241	-0.01	U	0.65	1.00	0.18	11/30/07	12/02/07
Cesium 137	-0.01	U	0.11	1.00	0.10	11/30/07	12/02/07
Thorium 232	0.28	U	0.20	1.00	0.28	11/30/07	12/02/07
Uranium 235	0.10	U	0.20	1.00	0.35	11/30/07	12/02/07
Uranium 238	1.10	U	0.63	1.00	1.1	11/30/07	12/02/07
--- Other Detected Radionuclides ---							
Actinium 228	0.28	U	0.20		0.28	11/30/07	12/02/07
Bismuth 214	0.34		0.11		0.12	11/30/07	12/02/07
Lead 212	0.306		0.091		0.093	11/30/07	12/02/07
Lead 214	0.268		0.098		0.14	11/30/07	12/02/07
Potassium 40	4.8		1.2		0.5	11/30/07	12/02/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338150**	**Yld % 90**
Uranium 233/234	4.11		0.67	1.00	0.03	12/04/07	12/07/07
Uranium 235/236	0.18	J	0.10	1.00	0.06	12/04/07	12/07/07
Uranium 238	1.00		0.24	1.00	0.05	12/04/07	12/07/07

NOTE(S)

ata are incomplete without the case narrative.

2 is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-24-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210313-027
Work Order: KCRET
Matrix: SOLID

Date Collected: 11/20/07 1000
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7334409**		**Yld %**
Americium 241	0.06	U	0.13	1.00	0.21	11/30/07	12/02/07
Cesium 137	-0.012	U	0.093	1.00	0.10	11/30/07	12/02/07
Thorium 232	**0.60**	**J**	**0.21**	1.00	**0.36**	**11/30/07**	**12/02/07**
Uranium 235	**0.84**	**J**	**0.33**	1.00	**0.53**	**11/30/07**	**12/02/07**
Uranium 238	**2.4**		**1.6**	1.0	**1.7**	**11/30/07**	**12/02/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.60**		**0.21**		**0.36**	**11/30/07**	**12/02/07**
Bismuth 214	**0.88**		**0.17**		**0.09**	**11/30/07**	**12/02/07**
Lead 212	**1.12**		**0.20**		**0.16**	**11/30/07**	**12/02/07**
Lead 214	**0.70**		**0.13**		**0.17**	**11/30/07**	**12/02/07**
Potassium 40	**13.0**		**2.0**		**1.1**	**11/30/07**	**12/02/07**
Thallium 208	**0.480**		**0.095**		**0.054**	**11/30/07**	**12/02/07**
Thorium 234	**2.4**		**1.6**		**1.7**	**11/30/07**	**12/02/07**
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7333629**		**Yld % 99**
Technetium 99	0.61	U	0.39	1.00	0.64	11/30/07	12/04/07

NOTE(S)

ta are incomplete without the case narrative.

: is determined by instrument performance only.

old results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-24-13-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210313-028
Work Order: KCRE0
Matrix: SOLID

Date Collected: 11/20/07 1015
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**		**Batch # 7334409**		**Yld %**
Americium 241	0.1	U	0.17	1.00	0.29	11/30/07	12/02/07
Cesium 137	-0.017	U	0.061	1.00	0.11	11/30/07	12/02/07
Thorium 232	**0.86**	**J**	**0.28**	1.00	**0.42**	**11/30/07**	**12/02/07**
Uranium 235	0.52	U	0.38	1.00	0.61	11/30/07	12/02/07
Uranium 238	**2.55**		**0.99**	1.00	**1.9**	**11/30/07**	**12/02/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.86**		**0.28**		**0.42**	**11/30/07**	**12/02/07**
Bismuth 214	**0.74**		**0.20**		**0.25**	**11/30/07**	**12/02/07**
Lead 212	**1.11**		**0.24**		**0.23**	**11/30/07**	**12/02/07**
Lead 214	**0.94**		**0.19**		**0.23**	**11/30/07**	**12/02/07**
Potassium 40	**19.7**		**2.5**		**1.2**	**11/30/07**	**12/02/07**
Thallium 208	**0.51**		**0.11**		**0.09**	**11/30/07**	**12/02/07**
Thorium 234	**2.55**		**0.99**		**1.9**	**11/30/07**	**12/02/07**

NOTE(S)

ata are incomplete without the case narrative.

/C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-113-19.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210313-029
Work Order: KCRE3
Matrix: SOLID

Date Collected: 11/20/07 1110
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**		**Batch # 7334409**		**Yld %**
Americium 241	0.01	U	0.18	1.00	0.31	11/30/07	12/02/07
Cesium 137	0.0009	U	0.095	1.00	0.18	11/30/07	12/02/07
Thorium 232	**0.69**	**J**	**0.26**	1.00	**0.39**	**11/30/07**	**12/02/07**
Uranium 235	0.25	U	0.39	1.00	0.65	11/30/07	12/02/07
Uranium 238	**3.1**		**1.2**	1.0	**2.3**	**11/30/07**	**12/02/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.69**		**0.26**		**0.39**	**11/30/07**	**12/02/07**
Bismuth 214	**1.49**		**0.28**		**0.16**	**11/30/07**	**12/02/07**
Lead 210	**4.5**		**2.3**		**3.1**	**11/30/07**	**12/02/07**
Lead 212	**1.31**		**0.24**		**0.21**	**11/30/07**	**12/02/07**
Lead 214	**1.03**		**0.23**		**0.18**	**11/30/07**	**12/02/07**
Potassium 40	**18.4**		**3.0**		**1.1**	**11/30/07**	**12/02/07**
Radium (226)	**1.49**		**0.28**		**0.16**	**11/30/07**	**12/02/07**
Thallium 208	**0.49**		**0.13**		**0.09**	**11/30/07**	**12/02/07**
Thorium 234	**3.1**		**1.2**		**2.3**	**11/30/07**	**12/02/07**

NOTE(S)

ta are incomplete without the case narrative.

: is determined by instrument performance only.
old results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-87-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210313-030
Work Order: KCRE9
Matrix: SOLID

Date Collected: 11/09/07 1000
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7334409**		**Yld %**
Americium 241	-0.01	U	1.3	1.0	0.3	11/30/07	12/02/07
Cesium 137	0.052	U	0.070	1.00	0.12	11/30/07	12/02/07
Thorium 232	**0.60**	**J**	**0.23**	1.00	**0.32**	**11/30/07**	**12/02/07**
Uranium 235	0.26	U	0.30	1.00	0.49	11/30/07	12/02/07
Uranium 238	0.7	U	1.1	1.0	1.9	11/30/07	12/02/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.60**		**0.23**		**0.32**	**11/30/07**	**12/02/07**
Bismuth 214	**0.69**		**0.19**		**0.17**	**11/30/07**	**12/02/07**
Lead 212	**0.90**		**0.19**		**0.16**	**11/30/07**	**12/02/07**
Lead 214	**0.65**		**0.17**		**0.20**	**11/30/07**	**12/02/07**
Potassium 40	**12.4**		**2.1**		**0.6**	**11/30/07**	**12/02/07**
Thallium 208	**0.281**		**0.095**		**0.086**	**11/30/07**	**12/02/07**

NOTE(S)

ta are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-87-18-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210313-031
Work Order: KCRFC
Matrix: SOLID

Date Collected: 11/09/07 1020
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**		**Batch # 7334409**		**Yld %**
Americium 241	0.05	U	0.13	1.00	0.23	11/30/07	12/02/07
Cesium 137	-0.025	U	0.096	1.00	0.13	11/30/07	12/02/07
Thorium 232	**0.83**	**J**	**0.27**	1.00	**0.48**	**11/30/07**	**12/02/07**
Uranium 235	0.003	U	0.32	1.00	0.56	11/30/07	12/02/07
Uranium 238	1.4	U	1.1	1.0	1.9	11/30/07	12/02/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.83**		**0.27**		**0.48**	**11/30/07**	**12/02/07**
Bismuth 214	**1.10**		**0.23**		**0.13**	**11/30/07**	**12/02/07**
Lead 212	**1.34**		**0.19**		**0.14**	**11/30/07**	**12/02/07**
Lead 214	**1.29**		**0.24**		**0.15**	**11/30/07**	**12/02/07**
Potassium 40	**21.0**		**2.8**		**0.6**	**11/30/07**	**12/02/07**
Thallium 208	**0.51**		**0.12**		**0.07**	**11/30/07**	**12/02/07**

NOTE(S)

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-88-0.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210313-032
Work Order: KCRFG
Matrix: SOLID

Date Collected: 11/16/07 0855
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338146**	**Yld % 64**
Neptunium 237	0.0009	U	0.041	1.00	0.092	12/04/07	12/06/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338148**	**Yld % 73**
Plutonium 238	0.006	U	0.049	1.00	0.092	12/04/07	12/07/07
Plutonium 239/40	0.011	U	0.028	1.00	0.055	12/04/07	12/07/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338150**	**Yld % 62**
Uranium 233/234	**4.66**		**0.83**	1.00	**0.09**	**12/04/07**	**12/07/07**
Uranium 235/236	**0.29**	**J**	**0.15**	1.00	**0.08**	**12/04/07**	**12/07/07**
Uranium 238	**1.26**		**0.32**	1.00	**0.07**	**12/04/07**	**12/07/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7334409**	**Yld %**
Americium 241	-0.004	U	0.16	1.00	0.27	11/30/07	12/02/07
[illegible]cium 137	**0.285**	**J**	**0.085**	1.00	**0.062**	**11/30/07**	**12/02/07**
Thorium 232	**0.71**	**J**	**0.23**	1.00	**0.40**	**11/30/07**	**12/02/07**
Uranium 235	0.34	U	0.37	1.00	0.61	11/30/07	12/02/07
Uranium 238	**2.44**		**0.92**	1.00	**2.2**	**11/30/07**	**12/02/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.71**		**0.23**		**0.40**	**11/30/07**	**12/02/07**
Bismuth 214	**0.91**		**0.20**		**0.22**	**11/30/07**	**12/02/07**
Lead 212	**0.93**		**0.15**		**0.16**	**11/30/07**	**12/02/07**
Lead 214	**1.07**		**0.20**		**0.16**	**11/30/07**	**12/02/07**
Potassium 40	**16.9**		**2.2**		**1.0**	**11/30/07**	**12/02/07**
Thallium 208	**0.379**		**0.096**		**0.081**	**11/30/07**	**12/02/07**
Thorium 234	**2.44**		**0.92**		**2.2**	**11/30/07**	**12/02/07**
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7333629**	**Yld % 101**
Technetium 99	**0.89**	**J**	**0.39**	1.00	**0.62**	**11/30/07**	**12/04/07**

NOTE(S)

[illegible]ts are incomplete without the case narrative.

[illegible]C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-88-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210313-033
Work Order: KCRFL
Matrix: SOLID

Date Collected: 11/16/07 0900
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**		**Batch # 7334409**		**Yld %**
Americium 241	0.04	U	0.17	1.00	0.28	11/30/07	12/02/07
Cesium 137	0.025	U	0.076	1.00	0.13	11/30/07	12/02/07
Thorium 232	**1.03**		**0.29**	1.00	**0.40**	**11/30/07**	**12/02/07**
Uranium 235	0.19	U	0.33	1.00	0.55	11/30/07	12/02/07
Uranium 238	**2.7**		**1.8**	1.0	**2.1**	**11/30/07**	**12/02/07**
--- Other Detected Radionuclides ---							
Actinium 228	**1.03**		**0.29**		**0.40**	**11/30/07**	**12/02/07**
Bismuth 214	**1.19**		**0.23**		**0.13**	**11/30/07**	**12/02/07**
Lead 212	**1.70**		**0.28**		**0.20**	**11/30/07**	**12/02/07**
Lead 214	**1.21**		**0.22**		**0.23**	**11/30/07**	**12/02/07**
Potassium 40	**19.4**		**2.9**		**0.9**	**11/30/07**	**12/02/07**
Thallium 208	**0.50**		**0.12**		**0.08**	**11/30/07**	**12/02/07**
Thorium 234	**2.7**		**1.8**		**2.1**	**11/30/07**	**12/02/07**

NOTE(S)

ata are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-88-20-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210313-034
Work Order: KCRFN
Matrix: SOLID

Date Collected: 11/16/07 0912
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7334409**		**Yld %**
Americium 241	-0.02	U	1.8	1.0	0.3	11/30/07	12/02/07
Cesium 137	-0.04	U	8.2	1.0	0.2	11/30/07	12/02/07
Thorium 232	**0.95**	**J**	**0.30**	1.00	**0.34**	**11/30/07**	**12/02/07**
Uranium 235	0.30	U	0.32	1.00	0.52	11/30/07	12/02/07
Uranium 238	0.03	U	1.4	1.0	2.4	11/30/07	12/02/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.95**		**0.30**		**0.34**	**11/30/07**	**12/02/07**
Bismuth 214	**0.73**		**0.22**		**0.21**	**11/30/07**	**12/02/07**
Lead 212	**1.12**		**0.18**		**0.13**	**11/30/07**	**12/02/07**
Lead 214	**0.64**		**0.19**		**0.24**	**11/30/07**	**12/02/07**
Potassium 40	**17.6**		**2.8**		**0.7**	**11/30/07**	**12/02/07**
Thallium 208	**0.41**		**0.11**		**0.09**	**11/30/07**	**12/02/07**

NOTE(S)

ta are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-89-0.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210313-035
Work Order: KCRFR
Matrix: SOLID

Date Collected: 11/13/07 1000
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338146**	**Yld % 81**
Neptunium 237	0.036	U	0.053	1.00	0.073	12/04/07	12/06/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338148**	**Yld % 96**
Plutonium 238	0.019	U	0.041	1.00	0.066	12/04/07	12/07/07
Plutonium 239/40	0.006	U	0.024	1.00	0.050	12/04/07	12/07/07
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7333629**	**Yld % 106**
Technetium 99	**0.69**	**J**	**0.37**	1.00	**0.59**	**11/30/07**	**12/04/07**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338150**	**Yld % 90**
Uranium 233/234	**1.95**		**0.37**	1.00	**0.04**	**12/04/07**	**12/07/07**
Uranium 235/236	0.022	U	0.037	1.00	0.053	12/04/07	12/07/07
Uranium 238	**0.82**	**J**	**0.21**	1.00	**0.04**	**12/04/07**	**12/07/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7334409**	**Yld %**
Americium 241	0.069	U	0.091	1.00	0.15	11/30/07	12/02/07
Cesium 137	-0.003	U	0.077	1.00	0.096	11/30/07	12/02/07
Thorium 232	**0.45**	**J**	**0.17**	1.00	**0.28**	**11/30/07**	**12/02/07**
Uranium 235	0.16	U	0.20	1.00	0.32	11/30/07	12/02/07
Uranium 238	0.51	U	0.75	1.00	1.3	11/30/07	12/02/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.45**		**0.17**		**0.28**	**11/30/07**	**12/02/07**
Bismuth 214	**0.62**		**0.15**		**0.09**	**11/30/07**	**12/02/07**
Lead 212	**0.54**		**0.12**		**0.11**	**11/30/07**	**12/02/07**
Lead 214	**0.54**		**0.11**		**0.13**	**11/30/07**	**12/02/07**
Potassium 40	**9.3**		**1.6**		**0.9**	**11/30/07**	**12/02/07**
Thallium 208	**0.168**		**0.064**		**0.080**	**11/30/07**	**12/02/07**

NOTE(S)

ta are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-89-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210313-036
Work Order: KCRFX
Matrix: SOLID

Date Collected: 11/13/07 1005
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7333629**		**Yld % 93**
Technetium 99	0.32	U	0.46	1.00	0.68	11/30/07	12/04/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7334409**		**Yld %**
Americium 241	-0.04	U	0.12	1.00	0.20	11/30/07	12/02/07
Cesium 137	-0.00005	U	0.050	1.00	0.091	11/30/07	12/02/07
Thorium 232	**0.61**	**J**	**0.19**	1.00	**0.27**	**11/30/07**	**12/02/07**
Uranium 235	0.07	U	0.29	1.00	0.49	11/30/07	12/02/07
Uranium 238	**2.0**		**1.3**	1.0	**1.5**	**11/30/07**	**12/02/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.61**		**0.19**		**0.27**	**11/30/07**	**12/02/07**
Bismuth 214	**0.30**		**0.13**		**0.20**	**11/30/07**	**12/02/07**
Lead 212	**0.61**		**0.14**		**0.14**	**11/30/07**	**12/02/07**
Lead 214	**0.59**		**0.14**		**0.17**	**11/30/07**	**12/02/07**
Potassium 40	**12.1**		**1.7**		**0.9**	**11/30/07**	**12/02/07**
Thallium 208	**0.248**		**0.068**		**0.063**	**11/30/07**	**12/02/07**
Thorium 234	**2.0**		**1.3**		**1.5**	**11/30/07**	**12/02/07**

NOTE(S)

Data are incomplete without the case narrative.

RC is determined by instrument performance only.

Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-89-19.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210313-037
Work Order: KCRF2
Matrix: SOLID

Date Collected: 11/13/07 1025
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7335109**		**Yld %**
Americium 241	-0.11	U	0.32	1.00	0.54	12/01/07	12/07/07
Cesium 137	0.017	U	0.055	1.00	0.096	12/01/07	12/07/07
Thorium 232	**0.40**	**J**	**0.17**	1.00	**0.27**	**12/01/07**	**12/07/07**
Uranium 235	**28.5**		**2.6**	1.0	**1.8**	**12/01/07**	**12/07/07**
Uranium 238	**9.8**		**2.3**	1.0	**4.1**	**12/01/07**	**12/07/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.40**		**0.17**		**0.27**	**12/01/07**	**12/07/07**
Bismuth 214	**0.58**		**0.16**		**0.18**	**12/01/07**	**12/07/07**
Lead 212	**0.64**		**0.22**		**0.19**	**12/01/07**	**12/07/07**
Lead 214	**0.57**		**0.14**		**0.18**	**12/01/07**	**12/07/07**
Potassium 40	**5.4**		**1.3**		**1.4**	**12/01/07**	**12/07/07**
Thallium 208	**0.224**		**0.058**		**0.050**	**12/01/07**	**12/07/07**
Thorium 234	**9.8**		**2.3**		**4.1**	**12/01/07**	**12/07/07**

NOTE(S)

ta are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

METHOD BLANK REPORT

Severn Trent Laboratories - Radiochemistry

Client Lot ID: F7K210313
Matrix: SOLID

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC		Prep Date	Analysis Date	Lab Sample ID
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**	**Batch #**	**7334378**	**Yld %**			**F7K300000-378B**
Americium 241	-0.002	U	0.042	1.00	0.077		11/30/07	12/05/07	
Cesium 137	-0.016	U	0.055	1.00	0.073		11/30/07	12/05/07	
Thorium 232	0.0	U	0.25	1.00	0.45		11/30/07	12/05/07	
Uranium 235	0.0009	U	0.0999	1.00	0.19		11/30/07	12/05/07	
Uranium 238	0.1	U	0.34	1.00	0.69		11/30/07	12/05/07	
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**	**Batch #**	**7334409**	**Yld %**			**F7K300000-409B**
Americium 241	-0.003	U	0.055	1.00	0.10		11/30/07	12/02/07	
Cesium 137	0.010	U	0.033	1.00	0.062		11/30/07	12/02/07	
Thorium 232	0.09	U	0.14	1.00	0.25		11/30/07	12/02/07	
Uranium 235	0.003	U	0.13	1.00	0.25		11/30/07	12/02/07	
Uranium 238	-0.3	U	1.3	1.0	1		11/30/07	12/02/07	
TC-99 by LSC by DOE TC-02-RC Mod.			**pCi/g**	**Batch #**	**7333629**	**Yld %**	**98**		**F7K290000-629B**
Technetium 99	0.03	U	0.23	1.00	0.64		11/30/07	12/04/07	
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**	**Batch #**	**7335109**	**Yld %**			**F7L010000-109B**
Americium 241	-0.01	U	0.95	1.00	0.11		12/01/07	12/08/07	
Cesium 137	-0.03	U	0.78	1.00	0.13		12/01/07	12/08/07	
Thorium 232	0.0	U	0.23	1.00	0.43		12/01/07	12/08/07	
Uranium 235	0.02	U	0.13	1.00	0.24		12/01/07	12/08/07	
Uranium 238	0.21	U	0.45	1.00	0.86		12/01/07	12/08/07	
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**	**Batch #**	**7338146**	**Yld %**	**83**		**F7L040000-146B**
Neptunium 237	-0.009	U	0.030	1.00	0.066		12/04/07	12/06/07	
Iso URANIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**	**Batch #**	**7338150**	**Yld %**	**89**		**F7L040000-150B**
Uranium 233/234	0.009	U	0.023	1.00	0.045		12/04/07	12/07/07	
Uranium 235/236	-0.005	U	0.031	1.00	0.065		12/04/07	12/07/07	
Uranium 238	-0.002	U	0.023	1.00	0.045		12/04/07	12/07/07	
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**	**Batch #**	**7338148**	**Yld %**	**85**		**F7L040000-148B**
Plutonium 238	0.014	U	0.037	1.00	0.064		12/04/07	12/07/07	
Plutonium 239/40	0.016	U	0.035	1.00	0.060		12/04/07	12/07/07	

NOTE(S)

a are incomplete without the case narrative.

MDC is determined using instrument performance only
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Laboratory Control Sample Report

Severn Trent Laboratories - Radiochemistry

Client Lot ID: F7K210313
Matrix: SOLID

Parameter	Spike Amount	Result	Total Uncert. (2 σ+/-)	MDC	% Yld	% Rec	Lab Sample ID / QC Control Limits
TC-99 by LSC by DOE TC-02-RC Mod.			**pCi/g**	**TC-02-RC MOD**			**F7K290000-629C**
Technetium 99	33.3	31.6	3.3	0.6	100	95	(64 - 114)
	Batch #:	7333629		**Analysis Date:**	12/04/07		
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**	**GA-01-R MOD**			**F7K300000-378C**
Americium 241	103	107	8.5	1.3		104	(85 - 118)
Cesium 137	40.0	43.4	2.7	0.4		108	(91 - 120)
Cobalt 60	62.7	64.5	3.8	0.2		103	(91 - 112)
	Batch #:	7334378		**Analysis Date:**	12/05/07		
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**	**GA-01-R MOD**			**F7K300000-409C**
Americium 241	103	108	8.6	1.4		105	(85 - 118)
Cesium 137	40.0	42.9	2.7	0.4		107	(91 - 120)
Cobalt 60	62.7	65.1	3.9	0.3		104	(91 - 112)
	Batch #:	7334409		**Analysis Date:**	12/02/07		
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**	**GA-01-R MOD**			**F7L010000-109C**
Americium 241	103	105	8.3	1.3		102	(85 - 118)
Cesium 137	40.0	43.9	2.7	0.4		110	(91 - 120)
Cobalt 60	62.7	64.8	3.9	0.2		103	(91 - 112)
	Batch #:	7335109		**Analysis Date:**	12/08/07		
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**	**A-01-R MOD**			**F7L040000-146C**
Neptunium 237	13.3	12.5	1.4	0.05	104	95	(75 - 119)
	Batch #:	7338146		**Analysis Date:**	12/06/07		
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**	**A-01-R**			**F7L040000-148C**
Plutonium 238	6.13	5.76	0.90	0.06	84	94	(77 - 112)
Plutonium 239/40	5.77	6.44	0.99	0.06	84	112	(82 - 119)
	Batch #:	7338148		**Analysis Date:**	12/07/07		
Iso URANIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**	**A-01-R MOD**			**F7L040000-150C**
Uranium 233/234	19.6	20.4	4.2	0.3	59	104	(76 - 128)
Uranium 238	19.6	21.2	4.4	0.7	59	108	(74 - 125)
	Batch #:	7338150		**Analysis Date:**	12/07/07		

NOTE(S)

MDC is determined by instrument performance only
Calculations are performed before rounding to avoid round-off error in calculated results

DUPLICATE EVALUATION REPORT

Severn Trent Laboratories - Radiochemistry

Client Lot ID: F7K210313 Date Sampled: 11/19/07
Matrix: SOLID Date Received: 11/21/07

Parameter	SAMPLE Result		Total Uncert. (2σ+/-)	% Yld	DUPLICATE Result		Total Uncert. (2 σ+/-)	% Yld	QC Sample ID Precision	
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**GA-01-R MOD**				**F7K210252-022**	
Americium 241	0.0	U	0.17		0.01	U	0.17		200	%RPD
Cesium 137	0.025	U	0.070		-0.0008	U	0.080		213	%RPD
Thorium 232	0.99	J	0.25		1.04		0.27		5	%RPD
Uranium 235	0.1	U	0.38		-0.08	U	21		1820	%RPD
Uranium 238	1.8	U	1.0		1.15	U	0.82		46	%RPD
---Other Dedected Radionuclides---										
Actinium 228	0.99		0.25		1.04		0.27		5	%RPD
Bismuth 214	1.25		0.23		0.89		0.22		34	%RPD
Lead 212	1.12		0.21		1.49		0.26		29	%RPD
Lead 214	1.16		0.21		1.25		0.24		8	%RPD
Potassium 40	18.5		2.3		20.4		2.8		10	%RPD
Thallium 208	0.49		0.12		0.50		0.13		2	%RPD
	Batch #:		7335109	(Sample)	7335109	(Duplicate)				
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**TC-02-RC MOD**				**F7K210313-001**	
Technetium 99	-0.15	U	0.41	100	0.15	U	0.33	105	4660	%RPD
	Batch #:		7333629	(Sample)	7333629	(Duplicate)				
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**GA-01-R MOD**				**F7K210313-001**	
Americium 241	0.07	U	0.16		0.18	U	0.16		91	%RPD
Cesium 137	-0.024	U	0.094		-0.02	U	0.27		21	%RPD
Thorium 232	1.10		0.30		0.92	J	0.27		18	%RPD
Uranium 235	0.11	U	0.40		0.27	U	0.31		85	%RPD
Uranium 238	1.1	U	1.3		2.20		0.97		63	%RPD
---Other Dedected Radionuclides---										
Actinium 228	1.10		0.30		0.92		0.27		18	%RPD
Bismuth 214	1.24		0.24		0.86		0.23		37	%RPD
Lead 212	1.43		0.24		1.29		0.23		10	%RPD
Lead 214	1.38		0.23		1.25		0.24		10	%RPD
Potassium 40	19.4		3.0		20.0		2.9		3	%RPD
Thallium 208	0.46		0.12		0.30		0.10		41	%RPD
	Batch #:		7334378	(Sample)	7334378	(Duplicate)				
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**A-01-R MOD**				**F7K210313-003**	
Neptunium 237	-0.011	U	0.032	88	0.01	U	0.040	88	4670	%RPD
	Batch #:		7338146	(Sample)	7338146	(Duplicate)				
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**A-01-R**				**F7K210313-003**	
Plutonium 238	0.005	U	0.039	90	-0.001	U	0.032	89	340	%RPD
Plutonium 239/40	-0.002	U	0.023	90	0.007	U	0.026	89	361	%RPD
	Batch #:		7338148	(Sample)	7338148	(Duplicate)				
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**A-01-R MOD**				**F7K210313-003**	
Uranium 233/234	21.9		3.0	80	18.9		2.7	78	14	%RPD
Uranium 235/236	1.13		0.30	80	1.10		0.29	78	3	%RPD
Uranium 238	6.00		0.95	80	4.43		0.74	78	30	%RPD
	Batch #:		7338150	(Sample)	7338150	(Duplicate)				

DUPLICATE EVALUATION REPORT

Severn Trent Laboratories - Radiochemistry

Client Lot ID: F7K210313
Matrix: SOLID

Date Sampled: 11/15/07
Date Received: 11/21/07

Parameter	SAMPLE Result		Total Uncert. (2σ+/-)	% Yld	DUPLICATE Result		Total Uncert. (2 σ+/-)	% Yld	QC Sample ID Precision	
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**GA-01-R MOD**				**F7K210313-021**	
Americium 241	0.10	U	0.18		0.007	U	0.18		174	%RPD
Cesium 137	0.030	U	0.060		0.004	U	0.063		157	%RPD
Thorium 232	0.97	J	0.26		0.94	J	0.31		3	%RPD
Uranium 235	0.07	U	0.32		0.30	U	0.37		125	%RPD
Uranium 238	1.58	U	0.81		0.6	U	1.4		90	%RPD
---Other Dedected Radionuclides---										
Actinium 228	0.97		0.26		0.94		0.31		3	%RPD
Bismuth 214	1.07		0.22		1.16		0.26		8	%RPD
Lead 212	1.05		0.23		1.64		0.29		44	%RPD
Lead 214	1.55		0.30		1.39		0.26		11	%RPD
Potassium 40	21.9		2.6		20.6		3.1		6	%RPD
Thallium 208	0.43		0.13		0.38		0.12		13	%RPD
	Batch #:		7334409	(Sample)	7334409	(Duplicate)				

OTE(S)

ata are incomplete without the case narrative.
Calculations are performed before rounding to avoid round-off error in calculated results

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

F7K210313 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD
Date Received: 2007-11-21
Analytical Due Date: 2007-12-10
Report Due Date: 2007-12-11
Report Type: W
EDD Code: 00

Project Manager: IV Quote #: 77705 SDG:
Project: 313010.202 Hematite Site
PO#: Report to: Paul Ely
Client: 1381304 Energy Solutions, LLC #SMPS in LOT: 37

Gamma library MUST contain U-235, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
1	NB-115-4.5-SL			2007-11-17 / 1012	KCQ90	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
2	NB-115-12.5-SL			2007-11-17 / 1023	KCRAH	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
3	NB-116-0.5-SL			2007-11-14 / 855	KCRAN	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
4	NB-116-4.5-SL			2007-11-14 / 900	KCRAQ	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
5	NB-117-4.5-SL			2007-11-15 / 905	KCRAR	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A

F7K210313 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD
Date Received: 2007-11-21
Analytical Due Date: 2007-12-10
Report Due Date: 2007-12-11
Report Type: W
EDD Code: 00

Project Manager: IV
Quote #: 77705
SDG:
Project: 313010.202
Hematite Site
PO#:
Report to: Paul Ely
Client: 1381304 Energy Solutions, LLC
#SMPS in LOT: 37

Gamma library MUST contain U-235, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
6	NB-116-12.5-SL			2007-11-14 / 920	KCRAW	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
7	NB-117-13.5-SL			2007-11-15 / 923	KCRAX	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
8	NB-118-0.5-SL			2007-11-15 / 1605	KCRA5	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
9	NB-118-4.5-SL			2007-11-15 / 1609	KCRCE	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
10	NB-118-10.5-SL			2007-11-15 / 1625	KCRCK	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
11	NB-119-0.5-SL			2007-11-15 / 1700	KCRCN	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

F7K210313 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD

Project Manager: IV | Quote #: 77705 | SDG:

Project: 313010.202 | Hematite Site

PO#: | Report to: Paul Ely

Client: 1381304 Energy Solutions, LLC

#SMPS in LOT: 37

Date Received: 2007-11-21
Analytical Due Date: 2007-12-10
Report Due Date: 2007-12-11
Report Type: W
EDD Code: 00

Gamma library MUST contain U-235, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
12	NB-119-2.5-SL			2007-11-15 / 1705	KCRCV	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
13	NB-119-4.5-SL			2007-11-15 / 1705	KCRCW	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
14	NB-119-13.5-SL			2007-11-15 / 1730	KCRC0	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
15	NB-109-5-SL			2007-11-15 / 1108	KCRC7	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
16	NB-110-0.5-SL			2007-11-15 / 1307	KCRDG	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
17	NB-110-4.5-SL			2007-11-15 / 1308	KCRDH	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06

F7K210313 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD
Date Received: 2007-11-21
Analytical Due Date: 2007-12-10
Report Due Date: 2007-12-11
Report Type: W
EDD Code: 00

Project Manager: IV
Quote #: 77705
SDG:
Project: 313010.202
Hematite Site
PO#:
Report to: Paul Ely
Client: 1381304 Energy Solutions, LLC
#SMPS In LOT: 37

Gamma library MUST contain U-235, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC 06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
18	NB-110-5-SL			2007-11-15 / 1331	KCRDK	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC 06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC 06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
19	NB-111-0.5-SL			2007-11-15 / 1429	KCRDN	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC 06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC 06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC 06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC 06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC 06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC 06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
20	NB-111-4.5-SL			2007-11-15 / 1434	KCRDR	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC 06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC 06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
21	NB-111-8.5-SL			2007-11-15 / 1440	KCRDT	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC 06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC 06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
22	NB-112-4.5-SL			2007-11-15 / 942	KCRD0	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC 06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC 06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
23	BD-41-4.5-SL			2007-11-09 / 825	KCRD5	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC 06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC 06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC 06

F7K210313 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD
Date Received: 2007-11-21
Analytical Due Date: 2007-12-10
Report Due Date: 2007-12-11
Report Type: W
EDD Code: 00

Project Manager: IV
Quote #: 77705
SDG:
Project: 313010.202
Hematite Site
PO#:
Report to: Paul Ely
Client: 1381304 Energy Solutions, LLC
#SMPS in LOT: 37

Gamma library MUST contain U-235, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
24	BD-41-6-SL			2007-11-09 / 830	KCREE	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
25	BD-24-0.5-SL			2007-11-20 / 955	KCREN	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
26	BD-24-2.5-SL			2007-11-20 / 1000	KCREQ	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
27	BD-24-4.5-SL			2007-11-20 / 1000	KCRET	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
28	BD-24-13-SL			2007-11-20 / 1015	KCRE0	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
29	NB-113-19.5-SL			2007-11-20 / 1110	KCRE3	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06

F7K210313 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD
Date Received: 2007-11-21
Analytical Due Date: 2007-12-10
Report Due Date: 2007-12-11
Report Type: W
EDD Code: 00

Project Manager: IV
Quote #: 77705
SDG:
Project: 313010.202
Hematite Site
PO#:
Report to: Paul Ely
Client: 1381304 Energy Solutions, LLC
#SMPS in LOT: 37

Gamma library MUST contain U-235, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
30	NB-87-4.5-SL			2007-11-09 / 1000	KCRE9	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
31	NB-87-18-SL			2007-11-09 / 1020	KCRFC	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
32	NB-88-0.5-SL			2007-11-16 / 855	KCRFG	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
33	NB-88-4.5-SL			2007-11-16 / 900	KCRFL	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
34	NB-88-20-SL			2007-11-16 / 912	KCRFN	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
35	NB-89-0.5-SL			2007-11-13 / 1000	KCRFR	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

F7K210313 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD
Date Received: 2007-11-21
Analytical Due Date: 2007-12-10
Report Due Date: 2007-12-11
Report Type: W
EDD Code: 00

Project Manager: IV
Quote #: 77705
SDG:
Project: 313010.202
Hematite Site
PO#:
Report to: Paul Ely
Client: 1381304 Energy Solutions, LLC
#SMPS in LOT: 37

Gamma library MUST contain U-235, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
36	NB-89-4.5-SL			2007-11-13 / 1005	KCRFX	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
37	NB-89-19.5-SL			2007-11-13 / 1025	KCRF2	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

Attachment 5.2-Chain of Custody Record

Client: WEC
Address:
City:
State: Zip Code:

Project Manager: Duane Quayle
Telephone Number: 865-368-7477
Site Contact:
Lab Contact: Ivan Venia

Date: 11/21/07
CoC Number: 96-9
Page: 16 of 28

Project Name: Hematite Characterization
Project Location:
Carrier/Waybill Number:
Contract/PO Number:

Sample ID Number	Date	Time	Matrix: Air	Aqueous	Sediment	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: Isotopic Tc-99	Isotopic U	Isotopic Pu	Isotopic Np
NB-115-4.5-SL	11-17-07	~~1002~~ 1012				✓							✓	✓		
NB-115-12.5-SL	11-17-07	1023				✓							✓			
NB-116-0.5-SL	11-14-07	0855				✓							✓	✓	✓	✓
NB-116-4.5-SL	11-14-07	0900				✓							✓	✓		
NB-117-4.5-SL	11-15-07	0905				✓							✓		✓	✓
NB-116-12.5-SL	11-14-07	0920				✓							✓			
NB-117-13.5-SL	11-15-07	0923				✓							✓			✓
NB-118-0.5-SL	11-15-07	1605				✓							✓	✓	✓	✓

Possible Hazard Identification: Non-haz. ☐ Radioactive ☐ Flammable ☐ Skin Irritant ☐ Unknown ☐

Sample Disposal: Return to client ✓ Disposal by lab ☐ Archive for __ months ☐

Turn Around Time: 24 hrs ☐ 48 hrs ☐ 7 days ☐ 14 days ☐ 21 days ✓ Other ☐

Comments:

	Date	Time		Date	Time
Relinquished by:	11/21/07	1130	Received by:	11/21/07	11:30
Relinquished by:			Received by:		
Relinquished by:			Received by:		

Attachment 5.2-Chain of Custody Record

Client: WEC
Address:
City:
State: Zip Code:

Project Manager: Duane Quayle
Telephone Number: 865-368-7477
Site Contact:
Lab Contact: Ivan Venia

Date: 11/21/07
CoC Number: SC-01
Page: 17 of 28

Project Name: Hematite Characterization
Project Location:
Carrier/Waybill Number:
Contract/PO Number:

Sample ID Number	Date	Time	Matrix: Air	Aqueous	Sediment	Soil		Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH		Analysis (Attach list if more space is needed): SPLC	Isotopic Tc-99	Isotopic U	Isotopic Pu	Isotopic Np					
NB-118-4.5-SL	11-15-07	1609				✓									✓									
NB-118-10.5-SL	11-15-07	1625				✓									✓									
NB-119-0.5-SL	11-15-07	1700				✓									✓	✓	✓	✓	✓					
NB-119-2.5-SL	11-15-07	1705				✓									✓	✓	✓							
NB-119-4.5-SL	11-15-07	1705				✓									✓	✓								
NB-119-13.5-SL	11-15-07	1730				✓									✓									

Possible Hazard Identification: Non-haz. ☐ Radioactive ☐ Flammable ☐ Skin Irritant ☐ Unknown ☐

Sample Disposal: Return to client ✓ Disposal by lab ☐ Archive for __ months ☐

Turn Around Time: 24 hrs ☐ 48 hrs ☐ 7 days ☐ 14 days ☐ 21 days ✓ Other ☐

Comments:

	Date	Time		Date	Time
Relinquished by: [signature]	11/21/07	11[illegible]	Received by: [signature]	11/21/07	11:30
Relinquished by:			Received by:		
Relinquished by:			Received by:		

Soil Surveys, Sample Collections, & Chain-of-Custody Procedure

Attachment 5.2-Chain of Custody Record

Client: WEC
Address:
City:
State: Zip Code:

Project Manager: Dixie Quayle
Telephone Number: 865-368-7477
Site Contact:
Lab Contact: Ivan Venia

Date: 11/21/07
CoC Number: 5C-01
Page: 18 of 28

Project Name: Hematite Characterization
Project Location:
Carrier/Waybill Number:
Contract/PO Number:

Sample ID Number	Date	Time	Matrix: Air	Aqueous	Sediment	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: X spec	Isotopic Tc-99	Isotopic U	Isotopic Pu	Isotopic Np
NB-109-5-SL	11-15-07	1108				✓							✓	✓	✓	✓	✓
NB-110-0.5-SL	11-15-07	1307				✓							✓				
NB-110-4.5-SL	11-15-07	1308				✓							✓	✓	✓	✓	✓
NB-110-5-SL	11-15-07	1331				✓							✓				
NB-111-0.5-SL	11-15-07	1429				✓							✓				
NB-111-4.5-SL	11-15-07	1434				✓							✓				
NB-111-8.5-SL	11-15-07	1440				✓							✓				
NB-112-4.5-SL	11-15-07	0942				✓							✓				

Possible Hazard Identification: Non-haz. ☐ Radioactive ☐ Flammable ☐ Skin Irritant ☐ Unknown ☐

Sample Disposal: Return to client ✓ Disposal by lab ☐ Archive for __ months ☐

Turn Around Time: 24 hrs ☐ 48 hrs ☐ 7 days ☐ 14 days ☐ 28 days ✓ Other ☐

Comments:

	Date	Time		Date	Time
Relinquished by:	11/21/07	1130	Received by:	11/21/07	11:30
Relinquished by:			Received by:		
Relinquished by:			Received by:		

TestAmerica St. Louis

Attachment 5.2-Chain of Custody Record

Client: WEC
Address:
City:
State: Zip Code:

Project Manager: Duane Quayle
Telephone Number: 865-368-7477
Site Contact:
Lab Contact: Ivan Venia

Date: 11/21/07
CoC Number: SC-01
Page: 19 of 28

Project Name: Hematite Characterization
Project Location:
Carrier/Waybill Number:
Contract/PO Number:

Sample ID Number	Date	Time	Matrix: Air	Aqueous	Sediment	Soil		Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH		Analysis (Attach list if more space is needed): Xspec	Isotopic Tc-99	Isotopic U	Isotopic Pu	Isotopic Np					
BD-41-4.5-SL	11-9-07	0825				✓									✓	✓								
BD-41-6-SL	11-9-07	0830				✓									✓									
BD-24-0.5-SL	11-20-07	0955				✓									✓	✓	✓	✓	✓					
BD-24-2.5-SL	11-20-07	1000				✓									✓	✓	✓							
BD-24-4.5-SL	11-20-07	1000				✓									✓	✓								
BD-24-13-SL	11-20-07	1015				✓									✓									
NB-113-19.5-SL	11-17-07	1110				✓									✓									

Possible Hazard Identification: Non-haz. ☐ Radioactive ☐ Flammable ☐ Skin Irritant ☐ Unknown ☐

Sample Disposal: Return to client ✓ Disposal by lab ☐ Archive for __ months ☐

Turn Around Time: 24 hrs ☐ 48 hrs ☐ 7 days ☐ 14 days ☐ 21 days ✓ Other ☐

Comments:

	Date	Time		Date	Time
Relinquished by: [signature]	11/21/07	1130	Received by: [signature]	11/21/07	11:30
Relinquished by:			Received by:		
Relinquished by:			Received by:		

Attachment 5.2-Chain of Custody Record

Client: WEC
Address:
City:
State: Zip Code:

Project Manager: Duane Quayle
Telephone Number: 865-368-7477
Site Contact:
Lab Contact: Ivan Venia

Date: 11/21/07
CoC Number: SC-01
Page: 20 of 28

Project Name: Hematite Characterization
Project Location: Festus, MO
Carrier/Waybill Number:
Contract/PO Number:

Sample ID Number	Date	Time	Matrix: Air	Aqueous	Sediment	Soil		Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH		Analysis (Attach list if more space is needed): γ SPEC	Isotopic Tc-99	Isotopic U	Isotopic Pu	Isotopic Np					
NB-87-4.5-SL	11/9/07	1000				✓									✓									
NB-87-18-SL	11/9/07	1020				✓									✓									
NB-88-0.5-SL	11/16/07	0855				✓									✓	✓	✓	✓	✓					
NB-88-4.5-SL	11/16/07	0900				✓									✓									
NB-88-20-SL	11/16/07	0912				✓									✓									
NB-89-0.5-SL	11/13/07	1000				✓									✓	✓	✓	✓	✓					
NB-89-4.5-SL	11/13/07	1005				✓									✓	✓								
NB-89-19.5-SL	11/13/07	1025				✓									✓									

Possible Hazard Identification: Non-haz. ☐ Radioactive ☐ Flammable ☐ Skin Irritant ☐ Unknown ☐

Sample Disposal: Return to client ✓ Disposal by lab ☐ Archive for __ months ☐

Turn Around Time: 24 hrs ☐ 48 hrs ☐ 7 days ☐ 14 days ☐ 21 days ✓ Other ☐

Comments:

	Date	Time		Date	Time
Relinquished by: [signature]	11/21/07	11:30	Received by: [signature]	11/21/07	11:30
Relinquished by:			Received by:		
Relinquished by:			Received by:		

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

- 1167 -

Lot#(s): F7K210252 F7K210247
277 615
350
337

Condition Upon Receipt Form

Client: Energy Solutions COC/RFA No: SL-01 Date: 11/21/07
Quote No: 77705 Initiated By: DD Time: 1130

Shipping Information

Shipper Name: client
Multiple Packages (Y) N
Shipping # (s):*
1. 2. 3. 4. 5. 6. 7. 8. 9. 10.

Sample Temperature (s):**
1. Ambient 2. 3. 4. 5. 6. Ambient 7. 8. 9. 10.

*Numbered shipping lines correspond to Numbered Sample Temp lines

**Sample must be received at 4°C ± 2°C. If not, note contents below. Temperature variance does NOT affect the following: Metals-Liquid or Rad tests- Liquid or Solids

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

1.	Y (N)	Are there custody seals present on the cooler?	8.	(Y) N	Are there custody seals present on bottles?
2.	Y N (N/A)	Do custody seals on cooler appear to be tampered with?	9.	Y (N) N/A	Do custody seals on bottles appear to be tampered with?
3.	(Y) N	Were contents of cooler frisked after opening, but before unpacking?	10.	Y N (N/A)	Was sample received with proper pH[1]? (If not, make note below)
4.	(Y) N	Sample received with Chain of Custody?	11.	Y N	If N/A- Was pH taken by original TestAmerica lab?
5.	(Y) N N/A	Does the Chain of Custody match sample ID's on the container(s)?	12.	(Y) N	Sample received in proper containers?
6.	Y (N)	Was sample received broken?	13.	Y N (N/A)	Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below)
7.	(Y) N	Is sample volume sufficient for analysis?	14.	Y N	Was Internal COC/Workshare received?

[1] For DOE-AL (Pantex, LANL, Sandia) sites, pH of ALL containers received must be verified, EXCEPT VOA, TOX and soils.

Notes:

Corrective Action:
☐ Client Contact Name: Informed by:
☐ Sample(s) processed "as is"
☐ Sample(s) on hold until: If released, notify:
Project Management Review: Date: 12-3-7 1167

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIAL AND THE DATE NEXT TO THAT ITEM.

ADMIN-0004, REVISED 08/06/07\\Skyvt01\QA\FORMS\ST-LOUIS\ADMIN\Admin004 rev11.doc

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

PROJECT NO. 313010.202

Hematite Site

Lot #: F7K210337

Paul Ely

Energy Solutions, LLC
1009 Commerce Park Drive
Suite 100
Oak Ridge, TN 37830

TESTAMERICA LABORATORIES, INC.

Ivan Vania
Project Manager

December 26, 2007

Case Narrative
LOT NUMBER: F7K210337

This report contains the analytical results for the 39 samples received under chain of custody by TestAmerica St. Louis on November 21, 2007. These samples are associated with your Hematite Site project.

The analytical results included in this report meet all applicable quality control procedure requirements except as noted on the following page.

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

All chemical analysis results are based upon sample as received, wet weight, unless noted otherwise. All radiochemistry results are based upon sample as dried and ground with the exception of tritium, unless requested wet weight by the client.

Observations/Nonconformances

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

Isotopic Uranium by Alpha Spectroscopy (EML A-01-R MOD)
The Uranium sample required an additional dilution due to high activity. The sample was re-prepared and reanalyzed. The reanalyzed Uranium-234 RPD is not within method acceptance criteria. The sample is heterogeneous. Method performance is demonstrated by acceptable LCS recovery.
Affected Samples:
F7K210337 (35): NB-101-2.5-SL

Gamma Spectroscopy - Cesium-137 & Hits (EML GA-01-R MOD)
The Uranium-238 reporting limit was not met due to the high activity of the sample.
Affected Samples:
F7K210337 (36): NB-101-4.5-SL

There were no other nonconformances or observations noted with any analysis on this lot.

METHODS SUMMARY

F7K210337

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Gamma Spectroscopy - Cesium-137 & Hits	EML GA-01-R MOD	
Isotopic Plutonium by Alpha Spectroscopy	EML A-01-R	
Isotopic Uranium by Alpha Spectroscopy	EML A-01-R MOD	
Neptunium by Alpha Spectroscopy	EML A-01-R MOD	
TC-99 by LSC	EML TC-02-RC MO	

References:

EML "ENVIRONMENTAL MEASUREMENTS LABORATORY PROCEDURES MANUAL"
HASL-300 28TH EDITION, VOLUME I and II DEPARTMENT OF ENERGY

SAMPLE SUMMARY

F7K210337

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
KCRG9	001	NB-90-4.5-SL	11/09/07	10:30
KCRHE	002	NB-90-11.5-SL	11/09/07	10:40
KCRHG	003	NB-91-0.5-SL	11/16/07	10:48
KCRHL	004	NB-91-4.5-SL	11/16/07	10:55
KCRHP	005	NB-91-6.5-SL	11/16/07	11:07
KCRHR	006	NB-92-4.5-SL	11/09/07	13:00
KCRH0	007	NB-92-11-SL	11/09/07	13:15
KCRH3	008	NB-93-0.5-SL	11/16/07	13:20
KCRH4	009	NB-93-4.5-SL	11/16/07	13:28
KCRH6	010	NB-93-15-SL	11/16/07	13:39
KCRH8	011	NB-94-4.5-SL	11/09/07	13:40
KCRJD	012	NB-94-15-SL	11/09/07	13:55
KCRJJ	013	NB-95-4.5-SL	11/09/07	14:55
KCRJP	014	NB-95-16.5-SL	11/09/07	15:10
KCRJR	015	NB-96-0.5-SL	11/16/07	14:00
KCRJV	016	NB-96-4.5-SL	11/16/07	14:08
KCRJ2	017	NB-134-0.5-SL	11/16/07	08:35
KCRJ5	018	NB-134-2.5-SL	11/16/07	08:50
KCRKA	019	NB-134-4.5-SL	11/16/07	08:50
KCRKE	020	NB-134-9-SL	11/16/07	09:00
KCRKH	021	NB-135-0.5-SL	11/14/07	17:05
KCRKN	022	NB-135-4.5-SL	11/14/07	17:15
KCRKQ	023	NB-135-15-SL	11/14/07	17:30
KCRKR	024	NB-96-5-SL	11/16/07	14:10
KCRKW	025	NB-97-0.5-SL	11/16/07	14:41
KCRK0	026	NB-97-4.5-SL	11/16/07	14:44
KCRK1	027	NB-97-9.5-SL	11/16/07	14:52
KCRK2	028	NB-98-0.5-SL	11/16/07	15:19
KCRK4	029	NB-98-4.5-SL	11/16/07	15:26
KCRK5	030	NB-98-9-SL	11/16/07	15:36
KCRK6	031	NB-99-4.5-SL	11/09/07	14:20
KCRK8	032	NB-99-13-SL	11/09/07	14:35
KCRLA	033	NB-100-4.5-SL	11/09/07	15:35
KCRLD	034	NB-100-7-SL	11/09/07	15:40
KCRLG	035	NB-101-2.5-SL	11/17/07	09:19
KCRLM	036	NB-101-4.5-SL	11/17/07	09:19

(Continued on next page)

SAMPLE SUMMARY

F7K210337

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
KCRLT	037	NB-101-7-SL	11/17/07	09:25
KCRL0	038	NB-102-0.5-SL	11/17/07	07:53
KCRL3	039	NB-102-4.5-SL	11/17/07	08:02

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Energy Solutions, LLC

Client Sample ID: NB-90-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210337-001
Work Order: KCRG9
Matrix: SOLID

Date Collected: 11/09/07 1030
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**		**Batch # 7335109**		**Yld %**
Americium 241	0.09	U	0.17	1.00	0.29	12/01/07	12/07/07
Cesium 137	0.077	U	0.083	1.00	0.13	12/01/07	12/07/07
Thorium 232	**0.75**	**J**	**0.28**	1.00	**0.50**	**12/01/07**	**12/07/07**
Uranium 235	-0.09	U	0.34	1.00	0.59	12/01/07	12/07/07
Uranium 238	0.3	U	1.3	1.0	2.3	12/01/07	12/07/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.75**		**0.28**		**0.50**	**12/01/07**	**12/07/07**
Bismuth 214	**0.94**		**0.23**		**0.19**	**12/01/07**	**12/07/07**
Lead 212	**1.19**		**0.29**		**0.23**	**12/01/07**	**12/07/07**
Lead 214	**1.11**		**0.23**		**0.22**	**12/01/07**	**12/07/07**
Potassium 40	**16.3**		**2.7**		**1**	**12/01/07**	**12/07/07**
Thallium 208	**0.49**		**0.12**		**0.09**	**12/01/07**	**12/07/07**

NOTE(S)

ta are incomplete without the case narrative.

.C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-90-11.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210337-002
Work Order: KCRHE
Matrix: SOLID

Date Collected: 11/09/07 1040
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**		**Batch # 7335109**		**Yld %**
Americium 241	0.03	U	0.17	1.00	0.30	12/01/07	12/07/07
Cesium 137	-0.04	U	1.0	1.0	0.2	12/01/07	12/07/07
Thorium 232	**0.97**	**J**	**0.35**	1.00	**0.55**	**12/01/07**	**12/07/07**
Uranium 235	0.13	U	0.40	1.00	0.68	12/01/07	12/07/07
Uranium 238	1.9	U	1.1	1.0	2.3	12/01/07	12/07/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.97**		**0.35**		**0.55**	**12/01/07**	**12/07/07**
Bismuth 214	**1.39**		**0.35**		**0.27**	**12/01/07**	**12/07/07**
Lead 212	**1.34**		**0.25**		**0.20**	**12/01/07**	**12/07/07**
Lead 214	**1.17**		**0.27**		**0.30**	**12/01/07**	**12/07/07**
Potassium 40	**10.5**		**2.5**		**2.0**	**12/01/07**	**12/07/07**
Thallium 208	**0.32**		**0.13**		**0.18**	**12/01/07**	**12/07/07**

NOTE(S)

ta are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-91-0.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210337-003
Work Order: KCRHG
Matrix: SOLID

Date Collected: 11/16/07 1048
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 7341092		Yld % 100
Neptunium 237	0.021	U	0.036	1.00	0.063	12/07/07	12/13/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 7341133		Yld % 95
Plutonium 238	-0.0128	U	0.0098	1.00	0.067	12/07/07	12/17/07
Plutonium 239/40	-0.0037	U	0.0052	1.00	0.048	12/07/07	12/17/07
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g	Batch # 7346172		Yld % 98
Technetium 99	1.57		0.44	1.00	0.64	12/12/07	12/17/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 7341138		Yld % 87
Uranium 233/234	3.45		0.48	1.00	0.06	12/07/07	12/13/07
Uranium 235/236	0.158	J	0.094	1.00	0.057	12/07/07	12/13/07
Uranium 238	0.92	J	0.21	1.00	0.06	12/07/07	12/13/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g	Batch # 7335109		Yld %
Americium 241	-0.004	U	0.11	1.00	0.20	12/01/07	12/07/07
Cesium 137	0.026	U	0.052	1.00	0.090	12/01/07	12/07/07
Thorium 232	0.30	U	0.26	1.00	0.40	12/01/07	12/07/07
Uranium 235	0.11	U	0.28	1.00	0.49	12/01/07	12/07/07
Uranium 238	1	U	1.1	1.0	1.6	12/01/07	12/07/07
--- Other Detected Radionuclides ---							
Bismuth 214	0.58		0.20		0.20	12/01/07	12/07/07
Lead 212	0.44		0.12		0.12	12/01/07	12/07/07
Lead 214	0.62		0.17		0.18	12/01/07	12/07/07
Potassium 40	7.9		1.6		0.7	12/01/07	12/07/07
Thallium 208	0.153		0.072		0.092	12/01/07	12/07/07

NOTE(S)

ata are incomplete without the case narrative.

C is determined by instrument performance only.

Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-91-0.5-SL DUP

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210337-003X
Work Order: KCRHG
Matrix: SOLID

Date Collected: 11/16/07 1048
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7341092**	**Yld % 91**
Neptunium 237	0.005	U	0.023	1.00	0.059	12/07/07	12/13/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7341133**	**Yld % 92**
Plutonium 238	-0.011	U	0.025	1.00	0.083	12/07/07	12/17/07
Plutonium 239/40	0.009	U	0.021	1.00	0.045	12/07/07	12/17/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7341138**	**Yld % 96**
Uranium 233/234	**3.53**		**0.48**	1.00	**0.05**	**12/07/07**	**12/13/07**
Uranium 235/236	**0.137**	**J**	**0.085**	1.00	**0.054**	**12/07/07**	**12/13/07**
Uranium 238	**0.93**	**J**	**0.21**	1.00	**0.06**	**12/07/07**	**12/13/07**
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7346172**	**Yld % 102**
Technetium 99	**1.69**		**0.43**	1.00	**0.62**	**12/12/07**	**12/17/07**

NOTE(S)

ıta are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-91-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210337-004
Work Order: KCRHL
Matrix: SOLID

Date Collected: 11/16/07 1055
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7346172**		**Yld % 96**
Technetium 99	**4.55**		**0.63**	1.00	**0.65**	**12/12/07**	**12/17/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7335109**		**Yld %**
Americium 241	0.04	U	0.14	1.00	0.25	12/01/07	12/08/07
Cesium 137	0.031	U	0.057	1.00	0.098	12/01/07	12/08/07
Thorium 232	**0.49**	J	**0.21**	1.00	**0.38**	**12/01/07**	**12/08/07**
Uranium 235	**1.10**		**0.40**	1.00	**0.59**	**12/01/07**	**12/08/07**
Uranium 238	**2.9**		**1.1**	1.0	**2.2**	**12/01/07**	**12/08/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.49**		**0.21**		**0.38**	**12/01/07**	**12/08/07**
Bismuth 214	**0.62**		**0.17**		**0.22**	**12/01/07**	**12/08/07**
Lead 212	**0.70**		**0.14**		**0.14**	**12/01/07**	**12/08/07**
Lead 214	**0.76**		**0.15**		**0.18**	**12/01/07**	**12/08/07**
Potassium 40	**11.7**		**1.8**		**1.1**	**12/01/07**	**12/08/07**
Thallium 208	**0.208**		**0.080**		**0.11**	**12/01/07**	**12/08/07**
Thorium 234	**2.9**		**1.1**		**2.2**	**12/01/07**	**12/08/07**

NOTE(S)

ta are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-91-6.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210337-005
Work Order: KCRHP
Matrix: SOLID

Date Collected: 11/16/07 1107
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7346172**		**Yld % 98**
Technetium 99	**38.0**		**3.3**	1.0	**0.6**	**12/12/07**	**12/17/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7335109**		**Yld %**
Americium 241	0.003	U	0.086	1.00	0.15	12/01/07	12/07/07
Cesium 137	0.027	U	0.044	1.00	0.076	12/01/07	12/07/07
Thorium 232	**0.45**	**J**	**0.18**	1.00	**0.26**	**12/01/07**	**12/07/07**
Uranium 235	**2.87**		**0.41**	1.00	**0.35**	**12/01/07**	**12/07/07**
Uranium 238	**5.88**		**0.73**	1.00	**1.1**	**12/01/07**	**12/07/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.45**		**0.18**		**0.26**	**12/01/07**	**12/07/07**
Bismuth 214	**0.54**		**0.12**		**0.09**	**12/01/07**	**12/07/07**
Lead 212	**0.62**		**0.10**		**0.09**	**12/01/07**	**12/07/07**
Lead 214	**0.54**		**0.11**		**0.09**	**12/01/07**	**12/07/07**
Potassium 40	**10.4**		**1.5**		**0.4**	**12/01/07**	**12/07/07**
Thallium 208	**0.120**		**0.052**		**0.072**	**12/01/07**	**12/07/07**
Thorium 234	**5.88**		**0.73**		**1.1**	**12/01/07**	**12/07/07**

NOTE(S)

ata are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-92-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210337-006
Work Order: KCRHR
Matrix: SOLID

Date Collected: 11/09/07 1300
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7346172**		**Yld % 96**
Technetium 99	0.26	U	0.40	1.00	0.65	12/12/07	12/17/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7335109**		**Yld %**
Americium 241	0.04	U	0.16	1.00	0.27	12/01/07	12/08/07
Cesium 137	0.058	U	0.059	1.00	0.094	12/01/07	12/08/07
Thorium 232	**0.58**	**J**	**0.20**	1.00	**0.30**	**12/01/07**	**12/08/07**
Uranium 235	0.05	U	0.30	1.00	0.52	12/01/07	12/08/07
Uranium 238	0.4	U	1.2	1.0	2.1	12/01/07	12/08/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.58**		**0.20**		**0.30**	**12/01/07**	**12/08/07**
Bismuth 212	**0.77**		**0.49**		**0.71**	**12/01/07**	**12/08/07**
Bismuth 214	**0.85**		**0.19**		**0.22**	**12/01/07**	**12/08/07**
Lead 212	**0.64**		**0.16**		**0.22**	**12/01/07**	**12/08/07**
Lead 214	**1.04**		**0.18**		**0.16**	**12/01/07**	**12/08/07**
Potassium 40	**13.4**		**1.9**		**1.0**	**12/01/07**	**12/08/07**
Thallium 208	**0.375**		**0.092**		**0.076**	**12/01/07**	**12/08/07**

NOTE(S)

ata are incomplete without the case narrative.

JC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-92-11-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210337-007
Work Order: KCRH0
Matrix: SOLID

Date Collected: 11/09/07 1315
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7346172**		**Yld % 95**
Technetium 99	0.22	U	0.40	1.00	0.66	12/12/07	12/17/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7335109**		**Yld %**
Americium 241	0.08	U	0.15	1.00	0.26	12/01/07	12/08/07
Cesium 137	-0.018	U	0.095	1.00	0.17	12/01/07	12/08/07
Thorium 232	**1.28**		**0.45**	1.00	**0.55**	**12/01/07**	**12/08/07**
Uranium 235	0.18	U	0.46	1.00	0.78	12/01/07	12/08/07
Uranium 238	1.97	U	0.99	1.00	2.4	12/01/07	12/08/07
--- Other Detected Radionuclides ---							
Actinium 228	**1.28**		**0.45**		**0.55**	**12/01/07**	**12/08/07**
Bismuth 214	**1.36**		**0.29**		**0.20**	**12/01/07**	**12/08/07**
Lead 212	**1.25**		**0.26**		**0.22**	**12/01/07**	**12/08/07**
Lead 214	**1.18**		**0.25**		**0.25**	**12/01/07**	**12/08/07**
Potassium 40	**18.3**		**3.1**		**1.2**	**12/01/07**	**12/08/07**
Thallium 208	**0.65**		**0.15**		**0.1**	**12/01/07**	**12/08/07**

NOTE(S)

ata are incomplete without the case narrative.

JC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-93-0.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210337-008
Work Order: KCRH3
Matrix: SOLID

Date Collected: 11/16/07 1320
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7341092**	**Yld % 80**
Neptunium 237	0.005	U	0.025	1.00	0.064	12/07/07	12/13/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7341133**	**Yld % 90**
Plutonium 238	0.005	U	0.045	1.00	0.098	12/07/07	12/14/07
Plutonium 239/40	0.0006	U	0.022	1.00	0.064	12/07/07	12/14/07
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7346172**	**Yld % 98**
Technetium 99	**3.55**		**0.55**	1.00	**0.64**	**12/12/07**	**12/17/07**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7341138**	**Yld % 84**
Uranium 233/234	**6.66**		**0.78**	1.00	**0.07**	**12/07/07**	**12/13/07**
Uranium 235/236	**0.27**	**J**	**0.12**	1.00	**0.04**	**12/07/07**	**12/13/07**
Uranium 238	**1.50**		**0.29**	1.00	**0.05**	**12/07/07**	**12/13/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7335109**	**Yld %**
Americium 241	0.035	U	0.096	1.00	0.17	12/01/07	12/08/07
Cesium 137	-0.02	U	0.36	1.00	0.13	12/01/07	12/08/07
Thorium 232	0.37	U	0.21	1.00	0.43	12/01/07	12/08/07
Uranium 235	0.26	U	0.24	1.00	0.38	12/01/07	12/08/07
Uranium 238	**1.30**		**0.60**	1.00	**1.3**	**12/01/07**	**12/08/07**
--- Other Detected Radionuclides ---							
Bismuth 214	**0.59**		**0.16**		**0.14**	**12/01/07**	**12/08/07**
Lead 212	**0.57**		**0.13**		**0.10**	**12/01/07**	**12/08/07**
Lead 214	**0.42**		**0.14**		**0.21**	**12/01/07**	**12/08/07**
Potassium 40	**6.9**		**1.8**		**1.6**	**12/01/07**	**12/08/07**
Thallium 208	**0.134**		**0.078**		**0.11**	**12/01/07**	**12/08/07**
Thorium 234	**1.30**		**0.60**		**1.3**	**12/01/07**	**12/08/07**

NOTE(S)

ta are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-93-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210337-009
Work Order: KCRH4
Matrix: SOLID

Date Collected: 11/16/07 1328
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7346172**		**Yld % 90**
Technetium 99	**3.35**		**0.57**	1.00	**0.69**	**12/12/07**	**12/17/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7335109**		**Yld %**
Americium 241	0.04	U	0.15	1.00	0.25	12/01/07	12/08/07
Cesium 137	0.018	U	0.056	1.00	0.098	12/01/07	12/08/07
Thorium 232	**0.62**	**J**	**0.21**	1.00	**0.37**	**12/01/07**	**12/08/07**
Uranium 235	**0.95**	**J**	**0.36**	1.00	**0.45**	**12/01/07**	**12/08/07**
Uranium 238	1.22	U	0.69	1.00	2.3	12/01/07	12/08/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.62**		**0.21**		**0.37**	**12/01/07**	**12/08/07**
Bismuth 212	**0.74**		**0.49**		**0.72**	**12/01/07**	**12/08/07**
Bismuth 214	**1.20**		**0.29**		**0.22**	**12/01/07**	**12/08/07**
Lead 212	**0.92**		**0.17**		**0.16**	**12/01/07**	**12/08/07**
Lead 214	**1.20**		**0.22**		**0.21**	**12/01/07**	**12/08/07**
Potassium 40	**15.3**		**2.1**		**1.0**	**12/01/07**	**12/08/07**
Thallium 208	**0.316**		**0.082**		**0.075**	**12/01/07**	**12/08/07**

NOTE(S)

ta are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-93-15-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210337-010
Work Order: KCRH6
Matrix: SOLID

Date Collected: 11/16/07 1339
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7346172**		**Yld % 104**
Technetium 99	0.39	U	0.37	1.00	0.60	12/12/07	12/17/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7335109**		**Yld %**
Americium 241	0.08	U	0.20	1.00	0.34	12/01/07	12/08/07
Cesium 137	0.066	U	0.086	1.00	0.14	12/01/07	12/08/07
Thorium 232	**1.16**		**0.32**	1.00	**0.47**	**12/01/07**	**12/08/07**
Uranium 235	-0.19	U	0.60	1.00	0.73	12/01/07	12/08/07
Uranium 238	**3.1**		**1.1**	1.0	**2.3**	**12/01/07**	**12/08/07**
--- Other Detected Radionuclides ---							
Actinium 228	**1.16**		**0.32**		**0.47**	**12/01/07**	**12/08/07**
Bismuth 214	**1.03**		**0.24**		**0.24**	**12/01/07**	**12/08/07**
Lead 212	**1.57**		**0.37**		**0.30**	**12/01/07**	**12/08/07**
Lead 214	**1.13**		**0.21**		**0.29**	**12/01/07**	**12/08/07**
Potassium 40	**19.2**		**2.7**		**1.4**	**12/01/07**	**12/08/07**
Thallium 208	**0.49**		**0.12**		**0.09**	**12/01/07**	**12/08/07**
Thorium 234	**3.1**		**1.1**		**2.3**	**12/01/07**	**12/08/07**

NOTE(S)

ts are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-94-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210337-011
Work Order: KCRH8
Matrix: SOLID

Date Collected: 11/09/07 1340
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7341092**	**Yld % 102**
Neptunium 237	-0.001	U	0.021	1.00	0.062	12/07/07	12/13/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7341133**	**Yld % 90**
Plutonium 238	0.039	U	0.051	1.00	0.079	12/07/07	12/14/07
Plutonium 239/40	-0.0112	U	0.0092	1.00	0.065	12/07/07	12/14/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7341138**	**Yld % 91**
Uranium 233/234	**1.53**		**0.28**	1.00	**0.06**	**12/07/07**	**12/13/07**
Uranium 235/236	**0.132**	**J**	**0.080**	1.00	**0.032**	**12/07/07**	**12/13/07**
Uranium 238	**0.81**	**J**	**0.19**	1.00	**0.03**	**12/07/07**	**12/13/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7335109**	**Yld %**
Americium 241	0.04	U	0.12	1.00	0.20	12/01/07	12/08/07
Cesium 137	0.048	U	0.084	1.00	0.14	12/01/07	12/08/07
Thorium 232	**0.64**	**J**	**0.26**	1.00	**0.45**	**12/01/07**	**12/08/07**
Uranium 235	0.12	U	0.32	1.00	0.55	12/01/07	12/08/07
Uranium 238	0.7	U	1.1	1.0	1.8	12/01/07	12/08/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.64**		**0.26**		**0.45**	**12/01/07**	**12/08/07**
Bismuth 214	**0.87**		**0.20**		**0.13**	**12/01/07**	**12/08/07**
Lead 212	**0.74**		**0.18**		**0.17**	**12/01/07**	**12/08/07**
Lead 214	**0.81**		**0.20**		**0.16**	**12/01/07**	**12/08/07**
Potassium 40	**10.9**		**2.1**		**1**	**12/01/07**	**12/08/07**
Thallium 208	**0.319**		**0.094**		**0.071**	**12/01/07**	**12/08/07**

NOTE(S)

ta are incomplete without the case narrative.

DC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-94-15-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210337-012
Work Order: KCRJD
Matrix: SOLID

Date Collected: 11/09/07 1355
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7335109**		**Yld %**
Americium 241	0.003	U	0.080	1.00	0.14	12/01/07	12/07/07
Cesium 137	-0.039	U	0.098	1.00	0.13	12/01/07	12/07/07
Thorium 232	**0.86**	**J**	**0.20**	1.00	**0.37**	**12/01/07**	**12/07/07**
Uranium 235	0.14	U	0.21	1.00	0.34	12/01/07	12/07/07
Uranium 238	0.91	U	0.47	1.00	1.2	12/01/07	12/07/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.86**		**0.20**		**0.37**	**12/01/07**	**12/07/07**
Bismuth 214	**0.91**		**0.19**		**0.14**	**12/01/07**	**12/07/07**
Lead 212	**1.13**		**0.15**		**0.12**	**12/01/07**	**12/07/07**
Lead 214	**1.13**		**0.18**		**0.12**	**12/01/07**	**12/07/07**
Potassium 40	**17.7**		**2.3**		**0.4**	**12/01/07**	**12/07/07**
Thallium 208	**0.41**		**0.10**		**0.08**	**12/01/07**	**12/07/07**

NOTE(S)

Data are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-95-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210337-013
Work Order: KCRJJ
Matrix: SOLID

Date Collected: 11/09/07 1455
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7341092**	**Yld % 95**
Neptunium 237	-0.016	U	0.011	1.00	0.074	12/07/07	12/13/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7341133**	**Yld % 86**
Plutonium 238	-0.026	U	0.015	1.00	0.090	12/07/07	12/14/07
Plutonium 239/40	-0.0040	U	0.0057	1.00	0.053	12/07/07	12/14/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7341138**	**Yld % 82**
Uranium 233/234	**2.22**		**0.37**	1.00	**0.07**	**12/07/07**	**12/13/07**
Uranium 235/236	0.067	U	0.065	1.00	0.071	12/07/07	12/13/07
Uranium 238	**0.91**	**J**	**0.22**	1.00	**0.08**	**12/07/07**	**12/13/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7335109**	**Yld %**
Americium 241	-0.05	U	0.36	1.00	0.32	12/01/07	12/08/07
Cesium 137	-0.02	U	0.27	1.00	0.15	12/01/07	12/08/07
Thorium 232	**0.91**	**J**	**0.29**	1.00	**0.45**	**12/01/07**	**12/08/07**
Uranium 235	0.33	U	0.38	1.00	0.62	12/01/07	12/08/07
Uranium 238	1.16	U	0.72	1.00	2.0	12/01/07	12/08/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.91**		**0.29**		**0.45**	**12/01/07**	**12/08/07**
Bismuth 214	**1.04**		**0.25**		**0.20**	**12/01/07**	**12/08/07**
Lead 212	**0.99**		**0.20**		**0.18**	**12/01/07**	**12/08/07**
Lead 214	**1.09**		**0.23**		**0.17**	**12/01/07**	**12/08/07**
Potassium 40	**15.0**		**2.6**		**1.6**	**12/01/07**	**12/08/07**
Thallium 208	**0.49**		**0.13**		**0.1**	**12/01/07**	**12/08/07**

NOTE(S)

ta are incomplete without the case narrative.

oC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-95-16.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210337-014
Work Order: KCRJP
Matrix: SOLID

Date Collected: 11/09/07 1510
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7335109**		**Yld %**
Americium 241	0.09	U	0.17	1.00	0.28	12/01/07	12/08/07
Cesium 137	-0.02	U	0.12	1.00	0.14	12/01/07	12/08/07
Thorium 232	**1.16**		**0.32**	1.00	**0.50**	**12/01/07**	**12/08/07**
Uranium 235	0.13	U	0.42	1.00	0.71	12/01/07	12/08/07
Uranium 238	0.06	U	1.4	1.0	2.4	12/01/07	12/08/07
--- Other Detected Radionuclides ---							
Actinium 228	**1.16**		**0.32**		**0.50**	**12/01/07**	**12/08/07**
Bismuth 212	**1.17**		**0.70**		**0.98**	**12/01/07**	**12/08/07**
Bismuth 214	**1.23**		**0.25**		**0.15**	**12/01/07**	**12/08/07**
Lead 212	**1.93**		**0.31**		**0.22**	**12/01/07**	**12/08/07**
Lead 214	**0.97**		**0.22**		**0.22**	**12/01/07**	**12/08/07**
Potassium 40	**20.0**		**3.0**		**0.7**	**12/01/07**	**12/08/07**
Thallium 208	**0.44**		**0.13**		**0.15**	**12/01/07**	**12/08/07**

NOTE(S)

ta are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-96-0.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210337-015
Work Order: KCRJR
Matrix: SOLID

Date Collected: 11/16/07 1400
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7341092**		**Yld % 90**
Neptunium 237	-0.005	U	0.023	1.00	0.073	12/07/07	12/13/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7341133**		**Yld % 94**
Plutonium 238	0.013	U	0.030	1.00	0.059	12/07/07	12/14/07
Plutonium 239/40	0.0006	U	0.022	1.00	0.063	12/07/07	12/14/07
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7346172**		**Yld % 101**
Technetium 99	**0.89**	**J**	**0.40**	1.00	**0.62**	**12/12/07**	**12/17/07**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7341138**		**Yld % 88**
Uranium 233/234	**2.31**		**0.37**	1.00	**0.06**	**12/07/07**	**12/13/07**
Uranium 235/236	**0.181**	**J**	**0.099**	1.00	**0.056**	**12/07/07**	**12/13/07**
Uranium 238	**0.63**	**J**	**0.17**	1.00	**0.04**	**12/07/07**	**12/13/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7335109**		**Yld %**
Americium 241	0.003	U	0.066	1.00	0.12	12/01/07	12/08/07
Cesium 137	-0.027	U	0.060	1.00	0.10	12/01/07	12/08/07
Thorium 232	0.17	U	0.18	1.00	0.27	12/01/07	12/08/07
Uranium 235	0.13	U	0.22	1.00	0.38	12/01/07	12/08/07
Uranium 238	0.21	U	0.60	1.00	1.2	12/01/07	12/08/07
--- Other Detected Radionuclides ---							
Bismuth 214	**0.33**		**0.13**		**0.16**	**12/01/07**	**12/08/07**
Lead 212	**0.349**		**0.087**		**0.076**	**12/01/07**	**12/08/07**
Lead 214	**0.202**		**0.095**		**0.13**	**12/01/07**	**12/08/07**
Potassium 40	**3.9**		**1.0**		**0.5**	**12/01/07**	**12/08/07**

NOTE(S)

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C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-96-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210337-016
Work Order: KCRJV
Matrix: SOLID

Date Collected: 11/16/07 1408
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7346172**	**Yld % 100**
Technetium 99	**1.62**		**0.44**	1.00	**0.63**	**12/12/07**	**12/17/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7335109**	**Yld %**
Americium 241	-0.06	U	0.18	1.00	0.30	12/01/07	12/08/07
Cesium 137	-0.014	U	0.060	1.00	0.11	12/01/07	12/08/07
Thorium 232	**0.52**	**J**	**0.21**	1.00	**0.45**	**12/01/07**	**12/08/07**
Uranium 235	0.61	U	0.40	1.00	0.63	12/01/07	12/08/07
Uranium 238	**3.2**		**1.3**	1.0	**2.4**	**12/01/07**	**12/08/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.52**		**0.21**		**0.45**	**12/01/07**	**12/08/07**
Bismuth 214	**0.90**		**0.22**		**0.27**	**12/01/07**	**12/08/07**
Lead 212	**0.96**		**0.26**		**0.22**	**12/01/07**	**12/08/07**
Lead 214	**1.03**		**0.21**		**0.17**	**12/01/07**	**12/08/07**
Potassium 40	**14.3**		**2.1**		**1.2**	**12/01/07**	**12/08/07**
Thallium 208	**0.39**		**0.10**		**0.09**	**12/01/07**	**12/08/07**
Thorium 234	**3.2**		**1.3**		**2.4**	**12/01/07**	**12/08/07**

NOTE(S)

Data are incomplete without the case narrative.

RC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-134-0.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210337-017
Work Order: KCRJ2
Matrix: SOLID

Date Collected: 11/16/07 0835
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7341092**	**Yld % 87**
Neptunium 237	0.011	U	0.032	1.00	0.067	12/07/07	12/13/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7341133**	**Yld % 80**
Plutonium 238	0.011	U	0.064	1.00	0.13	12/07/07	12/14/07
Plutonium 239/40	0.028	U	0.047	1.00	0.080	12/07/07	12/14/07
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7346172**	**Yld % 102**
Technetium 99	0.28	U	0.38	1.00	0.62	12/12/07	12/17/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7341138**	**Yld % 87**
Uranium 233/234	**1.96**		**0.32**	1.00	**0.04**	**12/07/07**	**12/13/07**
Uranium 235/236	**0.049**	**J**	**0.049**	1.00	**0.033**	**12/07/07**	**12/13/07**
Uranium 238	**0.71**	**J**	**0.18**	1.00	**0.03**	**12/07/07**	**12/13/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7335109**	**Yld %**
Americium 241	0.01	U	0.10	1.00	0.18	12/01/07	12/08/07
Cesium 137	**0.176**	**J**	**0.063**	1.00	**0.052**	**12/01/07**	**12/08/07**
Thorium 232	**0.56**	**J**	**0.17**	1.00	**0.24**	**12/01/07**	**12/08/07**
Uranium 235	0.10	U	0.26	1.00	0.45	12/01/07	12/08/07
Uranium 238	0.35	U	0.80	1.00	1.4	12/01/07	12/08/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.56**		**0.17**		**0.24**	**12/01/07**	**12/08/07**
Bismuth 214	**0.63**		**0.14**		**0.15**	**12/01/07**	**12/08/07**
Lead 212	**0.85**		**0.21**		**0.17**	**12/01/07**	**12/08/07**
Lead 214	**0.78**		**0.14**		**0.13**	**12/01/07**	**12/08/07**
Potassium 40	**22.3**		**2.3**		**0.7**	**12/01/07**	**12/08/07**
Thallium 208	**0.313**		**0.077**		**0.059**	**12/01/07**	**12/08/07**

NOTE(S)

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DC is determined by instrument performance only.

Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-134-2.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210337-018
Work Order: KCRJ5
Matrix: SOLID

Date Collected: 11/16/07 0850
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7346172**		**Yld % 94**
Technetium 99	**1.44**		**0.45**	1.00	**0.67**	**12/12/07**	**12/17/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7335109**		**Yld %**
Americium 241	0.06	U	0.13	1.00	0.23	12/01/07	12/08/07
Cesium 137	0.042	U	0.064	1.00	0.11	12/01/07	12/08/07
Thorium 232	**0.59**	**J**	**0.27**	1.00	**0.26**	**12/01/07**	**12/08/07**
Uranium 235	0.17	U	0.33	1.00	0.56	12/01/07	12/08/07
Uranium 238	0.7	U	1.1	1.0	1.8	12/01/07	12/08/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.59**		**0.27**		**0.26**	**12/01/07**	**12/08/07**
Bismuth 214	**0.67**		**0.22**		**0.24**	**12/01/07**	**12/08/07**
Lead 212	**0.67**		**0.15**		**0.14**	**12/01/07**	**12/08/07**
Lead 214	**0.74**		**0.19**		**0.23**	**12/01/07**	**12/08/07**
Potassium 40	**13.3**		**2.5**		**1.1**	**12/01/07**	**12/08/07**
Thallium 208	**0.137**		**0.082**		**0.12**	**12/01/07**	**12/08/07**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7341138**		**Yld % 87**
Uranium 233/234	**1.18**		**0.24**	1.00	**0.06**	**12/07/07**	**12/13/07**
Uranium 235/236	**0.052**	**J**	**0.052**	1.00	**0.035**	**12/07/07**	**12/13/07**
Uranium 238	**0.87**	**J**	**0.20**	1.00	**0.05**	**12/07/07**	**12/13/07**

NOTE(S)

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C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-134-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210337-019
Work Order: KCRKA
Matrix: SOLID

Date Collected: 11/16/07 0850
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7346172**	**Yld % 97**
Technetium 99	0.19	U	0.39	1.00	0.64	12/12/07	12/17/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7335111**	**Yld %**
Americium 241	-0.12	U	0.23	1.00	0.39	12/01/07	12/08/07
Cesium 137	0.02	U	0.11	1.00	0.19	12/01/07	12/08/07
Thorium 232	**0.86**	**J**	**0.33**	1.00	**0.59**	**12/01/07**	**12/08/07**
Uranium 235	-0.003	U	0.41	1.00	0.73	12/01/07	12/08/07
Uranium 238	**3.6**		**1.4**	1.0	**2.5**	**12/01/07**	**12/08/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.86**		**0.33**		**0.59**	**12/01/07**	**12/08/07**
Bismuth 214	**1.72**		**0.34**		**0.21**	**12/01/07**	**12/08/07**
Lead 212	**1.38**		**0.27**		**0.22**	**12/01/07**	**12/08/07**
Lead 214	**1.48**		**0.26**		**0.23**	**12/01/07**	**12/08/07**
Potassium 40	**21.8**		**3.5**		**1.3**	**12/01/07**	**12/08/07**
Thallium 208	**0.58**		**0.17**		**0.13**	**12/01/07**	**12/08/07**
Thorium 234	**3.6**		**1.4**		**2.5**	**12/01/07**	**12/08/07**

NOTE(S)

\ta are incomplete without the case narrative.

JC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-134-4.5-SL DUP

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210337-019X
Work Order: KCRKA
Matrix: SOLID

Date Collected: 11/16/07 0850
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7335111**		**Yld %**
Americium 241	-0.05	U	0.63	1.00	0.39	12/01/07	12/08/07
Cesium 137	-0.01	U	0.12	1.00	0.16	12/01/07	12/08/07
Thorium 232	**1.07**		**0.40**	1.00	**0.66**	**12/01/07**	**12/08/07**
Uranium 235	-0.05	U	4.7	1.0	0.8	12/01/07	12/08/07
Uranium 238	**3.8**		**2.5**	1.0	**2.8**	**12/01/07**	**12/08/07**
--- Other Detected Radionuclides ---							
Actinium 228	**1.07**		**0.40**		**0.66**	**12/01/07**	**12/08/07**
Bismuth 214	**1.88**		**0.41**		**0.31**	**12/01/07**	**12/08/07**
Lead 212	**1.76**		**0.30**		**0.24**	**12/01/07**	**12/08/07**
Lead 214	**1.87**		**0.30**		**0.25**	**12/01/07**	**12/08/07**
Potassium 40	**21.2**		**3.3**		**0.8**	**12/01/07**	**12/08/07**
Thallium 208	**0.70**		**0.17**		**0.12**	**12/01/07**	**12/08/07**
Thorium 234	**3.8**		**2.5**		**2.8**	**12/01/07**	**12/08/07**

NOTE(S)

ata are incomplete without the case narrative.

DC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-134-9-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210337-020
Work Order: KCRKE
Matrix: SOLID

Date Collected: 11/16/07 0900
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7346172**	**Yld % 93**
Technetium 99	0.27	U	0.41	1.00	0.67	12/12/07	12/17/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7335111**	**Yld %**
Americium 241	0.07	U	0.18	1.00	0.30	12/01/07	12/08/07
Cesium 137	-0.03	U	0.60	1.00	0.19	12/01/07	12/08/07
Thorium 232	**0.96**	**J**	**0.33**	1.00	**0.57**	**12/01/07**	**12/08/07**
Uranium 235	0.18	U	0.42	1.00	0.72	12/01/07	12/08/07
Uranium 238	**2.8**		**1.2**	1.0	**2.4**	**12/01/07**	**12/08/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.96**		**0.33**		**0.57**	**12/01/07**	**12/08/07**
Bismuth 214	**2.60**		**0.37**		**0.16**	**12/01/07**	**12/08/07**
Lead 212	**1.19**		**0.20**		**0.17**	**12/01/07**	**12/08/07**
Lead 214	**2.06**		**0.30**		**0.22**	**12/01/07**	**12/08/07**
Potassium 40	**24.0**		**3.4**		**1.3**	**12/01/07**	**12/08/07**
Thallium 208	**0.43**		**0.12**		**0.10**	**12/01/07**	**12/08/07**
Thorium 234	**2.8**		**1.2**		**2.4**	**12/01/07**	**12/08/07**

NOTE(S)

ts are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-135-0.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210337-021
Work Order: KCRKH
Matrix: SOLID

Date Collected: 11/14/07 1705
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7335111**		**Yld %**
Americium 241	-0.03	U	0.96	1.00	0.31	12/01/07	12/08/07
Cesium 137	0.10	U	0.11	1.00	0.18	12/01/07	12/08/07
Thorium 232	**0.81**	**J**	**0.29**	1.00	**0.47**	**12/01/07**	**12/08/07**
Uranium 235	-0.12	U	0.78	1.00	0.73	12/01/07	12/08/07
Uranium 238	0.5	U	1.4	1.0	2.4	12/01/07	12/08/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.81**		**0.29**		**0.47**	**12/01/07**	**12/08/07**
Bismuth 214	**1.51**		**0.28**		**0.17**	**12/01/07**	**12/08/07**
Lead 212	**1.14**		**0.20**		**0.16**	**12/01/07**	**12/08/07**
Lead 214	**1.13**		**0.22**		**0.27**	**12/01/07**	**12/08/07**
Potassium 40	**19.8**		**3.0**		**0.7**	**12/01/07**	**12/08/07**
Thallium 208	**0.44**		**0.12**		**0.09**	**12/01/07**	**12/08/07**
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7341092**		**Yld % 98**
Neptunium 237	0.0006	U	0.021	1.00	0.060	12/07/07	12/13/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7341133**		**Yld % 88**
Plutonium 238	-0.014	U	0.011	1.00	0.073	12/07/07	12/14/07
Plutonium 239/40	0.018	U	0.031	1.00	0.053	12/07/07	12/14/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7341138**		**Yld % 93**
Uranium 233/234	**1.03**		**0.21**	1.00	**0.04**	**12/07/07**	**12/13/07**
Uranium 235/236	**0.058**	**J**	**0.052**	1.00	**0.031**	**12/07/07**	**12/13/07**
Uranium 238	**0.69**	**J**	**0.17**	1.00	**0.03**	**12/07/07**	**12/13/07**
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7346172**		**Yld % 95**
Technetium 99	0.22	U	0.40	1.00	0.66	12/12/07	12/17/07

NOTE(S)

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C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-135-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210337-022
Work Order: KCRKN
Matrix: SOLID

Date Collected: 11/14/07 1715
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7335111**		**Yld %**
Americium 241	0.11	U	0.17	1.00	0.29	12/01/07	12/08/07
Cesium 137	0.0	U	0.084	1.00	0.16	12/01/07	12/08/07
Thorium 232	**0.96**	**J**	**0.37**	1.00	**0.53**	**12/01/07**	**12/08/07**
Uranium 235	0.16	U	0.47	1.00	0.80	12/01/07	12/08/07
Uranium 238	**1.98**		**0.93**	1.00	**2.0**	**12/01/07**	**12/08/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.96**		**0.37**		**0.53**	**12/01/07**	**12/08/07**
Bismuth 214	**1.26**		**0.27**		**0.17**	**12/01/07**	**12/08/07**
Lead 212	**1.28**		**0.24**		**0.21**	**12/01/07**	**12/08/07**
Lead 214	**1.25**		**0.24**		**0.27**	**12/01/07**	**12/08/07**
Potassium 40	**22.0**		**3.5**		**1.2**	**12/01/07**	**12/08/07**
Thallium 208	**0.61**		**0.13**		**0.06**	**12/01/07**	**12/08/07**
horium 234	1.98	U	0.93		2.0	12/01/07	12/08/07

NOTE(S)

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C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-135-15-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210337-023
Work Order: KCRKO
Matrix: SOLID

Date Collected: 11/14/07 1730
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7335111**		**Yld %**
Americium 241	-0.01	U	0.11	1.00	0.19	12/01/07	12/08/07
Cesium 137	0.01	U	0.11	1.00	0.21	12/01/07	12/08/07
Thorium 232	0.79	U	0.38	1.00	0.81	12/01/07	12/08/07
Uranium 235	0.48	U	0.35	1.00	0.55	12/01/07	12/08/07
Uranium 238	1.44	U	0.84	1.00	1.8	12/01/07	12/08/07
--- Other Detected Radionuclides ---							
Bismuth 214	**1.07**		**0.33**		**0.31**	**12/01/07**	**12/08/07**
Lead 212	**0.93**		**0.24**		**0.29**	**12/01/07**	**12/08/07**
Lead 214	**1.09**		**0.24**		**0.36**	**12/01/07**	**12/08/07**
Potassium 40	**12.6**		**3.1**		**2.7**	**12/01/07**	**12/08/07**
Thallium 208	**0.29**		**0.15**		**0.22**	**12/01/07**	**12/08/07**

NOTE(S)

ts are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-96-5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210337-024
Work Order: KCRKR
Matrix: SOLID

Date Collected: 11/16/07 1410
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7346172**	**Yld % 92**
Technetium 99	**1.99**		**0.49**	1.00	**0.68**	**12/12/07**	**12/17/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7335111**	**Yld %**
Americium 241	-0.05	U	0.10	1.00	0.17	12/01/07	12/08/07
Cesium 137	-0.006	U	0.26	1.00	0.15	12/01/07	12/08/07
Thorium 232	**0.87**	**J**	**0.24**	1.00	**0.34**	**12/01/07**	**12/08/07**
Uranium 235	**0.52**	**J**	**0.27**	1.00	**0.41**	**12/01/07**	**12/08/07**
Uranium 238	**1.97**		**0.69**	1.00	**1.3**	**12/01/07**	**12/08/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.87**		**0.24**		**0.34**	**12/01/07**	**12/08/07**
Bismuth 214	**0.67**		**0.19**		**0.24**	**12/01/07**	**12/08/07**
Lead 212	**0.94**		**0.16**		**0.14**	**12/01/07**	**12/08/07**
Lead 214	**0.78**		**0.17**		**0.18**	**12/01/07**	**12/08/07**
otassium 40	**16.0**		**2.2**		**0.5**	**12/01/07**	**12/08/07**
Thallium 208	**0.284**		**0.085**		**0.080**	**12/01/07**	**12/08/07**
Thorium 234	**1.97**		**0.69**		**1.3**	**12/01/07**	**12/08/07**

NOTE(S)

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C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-97-0.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210337-025
Work Order: KCRKW
Matrix: SOLID

Date Collected: 11/16/07 1441
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7341092**	**Yld % 94**
Neptunium 237	-0.0075	U	0.0076	1.00	0.058	12/07/07	12/13/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7341133**	**Yld % 92**
Plutonium 238	0.01	U	0.039	1.00	0.083	12/07/07	12/14/07
Plutonium 239/40	0.009	U	0.021	1.00	0.045	12/07/07	12/14/07
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7346172**	**Yld % 102**
Technetium 99	**1.36**		**0.42**	1.00	**0.61**	**12/12/07**	**12/17/07**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7341138**	**Yld % 74**
Uranium 233/234	**8.9**		**1.0**	1.0	**0.08**	**12/07/07**	**12/13/07**
Uranium 235/236	**0.46**	**J**	**0.17**	1.00	**0.04**	**12/07/07**	**12/13/07**
Uranium 238	**1.57**		**0.31**	1.00	**0.06**	**12/07/07**	**12/13/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7335111**	**Yld %**
Americium 241	-0.09	U	0.18	1.00	0.31	12/01/07	12/08/07
Cesium 137	0.037	U	0.073	1.00	0.13	12/01/07	12/08/07
Thorium 232	**0.78**	**J**	**0.28**	1.00	**0.59**	**12/01/07**	**12/08/07**
Uranium 235	0.45	U	0.41	1.00	0.66	12/01/07	12/08/07
Uranium 238	**2.7**		**1.1**	1.0	**2.5**	**12/01/07**	**12/08/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.78**		**0.28**		**0.59**	**12/01/07**	**12/08/07**
Bismuth 214	**1.04**		**0.25**		**0.24**	**12/01/07**	**12/08/07**
Lead 212	**1.36**		**0.27**		**0.22**	**12/01/07**	**12/08/07**
Lead 214	**0.88**		**0.19**		**0.25**	**12/01/07**	**12/08/07**
Potassium 40	**14.2**		**2.5**		**0.9**	**12/01/07**	**12/08/07**
Thallium 208	**0.40**		**0.12**		**0.09**	**12/01/07**	**12/08/07**
Thorium 234	**2.7**		**1.1**		**2.5**	**12/01/07**	**12/08/07**

NOTE(S)

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-97-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210337-026
Work Order: KCRK0
Matrix: SOLID

Date Collected: 11/16/07 1444
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7346172**	**Yld % 93**
Technetium 99	**2.60**		**0.51**	1.00	**0.67**	**12/12/07**	**12/17/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7335111**	**Yld %**
Americium 241	0.13	U	0.16	1.00	0.26	12/01/07	12/08/07
Cesium 137	-0.012	U	0.094	1.00	0.17	12/01/07	12/08/07
Thorium 232	**1.04**		**0.36**	1.00	**0.62**	**12/01/07**	**12/08/07**
Uranium 235	0.22	U	0.46	1.00	0.77	12/01/07	12/08/07
Uranium 238	2.2	U	1.7	1.0	2.7	12/01/07	12/08/07
--- Other Detected Radionuclides ---							
Actinium 228	**1.04**		**0.36**		**0.62**	**12/01/07**	**12/08/07**
Bismuth 214	**1.24**		**0.29**		**0.22**	**12/01/07**	**12/08/07**
Lead 212	**1.58**		**0.30**		**0.24**	**12/01/07**	**12/08/07**
Lead 214	**1.27**		**0.27**		**0.26**	**12/01/07**	**12/08/07**
Potassium 40	**19.1**		**3.2**		**1.2**	**12/01/07**	**12/08/07**
Thallium 208	**0.61**		**0.13**		**0.06**	**12/01/07**	**12/08/07**

NOTE(S)

ata are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-97-9.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210337-027
Work Order: KCRK1
Matrix: SOLID

Date Collected: 11/16/07 1452
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7346172**	**Yld % 96**
Technetium 99	**11.0**		**1.1**	1.0	**0.6**	**12/12/07**	**12/17/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7335111**	**Yld %**
Americium 241	-0.08	U	0.31	1.00	0.31	12/01/07	12/08/07
Cesium 137	-0.05	U	1.5	1.0	0.2	12/01/07	12/08/07
Thorium 232	**1.08**		**0.36**	1.00	**0.60**	**12/01/07**	**12/08/07**
Uranium 235	-0.05	U	17	1	0.7	12/01/07	12/08/07
Uranium 238	0.8	U	1.4	1.0	2.4	12/01/07	12/08/07
--- Other Detected Radionuclides ---							
Actinium 228	**1.08**		**0.36**		**0.60**	**12/01/07**	**12/08/07**
Bismuth 214	**1.28**		**0.30**		**0.25**	**12/01/07**	**12/08/07**
Lead 212	**1.40**		**0.24**		**0.18**	**12/01/07**	**12/08/07**
Lead 214	**1.60**		**0.33**		**0.24**	**12/01/07**	**12/08/07**
Potassium 40	**23.0**		**3.6**		**0.9**	**12/01/07**	**12/08/07**
Thallium 208	**0.65**		**0.14**		**0.08**	**12/01/07**	**12/08/07**
Thorium 234	0.8	U	1.4		2.4	12/01/07	12/08/07

NOTE(S)

ta are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-98-0.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210337-028
Work Order: KCRK2
Matrix: SOLID

Date Collected: 11/16/07 1519
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7341092**	**Yld % 96**
Neptunium 237	-0.0075	U	0.0075	1.00	0.058	12/07/07	12/13/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7341133**	**Yld % 85**
Plutonium 238	0.005	U	0.033	1.00	0.078	12/07/07	12/14/07
Plutonium 239/40	0.029	U	0.039	1.00	0.054	12/07/07	12/14/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7341138**	**Yld % 90**
Uranium 233/234	**8.28**		**0.91**	1.00	**0.06**	**12/07/07**	**12/14/07**
Uranium 235/236	**0.35**	**J**	**0.14**	1.00	**0.06**	**12/07/07**	**12/14/07**
Uranium 238	**1.76**		**0.31**	1.00	**0.06**	**12/07/07**	**12/14/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7335111**	**Yld %**
Americium 241	-0.06	U	0.21	1.00	0.35	12/01/07	12/08/07
ssium 137	**0.143**	**J**	**0.085**	1.00	**0.12**	**12/01/07**	**12/08/07**
Thorium 232	**1.04**		**0.31**	1.00	**0.39**	**12/01/07**	**12/08/07**
Uranium 235	0.56	U	0.39	1.00	0.61	12/01/07	12/08/07
Uranium 238	**3.0**		**1.2**	1.0	**2.6**	**12/01/07**	**12/08/07**
--- Other Detected Radionuclides ---							
Actinium 228	**1.04**		**0.31**		**0.39**	**12/01/07**	**12/08/07**
Bismuth 214	**0.87**		**0.24**		**0.28**	**12/01/07**	**12/08/07**
Lead 212	**0.88**		**0.24**		**0.23**	**12/01/07**	**12/08/07**
Lead 214	**1.14**		**0.20**		**0.24**	**12/01/07**	**12/08/07**
Potassium 40	**20.7**		**3.0**		**0.9**	**12/01/07**	**12/08/07**
Thallium 208	**0.47**		**0.11**		**0.06**	**12/01/07**	**12/08/07**
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7346172**	**Yld % 101**
Technetium 99	**1.02**		**0.40**	1.00	**0.62**	**12/12/07**	**12/17/07**

NOTE(S)

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-98-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210337-029
Work Order: KCRK4
Matrix: SOLID

Date Collected: 11/16/07 1526
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**		**Batch # 7335111**		**Yld %**
Americium 241	0.08	U	0.14	1.00	0.23	12/01/07	12/08/07
Cesium 137	0.038	U	0.098	1.00	0.17	12/01/07	12/08/07
Thorium 232	**1.08**		**0.37**	1.00	**0.56**	**12/01/07**	**12/08/07**
Uranium 235	-0.03	U	0.41	1.00	0.72	12/01/07	12/08/07
Uranium 238	0.8	U	1.6	1.0	2.8	12/01/07	12/08/07
--- Other Detected Radionuclides ---							
Actinium 228	**1.08**		**0.37**		**0.56**	**12/01/07**	**12/08/07**
Bismuth 214	**1.53**		**0.34**		**0.23**	**12/01/07**	**12/08/07**
Lead 212	**0.99**		**0.22**		**0.22**	**12/01/07**	**12/08/07**
Lead 214	**1.17**		**0.27**		**0.31**	**12/01/07**	**12/08/07**
Potassium 40	**17.7**		**3.1**		**1.3**	**12/01/07**	**12/08/07**
Thallium 208	**0.24**		**0.11**		**0.14**	**12/01/07**	**12/08/07**

NOTE(S)

ta are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-98-9-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210337-030
Work Order: KCRK5
Matrix: SOLID

Date Collected: 11/16/07 1536
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**		**Batch # 7335111**		**Yld %**
Americium 241	-0.0002	U	0.073	1.00	0.12	12/01/07	12/08/07
Cesium 137	0.0004	U	0.058	1.00	0.10	12/01/07	12/08/07
Thorium 232	**0.83**	**J**	**0.21**	1.00	**0.37**	**12/01/07**	**12/08/07**
Uranium 235	0.16	U	0.24	1.00	0.40	12/01/07	12/08/07
Uranium 238	**1.01**		**0.47**	1.00	**0.99**	**12/01/07**	**12/08/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.83**		**0.21**		**0.37**	**12/01/07**	**12/08/07**
Bismuth 212	**1.67**		**0.63**		**0.57**	**12/01/07**	**12/08/07**
Bismuth 214	**0.90**		**0.21**		**0.21**	**12/01/07**	**12/08/07**
Lead 212	**0.91**		**0.16**		**0.17**	**12/01/07**	**12/08/07**
Lead 214	**0.96**		**0.17**		**0.19**	**12/01/07**	**12/08/07**
Potassium 40	**17.0**		**2.1**		**1.5**	**12/01/07**	**12/08/07**
Thallium 208	**0.38**		**0.10**		**0.11**	**12/01/07**	**12/08/07**
Thorium 234	**1.01**		**0.47**		**0.99**	**12/01/07**	**12/08/07**

NOTE(S)

Data are incomplete without the case narrative.

RL is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-99-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210337-031
Work Order: KCRK6
Matrix: SOLID

Date Collected: 11/09/07 1420
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7335111**		**Yld %**
Americium 241	-0.02	U	1.2	1.0	0.3	12/01/07	12/08/07
Cesium 137	0.011	U	0.078	1.00	0.15	12/01/07	12/08/07
Thorium 232	**0.48**	**J**	**0.24**	1.00	**0.45**	**12/01/07**	**12/08/07**
Uranium 235	-0.02	U	0.90	1.00	0.54	12/01/07	12/08/07
Uranium 238	0.9	U	1.3	1.0	2.1	12/01/07	12/08/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.48**		**0.24**		**0.45**	**12/01/07**	**12/08/07**
Bismuth 214	**1.06**		**0.27**		**0.23**	**12/01/07**	**12/08/07**
Lead 212	**1.26**		**0.22**		**0.16**	**12/01/07**	**12/08/07**
Lead 214	**1.20**		**0.23**		**0.20**	**12/01/07**	**12/08/07**
Potassium 40	**16.5**		**2.7**		**0.7**	**12/01/07**	**12/08/07**
Thallium 208	**0.48**		**0.13**		**0.1**	**12/01/07**	**12/08/07**

NOTE(S)

ıta are incomplete without the case narrative.

JC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-99-13-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210337-032
Work Order: KCRK8
Matrix: SOLID

Date Collected: 11/09/07 1435
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**		**Batch # 7335111**		**Yld %**
Americium 241	0.000007	U	0.18	1.00	0.31	12/01/07	12/08/07
Cesium 137	-0.008	U	0.089	1.00	0.16	12/01/07	12/08/07
Thorium 232	**1.13**		**0.39**	1.00	**0.43**	**12/01/07**	**12/08/07**
Uranium 235	-0.006	U	0.40	1.00	0.64	12/01/07	12/08/07
Uranium 238	0.7	U	1.6	1.0	2.8	12/01/07	12/08/07
--- Other Detected Radionuclides ---							
Actinium 228	**1.13**		**0.39**		**0.43**	**12/01/07**	**12/08/07**
Bismuth 214	**0.89**		**0.28**		**0.31**	**12/01/07**	**12/08/07**
Lead 212	**1.35**		**0.25**		**0.22**	**12/01/07**	**12/08/07**
Lead 214	**1.12**		**0.23**		**0.29**	**12/01/07**	**12/08/07**
Potassium 40	**21.0**		**3.3**		**1.0**	**12/01/07**	**12/08/07**
Thallium 208	**0.51**		**0.15**		**0.12**	**12/01/07**	**12/08/07**

NOTE(S)

\ta are incomplete without the case narrative.

/C is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-100-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210337-033
Work Order: KCRLA
Matrix: SOLID

Date Collected: 11/09/07 1535
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7335111**		**Yld %**
Americium 241	0.0	U	0.12	1.00	0.22	12/01/07	12/08/07
Cesium 137	0.021	U	0.060	1.00	0.10	12/01/07	12/08/07
Thorium 232	**0.42**	**J**	**0.19**	1.00	**0.36**	**12/01/07**	**12/08/07**
Uranium 235	0.12	U	0.31	1.00	0.54	12/01/07	12/08/07
Uranium 238	1.2	U	1.2	1.0	1.7	12/01/07	12/08/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.42**		**0.19**		**0.36**	**12/01/07**	**12/08/07**
Bismuth 214	**1.03**		**0.21**		**0.22**	**12/01/07**	**12/08/07**
Lead 212	**0.77**		**0.18**		**0.18**	**12/01/07**	**12/08/07**
Lead 214	**1.29**		**0.24**		**0.18**	**12/01/07**	**12/08/07**
Potassium 40	**11.5**		**1.7**		**1.0**	**12/01/07**	**12/08/07**
Thallium 208	**0.400**		**0.092**		**0.076**	**12/01/07**	**12/08/07**

NOTE(S)

ata are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-100-7-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210337-034
Work Order: KCRLD
Matrix: SOLID

Date Collected: 11/09/07 1540
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7335111**		**Yld %**
Americium 241	-0.014	U	0.096	1.00	0.16	12/01/07	12/08/07
Cesium 137	-0.004	U	0.31	1.00	0.10	12/01/07	12/08/07
Thorium 232	**0.99**	**J**	**0.25**	1.00	**0.33**	**12/01/07**	**12/08/07**
Uranium 235	0.23	U	0.23	1.00	0.38	12/01/07	12/08/07
Uranium 238	0.58	U	0.78	1.00	1.3	12/01/07	12/08/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.99**		**0.25**		**0.33**	**12/01/07**	**12/08/07**
Bismuth 214	**1.36**		**0.22**		**0.14**	**12/01/07**	**12/08/07**
Lead 212	**1.09**		**0.15**		**0.12**	**12/01/07**	**12/08/07**
Lead 214	**1.63**		**0.24**		**0.16**	**12/01/07**	**12/08/07**
Potassium 40	**15.7**		**2.1**		**0.4**	**12/01/07**	**12/08/07**
Thallium 208	**0.378**		**0.097**		**0.081**	**12/01/07**	**12/08/07**

NOTE(S)

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: is determined by instrument performance only.

Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-101-2.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210337-035
Work Order: KCRLG
Matrix: SOLID

Date Collected: 11/17/07 0919
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7347172**		**Yld % 101**
Technetium 99	**44.7**		**3.9**	1.0	**0.7**	**12/13/07**	**12/18/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7335111**		**Yld %**
Americium 241	-0.02	U	0.17	1.00	0.29	12/01/07	12/08/07
Cesium 137	0.008	U	0.049	1.00	0.093	12/01/07	12/08/07
Thorium 232	**0.20**	J	**0.16**	1.00	**0.20**	**12/01/07**	**12/08/07**
Uranium 235	**5.21**		**0.81**	1.00	**0.64**	**12/01/07**	**12/08/07**
Uranium 238	**5.1**		**2.0**	1.0	**2.2**	**12/01/07**	**12/08/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.20**		**0.16**		**0.20**	**12/01/07**	**12/08/07**
Bismuth 214	**0.33**		**0.15**		**0.20**	**12/01/07**	**12/08/07**
Lead 212	**0.254**		**0.082**		**0.091**	**12/01/07**	**12/08/07**
Lead 214	**0.38**		**0.13**		**0.17**	**12/01/07**	**12/08/07**
otassium 40	**4.9**		**1.4**		**1.1**	**12/01/07**	**12/08/07**
Thorium 234	**5.1**		**2.0**		**2.2**	**12/01/07**	**12/08/07**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7351229**		**Yld % 106**
Uranium 233/234	**151**		**24**	75	**4**	**12/17/07**	**12/21/07**
Uranium 235/236	**4.1**	J	**3.8**	75.0	**3.6**	**12/17/07**	**12/21/07**
Uranium 238	**12.5**	J	**6.0**	75.0	**3.6**	**12/17/07**	**12/21/07**

NOTE(S)

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J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-101-2.5-SL DUP

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210337-035X
Work Order: KCRLG
Matrix: SOLID

Date Collected: 11/17/07 0919
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g		Batch # 7351229		Yld % 106
Uranium 233/234	241		33	75	4	12/17/07	12/22/07
Uranium 235/236	8.6	J	5.6	75.0	3.7	12/17/07	12/22/07
Uranium 238	4.6	J	3.7	75.0	3.4	12/17/07	12/22/07

NOTE(S)

ata are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

Energy Solutions, LLC

Client Sample ID: NB-101-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210337-036
Work Order: KCRLM
Matrix: SOLID

Date Collected: 11/17/07 0919
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7347172**	**Yld % 91**
Technetium 99	**77.3**		**6.7**	1.0	**0.8**	**12/13/07**	**12/18/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7335111**	**Yld %**
Americium 241	-0.11	U	0.72	1.00	0.78	12/01/07	12/08/07
Cesium 137	-0.05	U	2.0	1.0	0.3	12/01/07	12/08/07
Thorium 232	**1.01**		**0.40**	1.00	**0.75**	**12/01/07**	**12/08/07**
Uranium 235	**15.1**		**1.6**	1.0	**1.3**	**12/01/07**	**12/08/07**
Uranium 238	**49.1**		**4.9**	1.0	**5.3**	**12/01/07**	**12/08/07**
--- Other Detected Radionuclides ---							
Bismuth 212	**1.54**		**0.63**		**0.47**	**12/01/07**	**12/08/07**
Bismuth 214	**1.71**		**0.37**		**0.29**	**12/01/07**	**12/08/07**
Lead 212	**1.42**		**0.27**		**0.23**	**12/01/07**	**12/08/07**
Lead 214	**1.48**		**0.31**		**0.32**	**12/01/07**	**12/08/07**
otassium 40	**18.1**		**3.3**		**1.5**	**12/01/07**	**12/08/07**
Thorium 234	**49.1**		**4.9**		**5.3**	**12/01/07**	**12/08/07**

NOTE(S)

ata are incomplete without the case narrative.

C is determined by instrument performance only.

Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-101-7-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210337-037
Work Order: KCRLT
Matrix: SOLID

Date Collected: 11/17/07 0925
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7335111**		**Yld %**
Americium 241	-0.003	U	0.039	1.00	0.068	12/01/07	12/08/07
Cesium 137	0.00008	U	0.023	1.00	0.044	12/01/07	12/08/07
Thorium 232	**0.20**	**J**	**0.13**	1.00	**0.18**	**12/01/07**	**12/08/07**
Uranium 235	0.095	U	0.082	1.00	0.19	12/01/07	12/08/07
Uranium 238	0.35	U	0.34	1.00	0.58	12/01/07	12/08/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.20**		**0.13**		**0.18**	**12/01/07**	**12/08/07**
Bismuth 214	**0.160**		**0.074**		**0.097**	**12/01/07**	**12/08/07**
Lead 212	**0.191**		**0.058**		**0.073**	**12/01/07**	**12/08/07**
Lead 214	**0.179**		**0.061**		**0.081**	**12/01/07**	**12/08/07**
Potassium 40	**4.07**		**0.83**		**0.60**	**12/01/07**	**12/08/07**
Thallium 208	**0.064**		**0.034**		**0.047**	**12/01/07**	**12/08/07**

NOTE(S)

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C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-102-0.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210337-038
Work Order: KCRL0
Matrix: SOLID

Date Collected: 11/17/07 0753
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7341092	Yld % 84
Neptunium 237	**0.035**	**J**	**0.041**	1.00	**0.032**	**12/07/07**	**12/13/07**
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7341133	Yld % 86
Plutonium 238	0.007	U	0.031	1.00	0.070	12/07/07	12/14/07
Plutonium 239/40	-0.0058	U	0.0067	1.00	0.056	12/07/07	12/14/07
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g		Batch # 7347172	Yld % 97
Technetium 99	**5.64**		**0.71**	1.00	**0.68**	**12/13/07**	**12/18/07**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7341138	Yld % 87
Uranium 233/234	**27.9**		**2.6**	1.0	**0.07**	**12/07/07**	**12/14/07**
Uranium 235/236	**1.01**		**0.25**	1.00	**0.04**	**12/07/07**	**12/14/07**
Uranium 238	**2.23**		**0.36**	1.00	**0.05**	**12/07/07**	**12/14/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7335111	Yld %
Americium 241	-0.015	U	0.090	1.00	0.15	12/01/07	12/08/07
Cesium 137	-0.002	U	0.053	1.00	0.097	12/01/07	12/08/07
Thorium 232	0.20	U	0.22	1.00	0.39	12/01/07	12/08/07
Uranium 235	0.43	U	0.28	1.00	0.52	12/01/07	12/08/07
Uranium 238	**2.17**		**0.73**	1.00	**1.4**	**12/01/07**	**12/08/07**
--- Other Detected Radionuclides ---							
Bismuth 214	**0.37**		**0.16**		**0.25**	**12/01/07**	**12/08/07**
Lead 212	0.151	U	0.096		0.15	12/01/07	12/08/07
Lead 214	**0.56**		**0.21**		**0.23**	**12/01/07**	**12/08/07**
Potassium 40	**3.3**		**1.2**		**1.7**	**12/01/07**	**12/08/07**
Thorium 234	**2.17**		**0.73**		**1.4**	**12/01/07**	**12/08/07**

NOTE(S)

ıts are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-102-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210337-039
Work Order: KCRL3
Matrix: SOLID

Date Collected: 11/17/07 0802
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7347172**		**Yld % 104**
Technetium 99	**1.67**		**0.44**	1.00	**0.64**	**12/13/07**	**12/18/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7335150**		**Yld %**
Americium 241	0.02	U	0.15	1.00	0.25	12/02/07	12/03/07
Cesium 137	-0.009	U	0.075	1.00	0.14	12/02/07	12/03/07
Thorium 232	0.45	U	0.24	1.00	0.49	12/02/07	12/03/07
Uranium 235	0.18	U	0.37	1.00	0.63	12/02/07	12/03/07
Uranium 238	1.58	U	0.85	1.00	2.0	12/02/07	12/03/07
--- Other Detected Radionuclides ---							
Bismuth 214	**0.46**		**0.19**		**0.28**	**12/02/07**	**12/03/07**
Lead 212	**0.69**		**0.17**		**0.19**	**12/02/07**	**12/03/07**
Lead 214	**0.59**		**0.16**		**0.23**	**12/02/07**	**12/03/07**
Potassium 40	**11.7**		**2.0**		**1.4**	**12/02/07**	**12/03/07**
Thallium 208	0.122	U	0.083		0.13	12/02/07	12/03/07

NOTE(S)

ata are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-102-4.5-SL DUP

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210337-039X
Work Order: KCRL3
Matrix: SOLID

Date Collected: 11/17/07 0802
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7335150**		**Yld %**
Americium 241	-0.04	U	0.13	1.00	0.22	12/02/07	12/03/07
Cesium 137	-0.004	U	0.069	1.00	0.094	12/02/07	12/03/07
Thorium 232	0.41	U	0.23	1.00	0.47	12/02/07	12/03/07
Uranium 235	0.10	U	0.25	1.00	0.42	12/02/07	12/03/07
Uranium 238	0.82	U	0.96	1.00	1.7	12/02/07	12/03/07
--- Other Detected Radionuclides ---							
Bismuth 214	**0.50**		**0.20**		**0.26**	**12/02/07**	**12/03/07**
Lead 212	**0.72**		**0.18**		**0.15**	**12/02/07**	**12/03/07**
Lead 214	**0.47**		**0.14**		**0.20**	**12/02/07**	**12/03/07**
Potassium 40	**8.4**		**2.0**		**1.9**	**12/02/07**	**12/03/07**
Thallium 208	**0.127**		**0.076**		**0.11**	**12/02/07**	**12/03/07**

NOTE(S)

ata are incomplete without the case narrative.

DC is determined by instrument performance only.

Bold results are greater than the MDC

U Result is less than the sample detection limit.

METHOD BLANK REPORT

Severn Trent Laboratories - Radiochemistry

Client Lot ID: F7K210337
Matrix: SOLID

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC		Prep Date	Analysis Date	Lab Sample ID
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**	**Batch #**	**7335109**	**Yld %**			**F7L010000-109B**
Americium 241	-0.01	U	0.95	1.00	0.11		12/01/07	12/08/07	
Cesium 137	-0.03	U	0.78	1.00	0.13		12/01/07	12/08/07	
Thorium 232	0.0	U	0.23	1.00	0.43		12/01/07	12/08/07	
Uranium 235	0.02	U	0.13	1.00	0.24		12/01/07	12/08/07	
Uranium 238	0.21	U	0.45	1.00	0.86		12/01/07	12/08/07	
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**	**Batch #**	**7335111**	**Yld %**			**F7L010000-111B**
Americium 241	0.009	U	0.046	1.00	0.086		12/01/07	12/08/07	
Cesium 137	0.011	U	0.039	1.00	0.073		12/01/07	12/08/07	
Thorium 232	0.0	U	0.24	1.00	0.44		12/01/07	12/08/07	
Uranium 235	-0.001	U	0.14	1.00	0.25		12/01/07	12/08/07	
Uranium 238	0.10	U	0.44	1.00	0.90		12/01/07	12/08/07	
TC-99 by LSC by DOE TC-02-RC Mod.			**pCi/g**	**Batch #**	**7347172**	**Yld %**	**100**		**F7L130000-172B**
Technetium 99	-0.58	U	0.38	1.00	0.66		12/13/07	12/18/07	
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**	**Batch #**	**7335150**	**Yld %**			**F7L010000-150B**
Americium 241	0.007	U	0.050	1.00	0.092		12/02/07	12/03/07	
Cesium 137	-0.006	U	0.043	1.00	0.082		12/02/07	12/03/07	
Thorium 232	0.0	U	0.037	1.00	0.14		12/02/07	12/03/07	
Uranium 235	0.07	U	0.17	1.00	0.29		12/02/07	12/03/07	
Uranium 238	-0.13	U	0.69	1.00	0.90		12/02/07	12/03/07	
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**	**Batch #**	**7341092**	**Yld %**	**91**		**F7L070000-092B**
Neptunium 237	**0.22**	**J**	**0.10**	1.00	**0.07**		**12/07/07**	**12/13/07**	
Iso URANIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**	**Batch #**	**7341138**	**Yld %**	**95**		**F7L070000-138B**
Uranium 233/234	**0.067**	**J**	**0.053**	1.00	**0.054**		**12/07/07**	**12/14/07**	
Uranium 235/236	**0.046**	**J**	**0.046**	1.00	**0.031**		**12/07/07**	**12/14/07**	
Uranium 238	**0.139**	**J**	**0.073**	1.00	**0.025**		**12/07/07**	**12/14/07**	
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**	**Batch #**	**7341133**	**Yld %**	**87**		**F7L070000-133B**
Plutonium 238	-0.016	U	0.012	1.00	0.078		12/07/07	12/14/07	
Plutonium 239/40	-0.003	U	0.024	1.00	0.074		12/07/07	12/14/07	
TC-99 by LSC by DOE TC-02-RC Mod.			**pCi/g**	**Batch #**	**7346172**	**Yld %**	**97**		**F7L120000-172B**
Technetium 99	-0.15	U	0.38	1.00	0.64		12/12/07	12/17/07	
Iso URANIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**	**Batch #**	**7351229**	**Yld %**	**93**		**F7L170000-229B**
Uranium 233/234	0.019	U	0.029	1.00	0.044		12/17/07	12/20/07	
Uranium 235/236	-0.0048	U	0.0068	1.00	0.063		12/17/07	12/20/07	
Uranium 238	0.008	U	0.021	1.00	0.044		12/17/07	12/20/07	

NOTE(S)

ta are incomplete without the case narrative.

MDC is determined using instrument performance only
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Laboratory Control Sample Report

Severn Trent Laboratories - Radiochemistry

Client Lot ID: F7K210337
Matrix: SOLID

Parameter	Spike Amount	Result	Total Uncert. (2 σ+/-)	MDC	% Yld	% Rec	Lab Sample ID / QC Control Limits
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**	**GA-01-R MOD**			**F7L010000-109C**
Americium 241	103	105	8.3	1.3		102	(85 - 118)
Cesium 137	40.0	43.9	2.7	0.4		110	(91 - 120)
Cobalt 60	62.7	64.8	3.9	0.2		103	(91 - 112)
	Batch #:	7335109		**Analysis Date:**	12/08/07		
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**	**GA-01-R MOD**			**F7L010000-111C**
Americium 241	103	106	8.5	1.5		103	(85 - 118)
Cesium 137	40.0	42.3	2.7	0.5		106	(91 - 120)
Cobalt 60	62.7	64.6	3.9	0.2		103	(91 - 112)
	Batch #:	7335111		**Analysis Date:**	12/08/07		
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**	**GA-01-R MOD**			**F7L010000-150C**
Americium 241	103	106	8.5	1.6		103	(85 - 118)
Cesium 137	40.0	43.0	2.7	0.5		107	(91 - 120)
Cobalt 60	62.7	65.2	3.9	0.2		104	(91 - 112)
	Batch #:	7335150		**Analysis Date:**	12/03/07		
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**	**A-01-R MOD**			**F7L070000-092C**
Neptunium 237	13.3	11.8	1.2	0.04	108	89	(75 - 119)
	Batch #:	7341092		**Analysis Date:**	12/13/07		
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**	**A-01-R**			**F7L070000-133C**
Plutonium 238	6.13	5.88	0.68	0.06	97	96	(77 - 112)
Plutonium 239/40	5.77	5.92	0.69	0.04	97	102	(82 - 119)
	Batch #:	7341133		**Analysis Date:**	12/14/07		
Iso URANIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**	**A-01-R MOD**			**F7L070000-138C**
Uranium 233/234	19.6	18.4	2.9	0.5	89	94	(76 - 128)
Uranium 238	19.6	18.7	2.9	0.5	89	95	(74 - 125)
	Batch #:	7341138		**Analysis Date:**	12/14/07		
TC-99 by LSC by DOE TC-02-RC Mod.			**pCi/g**	**TC-02-RC MOD**			**F7L120000-172C**
Technetium 99	33.3	29.9	2.6	0.6	104	90	(64 - 114)
	Batch #:	7346172		**Analysis Date:**	12/17/07		
TC-99 by LSC by DOE TC-02-RC Mod.			**pCi/g**	**TC-02-RC MOD**			**F7L130000-172C**
Technetium 99	33.3	27.7	2.5	0.6	109	83	(64 - 114)
	Batch #:	7347172		**Analysis Date:**	12/18/07		
Iso URANIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**	**A-01-R MOD**			**F7L170000-229C**
Uranium 233/234	19.6	17.7	2.7	0.3	95	90	(76 - 128)
Uranium 238	19.6	18.3	2.8	0.2	95	93	(74 - 125)
	Batch #:	7351229		**Analysis Date:**	12/20/07		

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IDENTIFIED AND ACCEPTED

AS BLANK

DURING REVIEW BY

HEMATITE DECOMMISSIONING PROJECT

6/11/2008

NOTE(S)

MDC is determined by instrument performance only

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

DUPLICATE EVALUATION REPORT

Severn Trent Laboratories - Radiochemistry

Client Lot ID: F7K210337
Matrix: SOLID

Date Sampled: 11/26/07
Date Received: 11/28/07

Parameter	SAMPLE Result		Total Uncert. (2σ+/-)	% Yld	DUPLICATE Result		Total Uncert. (2 σ+/-)	% Yld	QC Sample ID Precision	
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**TC-02-RC MOD**				**F7K280316-036**	
Technetium 99	-0.72	U	0.45	86	-0.06	U	0.49	81	171	%RPD
	Batch #:		7347172	(Sample)	7347172		(Duplicate)			
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**GA-01-R MOD**				**F7K210252-022**	
Americium 241	0.0	U	0.17		0.01	U	0.17		200	%RPD
Cesium 137	0.025	U	0.070		-0.0008	U	0.080		213	%RPD
Thorium 232	0.99	J	0.25		1.04		0.27		5	%RPD
Uranium 235	0.1	U	0.38		-0.08	U	21		1820	%RPD
Uranium 238	1.8	U	1.0		1.15	U	0.82		46	%RPD
---Other Dedected Radionuclides---										
Actinium 228	0.99		0.25		1.04		0.27		5	%RPD
Bismuth 214	1.25		0.23		0.89		0.22		34	%RPD
Lead 212	1.12		0.21		1.49		0.26		29	%RPD
Lead 214	1.16		0.21		1.25		0.24		8	%RPD
Potassium 40	18.5		2.3		20.4		2.8		10	%RPD
Thallium 208	0.49		0.12		0.50		0.13		2	%RPD
	Batch #:		7335109	(Sample)	7335109		(Duplicate)			
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**A-01-R MOD**				**F7K210337-003**	
Neptunium 237	0.021	U	0.036	100	0.005	U	0.023	91	126	%RPD
	Batch #:		7341092	(Sample)	7341092		(Duplicate)			
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**A-01-R**				**F7K210337-003**	
Plutonium 238	-0.0128	U	0.0098	95	-0.011	U	0.025	92	13	%RPD
Plutonium 239/40	-0.0037	U	0.0052	95	0.009	U	0.021	92	501	%RPD
	Batch #:		7341133	(Sample)	7341133		(Duplicate)			
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**A-01-R MOD**				**F7K210337-003**	
Uranium 233/234	3.45		0.48	87	3.53		0.48	96	2	%RPD
Uranium 235/236	0.158	J	0.094	87	0.137	J	0.085	96	15	%RPD
Uranium 238	0.92	J	0.21	87	0.93	J	0.21	96	0.8	%RPD
	Batch #:		7341138	(Sample)	7341138		(Duplicate)			
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**TC-02-RC MOD**				**F7K210337-003**	
Technetium 99	1.57		0.44	98	1.69		0.43	102	7	%RPD
	Batch #:		7346172	(Sample)	7346172		(Duplicate)			

DUPLICATE EVALUATION REPORT

Severn Trent Laboratories - Radiochemistry

Client Lot ID: F7K210337
Matrix: SOLID

Date Sampled: 11/16/07
Date Received: 11/21/07

Parameter	SAMPLE Result		Total Uncert. (2σ+/-)	% Yld	DUPLICATE Result		Total Uncert. (2 σ+/-)	% Yld	QC Sample ID Precision	
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**GA-01-R MOD**				**F7K210337-019**	
Americium 241	-0.12	U	0.23		-0.05	U	0.63		90	%RPD
Cesium 137	0.02	U	0.11		-0.01	U	0.12		786	%RPD
Thorium 232	0.86	J	0.33		1.07		0.40		21	%RPD
Uranium 235	-0.003	U	0.41		-0.05	U	4.7		181	%RPD
Uranium 238	3.6		1.4		3.8		2.5		6	%RPD
---Other Dedected Radionuclides---										
Actinium 228	0.86		0.33		1.07		0.40		21	%RPD
Bismuth 214	1.72		0.34		1.88		0.41		9	%RPD
Lead 212	1.38		0.27		1.76		0.30		24	%RPD
Lead 214	1.48		0.26		1.87		0.30		23	%RPD
Potassium 40	21.8		3.5		21.2		3.3		3	%RPD
Thallium 208	0.58		0.17		0.70		0.17		20	%RPD
Thorium 234	3.6		1.4		3.8		2.5		6	%RPD
	Batch #:		7335111	(Sample)	7335111	(Duplicate)				
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**GA-01-R MOD**				**F7K210337-039**	
Americium 241	0.02	U	0.15		-0.04	U	0.13		503	%RPD
Cesium 137	-0.009	U	0.075		-0.004	U	0.069		73	%RPD
Thorium 232	0.45	U	0.24		0.41	U	0.23		9	%RPD
Uranium 235	0.18	U	0.37		0.10	U	0.25		56	%RPD
Uranium 238	1.58	U	0.85		0.82	U	0.96		63	%RPD
---Other Dedected Radionuclides---										
Bismuth 214	0.46		0.19		0.50		0.20		9	%RPD
Lead 212	0.69		0.17		0.72		0.18		3	%RPD
Lead 214	0.59		0.16		0.47		0.14		23	%RPD
Potassium 40	11.7		2.0		8.4		2.0		33	%RPD
Thallium 208	0.122	U	0.083		0.127		0.076		5	%RPD
	Batch #:		7335150	(Sample)	7335150	(Duplicate)				
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**A-01-R MOD**				**F7K210337-035**	
Uranium 233/234	151		24	106	241		33	106	46	%RPD
Uranium 235/236	4.1	J	3.8	106	8.6	J	5.6	106	71	%RPD
Uranium 238	12.5	J	6.0	106	4.6	J	3.7	106	92	%RPD
	Batch #:		7351229	(Sample)	7351229	(Duplicate)				

NOTE(S)

Data are incomplete without the case narrative.
Calculations are performed before rounding to avoid round-off error in calculated results

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

F7K210337 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD

Project Manager: IV | Quote #: 77705 | SDG:

Project: 313010.202 | Hematite Site

PO#: | Report to: Paul Ely

Client: 1381304 Energy Solutions, LLC

#SMPS in LOT: 39

Date Received: 2007-11-21
Analytical Due Date: 2007-12-10
Report Due Date: 2007-12-11
Report Type: W
EDD Code: 00

Gamma library MUST contain U-235, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
1	NB-90-4.5-SL			2007-11-09 / 1030	KCRG9	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
2	NB-90-11.5-SL			2007-11-09 / 1040	KCRHE	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
3	NB-91-0.5-SL			2007-11-16 / 1048	KCRHG	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
4	NB-91-4.5-SL			2007-11-16 / 1055	KCRHL	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
5	NB-91-6.5-SL			2007-11-16 / 1107	KCRHP	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry -	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
6	NB-92-4.5-SL			2007-11-09 / 1300	KCRHR	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

F7K210337 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD

Project Manager: IV | Quote #: 77705 | SDG:

Project: 313010.202 | Hematite Site

PO#: | Report to: Paul Ely

Client: 1381304 Energy Solutions, LLC

Date Received: 2007-11-21
Analytical Due Date: 2007-12-10
Report Due Date: 2007-12-11
Report Type: W
#SMPS in LOT: 39 EDD Code: 00

Gamma library MUST contain U-235, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
7	NB-92-11-SL			2007-11-09 / 1315	KCRH0	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
8	NB-93-0.5-SL			2007-11-16 / 1320	KCRH3	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
9	NB-93-4.5-SL			2007-11-16 / 1328	KCRH4	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
10	NB-93-15-SL			2007-11-16 / 1339	KCRH6	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
11	NB-94-4.5-SL			2007-11-09 / 1340	KCRH8	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

F7K210337 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD

Project Manager: IV | Quote #: 77705 | SDG:

Project: 313010.202 | Hematite Site

PO#: | Report to: Paul Ely

Client: 1381304 Energy Solutions, LLC | #SMPS in LOT: 39

Date Received: 2007-11-21
Analytical Due Date: 2007-12-10
Report Due Date: 2007-12-11
Report Type: W
EDD Code: 00

Gamma library MUST contain U-235, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
12	NB-94-15-SL			2007-11-09 / 1355	KCRJD	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06	
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06	

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
13	NB-95-4.5-SL			2007-11-09 / 1455	KCRJJ	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06	
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06	
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06	
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06	
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06	

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
14	NB-95-16.5-SL			2007-11-09 / 1510	KCRJP	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06	
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06	

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
15	NB-96-0.5-SL			2007-11-16 / 1400	KCRJR	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06	
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06	
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06	
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06	
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06	
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06	

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
16	NB-96-4.5-SL			2007-11-16 / 1408	KCRJV	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06	
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06	
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06	

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
17	NB-134-0.5-SL			2007-11-16 / 835	KCRJ2	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06	

F7K210337 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD
Date Received: 2007-11-21
Analytical Due Date: 2007-12-10
Report Due Date: 2007-12-11
Report Type: W
EDD Code: 00

Project Manager: IV
Quote #: 77705
SDG:
Project: 313010.202
Hematite Site
PO#:
Report to: Paul Ely
Client: 1381304 Energy Solutions, LLC
#SMPS in LOT: 39

Gamma library MUST contain U-235, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
18	NB-134-2.5-SL			2007-11-16 / 850	KCRJ5	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
19	NB-134-4.5-SL			2007-11-16 / 850	KCRKA	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
20	NB-134-9-SL			2007-11-16 / 900	KCRKE	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
21	NB-135-0.5-SL			2007-11-14 / 1705	KCRKH	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
22	NB-135-4.5-SL			2007-11-14 / 1715	KCRKN	SOLID

SAMPLE COMMENTS:

F7K210337 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD
Date Received: 2007-11-21
Analytical Due Date: 2007-12-10
Report Due Date: 2007-12-11
Report Type: W
EDD Code: 00

Project Manager: IV
Quote #: 77705
SDG:
Project: 313010.202
Hematite Site
PO#:
Report to: Paul Ely
Client: 1381304 Energy Solutions, LLC
#SMPS in LOT: 39

Gamma library MUST contain U-235, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
23	NB-135-15-SL			2007-11-14 / 1730	KCRKQ	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
24	NB-96-5-SL			2007-11-16 / 1410	KCRKR	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
25	NB-97-0.5-SL			2007-11-16 / 1441	KCRKW	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
26	NB-97-4.5-SL			2007-11-16 / 1444	KCRK0	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
27	NB-97-9.5-SL			2007-11-16 / 1452	KCRK1	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A

F7K210337 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD

Project Manager: IV | Quote #: 77705 | SDG:

Project: 313010.202 | Hematite Site

PO#: | Report to: Paul Ely

Client: 1381304 Energy Solutions, LLC

Date Received: 2007-11-21
Analytical Due Date: 2007-12-10
Report Due Date: 2007-12-11
Report Type: W
EDD Code: 00
#SMPS in LOT: 39

Gamma library MUST contain U-235, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
28	NB-98-0.5-SL			2007-11-16 / 1519	KCRK2	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
29	NB-98-4.5-SL			2007-11-16 / 1526	KCRK4	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
30	NB-98-9-SL			2007-11-16 / 1536	KCRK5	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
31	NB-99-4.5-SL			2007-11-09 / 1420	KCRK6	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
32	NB-99-13-SL			2007-11-09 / 1435	KCRK8	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
33	NB-100-4.5-SL			2007-11-09 / 1535	KCRLA	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
34	NB-100-7-SL			2007-11-09 / 1540	KCRLD	SOLID

SAMPLE COMMENTS:

F7K210337 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD

Project Manager: IV | Quote #: 77705 | SDG:

Project: 313010.202 | Hematite Site

PO#: | Report to: Paul Ely

Client: 1381304 Energy Solutions, LLC

Date Received: 2007-11-21
Analytical Due Date: 2007-12-10
Report Due Date: 2007-12-11
Report Type: W
#SMPS in LOT: 39 EDD Code: 00

Gamma library MUST contain U-235, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
35	NB-101-2.5-SL			2007-11-17 / 919	KCRLG	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
36	NB-101-4.5-SL			2007-11-17 / 919	KCRLM	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
37	NB-101-7-SL			2007-11-17 / 925	KCRLT	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
38	NB-102-0.5-SL			2007-11-17 / 753	KCRL0	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
39	NB-102-4.5-SL			2007-11-17 / 802	KCRL3	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

Attachment 5.2-Chain of Custody Record

Client: WEC
Address:
City:
State: Zip Code:

Project Manager: Doane Quayle
Telephone Number: 865-368-7477
Site Contact:
Lab Contact: Ivan Venia

Date: 11/21/07
CoC Number: SC-01
Page: 21 of 28

Project Name: Hematite Characterization
Project Location: Festus, MO
Carrier/Waybill Number:
Contract/PO Number:

Sample ID Number	Date	Time	Matrix: Air	Aqueous	Sediment	Soil		Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH		Analysis (Attach list if more space is needed): X spec	Isotopic Tc-99	Isotopic U	Isotopic Pu	Isotopic Np					
NB-90-4.5-SL	11/9/07	1030				✓									✓									
NB-90-11.5-SL	11/9/07	1040				✓									✓									
NB-91-0.5-SL	11/16/07	1048				✓									✓	✓	✓	✓	✓					
NB-91-4.5-SL	11/16/07	1055				✓									✓	✓								
NB-91-6.5-SL	11/16/07	1107				✓									✓	✓								
NB-92-4.5-SL	11/9/07	1300				✓									✓	✓								
NB-92-11-SL	11/9/07	1315				✓									✓	✓								
NB-93-0.5-SL	11/16/07	1320				✓									✓	✓	✓	✓	✓					

Possible Hazard Identification: Non-haz. ☐ Radioactive ☐ Flammable ☐ Skin Irritant ☐ Unknown ☐

Sample Disposal: Return to client ✓ Disposal by lab ☐ Archive for __ months ☐

Turn Around Time: 24 hrs ☐ 48 hrs ☐ 7 days ☐ 14 days ✓ 21 days ✓ Other ☐

Comments:

	Date	Time		Date	Time
Relinquished by: [signature]	11/21/07	11:30	Received by: [signature]	11/21/07	11:30
Relinquished by:			Received by:		
Relinquished by:			Received by:		

Attachment 5.2-Chain of Custody Record

Client: WEC
Address:
City:
State: Zip Code:

Project Manager: Duane Quayle
Telephone Number: 865-368-7477
Site Contact:
Lab Contact: Ivan Vania

Date: 4/21/07
CoC Number: SC-01
Page: 22 of 28

Project Name: Hematite Characterization
Project Location: Festus, MO
Carrier/Waybill Number:
Contract/PO Number:

Sample ID Number	Date	Time	Matrix: Air	Aqueous	Sediment	Soil		Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH		Analysis (Attach list if more space is needed): γ spec	Isotopic Tc-99	Isotopic U	Isotopic Pu	Isotopic Np					
NB-93-4.5-SL	11/16/07	1328				✓									✓	✓								
NB-93-15-SL	11/16/07	1339				✓									✓	✓								
NB-94-4.5-SL	11/9/07	1340				✓									✓		✓	✓	✓					
NB-94-15-SL	11/9/07	1355				✓									✓									
NB-95-4.5-SL	11/9/07	1455				✓									✓		✓	✓	✓					
NB-95-16.5-SL	11/9/07	1510				✓									✓									
NB-96-0.5-SL	11/16/07	1400				✓									✓	✓	✓	✓	✓					
NB-96-4.5-SL	11/16/07	1408				✓									✓	✓								

Possible Hazard Identification: Non-haz. ☐ Radioactive ☐ Flammable ☐ Skin Irritant ☐ Unknown ☐

Sample Disposal: Return to client ✓ Disposal by lab ☐ Archive for __ months ☐

Turn Around Time: 24 hrs ☐ 48 hrs ☐ 7 days ☐ 14 days ☐ 21 days ✓ Other ☐

Comments:

	Date	Time		Date	Time
Relinquished by:	11/21/07	11:30	Received by:	11/21/07	11:30
Relinquished by:			Received by:		
Relinquished by:			Received by:		

TestAmerica St. Louis

Attachment 5.2-Chain of Custody Record

Client: WEC
Address:
City:
State: Zip Code:

Project Manager: Duane Quayle
Telephone Number: 865-368-9477
Site Contact:
Lab Contact: Ivan Venia

Date: 11/21/07
CoC Number: SC-01
Page: 23 of 28

Project Name: Hematite Characterization
Project Location:
Carrier/Waybill Number:
Contract/PO Number:

Sample ID Number	Date	Time	Matrix: Air	Aqueous	Sediment	Soil		Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH		Analysis (Attach list if more space is needed): X spec	Isotopic Tc-99	Isotopic U	Isotopic Pu	Isotopic Np					
NB-134-0.5-SL	11-16-07	0835				✓									✓	✓	✓	✓	✓					
NB-134-2.5-SL	11-16-07	0850				✓									✓	✓	✓							
NB-134-4.5-SL	11-16-07	0850				✓									✓	✓								
NB-134-9-SL	11-16-07	0900				✓									✓	✓								
NB-135-0.5-SL	11-14-07	1705				✓									✓	✓	✓	✓	✓					
NB-135-4.5-SL	11-14-07	1715				✓									✓									
NB-135-15-SL	11-14-07	1730				✓									✓									

Possible Hazard Identification: Non-haz. ☐ Radioactive ☐ Flammable ☐ Skin Irritant ☐ Unknown ☐

Sample Disposal: Return to client ✓ Disposal by lab ☐ Archive for __ months ☐

Turn Around Time: 24 hrs ☐ 48 hrs ☐ 7 days ☐ 14 days ☐ 20 days ✓ Other ☐

Comments:

	Date	Time		Date	Time
Relinquished by:	11/21/07	1130	Received by:	11/21/07	11:30
Relinquished by:			Received by:		
Relinquished by:			Received by:		

Attachment 5.2-Chain of Custody Record

Client: UEC
Address:
City:
State: Zip Code:

Project Manager: Duane Quayle
Telephone Number: 865-368-7497
Site Contact:
Lab Contact: Ivan Venia

Date: 11/21/07
CoC Number: SC-01
Page: 24 of 28

Project Name: Hematite Characterization
Project Location:
Carrier/Waybill Number:
Contract/PO Number:

Sample ID Number	Date	Time	Matrix: Air	Aqueous	Sediment	Soil	Containers & Preservatives: Unpres.	H_2SO_4	HNO_3	HCl	NaOH	ZnAc/NaOH	Analysis: Xspec	Isotopic Tc99	Isotopic U	Isotopic Pu	Isotopic Np
NB-96-5-SL	11/16/07	1410				✓							✓	✓			
NB-97-0.5-SL	11/16/07	1441				✓							✓	✓	✓	✓	✓
NB-97-4.5-SL	11/16/07	1444				✓							✓	✓			
NB-97-9.5-SL	11/16/07	1452				✓							✓	✓			
NB-98-0.5-SL	11-16-07	1519				✓							✓	✓	✓	✓	✓
NB-98-4.5-SL	11-16-07	1526				✓							✓				
NB-98-9-SL	11-16-07	1536				✓							✓				
NB-99-4.5-SL	11-9-07	1420				✓							✓				

Possible Hazard Identification: Non-haz. ☐ Radioactive ☐ Flammable ☐ Skin Irritant ☐ Unknown ☐

Sample Disposal: Return to client ✓ Disposal by lab ☐ Archive for __ months ☐

Turn Around Time: 24 hrs ☐ 48 hrs ☐ 7 days ☐ 14 days ✓ 28 days ☐ Other ☐

Comments:

	Date	Time		Date	Time
Relinquished by: [signature]	11/21/07	1130	Received by: Angela Brown	11/21/07	11:30
Relinquished by:			Received by:		
Relinquished by:			Received by:		

TestAmerica St. Louis

Attachment 5.2-Chain of Custody Record

Client: UEC
Address:
City:
State: Zip Code:

Project Manager: Duane Quayle
Telephone Number: 865-368-7477
Site Contact:
Lab Contact: Ivan Venla

Date: 11/21/07
CoC Number: SC-01
Page: 25 of 28

Project Name: Hematite Characterization
Project Location:
Carrier/Waybill Number:
Contract/PO Number:

Sample ID Number	Date	Time	Matrix: Air	Aqueous	Sediment	Soil		Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH		Analysis (Attach list if more space is needed): γ spec	Isotopic Tc-99	Isotopic U	Isotopic Pu	Isotopic Np					
NB-99-13-SL	11-9-07	1435				✓									✓									
NB-100-4.5-SL	11-9-07	1535				✓									✓									
NB-100-7-SL	11-9-07	1540				✓									✓									
NB-101-2.5-SL	11-17-07	0919				✓									✓	✓	✓							
NB-101-4.5-SL	11-17-07	0919				✓									✓	✓								
NB-101-7-SL	11-17-07	0925				✓									✓									
NB-102-0.5-SL	11-17-07	0753				✓									✓	✓	✓	✓	✓					
NB-102-4.5-SL	11-17-05	0802				✓									✓	✓								

Possible Hazard Identification: Non-haz. ☐ Radioactive ☐ Flammable ☐ Skin Irritant ☐ Unknown ☐

Sample Disposal: Return to client ✓ Disposal by lab ☐ Archive for __ months ☐

Turn Around Time: 24 hrs ☐ 48 hrs ☐ 7 days ☐ 14 days ✓ 20 days ☐ Other ☐

Comments:

	Date	Time		Date	Time
Relinquished by: [signature]	11/21/07	1130	Received by: Angela Brown	11/21/07	11:30
Relinquished by:			Received by:		
Relinquished by:			Received by:		

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Lot #(s): F7K210252 F7K210247
277 323
337
337

-1167-

Condition Upon Receipt Form

Client: Energy Solutions COC/RFA No: SC-01 Date: 11/6/07
Quote No: 77705 Initiated By: BD Time: 1130

Shipping Information

Shipper Name: Client
Multiple Packages (Y) N

Shipping # (s):*

1.	6.	1. Ambient	6. Ambient
2.	7.	2.	7.
3.	8.	3.	8.
4.	9.	4.	9.
5.	10.	5.	10.

Sample Temperature (s):**

*Numbered shipping lines correspond to Numbered Sample Temp lines

**Sample must be received at 4°C ± 2°C. If not, note contents below. Temperature variance does NOT affect the following: Metals-Liquid or Rad tests- Liquid or Solids

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

1.	Y N	Are there custody seals present on the cooler?	8.	Y N	Are there custody seals present on bottles?
2.	Y N N/A	Do custody seals on cooler appear to be tampered with?	9.	Y N N/A	Do custody seals on bottles appear to be tampered with?
3.	Y N	Were contents of cooler frisked after opening, but before unpacking?	10.	Y N N/A	Was sample received with proper pH[1]? (If not, make note below)
4.	Y N	Sample received with Chain of Custody?	11.	Y N	If N/A - Was pH taken by original TestAmerica lab?
5.	Y N N/A	Does the Chain of Custody match sample ID's on the container(s)?	12.	Y N	Sample received in proper containers?
6.	Y N	Was sample received broken?	13.	Y N N/A	Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below)
7.	Y N	Is sample volume sufficient for analysis?	14.	Y N	Was Internal COC/Worksheet received?

[1] For DOE-AL (Pantex, LANL, Sandia) sites, pH of ALL containers received must be verified, EXCEPT VOA, TOX and soils.

Notes:

Corrective Action:
- ☐ Client Contact Name: Informed by:
- ☐ Sample(s) processed "as is"
- ☐ Sample(s) on hold until: If released, notify:

Project Management Review: Date: 11-5-07 1167

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIAL AND THE DATE NEXT TO THAT ITEM.

ADMIN-0004, REVISED 08/06/07\\Slsrv01\QA\FORMS\ST-LOUIS\ADMIN\Admin004 rev11.doc

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

PROJECT NO. 313010.202

Hematite Site

Lot #: F7K210350

Paul Kly

Energy Solutions, LLC
1009 Commerce Park Drive
Suite 100
Oak Ridge, TN 37830

TESTAMERICA LABORATORIES, INC.

Ivan Vania
Project Manager

December 10, 2007

Case Narrative
LOT NUMBER: F7K210350

This report contains the analytical results for the 21 samples received under chain of custody by TestAmerica St. Louis on November 21, 2007. These samples are associated with your Hematite Site project.

The analytical results included in this report meet all applicable quality control procedure requirements except as noted on the following page.

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

All chemical analysis results are based upon sample as received, wet weight, unless noted otherwise. All radiochemistry results are based upon sample as dried and ground with the exception of tritium, unless requested wet weight by the client.

Observations/Nonconformances

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

Tc-99 by LSC (EML TC-02-RC MOD)
The Technetium-99 RPD/RER is not within method acceptance criteria. The sample is non-homogeneous. Method performance is demonstrated by acceptable LCS recovery.
Affected Samples:

F7K210350 (1): NB-102-5-SL
F7K210350 (2): NB-103-2.5-SL
F7K210350 (3): NB-103-4.5-SL
F7K210350 (4): NB-103-13.5-SL
F7K210350 (7): NB-109-0.5-SL
F7K210350 (9): NB-122-0.5-SL
F7K210350 (12): NB-123-0.5-SL
F7K210350 (13): NB-123-2.5-SL
F7K210350 (14): NB-123-4.5-SL
F7K210350 (15): NB-123-8.5-SL
F7K210350 (16): NB-124-0.5-SL
F7K210350 (17): NB-124-4.5-SL
F7K210350 (19): NB-125-0.5-SL
F7K210350 (20): NB-125-4.5-SL

There were no other nonconformances or observations noted with any analysis on this lot.

METHODS SUMMARY

F7K210350

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Gamma Spectroscopy - Cesium-137 & Hits	EML GA-01-R MOD	
Isotopic Plutonium by Alpha Spectroscopy	EML A-01-R	
Isotopic Uranium by Alpha Spectroscopy	EML A-01-R MOD	
Neptunium by Alpha Spectroscopy	EML A-01-R MOD	
TC-99 by LSC	EML TC-02-RC MO	

References:

EML "ENVIRONMENTAL MEASUREMENTS LABORATORY PROCEDURES MANUAL"
HASL-300 28TH EDITION, VOLUME I and II DEPARTMENT OF ENERGY

SAMPLE SUMMARY

F7K210350

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
KCRMP	001	NB-102-5-SL	11/17/07	08:07
KCT8E	002	NB-103-2.5-SL	11/17/07	08:42
KCT8H	003	NB-103-4.5-SL	11/17/07	08:42
KCT8K	004	NB-103-13.5-SL	11/17/07	08:57
KCT8L	005	NB-105-4.5-SL	11/15/07	10:32
KCT8M	006	NB-105-15.5-SL	11/15/07	10:45
KCT8N	007	NB-109-0.5-SL	11/15/07	10:55
KCT8Q	008	NB-109-4.5-SL	11/15/07	11:01
KCT8R	009	NB-122-0.5-SL	11/15/07	11:05
KCT8T	010	NB-122-4.5-SL	11/15/07	11:10
KCT8V	011	NB-122-14.5-SL	11/15/07	11:23
KCT8W	012	NB-123-0.5-SL	11/16/07	13:15
KCT8X	013	NB-123-2.5-SL	11/16/07	13:20
KCT80	014	NB-123-4.5-SL	11/16/07	13:20
KCT81	015	NB-123-8.5-SL	11/16/07	13:25
KCT82	016	NB-124-0.5-SL	11/14/07	14:15
KCT83	017	NB-124-4.5-SL	11/14/07	14:22
KCT84	018	NB-124-8.5-SL	11/14/07	14:25
KCT85	019	NB-125-0.5-SL	11/14/07	11:00
KCT87	020	NB-125-4.5-SL	11/14/07	11:05
KCT88	021	NB-125-7-SL	11/14/07	11:10

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Energy Solutions, LLC

Client Sample ID: NB-102-5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210350-001
Work Order: KCRMP
Matrix: SOLID

Date Collected: 11/17/07 0807
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7335149**		**Yld %**
Americium 241	0.041	U	0.095	1.00	0.16	12/02/07	12/03/07
Cesium 137	-0.001	U	0.083	1.00	0.15	12/02/07	12/03/07
Thorium 232	**0.76**	**J**	**0.34**	1.00	**0.54**	**12/02/07**	**12/03/07**
Uranium 235	0.11	U	0.37	1.00	0.64	12/02/07	12/03/07
Uranium 238	1.28	U	0.82	1.00	1.6	12/02/07	12/03/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.76**		**0.34**		**0.54**	**12/02/07**	**12/03/07**
Bismuth 214	**0.69**		**0.25**		**0.31**	**12/02/07**	**12/03/07**
Lead 212	**0.97**		**0.21**		**0.24**	**12/02/07**	**12/03/07**
Lead 214	**0.58**		**0.20**		**0.27**	**12/02/07**	**12/03/07**
Potassium 40	**18.2**		**2.6**		**2.2**	**12/02/07**	**12/03/07**
Thallium 208	**0.31**		**0.14**		**0.16**	**12/02/07**	**12/03/07**
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7333215**		**Yld % 105**
Technetium 99	**4.26**		**0.60**	1.00	**0.41**	**11/29/07**	**12/03/07**

NOTE(S)

ta are incomplete without the case narrative.

DC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-102-5-SL DUP

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210350-001X
Work Order: KCRMP
Matrix: SOLID

Date Collected: 11/17/07 0807
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7333215**	**Yld % 96**
Technetium 99	**2.44**		**0.45**	1.00	**0.45**	**11/29/07**	**12/03/07**

NOTE(S)

\ta are incomplete without the case narrative.

.C is determined by instrument performance only.
Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: NB-103-2.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210350-002
Work Order: KCT8E
Matrix: SOLID

Date Collected: 11/17/07 0842
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7335149**		**Yld %**
Americium 241	0.00008	U	0.072	1.00	0.13	12/02/07	12/03/07
Cesium 137	0.006	U	0.051	1.00	0.096	12/02/07	12/03/07
Thorium 232	0.1	U	0.18	1.00	0.32	12/02/07	12/03/07
Uranium 235	0.16	U	0.19	1.00	0.30	12/02/07	12/03/07
Uranium 238	0.95	U	0.73	1.00	1.2	12/02/07	12/03/07
--- Other Detected Radionuclides ---							
Bismuth 214	**0.41**		**0.13**		**0.12**	**12/02/07**	**12/03/07**
Lead 212	**0.22**		**0.12**		**0.12**	**12/02/07**	**12/03/07**
Lead 214	**0.28**		**0.11**		**0.15**	**12/02/07**	**12/03/07**
Potassium 40	**5.8**		**1.4**		**0.9**	**12/02/07**	**12/03/07**
Radium 224	-0.5	U	1.0		1.7	12/02/07	12/03/07
'C-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7333215**		**Yld % 94**
Technetium 99	0.27	U	0.28	1.00	0.46	11/29/07	12/03/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7338407**		**Yld % 77**
Uranium 233/234	**6.02**		**0.96**	1.00	**0.06**	**12/04/07**	**12/07/07**
Uranium 235/236	**0.25**	**J**	**0.13**	1.00	**0.08**	**12/04/07**	**12/07/07**
Uranium 238	**0.86**	**J**	**0.23**	1.00	**0.06**	**12/04/07**	**12/07/07**

NOTE(S)

ta are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-103-2.5-SL DUP

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210350-002X
Work Order: KCT8E
Matrix: SOLID

Date Collected: 11/17/07 0842
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**		**Batch # 7335149**		**Yld %**
Americium 241	0.002	U	0.091	1.00	0.16	12/02/07	12/03/07
Cesium 137	-0.01	U	0.12	1.00	0.11	12/02/07	12/03/07
Thorium 232	-0.0008	U	0.16	1.00	0.31	12/02/07	12/03/07
Uranium 235	0.18	U	0.19	1.00	0.31	12/02/07	12/03/07
Uranium 238	0.10	U	0.80	1.00	1.4	12/02/07	12/03/07
--- Other Detected Radionuclides ---							
Bismuth 214	**0.24**		**0.14**		**0.22**	**12/02/07**	**12/03/07**
Lead 212	0.068	U	0.076		0.13	12/02/07	12/03/07
Lead 214	**0.29**		**0.10**		**0.18**	**12/02/07**	**12/03/07**
Potassium 40	**5.7**		**1.4**		**0.7**	**12/02/07**	**12/03/07**
Thallium 208	0.036	U	0.043		0.077	12/02/07	12/03/07

NOTE(S)

ata are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-103-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210350-003
Work Order: KCT8H
Matrix: SOLID

Date Collected: 11/17/07 0842
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7338405	Yld % 92
Neptunium 237	0.003	U	0.035	1.00	0.077	12/04/07	12/07/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7338406	Yld % 94
Plutonium 238	0.012	U	0.041	1.00	0.070	12/04/07	12/07/07
Plutonium 239/40	-0.002	U	0.021	1.00	0.040	12/04/07	12/07/07
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g		Batch # 7333215	Yld % 99
Technetium 99	**1.26**		**0.34**	1.00	**0.43**	**11/29/07**	**12/03/07**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7338407	Yld % 86
Uranium 233/234	**43.0**		**5.7**	1.0	**0.06**	**12/04/07**	**12/07/07**
Uranium 235/236	**1.94**		**0.41**	1.00	**0.07**	**12/04/07**	**12/07/07**
Uranium 238	**5.20**		**0.82**	1.00	**0.06**	**12/04/07**	**12/07/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7335149	Yld %
Americium 241	0.01	U	0.16	1.00	0.27	12/02/07	12/03/07
Cesium 137	-0.009	U	0.081	1.00	0.12	12/02/07	12/03/07
Thorium 232	**0.39**	J	**0.21**	1.00	**0.39**	**12/02/07**	**12/03/07**
Uranium 235	**1.23**		**0.39**	1.00	**0.50**	**12/02/07**	**12/03/07**
Uranium 238	**3.7**		**1.1**	1.0	**1.6**	**12/02/07**	**12/03/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.39**		**0.21**		**0.39**	**12/02/07**	**12/03/07**
Bismuth 214	**0.47**		**0.20**		**0.28**	**12/02/07**	**12/03/07**
Lead 212	**0.80**		**0.15**		**0.11**	**12/02/07**	**12/03/07**
Lead 214	**0.55**		**0.15**		**0.21**	**12/02/07**	**12/03/07**
Potassium 40	**12.3**		**2.2**		**0.7**	**12/02/07**	**12/03/07**
Thallium 208	**0.306**		**0.086**		**0.064**	**12/02/07**	**12/03/07**
Thorium 234	**3.7**		**1.1**		**1.6**	**12/02/07**	**12/03/07**

NOTE(S)

ta are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-103-4.5-SL DUP

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210350-003X
Work Order: KCT8H
Matrix: SOLID

Date Collected: 11/17/07 0842
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338405**	**Yld % 91**
Neptunium 237	-0.012	U	0.037	1.00	0.080	12/04/07	12/07/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338406**	**Yld % 96**
Plutonium 238	-0.014	U	0.052	1.00	0.098	12/04/07	12/07/07
Plutonium 239/40	-0.025	U	0.036	1.00	0.081	12/04/07	12/07/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338407**	**Yld % 91**
Uranium 233/234	**38.4**		**5.1**	1.0	**0.03**	**12/04/07**	**12/07/07**
Uranium 235/236	**1.76**		**0.38**	1.00	**0.06**	**12/04/07**	**12/07/07**
Uranium 238	**5.11**		**0.80**	1.00	**0.05**	**12/04/07**	**12/07/07**

NOTE(S)

ta are incomplete without the case narrative.

JC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-103-13.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210350-004
Work Order: KCT8K
Matrix: SOLID

Date Collected: 11/17/07 0857
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7335149**		**Yld %**
Americium 241	0.05	U	0.21	1.00	0.36	12/02/07	12/03/07
Cesium 137	-0.03	U	0.11	1.00	0.20	12/02/07	12/03/07
Thorium 232	**0.88**	**J**	**0.40**	1.00	**0.64**	**12/02/07**	**12/03/07**
Uranium 235	0.13	U	0.38	1.00	0.66	12/02/07	12/03/07
Uranium 238	**3.3**		**1.4**	1.0	**2.8**	**12/02/07**	**12/03/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.88**		**0.40**		**0.64**	**12/02/07**	**12/03/07**
Bismuth 214	**1.17**		**0.28**		**0.20**	**12/02/07**	**12/03/07**
Lead 212	**2.17**		**0.34**		**0.25**	**12/02/07**	**12/03/07**
Lead 214	**0.93**		**0.23**		**0.30**	**12/02/07**	**12/03/07**
Potassium 40	**17.0**		**3.2**		**1.5**	**12/02/07**	**12/03/07**
Thallium 208	**0.33**		**0.15**		**0.20**	**12/02/07**	**12/03/07**
horium 234	**3.3**		**1.4**		**2.8**	**12/02/07**	**12/03/07**
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7333215**		**Yld % 95**
Technetium 99	**5.90**		**0.78**	1.00	**0.45**	**11/29/07**	**12/03/07**

NOTE(S)

ta are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-105-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210350-005
Work Order: KCT8L
Matrix: SOLID

Date Collected: 11/15/07 1032
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**		**Batch # 7335149**		**Yld %**
Americium 241	0.08	U	0.12	1.00	0.21	12/02/07	12/03/07
Cesium 137	-0.028	U	0.086	1.00	0.15	12/02/07	12/03/07
Thorium 232	**0.63**	**J**	**0.28**	1.00	**0.39**	**12/02/07**	**12/03/07**
Uranium 235	0.33	U	0.32	1.00	0.51	12/02/07	12/03/07
Uranium 238	**2.18**		**0.90**	1.00	**1.6**	**12/02/07**	**12/03/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.63**		**0.28**		**0.39**	**12/02/07**	**12/03/07**
Bismuth 214	**0.80**		**0.20**		**0.15**	**12/02/07**	**12/03/07**
Lead 212	**0.84**		**0.17**		**0.15**	**12/02/07**	**12/03/07**
Lead 214	**0.57**		**0.16**		**0.24**	**12/02/07**	**12/03/07**
Potassium 40	**12.8**		**2.5**		**1.3**	**12/02/07**	**12/03/07**
Thallium 208	**0.21**		**0.10**		**0.14**	**12/02/07**	**12/03/07**
Thorium 234	**2.18**		**0.90**		**1.6**	**12/02/07**	**12/03/07**

NOTE(S)

ata are incomplete without the case narrative.

DC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-105-15.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210350-006
Work Order: KCT8M
Matrix: SOLID

Date Collected: 11/15/07 1045
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**		**Batch # 7335149**		**Yld %**
Americium 241	0.08	U	0.11	1.00	0.19	12/02/07	12/03/07
Cesium 137	-0.05	U	0.35	1.00	0.24	12/02/07	12/03/07
Thorium 232	**1.13**		**0.42**	1.00	**0.77**	**12/02/07**	**12/03/07**
Uranium 235	0.43	U	0.35	1.00	0.65	12/02/07	12/03/07
Uranium 238	1.72	U	0.89	1.00	2.0	12/02/07	12/03/07
--- Other Detected Radionuclides ---							
Actinium 228	**1.13**		**0.42**		**0.77**	**12/02/07**	**12/03/07**
Bismuth 214	**0.72**		**0.31**		**0.45**	**12/02/07**	**12/03/07**
Lead 212	**1.18**		**0.31**		**0.33**	**12/02/07**	**12/03/07**
Lead 214	**0.72**		**0.22**		**0.38**	**12/02/07**	**12/03/07**
Potassium 40	**18.1**		**3.7**		**3.1**	**12/02/07**	**12/03/07**
Thallium 208	**0.44**		**0.19**		**0.19**	**12/02/07**	**12/03/07**

NOTE(S)

ata are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-109-0.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210350-007
Work Order: KCT8N
Matrix: SOLID

Date Collected: 11/15/07 1055
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338405**	**Yld % 79**
Neptunium 237	0.039	U	0.057	1.00	0.078	12/04/07	12/07/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338406**	**Yld % 93**
Plutonium 238	-0.006	U	0.051	1.00	0.095	12/04/07	12/07/07
Plutonium 239/40	0.0006	U	0.028	1.00	0.062	12/04/07	12/07/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338407**	**Yld % 85**
Uranium 233/234	**26.5**		**3.6**	1.0	**0.07**	**12/04/07**	**12/07/07**
Uranium 235/236	**1.23**		**0.30**	1.00	**0.06**	**12/04/07**	**12/07/07**
Uranium 238	**4.13**		**0.68**	1.00	**0.05**	**12/04/07**	**12/07/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7335149**	**Yld %**
Americium 241	0.07	U	0.20	1.00	0.33	12/02/07	12/03/07
esium 137	**0.23**	**J**	**0.11**	1.00	**0.16**	**12/02/07**	**12/03/07**
Thorium 232	**0.92**	**J**	**0.36**	1.00	**0.39**	**12/02/07**	**12/03/07**
Uranium 235	**1.78**		**0.47**	1.00	**0.62**	**12/02/07**	**12/03/07**
Uranium 238	**4.4**		**1.3**	1.0	**2.6**	**12/02/07**	**12/03/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.92**		**0.36**		**0.39**	**12/02/07**	**12/03/07**
Bismuth 214	**0.74**		**0.20**		**0.18**	**12/02/07**	**12/03/07**
Lead 210	**4.1**		**2.9**		**3.6**	**12/02/07**	**12/03/07**
Lead 212	**1.01**		**0.18**		**0.15**	**12/02/07**	**12/03/07**
Lead 214	**1.32**		**0.27**		**0.23**	**12/02/07**	**12/03/07**
Potassium 40	**19.3**		**3.0**		**0.7**	**12/02/07**	**12/03/07**
Protactinium 234	**0.47**		**0.32**		**0.36**	**12/02/07**	**12/03/07**
Thallium 208	**0.47**		**0.13**		**0.11**	**12/02/07**	**12/03/07**
Thorium 234	**4.4**		**1.3**		**2.6**	**12/02/07**	**12/03/07**
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7333215**	**Yld % 99**
Technetium 99	0.04	U	0.25	1.00	0.43	11/29/07	12/03/07

NOTE(S)

ta are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-109-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210350-008
Work Order: KCT8O
Matrix: SOLID

Date Collected: 11/15/07 1101
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7335149**		**Yld %**
Americium 241	0.0003	U	0.11	1.00	0.19	12/02/07	12/03/07
Cesium 137	0.0	U	0.11	1.00	0.20	12/02/07	12/03/07
Thorium 232	**0.51**	**J**	**0.22**	1.00	**0.41**	**12/02/07**	**12/03/07**
Uranium 235	0.27	U	0.32	1.00	0.53	12/02/07	12/03/07
Uranium 238	0.86	U	0.64	1.00	1.9	12/02/07	12/03/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.51**		**0.22**		**0.41**	**12/02/07**	**12/03/07**
Bismuth 214	**0.85**		**0.19**		**0.12**	**12/02/07**	**12/03/07**
Lead 212	**0.99**		**0.21**		**0.17**	**12/02/07**	**12/03/07**
Lead 214	**0.73**		**0.16**		**0.19**	**12/02/07**	**12/03/07**
Potassium 40	**15.9**		**2.5**		**0.9**	**12/02/07**	**12/03/07**
Protactinium 234	-0.03	U	0.16		0.29	12/02/07	12/03/07
Thallium 208	**0.235**		**0.084**		**0.094**	**12/02/07**	**12/03/07**

NOTE(S)

:ta are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-122-0.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210350-009
Work Order: KCT8R
Matrix: SOLID

Date Collected: 11/15/07 1105
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338405**	**Yld % 89**
Neptunium 237	0.007	U	0.032	1.00	0.067	12/04/07	12/07/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338406**	**Yld % 87**
Plutonium 238	0.01	U	0.047	1.00	0.082	12/04/07	12/07/07
Plutonium 239/40	-0.012	U	0.030	1.00	0.068	12/04/07	12/07/07
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7333215**	**Yld % 93**
Technetium 99	0.09	U	0.26	1.00	0.46	11/29/07	12/03/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338407**	**Yld % 75**
Uranium 233/234	**0.43**	**J**	**0.15**	1.00	**0.05**	**12/04/07**	**12/07/07**
Uranium 235/236	-0.003	U	0.032	1.00	0.063	12/04/07	12/07/07
Uranium 238	**0.26**	**J**	**0.12**	1.00	**0.05**	**12/04/07**	**12/07/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7335149**	**Yld %**
Americium 241	0.011	U	0.066	1.00	0.12	12/02/07	12/03/07
Cesium 137	-0.02	U	0.19	1.00	0.09	12/02/07	12/03/07
Thorium 232	0.0	U	0.035	1.00	0.13	12/02/07	12/03/07
Uranium 235	0.04	U	0.15	1.00	0.28	12/02/07	12/03/07
Uranium 238	-0.2	U	1.3	1.0	0.8	12/02/07	12/03/07
--- Other Detected Radionuclides ---							
Potassium 40	**1.34**		**0.71**		**0.76**	**12/02/07**	**12/03/07**

NOTE(S)

ıta are incomplete without the case narrative.

JC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-122-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210350-010
Work Order: KCT8T
Matrix: SOLID

Date Collected: 11/15/07 1110
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**		**Batch # 7335149**		**Yld %**
Americium 241	0.007	U	0.17	1.00	0.29	12/02/07	12/03/07
Cesium 137	0.0	U	0.099	1.00	0.18	12/02/07	12/03/07
Thorium 232	**0.92**	**J**	**0.33**	1.00	**0.46**	**12/02/07**	**12/03/07**
Uranium 235	0.27	U	0.32	1.00	0.53	12/02/07	12/03/07
Uranium 238	0.5	U	1.3	1.0	2.3	12/02/07	12/03/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.92**		**0.33**		**0.46**	**12/02/07**	**12/03/07**
Bismuth 214	**0.85**		**0.20**		**0.14**	**12/02/07**	**12/03/07**
Lead 212	**0.80**		**0.19**		**0.17**	**12/02/07**	**12/03/07**
Lead 214	**0.65**		**0.17**		**0.25**	**12/02/07**	**12/03/07**
Potassium 40	**13.8**		**2.6**		**1.8**	**12/02/07**	**12/03/07**
Thallium 208	**0.313**		**0.087**		**0.054**	**12/02/07**	**12/03/07**

NOTE(S)

ata are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-122-14.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210350-011
Work Order: KCT8V
Matrix: SOLID

Date Collected: 11/15/07 1123
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**		**Batch # 7335149**		**Yld %**
Americium 241	-0.03	U	0.14	1.00	0.24	12/02/07	12/06/07
Cesium 137	0.012	U	0.045	1.00	0.079	12/02/07	12/06/07
Thorium 232	**1.39**		**0.24**	1.00	**0.25**	**12/02/07**	**12/06/07**
Uranium 235	-0.05	U	38	1	0.5	12/02/07	12/06/07
Uranium 238	0.81	U	0.52	1.00	2.0	12/02/07	12/06/07
--- Other Detected Radionuclides ---							
Actinium 228	**1.39**		**0.24**		**0.25**	**12/02/07**	**12/06/07**
Bismuth 212	**0.73**		**0.41**		**0.60**	**12/02/07**	**12/06/07**
Bismuth 214	**0.89**		**0.16**		**0.18**	**12/02/07**	**12/06/07**
Lead 212	**1.19**		**0.14**		**0.12**	**12/02/07**	**12/06/07**
Lead 214	**1.19**		**0.21**		**0.18**	**12/02/07**	**12/06/07**
Potassium 40	**17.6**		**1.9**		**0.9**	**12/02/07**	**12/06/07**
hallium 208	**0.46**		**0.10**		**0.08**	**12/02/07**	**12/06/07**

NOTE(S)

ata are incomplete without the case narrative.

DC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-123-0.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210350-012
Work Order: KCT8W
Matrix: SOLID

Date Collected: 11/16/07 1315
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338405**	**Yld % 82**
Neptunium 237	0.007	U	0.034	1.00	0.072	12/04/07	12/07/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338406**	**Yld % 91**
Plutonium 238	0.018	U	0.043	1.00	0.071	12/04/07	12/07/07
Plutonium 239/40	-0.004	U	0.024	1.00	0.051	12/04/07	12/07/07
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7333215**	**Yld % 92**
Technetium 99	**62.7**		**6.4**	1.0	**0.5**	**11/29/07**	**12/03/07**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338407**	**Yld % 87**
Uranium 233/234	**66.8**		**8.8**	1.0	**0.06**	**12/04/07**	**12/07/07**
Uranium 235/236	**2.95**		**0.55**	1.00	**0.06**	**12/04/07**	**12/07/07**
Uranium 238	**8.2**		**1.2**	1.0	**0.06**	**12/04/07**	**12/07/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7335149**	**Yld %**
Americium 241	0.10	U	0.23	1.00	0.38	12/02/07	12/03/07
Cesium 137	**0.46**	J	**0.11**	1.00	**0.08**	**12/02/07**	**12/03/07**
Thorium 232	0.34	U	0.30	1.00	0.49	12/02/07	12/03/07
Uranium 235	**3.47**		**0.77**	1.00	**0.71**	**12/02/07**	**12/03/07**
Uranium 238	**7.7**		**1.5**	1.0	**2.7**	**12/02/07**	**12/03/07**
--- Other Detected Radionuclides ---							
Bismuth 214	**0.44**		**0.19**		**0.28**	**12/02/07**	**12/03/07**
Lead 212	**0.77**		**0.18**		**0.19**	**12/02/07**	**12/03/07**
Lead 214	**0.55**		**0.15**		**0.22**	**12/02/07**	**12/03/07**
Potassium 40	**10.5**		**2.0**		**1.8**	**12/02/07**	**12/03/07**
Thallium 208	**0.29**		**0.11**		**0.11**	**12/02/07**	**12/03/07**
Thorium 234	**7.7**		**1.5**		**2.7**	**12/02/07**	**12/03/07**

NOTE(S)

:a are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-123-2.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210350-013
Work Order: KCT8X
Matrix: SOLID

Date Collected: 11/16/07 1320
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7335149**		**Yld %**
Americium 241	-0.02	U	0.18	1.00	0.31	12/02/07	12/03/07
Cesium 137	0.06	U	0.10	1.00	0.17	12/02/07	12/03/07
Thorium 232	**1.11**		**0.38**	1.00	**0.56**	**12/02/07**	**12/03/07**
Uranium 235	**2.15**		**0.97**	1.00	**0.88**	**12/02/07**	**12/03/07**
Uranium 238	**5.6**		**2.0**	1.0	**2.4**	**12/02/07**	**12/03/07**
--- Other Detected Radionuclides ---							
Actinium 228	**1.11**		**0.38**		**0.56**	**12/02/07**	**12/03/07**
Bismuth 212	**1.23**		**0.83**		**1.2**	**12/02/07**	**12/03/07**
Bismuth 214	**1.09**		**0.28**		**0.22**	**12/02/07**	**12/03/07**
Lead 212	**1.38**		**0.26**		**0.20**	**12/02/07**	**12/03/07**
Lead 214	**1.27**		**0.28**		**0.21**	**12/02/07**	**12/03/07**
Potassium 40	**20.2**		**3.4**		**1.3**	**12/02/07**	**12/03/07**
Thallium 208	**0.31**		**0.14**		**0.19**	**12/02/07**	**12/03/07**
Thorium 234	**5.6**		**2.0**		**2.4**	**12/02/07**	**12/03/07**
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7333215**		**Yld % 100**
Technetium 99	**1.76**		**0.38**	1.00	**0.43**	**11/29/07**	**12/03/07**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7338407**		**Yld % 89**
Uranium 233/234	**31.0**		**4.2**	1.0	**0.06**	**12/04/07**	**12/07/07**
Uranium 235/236	**1.57**		**0.35**	1.00	**0.06**	**12/04/07**	**12/07/07**
Uranium 238	**3.99**		**0.66**	1.00	**0.06**	**12/04/07**	**12/07/07**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-123-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210350-014
Work Order: KCT80
Matrix: SOLID

Date Collected: 11/16/07 1320
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7335149**		**Yld %**
Americium 241	-0.002	U	0.097	1.00	0.16	12/02/07	12/07/07
Cesium 137	0.0	U	0.053	1.00	0.091	12/02/07	12/07/07
Thorium 232	**1.61**		**0.26**	1.00	**0.23**	**12/02/07**	**12/07/07**
Uranium 235	0.39	U	0.25	1.00	0.40	12/02/07	12/07/07
Uranium 238	**1.67**		**0.55**	1.00	**1.3**	**12/02/07**	**12/07/07**
--- Other Detected Radionuclides ---							
Actinium 228	**1.61**		**0.26**		**0.23**	**12/02/07**	**12/07/07**
Bismuth 212	**1.32**		**0.42**		**0.37**	**12/02/07**	**12/07/07**
Bismuth 214	**1.45**		**0.18**		**0.13**	**12/02/07**	**12/07/07**
Lead 212	**1.55**		**0.14**		**0.10**	**12/02/07**	**12/07/07**
Lead 214	**1.59**		**0.19**		**0.14**	**12/02/07**	**12/07/07**
Potassium 40	**22.1**		**1.9**		**0.7**	**12/02/07**	**12/07/07**
hallium 208	**0.512**		**0.084**		**0.069**	**12/02/07**	**12/07/07**
Thorium 234	**1.67**		**0.55**		**1.3**	**12/02/07**	**12/07/07**
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7333215**		**Yld % 92**
Technetium 99	**2.23**		**0.44**	1.00	**0.46**	**11/29/07**	**12/03/07**

NOTE(S)

ta are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-123-8.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210350-015
Work Order: KCT81
Matrix: SOLID

Date Collected: 11/16/07 1325
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7335149**		**Yld %**
Americium 241	0.01	U	0.067	1.00	0.12	12/02/07	12/03/07
Cesium 137	-0.006	U	25	1	0.1	12/02/07	12/03/07
Thorium 232	**1.03**		**0.37**	1.00	**0.47**	**12/02/07**	**12/03/07**
Uranium 235	0.23	U	0.27	1.00	0.45	12/02/07	12/03/07
Uranium 238	**1.37**		**0.57**	1.00	**1.2**	**12/02/07**	**12/03/07**
--- Other Detected Radionuclides ---							
Actinium 228	**1.03**		**0.37**		**0.47**	**12/02/07**	**12/03/07**
Bismuth 214	**0.96**		**0.22**		**0.16**	**12/02/07**	**12/03/07**
Lead 210	**1.40**		**0.93**		**1.2**	**12/02/07**	**12/03/07**
Lead 212	**1.11**		**0.19**		**0.18**	**12/02/07**	**12/03/07**
Lead 214	**0.78**		**0.15**		**0.20**	**12/02/07**	**12/03/07**
Potassium 40	**21.5**		**2.8**		**0.5**	**12/02/07**	**12/03/07**
Thallium 208	**0.335**		**0.092**		**0.11**	**12/02/07**	**12/03/07**
Thorium 234	**1.37**		**0.57**		**1.2**	**12/02/07**	**12/03/07**
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7333215**		**Yld % 82**
Technetium 99	**0.92**	**J**	**0.36**	1.00	**0.52**	**11/29/07**	**12/03/07**

NOTE(S)

ta are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-124-0.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210350-016
Work Order: KCT82
Matrix: SOLID

Date Collected: 11/14/07 1415
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338405**	**Yld % 75**
Neptunium 237	0.001	U	0.043	1.00	0.096	12/04/07	12/07/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338406**	**Yld % 83**
Plutonium 238	-0.0007	U	0.047	1.00	0.092	12/04/07	12/07/07
Plutonium 239/40	0.021	U	0.035	1.00	0.050	12/04/07	12/07/07
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7333215**	**Yld % 89**
Technetium 99	**101**		**10**	**1**	**0.5**	**11/29/07**	**12/03/07**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338407**	**Yld % 84**
Uranium 233/234	**17.0**		**2.4**	**1.0**	**0.07**	**12/04/07**	**12/07/07**
Uranium 235/236	**0.81**	**J**	**0.24**	**1.00**	**0.04**	**12/04/07**	**12/07/07**
Uranium 238	**3.85**		**0.65**	**1.00**	**0.05**	**12/04/07**	**12/07/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7335149**	**Yld %**
Americium 241	-0.01	U	0.13	1.00	0.22	12/02/07	12/03/07
Cesium 137	0.0001	U	0.050	1.00	0.097	12/02/07	12/03/07
Thorium 232	0.20	U	0.24	1.00	0.38	12/02/07	12/03/07
Uranium 235	**0.68**	**J**	**0.36**	**1.00**	**0.54**	**12/02/07**	**12/03/07**
Uranium 238	**4.6**		**1.6**	**1.0**	**1.6**	**12/02/07**	**12/03/07**
--- Other Detected Radionuclides ---							
Bismuth 214	**1.00**		**0.20**		**0.12**	**12/02/07**	**12/03/07**
Lead 212	**0.182**		**0.086**		**0.11**	**12/02/07**	**12/03/07**
Lead 214	**0.80**		**0.19**		**0.19**	**12/02/07**	**12/03/07**
Potassium 40	**1.64**		**0.75**		**0.70**	**12/02/07**	**12/03/07**
Thorium 234	**4.6**		**1.6**		**1.6**	**12/02/07**	**12/03/07**

NOTE(S)

ta are incomplete without the case narrative.

C is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-124-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210350-017
Work Order: KCT83
Matrix: SOLID

Date Collected: 11/14/07 1422
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7335149**		**Yld %**
Americium 241	0.02	U	0.12	1.00	0.20	12/02/07	12/03/07
Cesium 137	**0.100**	**J**	**0.052**	1.00	**0.073**	**12/02/07**	**12/03/07**
Thorium 232	0.13	U	0.18	1.00	0.30	12/02/07	12/03/07
Uranium 235	0.29	U	0.28	1.00	0.46	12/02/07	12/03/07
Uranium 238	**2.79**		**0.83**	1.00	**1.4**	**12/02/07**	**12/03/07**
--- Other Detected Radionuclides ---							
Bismuth 214	**0.78**		**0.18**		**0.13**	**12/02/07**	**12/03/07**
Lead 210	**3.3**		**2.3**		**2.5**	**12/02/07**	**12/03/07**
Lead 212	**0.17**		**0.10**		**0.13**	**12/02/07**	**12/03/07**
Lead 214	**0.87**		**0.19**		**0.21**	**12/02/07**	**12/03/07**
Potassium 40	**1.54**		**0.88**		**1.1**	**12/02/07**	**12/03/07**
Thorium 234	**2.79**		**0.83**		**1.4**	**12/02/07**	**12/03/07**
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7333215**		**Yld % 100**
Technetium 99	**53.0**		**5.4**	1.0	**0.4**	**11/29/07**	**12/04/07**

NOTE(S)

:a are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-124-8.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210350-018
Work Order: KCT84
Matrix: SOLID

Date Collected: 11/14/07 1425
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**		**Batch # 7335149**		**Yld %**
Americium 241	0.03	U	0.12	1.00	0.20	12/02/07	12/03/07
Cesium 137	0.0	U	0.071	1.00	0.13	12/02/07	12/03/07
Thorium 232	**0.49**	**J**	**0.25**	1.00	**0.45**	**12/02/07**	**12/03/07**
Uranium 235	0.24	U	0.21	1.00	0.55	12/02/07	12/03/07
Uranium 238	1.45	U	0.79	1.00	1.7	12/02/07	12/03/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.49**		**0.25**		**0.45**	**12/02/07**	**12/03/07**
Bismuth 214	**0.89**		**0.23**		**0.24**	**12/02/07**	**12/03/07**
Lead 212	**1.10**		**0.18**		**0.19**	**12/02/07**	**12/03/07**
Lead 214	**0.91**		**0.24**		**0.25**	**12/02/07**	**12/03/07**
Potassium 40	**35.4**		**3.7**		**1.7**	**12/02/07**	**12/03/07**
Thallium 208	**0.29**		**0.12**		**0.13**	**12/02/07**	**12/03/07**

NOTE(S)

ta are incomplete without the case narrative.

DC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-125-0.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210350-019
Work Order: KCT85
Matrix: SOLID

Date Collected: 11/14/07 1100
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7338405	Yld % 86
Neptunium 237	0.010	U	0.050	1.00	0.091	12/04/07	12/07/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7338406	Yld % 87
Plutonium 238	0.005	U	0.040	1.00	0.076	12/04/07	12/07/07
Plutonium 239/40	-0.004	U	0.025	1.00	0.053	12/04/07	12/07/07
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g		Batch # 7333215	Yld % 96
Technetium 99	**32.1**		**3.4**	1.0	**0.4**	**11/29/07**	**12/04/07**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7338407	Yld % 80
Uranium 233/234	**22.1**		**3.0**	1.0	**0.06**	**12/04/07**	**12/07/07**
Uranium 235/236	**1.18**		**0.30**	1.00	**0.04**	**12/04/07**	**12/07/07**
Uranium 238	**3.59**		**0.61**	1.00	**0.03**	**12/04/07**	**12/07/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7335149	Yld %
Americium 241	0.05	U	0.11	1.00	0.19	12/02/07	12/03/07
Cesium 137	0.006	U	0.052	1.00	0.094	12/02/07	12/03/07
Thorium 232	0.07	U	0.17	1.00	0.30	12/02/07	12/03/07
Uranium 235	**0.58**	**J**	**0.27**	1.00	**0.40**	**12/02/07**	**12/03/07**
Uranium 238	**3.1**		**1.0**	1.0	**1.4**	**12/02/07**	**12/03/07**
--- Other Detected Radionuclides ---							
Bismuth 214	**0.66**		**0.14**		**0.13**	**12/02/07**	**12/03/07**
Lead 214	**1.09**		**0.20**		**0.15**	**12/02/07**	**12/03/07**
Potassium 40	**1.96**		**0.70**		**0.88**	**12/02/07**	**12/03/07**
Thorium 234	**3.1**		**1.0**		**1.4**	**12/02/07**	**12/03/07**

NOTE(S)

ta are incomplete without the case narrative.

DC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-125-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210350-020
Work Order: KCT87
Matrix: SOLID

Date Collected: 11/14/07 1105
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7335149**		**Yld %**
Americium 241	0.13	U	0.16	1.00	0.27	12/02/07	12/03/07
Cesium 137	0.019	U	0.089	1.00	0.16	12/02/07	12/03/07
Thorium 232	**1.04**		**0.38**	1.00	**0.40**	**12/02/07**	**12/03/07**
Uranium 235	**0.77**	**J**	**0.44**	1.00	**0.66**	**12/02/07**	**12/03/07**
Uranium 238	**4.1**		**1.0**	1.0	**1.8**	**12/02/07**	**12/03/07**
--- Other Detected Radionuclides ---							
Actinium 228	**1.04**		**0.38**		**0.40**	**12/02/07**	**12/03/07**
Bismuth 214	**1.05**		**0.23**		**0.15**	**12/02/07**	**12/03/07**
Lead 212	**1.05**		**0.25**		**0.22**	**12/02/07**	**12/03/07**
Lead 214	**0.80**		**0.17**		**0.23**	**12/02/07**	**12/03/07**
Potassium 40	**13.1**		**2.5**		**1.7**	**12/02/07**	**12/03/07**
Thallium 208	**0.339**		**0.092**		**0.055**	**12/02/07**	**12/03/07**
Thorium 234	**4.1**		**1.0**		**1.8**	**12/02/07**	**12/03/07**
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7333215**		**Yld % 87**
Technetium 99	0.1	U	0.28	1.00	0.49	11/29/07	12/04/07

NOTE(S)

ata are incomplete without the case narrative.

DC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: NB-125-7-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K210350-021
Work Order: KCT88
Matrix: SOLID

Date Collected: 11/14/07 1110
Date Received: 11/21/07 1130

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7335150**		**Yld %**
Americium 241	-0.02	U	0.19	1.00	0.32	12/02/07	12/03/07
Cesium 137	0.026	U	0.078	1.00	0.14	12/02/07	12/03/07
Thorium 232	**1.00**		**0.27**	1.00	**0.41**	**12/02/07**	**12/03/07**
Uranium 235	0.14	U	0.35	1.00	0.60	12/02/07	12/03/07
Uranium 238	0.9	U	1.4	1.0	2.5	12/02/07	12/03/07
--- Other Detected Radionuclides ---							
Actinium 228	**1.00**		**0.27**		**0.41**	**12/02/07**	**12/03/07**
Bismuth 214	**0.91**		**0.22**		**0.24**	**12/02/07**	**12/03/07**
Lead 212	**1.38**		**0.28**		**0.23**	**12/02/07**	**12/03/07**
Lead 214	**1.16**		**0.23**		**0.22**	**12/02/07**	**12/03/07**
Potassium 40	**20.0**		**2.6**		**1.2**	**12/02/07**	**12/03/07**
Thallium 208	**0.46**		**0.13**		**0.10**	**12/02/07**	**12/03/07**

NOTE(S)

ata are incomplete without the case narrative.

DC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

METHOD BLANK REPORT

Severn Trent Laboratories - Radiochemistry

Client Lot ID: F7K210350
Matrix: SOLID

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date	Lab Sample ID
TC-99 by LSC by DOE TC-02-RC Mod.			**pCi/g**	**Batch # 7333215**		**Yld % 100**		**F7K290000-215B**
Technetium 99	-0.08	U	0.26	1.00	0.43	11/29/07	12/03/07	
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**	**Batch # 7335150**		**Yld %**		**F7L010000-150B**
Americium 241	0.007	U	0.050	1.00	0.092	12/02/07	12/03/07	
Cesium 137	-0.006	U	0.043	1.00	0.082	12/02/07	12/03/07	
Thorium 232	0.0	U	0.037	1.00	0.14	12/02/07	12/03/07	
Uranium 235	0.07	U	0.17	1.00	0.29	12/02/07	12/03/07	
Uranium 238	-0.13	U	0.69	1.00	0.90	12/02/07	12/03/07	
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**	**Batch # 7335149**		**Yld %**		**F7L010000-149B**
Americium 241	-0.008	U	0.23	1.00	0.10	12/02/07	12/03/07	
Cesium 137	-0.04	U	0.24	1.00	0.09	12/02/07	12/03/07	
Thorium 232	0.0	U	0.23	1.00	0.43	12/02/07	12/03/07	
Uranium 235	-0.05	U	0.47	1.00	0.29	12/02/07	12/03/07	
Uranium 238	0.14	U	0.51	1.00	0.98	12/02/07	12/03/07	
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**	**Batch # 7338405**		**Yld % 93**		**F7L040000-405B**
Neptunium 237	**0.081**	**J**	**0.074**	**1.00**	**0.080**	**12/04/07**	**12/07/07**	
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**	**Batch # 7338406**		**Yld % 88**		**F7L040000-406B**
Plutonium 238	-0.003	U	0.033	1.00	0.073	12/04/07	12/10/07	
Plutonium 239/40	0.009	U	0.024	1.00	0.046	12/04/07	12/10/07	
Iso URANIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**	**Batch # 7338407**		**Yld % 85**		**F7L040000-407B**
Uranium 233/234	0.009	U	0.024	1.00	0.046	12/04/07	12/07/07	
Uranium 235/236	-0.005	U	0.032	1.00	0.066	12/04/07	12/07/07	
Uranium 238	0.022	U	0.038	1.00	0.029	12/04/07	12/07/07	

NOTE(S)

ta are incomplete without the case narrative.

MDC is determined using instrument performance only
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Laboratory Control Sample Report

Severn Trent Laboratories - Radiochemistry

Client Lot ID: F7K210350
Matrix: SOLID

Parameter	Spike Amount	Result	Total Uncert. (2 σ+/-)	MDC	% Yld	% Rec	Lab Sample ID / QC Control Limits
TC-99 by LSC by DOE TC-02-RC Mod.			**pCi/g**	**TC-02-RC MOD**			**F7K290000-215C**
Technetium 99	33.3	29.9	3.1	0.4	104	90	(64 - 114)
	Batch #:	7333215		**Analysis Date:**	12/03/07		
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**	**GA-01-R MOD**			**F7L010000-149C**
Americium 241	103	107	8.5	1.3		104	(85 - 118)
Cesium 137	40.0	44.3	2.8	0.5		111	(91 - 120)
Cobalt 60	62.7	64.3	3.8	0.3		102	(91 - 112)
	Batch #:	7335149		**Analysis Date:**	12/03/07		
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**	**GA-01-R MOD**			**F7L010000-150C**
Americium 241	103	106	8.5	1.6		103	(85 - 118)
Cesium 137	40.0	43.0	2.7	0.5		107	(91 - 120)
Cobalt 60	62.7	65.2	3.9	0.2		104	(91 - 112)
	Batch #:	7335150		**Analysis Date:**	12/03/07		
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**	**A-01-R MOD**			**F7L040000-405C**
Neptunium 237	13.3	13.2	1.5	0.07	99	100	(75 - 119)
	Batch #:	7338405		**Analysis Date:**	12/07/07		
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**	**A-01-R**			**F7L040000-406C**
Plutonium 238	6.13	5.93	0.90	0.06	95	97	(77 - 112)
Plutonium 239/40	5.77	6.09	0.92	0.05	95	106	(82 - 119)
	Batch #:	7338406		**Analysis Date:**	12/10/07		
Iso URANIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**	**A-01-R MOD**			**F7L040000-407C**
Uranium 233/234	19.6	17.9	3.2	0.2	95	91	(76 - 128)
Uranium 238	19.6	20.5	3.5	0.3	95	104	(74 - 125)
	Batch #:	7338407		**Analysis Date:**	12/07/07		

NOTE(S)

MDC is determined by instrument performance only
Calculations are performed before rounding to avoid round-off error in calculated results

DUPLICATE EVALUATION REPORT

Severn Trent Laboratories - Radiochemistry

Client Lot ID: F7K210350 Date Sampled: 11/17/07
Matrix: SOLID Date Received: 11/21/07

Parameter	SAMPLE Result		Total Uncert. (2σ+/-)	% Yld	DUPLICATE Result		Total Uncert. (2σ+/-)	% Yld	QC Sample ID Precision	
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**GA-01-R MOD**				**F7K210337-039**	
Americium 241	0.02	U	0.15		-0.04	U	0.13		503	%RPD
Cesium 137	-0.009	U	0.075		-0.004	U	0.069		73	%RPD
Thorium 232	0.45	U	0.24		0.41	U	0.23		9	%RPD
Uranium 235	0.18	U	0.37		0.10	U	0.25		56	%RPD
Uranium 238	1.58	U	0.85		0.82	U	0.96		63	%RPD
---Other Dedected Radionuclides---										
Bismuth 214	0.46		0.19		0.50		0.20		9	%RPD
Lead 212	0.69		0.17		0.72		0.18		3	%RPD
Lead 214	0.59		0.16		0.47		0.14		23	%RPD
Potassium 40	11.7		2.0		8.4		2.0		33	%RPD
Thallium 208	0.122	U	0.083		0.127		0.076		5	%RPD
		Batch #:	7335150	(Sample)	7335150	(Duplicate)				
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**TC-02-RC MOD**				**F7K210350-001**	
echnetium 99	4.26		0.60	105	2.44		0.45	96	54	%RPD
		Batch #:	7333215	(Sample)	7333215	(Duplicate)				
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**GA-01-R MOD**				**F7K210350-002**	
Americium 241	0.00008	U	0.072		0.002	U	0.091		182	%RPD
Cesium 137	0.006	U	0.051		-0.01	U	0.12		490	%RPD
Thorium 232	0.1	U	0.18		-0.0008	U	0.16		203	%RPD
Uranium 235	0.16	U	0.19		0.18	U	0.19		14	%RPD
Uranium 238	0.95	U	0.73		0.10	U	0.80		161	%RPD
---Other Dedected Radionuclides---										
Bismuth 214	0.41		0.13		0.24		0.14		53	%RPD
Lead 212	0.22		0.12		0.068	U	0.076		106	%RPD
Lead 214	0.28		0.11		0.29		0.10		2	%RPD
Potassium 40	5.8		1.4		5.7		1.4		0.8	%RPD
		Batch #:	7335149	(Sample)	7335149	(Duplicate)				
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**A-01-R MOD**				**F7K210350-003**	
Neptunium 237	0.003	U	0.035	92	-0.012	U	0.037	91	324	%RPD
		Batch #:	7338405	(Sample)	7338405	(Duplicate)				
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**A-01-R**				**F7K210350-003**	
Plutonium 238	0.012	U	0.041	94	-0.014	U	0.052	96	2910	%RPD
Plutonium 239/40	-0.002	U	0.021	94	-0.025	U	0.036	96	173	%RPD
		Batch #:	7338406	(Sample)	7338406	(Duplicate)				
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**A-01-R MOD**				**F7K210350-003**	
Uranium 233/234	43.0		5.7	86	38.4		5.1	91	11	%RPD
Uranium 235/236	1.94		0.41	86	1.76		0.38	91	10	%RPD
ranium 238	5.20		0.82	86	5.11		0.80	91	2	%RPD
		Batch #:	7338407	(Sample)	7338407	(Duplicate)				

NOTE(S)

Data are incomplete without the case narrative.
Calculations are performed before rounding to avoid round-off error in calculated results

U Result is less than the sample detection limit.

F7K210350 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD

Project Manager: IV | Quote #: 77705 | SDG:

Project: 313010.202 | Hematite Site

PO#: | Report to: Paul Ely

Client: 1381304 Energy Solutions, LLC | #SMPS in LOT: 21

Date Received: 2007-11-21
Analytical Due Date: 2007-12-10
Report Due Date: 2007-12-11
Report Type: W
EDD Code: .00

Gamma library MUST contain U-235, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
1	NB-102-5-SL			2007-11-17 / 807	KCRMP	SOLID

SAMPLE COMMENTS:

	XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
	XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
	XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
X	XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
2	NB-103-2.5-SL			2007-11-17 / 842	KCT8E	SOLID

SAMPLE COMMENTS:

	XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
	XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
	XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
	XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
3	NB-103-4.5-SL			2007-11-17 / 842	KCT8H	SOLID

SAMPLE COMMENTS:

	XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
	XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
	XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
	XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
	XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
	XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
4	NB-103-13.5-SL			2007-11-17 / 857	KCT8K	SOLID

SAMPLE COMMENTS:

	XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
	XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
	XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
5	NB-105-4.5-SL			2007-11-15 / 1032	KCT8L	SOLID

SAMPLE COMMENTS:

	XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
	XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A

F7K210350 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD
Date Received: 2007-11-21
Analytical Due Date: 2007-12-10
Report Due Date: 2007-12-11
Report Type: W
EDD Code: 00

Project Manager: IV
Quote #: 77705
SDG:
Project: 313010.202
Hematite Site
PO#:
Report to: Paul Ely
Client: 1381304 Energy Solutions, LLC
#SMPS in LOT: 21

Gamma library MUST contain U-235, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
6	NB-106-15.5-SL			2007-11-15 / 1045	KCT8M	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
7	NB-109-0.5-SL			2007-11-15 / 1055	KCT8N	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
8	NB-109-4.5-SL			2007-11-15 / 1101	KCT8Q	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
9	NB-122-0.5-SL			2007-11-15 / 1105	KCT8R	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
10	NB-122-4.5-SL			2007-11-15 / 1110	KCT8T	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
11	NB-122-14.5-SL			2007-11-15 / 1123	KCT8V	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

F7K210350 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD
Date Received: 2007-11-21
Analytical Due Date: 2007-12-10
Report Due Date: 2007-12-11
Report Type: W
EDD Code: 00

Project Manager: IV
Quote #: 77705
SDG:
Project: 313010.202
Hematite Site
PO#:
Report to: Paul Ely
Client: 1381304 Energy Solutions, LLC
#SMPS in LOT: 21

Gamma library MUST contain U-235, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
12	NB-123-0.5-SL			2007-11-16 / 1315	KCT8W	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
13	NB-123-2.5-SL			2007-11-16 / 1320	KCT8X	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
14	NB-123-4.5-SL			2007-11-16 / 1320	KCT80	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
15	NB-123-8.5-SL			2007-11-16 / 1325	KCT81	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
16	NB-124-0.5-SL			2007-11-14 / 1415	KCT82	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

F7K210350 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD
Date Received: 2007-11-21
Analytical Due Date: 2007-12-10
Report Due Date: 2007-12-11
Report Type: W
EDD Code: 00

Project Manager: IV
Quote #: 77705
SDG:
Project: 313010.202
Hematite Site
PO#:
Report to: Paul Ely
Client: 1381304 Energy Solutions, LLC
#SMPS in LOT: 21

Gamma library MUST contain U-235, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
17	NB-124-4.5-SL			2007-11-14 / 1422	KCT83	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
18	NB-124-8.5-SL			2007-11-14 / 1425	KCT84	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
19	NB-125-0.5-SL			2007-11-14 / 1100	KCT85	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
20	NB-125-4.5-SL			2007-11-14 / 1105	KCT87	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
21	NB-125-7-SL			2007-11-14 / 1110	KCT88	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

Attachment 5.2-Chain of Custody Record

Client: WEC
Address:
City:
State: Zip Code:

Project Manager: Duane Quayle
Telephone Number: 865-368-4477
Site Contact:
Lab Contact: Ivan Venia

Date: 11/21/07
CoC Number: 6C-01
Page: 26 of 28

Project Name: Hematite Characterization
Project Location:
Carrier/Waybill Number:
Contract/PO Number:

Sample ID Number	Date	Time	Matrix: Air	Aqueous	Sediment	Soil		Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH		Analysis (Attach list if more space is needed): X spec	Isotopic Tc-99	Isotopic U	Isotopic Pu	Isotopic Np					
NB-102-5-SL	11-17-07	0807				✓									✓	✓								
NB-103-2.5-SL	11-17-07	0842				✓									✓	✓	✓							
NB-103-4.5-SL	11-17-07	0842				✓									✓	✓	✓	✓	✓					
NB-103-13.5-SL	11-17-07	0857				✓									✓	✓								
NB-105-4.5-SL	11-15-07	1032				✓									✓									
NB-105-15.5-SL	11-15-07	1045				✓									✓									
NB-109-0.5-SL	11-15-07	1055				✓									✓	✓	✓	✓	✓					
NB-109-4.5-SL	11-15-07	1101				✓									✓									

Possible Hazard Identification
- Non-haz. ☐
- Radioactive ☐
- Flammable ☐
- Skin Irritant ☐
- Unknown ☐

Sample Disposal
- Return to client ✓
- Disposal by lab ☐
- Archive for __ months ☐

Turn Around Time
- 24 hrs ☐
- 48 hrs ☐
- 7 days ☐
- 14 days ✓
- 28 days ☐
- Other ☐

Comments:

	Date	Time		Date	Time
Relinquished by: [signature]	11/21/07	11:30	Received by: [signature]	11/21/07	11:30
Relinquished by:			Received by:		
Relinquished by:			Received by:		

Attachment 5.2-Chain of Custody Record

Client: WEC
Address:
City:
State: Zip Code:

Project Manager: Duane Quayle
Telephone Number: 865-368-7477
Site Contact:
Lab Contact: Ivan Venia

Date: 11/21/07
CoC Number: 96-01
Page: 27 of 26

Project Name: Hematite Characterization
Project Location:
Carrier/Waybill Number:
Contract/PO Number:

Sample ID Number	Date	Time	Matrix: Air	Aqueous	Sediment	Soil		Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH		Analysis (Attach list if more space is needed): Gamma	Isotopic Tc-99	Isotopic U	Isotopic Pu	Isotopic Np					
NB-122-0.5-SL	11-15-07	1105				✓									✓	✓	✓	✓	✓					
NB-122-4.5-SL	11-15-07	1110				✓									✓									
NB-122-14.5-SL	11-15-07	1123				✓									✓									
NB-123-0.5-SL	11-16-07	1315				✓									✓	✓	✓	✓	✓					
NB-123-2.5-SL	11-16-07	1320				✓									✓	✓	✓							
NB-123-4.5-SL	11-16-07	1320				✓									✓	✓								
NB-123-8.5-SL	11-16-07	1325				✓									✓	✓								

Possible Hazard Identification: Non-haz. ☐ Radioactive ☐ Flammable ☐ Skin Irritant ☐ Unknown ☐

Sample Disposal: Return to client ✓ Disposal by lab ☐ Archive for __ months ☐

Turn Around Time: 24 hrs ☐ 48 hrs ☐ 7 days ☐ 14 days ☐ 21 days ✓ Other ☐

Comments:

	Date	Time		Date	Time
Relinquished by: [signature]	11/21/07	1130	Received by: [signature]	11/21/07	1130
Relinquished by:			Received by:		
Relinquished by:			Received by:		

Attachment 5.2-Chain of Custody Record

Client: WEC
Address:
City:
State: Zip Code:

Project Manager: Duane Quayle
Telephone Number: 865-368-9477
Site Contact:
Lab Contact: Ivan Venia

Date: 11/21/07
CoC Number: SC-01
Page: 26 of 28

Project Name: Hematite Characterization
Project Location:
Carrier/Waybill Number:
Contract/PO Number:

Sample ID Number	Date	Time	Matrix: Air	Aqueous	Sediment	Soil		Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH		Analysis: γ spec	Isotopic Tc-99	Isotopic U	Isotopic Pu	Isotopic Np					
NB-124-0.5-SL	11-14-07	1415				✓									✓	✓	✓	✓	✓					
NB-124-4.5-SL	11-14-07	1422				✓									✓	✓								
NB-124-8.5-SL	11-14-07	1425				✓									✓									
NB-125-0.5-SL	11-14-07	1100				✓									✓	✓	✓	✓	✓					
NB-125-4.5-SL	11-14-07	1105				✓									✓	✓								
NB-125-7-SL	11-14-07	1110				✓									✓									

Possible Hazard Identification: Non-haz. ☐ Radioactive ☐ Flammable ☐ Skin Irritant ☐ Unknown ☐

Sample Disposal: Return to client ☑ Disposal by lab ☐ Archive for __ months ☐

Turn Around Time: 24 hrs ☐ 48 hrs ☐ 7 days ☐ 14 days ☐ 20 days ☑ Other ☐

Comments:

	Date	Time		Date	Time
Relinquished by: [signature]	11/21/07	1130	Received by: Angela Boom	11/21/07	1130
Relinquished by:			Received by:		
Relinquished by:			Received by:		

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

- 1167 -

Lot #(s): F7K210252 277 350 337 | F7K210247 373

Condition Upon Receipt Form

Client: Energy Solutions
Quote No: 77705
COC/RFA No: SL-01
Initiated By: BD
Date: 11/20/07
Time: 1130

Shipping Information

Shipper Name: client
Shipping # (s):*

1.	6.		
2.	7.		
3.	8.		
4.	9.		
5.	10.		

Multiple Packages (Y) N

Sample Temperature (s):**

1. ambient	6. ambient		
2.	7.		
3.	8.		
4.	9.		
5.	10.		

*Numbered shipping lines correspond to Numbered Sample Temp lines

**Sample must be received at 4°C ± 2°C. If not, note contents below. Temperature variance does NOT affect the following: Metals-Liquid or Rad tests- Liquid or Solids

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

1.	Y (N)	Are there custody seals present on the cooler?	8.	(Y) N	Are there custody seals present on bottles?
2.	Y N (N/A)	Do custody seals on cooler appear to be tampered with?	9.	Y (N) N/A	Do custody seals on bottles appear to be tampered with?
3.	(Y) N	Were contents of cooler frisked after opening, but before unpacking?	10.	Y N (N/A)	Was sample received with proper pH[1]? (If not, make note below)
4.	(Y) N	Sample received with Chain of Custody?	11.	Y N	If N/A- Was pH taken by original TestAmerica lab?
5.	(Y) N N/A	Does the Chain of Custody match sample ID's on the container(s)?	12.	(Y) N	Sample received in proper containers?
6.	Y (N)	Was sample received broken?	13.	Y N (N/A)	Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below)
7.	(Y) N	Is sample volume sufficient for analysis?	14.	Y N	Was Internal COC/Workshare received?

[1] For DOE-AL (Pantex, LANL, Sandia) sites, pH of ALL containers received must be verified, EXCEPT VOA, TOX and soils.

Notes:

Corrective Action:
- ☐ Client Contact Name: Informed by:
- ☐ Sample(s) processed "as is"
- ☐ Sample(s) on hold until: If released, notify:

Project Management Review: [signature] Date: 12-3-07 1167

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIAL AND THE DATE NEXT TO THAT ITEM.

ADMIN-0004, REVISED 08/06/07\\Slsvr01\QA\FORMS\ST-LOUIS\ADMIN\Admin004 rev11.doc

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

PROJECT NO. 313010.202

Hematite Site

Lot #: F7K280308

Paul Ely

Energy Solutions, LLC
1009 Commerce Park Drive
Suite 100
Oak Ridge, TN 37830

TESTAMERICA LABORATORIES, INC.

Ivan Vania
Project Manager

December 21, 2007

Case Narrative
LOT NUMBER: F7K280308

This report contains the analytical results for the 13 samples received under chain of custody by TestAmerica St. Louis on November 28, 2007. These samples are associated with your Hematite Site project.

The analytical results included in this report meet all applicable quality control procedure requirements except as noted on the following page.

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

All chemical analysis results are based upon sample as received, wet weight, unless noted otherwise. All radiochemistry results are based upon sample as dried and ground with the exception of tritium, unless requested wet weight by the client.

Observations/Nonconformances

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

The lot was received as various limited volume matrices. The enitre sample was weighed and digested. These samples went through six digestions, including two straight HF digestions. Most of the samples did not digest completely to ash.

The samples were analyzed by gamma spectroscopy before a portion was aliquotted for Tc-99. The remainder of the samples were cooked to dryness and processed through the rest of the preparation as listed in the SOP. Most of the samples in the lot were consumed in order to run the analyses required.

The sample results are reported in pCi/g. The sample aliquots were calculated using the original sample weight that was digested. The samples were then brought up to 100 mLs and divided equally for all the analysis. The reporting limits for all analyses may be elevated due to the limited initial sample volumes or high activities of the samples.

Gamma Spectroscopy - Cesium-137 & Hits (EML GA-01-R MOD)
The gamma target nuclides reporting limits were not met due to insufficient sample volume available for analysis. Analytical results are reported with the MDCs achieved.
Affected Samples:
F7K280308 (4): D13-230-1-SS
F7K280308 (5): D15-230-1-SS
F7K280308 (7): D02-230-2-SS
F7K280308 (10): D01-230-3-SS
F7K280308 (12): D03-230-3-SS
F7K280308 (13): D01-110-3-SS

Tc-99 by LSC (EML TC-02-RC MOD)
Samples F7K280308-002, 3, 5, 6, 7, 9, 10, and 11 were bleached with three additional 5 ml aliquots of Hydrogen Peroxide in the attempt to reduce the dark color. The samples remained dark in color.
Affected Samples:
F7K280308 (2): D05-230-1-SS
F7K280308 (3): D08-230-1-SS
F7K280308 (5): D15-230-1-SS
F7K280308 (6): D01-230-2-SS
F7K280308 (7): D02-230-2-SS
F7K280308 (9): D04-230-2-SS
F7K280308 (10): D01-230-3-SS
F7K280308 (11): D02-230-3-SS

Isotopic Uranium by Alpha Spectroscopy (EML A-01-R MOD)
In the initial preparation the Uranium samples required an additional dilution due to high activity. The re-extract results are acceptable and will be reported.
Affected Samples:
F7K280308 (5): D15-230-1-SS
F7K280308 (10): D01-230-3-SS
F7K280308 (13): D01-110-3-SS

Neptunium by Alpha Spectroscopy EML A-01-R MOD
The Neptunium LCS tracer recovery is outside acceptance limits. LCS spike recoveries are within QC limits demonstrating acceptable sample preparation and instrument performance. There is an apparent anomaly in the sample preparation, isolated to the LCS and not indicative of the batch.
Affected Samples:
F7K280308 (7): D02-230-2-SS
F7K280308 (8): D03-230-2-SS
F7K280308 (10): D01-230-3-SS
F7K280308 (11): D02-230-3-SS
F7K280308 (10): D01-230-3-SS
F7K280308 (12): D03-230-3-SS
F7K280308 (13): D01-110-3-SS

There were no other nonconformances or observations noted with any analysis on this lot.

METHODS SUMMARY

F7K280308

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Gamma Spectroscopy - Cesium-137 & Hits	EML GA-01-R MOD	
Isotopic Plutonium by Alpha Spectroscopy	EML A-01-R	
Isotopic Uranium by Alpha Spectroscopy	EML A-01-R MOD	
Neptunium by Alpha Spectroscopy	EML A-01-R MOD	
TC-99 by LSC	EML TC-02-RC MO	

References:

EML "ENVIRONMENTAL MEASUREMENTS LABORATORY PROCEDURES MANUAL"
HASL-300 28TH EDITION, VOLUME I and II DEPARTMENT OF ENERGY

SAMPLE SUMMARY

F7K280308

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
KC12W	001	D04-230-1-SS	11/28/07	08:28
KC121	002	D05-230-1-SS	11/28/07	08:30
KC124	003	D08-230-1-SS	11/28/07	08:42
KC127	004	D13-230-1-SS	11/28/07	08:35
KC13H	005	D15-230-1-SS	11/28/07	08:59
KC13J	006	D01-230-2-SS	11/28/07	09:50
KC13K	007	D02-230-2-SS	11/28/07	09:35
KC13M	008	D03-230-2-SS	11/28/07	09:55
KC13P	009	D04-230-2-SS	11/28/07	10:00
KC13Q	010	D01-230-3-SS	11/28/07	14:00
KC13R	011	D02-230-3-SS	11/28/07	10:05
KC13V	012	D03-230-3-SS	11/28/07	10:10
KC13W	013	D01-110-3-SS	11/28/07	07:55

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.

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- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Energy Solutions, LLC

Client Sample ID: D04-230-1-SS

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280308-001
Work Order: KC12W
Matrix: SOLID

Date Collected: 11/28/07 0828
Date Received: 11/28/07 1456

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7351143**		**Yld % 105**
Technetium 99	0.25	U	0.35	1.00	0.57	12/17/07	12/20/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7338439**		**Yld % 98**
Uranium 233/234	6.02		0.70	1.00	0.06	12/04/07	12/20/07
Uranium 235/236	0.20	J	0.10	1.00	0.05	12/04/07	12/20/07
Uranium 238	0.76	J	0.18	1.00	0.05	12/04/07	12/20/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7344315**		**Yld %**
Americium 241	0.030	U	0.062	1.00	0.11	12/10/07	12/10/07
Cesium 137	-0.015	U	0.052	1.00	0.091	12/10/07	12/10/07
Thorium 232	-0.04	U	0.31	1.00	0.34	12/10/07	12/10/07
Uranium 235	0.72	J	0.34	1.00	0.41	12/10/07	12/10/07
Uranium 238	1.31		0.65	1.00	1.0	12/10/07	12/10/07
--- Other Detected Radionuclides ---							
Thorium 234	1.31		0.65		1.0	12/10/07	12/10/07

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Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: D05-230-1-SS

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280308-002
Work Order: KC121
Matrix: SOLID

Date Collected: 11/28/07 0830
Date Received: 11/28/07 1456

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7351143**	**Yld % 103**
Technetium 99	-0.24	U	0.34	1.00	0.59	12/17/07	12/20/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338439**	**Yld % 97**
Uranium 233/234	1.33		0.25	1.00	0.06	12/04/07	12/20/07
Uranium 235/236	0.046	J	0.046	1.00	0.031	12/04/07	12/20/07
Uranium 238	0.203	J	0.090	1.00	0.046	12/04/07	12/20/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7344315**	**Yld %**
Americium 241	0.013	U	0.066	1.00	0.12	12/10/07	12/10/07
Cesium 137	-0.009	U	0.053	1.00	0.096	12/10/07	12/10/07
Thorium 232	-0.09	U	0.80	1.00	0.32	12/10/07	12/10/07
Uranium 235	-0.04	U	59	1	0.4	12/10/07	12/10/07
Uranium 238	-0.27	U	0.94	1.00	1.1	12/10/07	12/10/07

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Data are incomplete without the case narrative.

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Energy Solutions, LLC

Client Sample ID: D08-230-1-SS

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280308-003
Work Order: KC124
Matrix: SOLID

Date Collected: 11/28/07 0842
Date Received: 11/28/07 1456

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7351143**	**Yld % 101**
Technetium 99	-0.45	U	0.36	1.00	0.63	12/17/07	12/20/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338439**	**Yld % 108**
Uranium 233/234	2.98		0.40	1.00	0.05	12/04/07	12/20/07
Uranium 235/236	0.224	J	0.097	1.00	0.028	12/04/07	12/20/07
Uranium 238	0.60	J	0.15	1.00	0.02	12/04/07	12/20/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7344315**	**Yld %**
Americium 241	0.034	U	0.065	1.00	0.11	12/10/07	12/10/07
Cesium 137	0.001	U	0.055	1.00	0.10	12/10/07	12/10/07
Thorium 232	0.0	U	0.12	1.00	0.26	12/10/07	12/10/07
Uranium 235	0.1	U	0.18	1.00	0.30	12/10/07	12/10/07
Uranium 238	0.67	U	0.42	1.00	0.96	12/10/07	12/10/07

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Energy Solutions, LLC

Client Sample ID: D13-230-1-SS

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280308-004
Work Order: KC127
Matrix: SOLID

Date Collected: 11/28/07 0835
Date Received: 11/28/07 1456

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7351143**	**Yld % 97**
Technetium 99	0.3	U	1.2	1.0	2.0	12/17/07	12/20/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7347433**	**Yld % 93**
Uranium 233/234	32.1		2.8	1.0	0.02	12/13/07	12/19/07
Uranium 235/236	1.41		0.18	1.00	0.01	12/13/07	12/19/07
Uranium 238	4.79		0.46	1.00	0.02	12/13/07	12/19/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7344315**	**Yld %**
Americium 241	0.1	U	1.2	1.0	2.1	12/10/07	12/10/07
Cesium 137	-0.4	U	2.0	1.0	3.6	12/10/07	12/10/07
Thorium 232	0.0	U	1.3	1.0	4.8	12/10/07	12/10/07
Uranium 235	4.8	U	6.1	1.0	10	12/10/07	12/10/07
nium 238	16	U	10	1	22	12/10/07	12/10/07

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Energy Solutions, LLC

Client Sample ID: D15-230-1-SS

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280308-005
Work Order: KC13H
Matrix: SOLID

Date Collected: 11/28/07 0859
Date Received: 11/28/07 1456

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7351143**	**Yld % 98**
Technetium 99	1.79		0.33	1.00	0.42	12/17/07	12/20/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7344315**	**Yld %**
Americium 241	1.75		0.93	1.00	1.5	12/10/07	12/11/07
Cesium 137	-0.03	U	2.5	1.0	0.8	12/10/07	12/11/07
Thorium 232	1.4	U	1.3	1.0	2.1	12/10/07	12/11/07
Uranium 235	209		18	1	4	12/10/07	12/11/07
Uranium 238	487		38	1	11	12/10/07	12/11/07
--- Other Detected Radionuclides ---							
Protactinium 234M	880		120		70	12/10/07	12/11/07
Thorium 234	487		38		11	12/10/07	12/11/07
URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7354466**	**Yld % 87**
Uranium 233/234	3900		360	1	7	12/20/07	12/20/07
Uranium 235/236	161		34	1	7	12/20/07	12/20/07
Uranium 238	600		74	1	7	12/20/07	12/20/07

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Energy Solutions, LLC

Client Sample ID: D01-230-2-SS

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280308-006
Work Order: KC13J
Matrix: SOLID

Date Collected: 11/28/07 0950
Date Received: 11/28/07 1456

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g		Batch # 7351143	Yld % 65
Technetium 99	1.30		0.60	1.00	0.93	12/17/07	12/20/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7338439	Yld % 85
Uranium 233/234	79.2		6.9	1.0	0.06	12/04/07	12/20/07
Uranium 235/236	3.63		0.54	1.00	0.07	12/04/07	12/20/07
Uranium 238	33.7		3.1	1.0	0.08	12/04/07	12/20/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7344315	Yld %
Americium 241	0.15	U	0.17	1.00	0.28	12/10/07	12/11/07
Cesium 137	0.002	U	0.097	1.00	0.18	12/10/07	12/11/07
Thorium 232	0.58	U	0.49	1.00	0.81	12/10/07	12/11/07
Uranium 235	3.97		0.91	1.00	0.84	12/10/07	12/11/07
nium 238	6.0		1.3	1.0	2.3	12/10/07	12/11/07
--- Other Detected Radionuclides ---							
Lead 212	0.80		0.27		0.36	12/10/07	12/11/07
Lead 214	0.59		0.27		0.45	12/10/07	12/11/07
Thorium 234	6.0		1.3		2.3	12/10/07	12/11/07

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Data are incomplete without the case narrative.

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Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: D02-230-2-SS

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280308-007
Work Order: KC13K
Matrix: SOLID

Date Collected: 11/28/07 0935
Date Received: 11/28/07 1456

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7351143**	**Yld % 57**
Technetium 99	-0.6	U	1.1	1.0	1.9	12/17/07	12/20/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7347433**	**Yld % 77**
Uranium 233/234	11.7		1.1	1.0	0.04	12/13/07	12/19/07
Uranium 235/236	0.57	J	0.14	1.00	0.02	12/13/07	12/19/07
Uranium 238	2.24		0.31	1.00	0.03	12/13/07	12/19/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7344315**	**Yld %**
Americium 241	-0.1	U	1.7	1.0	1.9	12/10/07	12/10/07
Cesium 137	-0.8	U	4.5	1.0	3.5	12/10/07	12/10/07
Thorium 232	1.4	U	4.6	1.0	8.4	12/10/07	12/10/07
Uranium 235	-2	U	45	1	9	12/10/07	12/10/07
nium 238	-6	U	25	1	20	12/10/07	12/10/07
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7347430**	**Yld % 80**
Neptunium 237	0.0062	U	0.0073	1.00	0.010	12/13/07	12/20/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7347431**	**Yld % 96**
Plutonium 238	-0.004	U	0.013	1.00	0.040	12/13/07	12/19/07
Plutonium 239/40	-0.0019	U	0.0028	1.00	0.026	12/13/07	12/19/07

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Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: D03-230-2-SS

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280308-008
Work Order: KC13M
Matrix: SOLID

Date Collected: 11/28/07 0955
Date Received: 11/28/07 1456

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7351143**	**Yld % 101**
Technetium 99	0.58	U	0.37	1.00	0.60	12/17/07	12/20/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338439**	**Yld % 106**
Uranium 233/234	0.77	J	0.18	1.00	0.05	12/04/07	12/20/07
Uranium 235/236	0.063	J	0.053	1.00	0.046	12/04/07	12/20/07
Uranium 238	0.111	J	0.063	1.00	0.037	12/04/07	12/20/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7344315**	**Yld %**
Americium 241	0.006	U	0.032	1.00	0.058	12/10/07	12/11/07
Cesium 137	-0.01	U	0.13	1.00	0.07	12/10/07	12/11/07
Thorium 232	0.0	U	0.13	1.00	0.26	12/10/07	12/11/07
Uranium 235	0.16	U	0.14	1.00	0.22	12/10/07	12/11/07
Uranium 238	0.30	U	0.29	1.00	0.68	12/10/07	12/11/07
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338435**	**Yld % 101**
Neptunium 237	-0.0051	U	0.0046	1.00	0.034	12/04/07	12/20/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338437**	**Yld % 100**
Plutonium 238	-0.003	U	0.022	1.00	0.067	12/04/07	12/20/07
Plutonium 239/40	-0.0073	U	0.0074	1.00	0.057	12/04/07	12/20/07

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Data are incomplete without the case narrative.

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Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: D04-230-2-SS

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280308-009
Work Order: KC13P
Matrix: SOLID

Date Collected: 11/28/07 1000
Date Received: 11/28/07 1456

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7351143**	**Yld % 102**
Technetium 99	-0.24	U	0.35	1.00	0.61	12/17/07	12/20/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338439**	**Yld % 93**
Uranium 233/234	0.164	J	0.080	1.00	0.039	12/04/07	12/20/07
Uranium 235/236	0.011	U	0.023	1.00	0.031	12/04/07	12/20/07
Uranium 238	0.028	J	0.032	1.00	0.025	12/04/07	12/20/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7344315**	**Yld %**
Americium 241	-0.028	U	0.073	1.00	0.12	12/10/07	12/11/07
Cesium 137	0.0	U	0.066	1.00	0.12	12/10/07	12/11/07
Thorium 232	-0.04	U	0.33	1.00	0.37	12/10/07	12/11/07
[illegible]anium 235	-0.05	U	1.2	1.0	0.4	12/10/07	12/11/07
[illegible]nium 238	0.04	U	0.61	1.00	1.2	12/10/07	12/11/07

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Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: D01-230-3-SS

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280308-010
Work Order: KC13Q
Matrix: SOLID

Date Collected: 11/28/07 1400
Date Received: 11/28/07 1456

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g	Batch # 7351143		Yld % 93
Technetium 99	4.22		0.44	1.00	0.27	12/17/07	12/21/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g	Batch # 7344315		Yld %
Americium 241	0.55	U	0.50	1.00	0.81	12/10/07	12/11/07
Cesium 137	-0.08	U	0.19	1.00	0.33	12/10/07	12/11/07
Thorium 232	0.27	U	0.58	1.00	1.0	12/10/07	12/11/07
Uranium 235	71.5		6.6	1.0	2.7	12/10/07	12/11/07
Uranium 238	152		14	1	7	12/10/07	12/11/07
--- Other Detected Radionuclides ---							
Bismuth 212	2.5		2.1		2.3	12/10/07	12/11/07
Bismuth 214	1.38		0.52		0.69	12/10/07	12/11/07
Protactinium 234M	384		55		30	12/10/07	12/11/07
Thorium 234	152		14		7	12/10/07	12/11/07
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 7347430		Yld % 102
Neptunium 237	0.0048	U	0.0057	1.00	0.0076	12/13/07	12/20/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 7347431		Yld % 95
Plutonium 238	0.0014	U	0.0053	1.00	0.011	12/13/07	12/19/07
Plutonium 239/40	0.0007	U	0.0044	1.00	0.010	12/13/07	12/19/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 7354466		Yld % 88
Uranium 233/234	566		60	1	4	12/20/07	12/20/07
Uranium 235/236	28.9		9.6	1.0	2.0	12/20/07	12/20/07
Uranium 238	91		17	1	3	12/20/07	12/20/07

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Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: D02-230-3-SS

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280308-011
Work Order: KC13R
Matrix: SOLID

Date Collected: 11/28/07 1005
Date Received: 11/28/07 1456

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7351143**	**Yld % 97**
Technetium 99	-0.02	U	0.37	1.00	0.63	12/17/07	12/21/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338439**	**Yld % 91**
Uranium 233/234	0.63	J	0.17	1.00	0.06	12/04/07	12/20/07
Uranium 235/236	0.036	U	0.045	1.00	0.055	12/04/07	12/20/07
Uranium 238	0.144	J	0.078	1.00	0.028	12/04/07	12/20/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7344315**	**Yld %**
Americium 241	0.004	U	0.047	1.00	0.085	12/10/07	12/11/07
Cesium 137	0.001	U	0.054	1.00	0.10	12/10/07	12/11/07
Thorium 232	0.03	U	0.19	1.00	0.36	12/10/07	12/11/07
anium 235	0.04	U	0.17	1.00	0.30	12/10/07	12/11/07
anium 238	-0.3	U	1.1	1.0	1.1	12/10/07	12/11/07
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338435**	**Yld % 94**
Neptunium 237	-0.001	U	0.023	1.00	0.069	12/04/07	12/20/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7338437**	**Yld % 89**
Plutonium 238	-0.0007	U	0.033	1.00	0.084	12/04/07	12/20/07
Plutonium 239/40	-0.010	U	0.0090	1.00	0.066	12/04/07	12/20/07

E(8)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: D03-230-3-SS

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280308-012
Work Order: KC13V
Matrix: SOLID

Date Collected: 11/28/07 1010
Date Received: 11/28/07 1456

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7351143**	**Yld % 96**
Technetium 99	0.40	U	0.47	1.00	0.77	12/17/07	12/21/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7347433**	**Yld % 95**
Uranium 233/234	30.4		2.6	1.0	0.02	12/13/07	12/19/07
Uranium 235/236	1.48		0.21	1.00	0.02	12/13/07	12/19/07
Uranium 238	5.48		0.55	1.00	0.03	12/13/07	12/19/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7344315**	**Yld %**
Americium 241	-0.3	U	24	1	2	12/10/07	12/11/07
Cesium 137	-0.5	U	3.1	1.0	2.8	12/10/07	12/11/07
Thorium 232	-1.5	U	4.6	1.0	8.2	12/10/07	12/11/07
Uranium 235	-0.6	U	12	1	5	12/10/07	12/11/07
Uranium 238	1.2	U	6.6	1.0	13	12/10/07	12/11/07
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7347430**	**Yld % 86**
Neptunium 237	0.167	J	0.058	1.00	0.025	12/13/07	12/20/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7347431**	**Yld % 103**
Plutonium 238	0.0005	U	0.012	1.00	0.029	12/13/07	12/19/07
Plutonium 239/40	-0.0022	U	0.0025	1.00	0.021	12/13/07	12/19/07

J(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: D01-110-3-SS

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280308-013
Work Order: KC13W
Matrix: SOLID

Date Collected: 11/28/07 0755
Date Received: 11/28/07 1456

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7351143**	**Yld % 106**
Technetium 99	0.14	U	0.18	1.00	0.29	12/17/07	12/21/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7344315**	**Yld %**
Americium 241	1.5	U	2.2	1.0	4.0	12/10/07	12/11/07
Cesium 137	-4	U	90	1	9	12/10/07	12/11/07
Thorium 232	4.5	U	9.5	1.0	17	12/10/07	12/11/07
Uranium 235	3.1	U	9.8	1.0	18	12/10/07	12/11/07
Uranium 238	14	U	25	1	48	12/10/07	12/11/07
--- Other Detected Radionuclides ---							
Lead 214	13.9		5.9		10	12/10/07	12/11/07
O NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7347430**	**Yld % 95**
Neptunium 237	0.0015	U	0.0052	1.00	0.011	12/13/07	12/20/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7347431**	**Yld % 97**
Plutonium 238	0.0007	U	0.0035	1.00	0.0091	12/13/07	12/19/07
Plutonium 239/40	-0.0016	U	0.0014	1.00	0.010	12/13/07	12/19/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7354466**	**Yld % 83**
Uranium 233/234	1320		120	1	2	12/20/07	12/20/07
Uranium 235/236	53		11	1	1	12/20/07	12/20/07
Uranium 238	191		23	1	1	12/20/07	12/20/07

E(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

METHOD BLANK REPORT

Severn Trent Laboratories - Radiochemistry

Client Lot ID: F7K280308
Matrix: SOLID

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC		Prep Date	Lab Sample ID / Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD			pCi/g	Batch # 7347430		Yld % 102		F7L130000-430B
Neptunium 237	-0.0018	U	0.0036	1.00	0.041		12/13/07	12/20/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD			pCi/g	Batch # 7347431		Yld % 97		F7L130000-431B
Plutonium 238	0.035	U	0.040	1.00	0.051		12/13/07	12/20/07
Plutonium 239/40	0.002	U	0.021	1.00	0.059		12/13/07	12/20/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g	Batch # 7347433		Yld % 98		F7L130000-433B
Uranium 233/234	0.74	J	0.19	1.00	0.06		12/13/07	12/20/07
Uranium 235/236	0.34	J	0.13	1.00	0.05		12/13/07	12/20/07
Uranium 238	0.33	J	0.12	1.00	0.05		12/13/07	12/20/07
[illegible]-99 by LSC by DOE TC-02-RC Mod.			pCi/g	Batch # 7351143		Yld % 103		F7L170000-143B
[illegible]netium 99	0.07	U	0.35	1.00	0.58		12/17/07	12/20/07
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD			pCi/g	Batch # 7338435		Yld % 96		F7L040000-435B
Neptunium 237	-0.0019	U	0.0039	1.00	0.044		12/04/07	12/20/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD			pCi/g	Batch # 7338437		Yld % 100		F7L040000-437B
Plutonium 238	-0.009	U	0.045	1.00	0.10		12/04/07	12/20/07
Plutonium 239/40	0.005	U	0.028	1.00	0.065		12/04/07	12/20/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g	Batch # 7338439		Yld % 108		F7L040000-439B
Uranium 233/234	-0.003	U	0.020	1.00	0.060		12/04/07	12/20/07
Uranium 235/236	-0.0041	U	0.0058	1.00	0.054		12/04/07	12/20/07
Uranium 238	0.006	U	0.018	1.00	0.043		12/04/07	12/20/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			pCi/g	Batch # 7344315		Yld %		F7L100000-315B
Americium 241	-0.016	U	0.065	1.00	0.11		12/10/07	12/11/07
Cesium 137	0.020	U	0.042	1.00	0.072		12/10/07	12/11/07
Thorium 232	-0.06	U	0.53	1.00	0.32		12/10/07	12/11/07
Uranium 235	0.06	U	0.20	1.00	0.35		12/10/07	12/11/07
Uranium 238	0.17	U	0.79	1.00	1.1		12/10/07	12/11/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g	Batch # 7354466		Yld % 86		F7L200000-466B
Uranium 233/234	0.009	U	0.016	1.00	0.027		12/20/07	12/20/07
Uranium 235/236	0.0	U	0.0058	1.00	0.018		12/20/07	12/20/07
[illegible]ium 238	0.009	U	0.016	1.00	0.026		12/20/07	12/20/07

(S)

Data are incomplete without the case narrative.

MDC is determined using instrument performance only

Bold results are greater than the MDC

Laboratory Control Sample Report

Severn Trent Laboratories - Radiochemistry

Client Lot ID: F7K280308
Matrix: SOLID

Parameter	Spike Amount	Result	Total Uncert. (2 σ+/-)	MDC	% Yld	% Rec	Lab Sample ID / QC Control Limits
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			pCi/g	GA-01-R MOD			F7L100000-315C
Americium 241	70.0	68.5	5.4	0.7		98	(85 - 118)
Cesium 137	29.5	29.9	1.9	0.2		101	(91 - 120)
Cobalt 60	42.4	41.1	2.7	0.1		97	(91 - 112)
	Batch #:	7344315		Analysis Date:	12/11/07		
TC-99 by LSC by DOE TC-02-RC Mod.			pCi/g	TC-02-RC MOD			F7L170000-143C
Technetium 99	33.3	28.3	2.5	0.5	110	85	(64 - 114)
	Batch #:	7351143		Analysis Date:	12/20/07		

Laboratory Control Sample/LCS Duplicate Report

Severn Trent Laboratories - Radiochemistry

Client Lot ID: F7K280308
Matrix: SOLID

Parameter		Spike Amount	Result	Total Uncert. (2 σ +/-)	% Yld	% Rec	QC Control Limits	Precision	
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD			pCi/g	A-01-R MOD				F7L130000-430C	
Neptunium 237		13.3	11.9	1.2	117	90	(75 - 119)		
	Spk 2	13.3	13.3	1.3	105	100	(75 - 119)	11	%RPD
		Batch #:	7347430		Analysis Date:		12/20/07		
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD			pCi/g	A-01-R				F7L130000-431C	
Plutonium 238		6.13	5.98	0.69	100	98	(77 - 112)		
	Spk 2	6.13	6.12	0.70	98	100	(77 - 112)	2	%RPD
Plutonium 239/40		5.77	5.80	0.67	100	100	(82 - 119)		
	Spk 2	5.77	5.67	0.66	98	98	(82 - 119)	2	%RPD
		Batch #:	7347431		Analysis Date:		12/19/07		
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g	A-01-R MOD				F7L130000-433C	
Uranium 233/234		6.56	7.26	0.81	92	110	(76 - 128)		
	Spk 2	6.56	8.06	0.89	83	123	(76 - 128)	10	%RPD
Uranium 238		6.82	7.38	0.82	92	108	(74 - 125)		
	Spk 2	6.82	7.58	0.85	83	111	(74 - 125)	3	%RPD
		Batch #:	7347433		Analysis Date:		12/19/07		
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD			pCi/g	A-01-R MOD				F7L040000-435C	
Neptunium 237		13.3	12.2	1.2	114	92	(75 - 119)		
	Spk 2	13.3	12.7	1.2	115	96	(75 - 119)	4	%RPD
		Batch #:	7338435		Analysis Date:		12/20/07		
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD			pCi/g	A-01-R				F7L040000-437C	
Plutonium 238		6.13	5.96	0.70	95	97	(77 - 112)		
	Spk 2	6.13	5.52	0.65	102	90	(77 - 112)	8	%RPD
Plutonium 239/40		5.77	6.30	0.73	95	109	(82 - 119)		
	Spk 2	5.77	5.91	0.68	102	102	(82 - 119)	6	%RPD
		Batch #:	7338437		Analysis Date:		12/20/07		
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g	A-01-R MOD				F7L040000-439C	
Uranium 233/234		6.56	6.20	0.71	98	94	(76 - 128)		
	Spk 2	6.56	6.64	0.75	96	101	(76 - 128)	7	%RPD
Uranium 238		6.82	6.78	0.76	98	99	(74 - 125)		
	Spk 2	6.82	7.09	0.79	96	104	(74 - 125)	5	%RPD
		Batch #:	7338439		Analysis Date:		12/20/07		
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g	A-01-R MOD				F7L200000-466C	
Uranium 233/234		3.28	3.57	0.40	93	109	(76 - 128)		
	Spk 2	3.28	3.75	0.42	91	114	(76 - 128)	5	%RPD
Uranium 238		3.41	3.61	0.41	93	106	(74 - 125)		
	Spk 2	3.41	3.60	0.41	91	106	(74 - 125)	0.2	%RPD
		Batch #:	7354466		Analysis Date:		12/20/07		

DUPLICATE EVALUATION REPORT

Severn Trent Laboratories - Radiochemistry

Client Lot ID: F7K280308 Date Sampled: 11/28/07
Matrix: SOLID Date Received: 11/28/07

Parameter	SAMPLE Result		Total Uncert. (2σ +/-)	% Yld	DUPLICATE Result		Total Uncert. (2 σ +/-)	% Yld	QC Sample ID Precision	
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g	GA-01-R MOD				F7K280308-001	
Americium 241	0.030	U	0.062		-0.003	U	0.057		237	%RPD
Cesium 137	-0.015	U	0.052		-0.02	U	0.10		12	%RPD
Thorium 232	-0.04	U	0.31		-0.05	U	0.18		28	%RPD
Uranium 235	0.72	J	0.34		0.30	J	0.17		83	%RPD
Uranium 238	1.31		0.65		1.06		0.38		21	%RPD
---Other Dedected Radionuclides---										
Thorium 234	1.31		0.65		1.06		0.38		21	%RPD
Batch #:			7344315	(Sample)	7344315	(Duplicate)				
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g	TC-02-RC MOD				F7K280308-001	
Technetium 99	0.25	U	0.35	105	0.01	U	0.33	108	179	%RPD
Batch #:			7351143	(Sample)	7351143	(Duplicate)				

NOTE(S)

Data are incomplete without the case narrative.
Calculations are performed before rounding to avoid round-off error in calculated results

F7K280308 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD

Project Manager: IV | Quote #: 77705 | SDG:

Date Received: 2007-11-28

Project: 313010.202 | Hematite Site

Analytical Due Date: 2007-12-25

PO#: | Report to: Paul Ely

Report Due Date: 2007-12-26

Client: 1381304 Energy Solutions, LLC

Report Type: W

#SMPS in LOT: 13 | EDD Code: 00

Gamma library MUST contain U-235, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
1	D04-230-1-SS			2007-11-28 / 828	KC12W	SOLID

SAMPLE COMMENTS: LIMITED VOLUME RUN GAMMA FIRST DO NOT CONSUME

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
2	D05-230-1-SS			2007-11-28 / 830	KC121	SOLID

SAMPLE COMMENTS: LIMITED VOLUME RUN GAMMA FIRST DO NOT CONSUME

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
3	D06-230-1-SS			2007-11-28 / 842	KC124	SOLID

SAMPLE COMMENTS: LIMITED VOLUME RUN GAMMA FIRST DO NOT CONSUME

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
4	D13-230-1-SS			2007-11-28 / 835	KC127	SOLID

SAMPLE COMMENTS: LIMITED VOLUME RUN GAMMA FIRST DO NOT CONSUME

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
5	D15-230-1-SS			2007-11-28 / 859	KC13H	SOLID

SAMPLE COMMENTS: LIMITED VOLUME RUN GAMMA FIRST DO NOT CONSUME

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A

F7K280308 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD

Project Manager: IV | Quote #: 77705 | SDG:

Date Received: 2007-11-28

Project: 313010.202 | Hematite Site

Analytical Due Date: 2007-12-25

PO#: | Report to: Paul Ely

Report Due Date: 2007-12-26

Report Type: W

Client: 1381304 Energy Solutions, LLC

#SMPS In LOT: 13 | EDD Code: 00

Gamma library MUST contain U-235, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
6	D01-230-2-SS			2007-11-28 / 950	KC13J	SOLID

SAMPLE COMMENTS: LIMITED VOLUME RUN GAMMA FIRST DO NOT CONSUME

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
7	D02-230-2-SS			2007-11-28 / 935	KC13K	SOLID

SAMPLE COMMENTS: LIMITED VOLUME RUN GAMMA FIRST DO NOT CONSUME

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
8	D03-230-2-SS			2007-11-28 / 955	KC13M	SOLID

SAMPLE COMMENTS: LIMITED VOLUME RUN GAMMA FIRST DO NOT CONSUME

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
9	D04-230-2-SS			2007-11-28 / 1000	KC13P	SOLID

SAMPLE COMMENTS: LIMITED VOLUME RUN GAMMA FIRST DO NOT CONSUME

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
10	D01-230-3-SS			2007-11-28 / 1400	KC13Q	SOLID

SAMPLE COMMENTS: LIMITED VOLUME RUN GAMMA FIRST DO NOT CONSUME

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

F7K280308 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD
Date Received: 2007-11-28
Analytical Due Date: 2007-12-25
Report Due Date: 2007-12-26
Report Type: W
EDD Code: 00

Project Manager: IV
Quote #: 77705
SDG:
Project: 313010.202
Hematite Site
PO#:
Report to: Paul Ely
Client: 1381304 Energy Solutions, LLC
#SMPS In LOT: 13

Gamma library MUST contain U-235, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
11	D02-230-3-SS			2007-11-28 / 1005	KC13R	SOLID

SAMPLE COMMENTS: LIMITED VOLUME RUN GAMMA FIRST DO NOT CONSUME

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
12	D03-230-3-SS			2007-11-28 / 1010	KC13V	SOLID

SAMPLE COMMENTS: LIMITED VOLUME RUN GAMMA FIRST DO NOT CONSUME

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
13	D01-110-3-SS			2007-11-28 / 755	KC13W	SOLID

SAMPLE COMMENTS: LIMITED VOLUME RUN GAMMA FIRST DO NOT CONSUME

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

Attachment 5.2-Chain of Custody Record

Client: Hematite
Address:
City: Festus
State: Mo Zip Code:

Project Manager: Paul Ely
Telephone Number: (865) 414-1973
Site Contact: Paul Ely
Lab Contact: Ivon Venla

Date: 11-28-07
CoC Number: SC-3
Page: 1 of 2

Project Name: Hematite Characterization
Project Location:
Carrier/Waybill Number: "313010.202"
Contract/PO Number:

	Sample ID Number	Date	Time	Matrix: Air	Aqueous	Sediment	Soil		Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH		Analysis: X-Spec	Isotopic U	Isotopic Pu	Isotopic Np	Isotopic Tc-99					
✓	D04-230-1-SS	11-28-07	0828			✓										✓	✓			✓					
✓	D05-230-1-SS	11-28-07	0830			✓										✓	✓			✓					
✓	D08-230-1-SS	11-28-07	0842			✓										✓	✓			✓					
✓	D13-230-1-SS	11-28-07	0835			✓										✓	✓			✓					
✓	D15-230-1-SS	11-28-07	0859			✓										✓	✓			✓					
✓	D01-230-2-SS	11-28-07	0950			✓										✓	✓			✓					
✓	D02-230-2-SS	11-28-07	0935			✓										✓	✓	✓	✓	✓					
✓	D03-230-2-SS	11-28-07	0955			✓										✓	✓	✓	✓	✓					

Possible Hazard Identification: Non-haz. ☐ Radioactive ☐ Flammable ☐ Skin Irritant ☐ Unknown ☐

Sample Disposal: Return to client ✓ Disposal by lab ☐ Archive for __ months ☐

Turn Around Time: 24 hrs ☐ 48 hrs ☐ 7 days ☐ 14 days ☐ 21 days ☐ Other 20 days ✓

Comments:

	Date	Time		Date	Time
Relinquished by: D. Schumacher	11-28-07	1200	Received by:	11-28-07	1200
Relinquished by:	11/28/07	1405	Received by:	11-28-7	1405
Relinquished by:			Received by:		

Soil Surveys, Sample Collections, & Chain-of-Custody Procedure

Attachment 5.2-Chain of Custody Record

Client: HEMATITE
Address:
City: FESTUS
State: MO Zip Code:

Project Manager: PAUL ELY
Telephone Number: (865) 414-1973
Site Contact: PAUL ELY
Lab Contact: IVAN VENIA

Date: 11-28-07
CoC Number: SC-3
Page: 2 of 2

Project Name: HEMATITE CHARACTERIZATION
Project Location:
Carrier/Waybill Number: "313010.202"
Contract/PO Number:

	Sample ID Number	Date	Time	Matrix: Air	Aqueous	Sediment	Soil		Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH		Analysis (Attach list if more space is needed): γ SPEC	Isotopic U	Isotopic Pu	Isotopic NP	Isotopic Tc-99					
✓ 1	D04-230-2-SS	11-28-07	1000			✓										✓	✓								
✓ 2	D01-230-3-SS	11-27-07	1400			✓										✓	✓	✓	✓	✓					
✓ 3	D02-230-3-SS	11-28-07	1045			✓										✓	✓	✓	✓	✓					
✓ 4	D03-230-3-SS	11-28-07	1010			✓										✓	✓	✓	✓	✓					
✓ 5	D01-110-5-SS	11-28-07	0955			✓										✓	✓	✓	✓	✓					

Possible Hazard Identification: Non-haz. ☐ Radioactive ☐ Flammable ☐ Skin Irritant ☐ Unknown ☐

Sample Disposal: Return to client ✓ Disposal by lab ☐ Archive for __ months ☐

Turn Around Time: 24 hrs ☐ 48 hrs ☐ 7 days ☐ 14 days ☐ 21 days ☐ Other 20 days ✓

Comments:

	Date	Time		Date	Time
Relinquished by: D. Schaumann	11-28-07	1200	Received by:	11/28/07	1200
Relinquished by:	11/28/07	1455	Received by:	11-28-7	1456
Relinquished by:			Received by:		

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

- 1341 -

Lot #(s): ~~F7K160308~~ F7K160308 BQ 316 318

Condition Upon Receipt Form

Client: Energy Solutions COC/RFA No: SL-2, SL-3 Date: 11/28/07
Quote No: 11705 Initiated By: BD Time: 1443

Shipping Information

Shipper Name: client
Shipping # (s):*

1. 2. 3. 4. 5. 6. 7. 8. 9. 10.

Multiple Packages (Y) N
Sample Temperature (s):**

1. ambient 2. 1 3. 4. 5. 6. 7. 8. 9. 10.

*Numbered shipping lines correspond to Numbered Sample Temp lines

**Sample must be received at 4°C ± 2°C- If not, note contents below. Temperature variance does NOT affect the following: Metals-Liquid or Rad tests- Liquid or Solids

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

1.	Y (N)	Are there custody seals present on the cooler?	8.	(Y) N	Are there custody seals present on bottles?
2.	Y N (N/A)	Do custody seals on cooler appear to be tampered with?	9.	Y (N) N/A	Do custody seals on bottles appear to be tampered with?
3.	(Y) N	Were contents of cooler friaked after opening, but before unpacking?	10.	Y N (N/A)	Was sample received with proper pH[1]? (If not, make note below)
4.	(Y) N	Sample received with Chain of Custody?	11.	Y N	If N/A- Was pH taken by original TestAmerica lab?
5.	(Y) N N/A	Does the Chain of Custody match sample ID's on the container(s)?	12.	(Y) N	Sample received in proper containers?
6.	Y (N)	Was sample received broken?	13.	Y N (N/A)	Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below)
7.	(Y) N	Is sample volume sufficient for analysis?	14.	Y N	Was Internal COC/Workshare received?

[1] For DOE-AL (Pantex, LANL, Sandia) sites, pH of ALL containers received must be verified, EXCEPT VOA, TOX and soils.

Notes:

Corrective Action:
- ☐ Client Contact Name: Informed by:
- ☐ Sample(s) processed "as is"
- ☐ Sample(s) on hold until: If released, notify:

Project Management Review: Date: 12-3-7 1341

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

PROJECT NO. 313010.202

Hematite Site

Lot #: F7K280316

Paul Ely

Energy Solutions, LLC
1009 Commerce Park Drive
Suite 100
Oak Ridge, TN 37830

TESTAMERICA LABORATORIES, INC.

Ivan Vania
Project Manager

December 21, 2007

Case Narrative
LOT NUMBER: F7K280316

This report contains the analytical results for the 40 samples received under chain of custody by TestAmerica St. Louis on November 28, 2007. These samples are associated with your Hematite Site project.

The analytical results included in this report meet all applicable quality control procedure requirements except as noted on the following page.

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

All chemical analysis results are based upon sample as received, wet weight, unless noted otherwise. All radiochemistry results are based upon sample as dried and ground with the exception of tritium, unless requested wet weight by the client.

Observations/Nonconformances

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

Isotopic Uranium by Alpha Spectroscopy (EML A-01-R MOD)
In the initial preparation the Uranium samples required an additional dilution due to high activity.
The Uranium activity results could not be replicated upon re-extract. This is attributed to hot spots in a non-homogeneous sample. The re-extract results are reported.
Affected Samples:
F7K280316 (8): BD-30-4.5-SL

Isotopic Plutonium by Alpha Spectroscopy (EML A-01-R MOD)
In the initial preparation the Plutonium samples had tracer recoveries below the 30% QC limit. The samples were re-prepared and reanalyzed. The reanalysis results are acceptable and reported.
Affected Samples:
F7K280316 (4): BD-29-2.5-SL
F7K280316 (13): BD-32-2.5-SL

Tc-99 by LSC (EML TC-02-RC MOD)
The Technetium-99M tracer recovered high indicating a potential low bias for sample results. The yields were truncated at 100% to eliminate biased results. Technetium-99 was not detected in the samples.
Affected Samples:
F7K280316 (37): BD-22-4.5-SL

There were no other nonconformances or observations noted with any analysis on this lot.

METHODS SUMMARY

F7K280316

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Gamma Spectroscopy - Cesium-137 & Hits	EML GA-01-R MOD	
Isotopic Plutonium by Alpha Spectroscopy	EML A-01-R	
Isotopic Uranium by Alpha Spectroscopy	EML A-01-R MOD	
Neptunium by Alpha Spectroscopy	EML A-01-R MOD	
TC-99 by LSC	EML TC-02-RC MO	

References:

EML "ENVIRONMENTAL MEASUREMENTS LABORATORY PROCEDURES MANUAL"
HASL-300 28TH EDITION, VOLUME I and II DEPARTMENT OF ENERGY

SAMPLE SUMMARY

F7K280316

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
KC140	001	BD-27-2.5-SL	11/26/07	15:15
KC15G	002	BD-27-4.5-SL	11/26/07	15:15
KC15J	003	BD-27-13-SL	11/26/07	15:29
KC15M	004	BD-29-2.5-SL	11/26/07	09:55
KC15P	005	BD-29-4.5-SL	11/26/07	09:55
KC15R	006	BD-29-8.5-SL	11/26/07	10:02
KC153	007	BD-30-2.5-SL	11/21/07	09:50
KC154	008	BD-30-4.5-SL	11/21/07	09:50
KC16L	009	BD-30-9-SL	11/21/07	10:00
KC18L	010	BD-31-2.5-SL	11/26/07	15:50
KC18P	011	BD-31-4.5-SL	11/26/07	15:50
KC18T	012	BD-31-8.5-SL	11/26/07	15:55
KC180	013	BD-32-2.5-SL	11/26/07	09:20
KC185	014	BD-32-4.5-SL	11/26/07	09:20
KC189	015	BD-32-13-SL	11/26/07	09:28
KC19H	016	BD-33-2.5-SL	11/21/07	10:25
KC19N	017	BD-33-4.5-SL	11/21/07	10:25
KC19R	018	BD-33-12.5-SL	11/21/07	10:35
KC19W	019	BD-36-4.5-SL	11/26/07	10:42
KC192	020	BD-36-12.5-SL	11/26/07	10:54
KC194	021	BD-37-2.5-SL	11/26/07	13:20
KC199	022	BD-37-4.5-SL	11/26/07	13:20
KC2AC	023	BD-37-5-SL	11/26/07	13:24
KC2AF	024	BD-39-2.5-SL	11/26/07	13:00
KC2AH	025	BD-39-4.5-SL	11/26/07	13:00
KC2AK	026	BD-39-8.5-SL	11/26/07	13:05
KC2AN	027	BD-26-2.5-SL	11/21/07	08:25
KC2AV	028	BD-26-4.5-SL	11/21/07	08:25
KC2A0	029	BD-26-7.5-SL	11/21/07	08:30
KC2A4	030	BD-25-2.5-SL	11/26/07	13:50
KC2A9	031	BD-25-4.5-SL	11/26/07	13:50
KC2CA	032	BD-25-16.5-SL	11/26/07	14:10
KC2CF	033	BD-23-2.5-SL	11/26/07	16:20
KC2CJ	034	BD-23-4.5-SL	11/26/07	16:20
KC2CP	035	BD-23-5-SL	11/26/07	16:25
KC2CR	036	BD-22-2.5-SL	11/26/07	14:17

(Continued on next page)

SAMPLE SUMMARY

F7K280316

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
KC2C2	037	BD-22-4.5-SL	11/26/07	14:17
KC2C5	038	BD-22-12.5-SL	11/26/07	14:28
KC2C6	039	BD-21-2.5-SL	11/26/07	16:45
KC2C8	040	BD-21-4.5-SL	11/26/07	16:45

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Energy Solutions, LLC

Client Sample ID: BD-27-2.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-001
Work Order: KC140
Matrix: SOLID

Date Collected: 11/26/07 1515
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7341177	Yld % 85
Neptunium 237	-0.011	U	0.010	1.00	0.074	12/07/07	12/13/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7341178	Yld % 94
Plutonium 238	0.013	U	0.035	1.00	0.071	12/07/07	12/14/07
Plutonium 239/40	-0.0054	U	0.0063	1.00	0.052	12/07/07	12/14/07
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g		Batch # 7347172	Yld % 96
Technetium 99	-0.37	U	0.40	1.00	0.69	12/13/07	12/18/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7341180	Yld % 85
Uranium 233/234	7.11		0.81	1.00	0.05	12/07/07	12/14/07
Uranium 235/236	0.38	J	0.15	1.00	0.06	12/07/07	12/14/07
Uranium 238	0.90	J	0.21	1.00	0.05	12/07/07	12/14/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7337299	Yld %
Americium 241	-0.017	U	0.077	1.00	0.13	12/03/07	12/14/07
Cesium 137	0.013	U	0.024	1.00	0.042	12/03/07	12/14/07
Thorium 232	0.02	U	0.10	1.00	0.20	12/03/07	12/14/07
Uranium 235	0.20	U	0.17	1.00	0.27	12/03/07	12/14/07
Uranium 238	0.72	U	0.40	1.00	1.1	12/03/07	12/14/07
--- Other Detected Radionuclides ---							
Bismuth 214	0.121		0.078		0.12	12/03/07	12/14/07
Lead 212	0.040	U	0.066		0.12	12/03/07	12/14/07
Lead 214	0.166		0.074		0.10	12/03/07	12/14/07
Potassium 40	2.72		0.72		0.72	12/03/07	12/14/07
Thorium 234	0.72	U	0.40		1.1	12/03/07	12/14/07

E(8)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-27-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-002
Work Order: KC15G
Matrix: SOLID

Date Collected: 11/26/07 1515
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7347172**		**Yld % 97**
Technetium 99	0.29	U	0.42	1.00	0.69	12/13/07	12/18/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7337299**		**Yld %**
Americium 241	0.02	U	0.13	1.00	0.22	12/03/07	12/08/07
Cesium 137	-0.014	U	0.061	1.00	0.11	12/03/07	12/08/07
Thorium 232	0.84	J	0.20	1.00	0.29	12/03/07	12/08/07
Uranium 235	0.11	U	0.29	1.00	0.49	12/03/07	12/08/07
Uranium 238	1.89		0.80	1.00	1.6	12/03/07	12/08/07
--- Other Detected Radionuclides ---							
Actinium 228	0.84		0.20		0.29	12/03/07	12/08/07
Bismuth 214	0.82		0.17		0.18	12/03/07	12/08/07
ad 212	1.33		0.23		0.17	12/03/07	12/08/07
ad 214	0.87		0.14		0.17	12/03/07	12/08/07
Potassium 40	16.0		2.0		0.8	12/03/07	12/08/07
Thallium 208	0.378		0.090		0.069	12/03/07	12/08/07
Thorium 234	1.89		0.80		1.6	12/03/07	12/08/07

E(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-27-13-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-003
Work Order: KC15J
Matrix: SOLID

Date Collected: 11/26/07 1529
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7341177	Yld % 82
Neptunium 237	0.017	U	0.034	1.00	0.063	12/07/07	12/13/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7341178	Yld % 95
Plutonium 238	-0.0102	U	0.0084	1.00	0.059	12/07/07	12/14/07
Plutonium 239/40	-0.0068	U	0.0069	1.00	0.053	12/07/07	12/14/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7341180	Yld % 99
Uranium 233/234	2.24		0.35	1.00	0.05	12/07/07	12/14/07
Uranium 235/236	0.071	J	0.060	1.00	0.052	12/07/07	12/14/07
Uranium 238	1.04		0.22	1.00	0.06	12/07/07	12/14/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7337299	Yld %
Americium 241	-0.03	U	1.1	1.0	0.3	12/03/07	12/08/07
Cesium 137	-0.04	U	1.4	1.0	0.2	12/03/07	12/08/07
Thorium 232	1.10		0.37	1.00	0.69	12/03/07	12/08/07
Uranium 235	0.16	U	0.34	1.00	0.59	12/03/07	12/08/07
Uranium 238	1.58	U	0.94	1.00	2.6	12/03/07	12/08/07
--- Other Detected Radionuclides ---							
Actinium 228	1.10		0.37		0.69	12/03/07	12/08/07
Bismuth 212	2.1		1.2		1.0	12/03/07	12/08/07
Bismuth 214	1.70		0.35		0.24	12/03/07	12/08/07
Lead 212	1.44		0.24		0.19	12/03/07	12/08/07
Lead 214	1.21		0.27		0.26	12/03/07	12/08/07
Potassium 40	23.4		3.5		0.8	12/03/07	12/08/07
Thallium 208	0.69		0.16		0.11	12/03/07	12/08/07

(S)

Data are incomplete without the case narrative.

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Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-29-2.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-004
Work Order: KC15M
Matrix: SOLID

Date Collected: 11/26/07 0955
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 7341177		Yld % 93
Neptunium 237	-0.0119	U	0.0098	1.00	0.069	12/07/07	12/13/07
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g	Batch # 7347172		Yld % 98
Technetium 99	1.33		0.45	1.00	0.68	12/13/07	12/18/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 7341180		Yld % 96
Uranium 233/234	12.2		1.2	1.0	0.06	12/07/07	12/14/07
Uranium 235/236	0.49	J	0.16	1.00	0.03	12/07/07	12/14/07
Uranium 238	2.63		0.39	1.00	0.05	12/07/07	12/14/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g	Batch # 7337299		Yld %
Americium 241	-0.06	U	0.15	1.00	0.26	12/03/07	12/08/07
ium 137	0.020	U	0.064	1.00	0.11	12/03/07	12/08/07
Thorium 232	0.59	J	0.20	1.00	0.34	12/03/07	12/08/07
Uranium 235	0.40	U	0.28	1.00	0.44	12/03/07	12/08/07
Uranium 238	3.44		0.92	1.00	1.7	12/03/07	12/08/07
--- Other Detected Radionuclides ---							
Actinium 228	0.59		0.20		0.34	12/03/07	12/08/07
Bismuth 214	1.10		0.22		0.14	12/03/07	12/08/07
Lead 212	1.06		0.20		0.16	12/03/07	12/08/07
Lead 214	1.03		0.16		0.13	12/03/07	12/08/07
Potassium 40	16.0		2.2		0.5	12/03/07	12/08/07
Thallium 208	0.268		0.080		0.092	12/03/07	12/08/07
Thorium 234	3.44		0.92		1.7	12/03/07	12/08/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 7352393		Yld % 88
Plutonium 238	-0.027	U	0.015	1.00	0.089	12/18/07	12/20/07
Plutonium 239/40	-0.0039	U	0.0056	1.00	0.051	12/18/07	12/20/07

E(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-29-2.5-SL DUP

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-004X
Work Order: KC15M
Matrix: SOLID

Date Collected: 11/26/07 0955
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7352393**	**Yld % 94**
Plutonium 238	-0.0057	U	0.0066	1.00	0.055	12/18/07	12/20/07
Plutonium 239/40	-0.0095	U	0.0085	1.00	0.063	12/18/07	12/20/07

E(S)

Data are incomplete without the case narrative.

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Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-29-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-005
Work Order: KC15P
Matrix: SOLID

Date Collected: 11/26/07 0955
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g		Batch # 7347174	Yld % 105
Technetium 99	0.04	U	0.37	1.00	0.61	12/13/07	12/17/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7337299	Yld %
Americium 241	0.02	U	0.16	1.00	0.27	12/03/07	12/08/07
Cesium 137	-0.016	U	0.076	1.00	0.13	12/03/07	12/08/07
Thorium 232	0.62	J	0.23	1.00	0.37	12/03/07	12/08/07
Uranium 235	0.16	U	0.36	1.00	0.61	12/03/07	12/08/07
Uranium 238	0.7	U	1.2	1.0	2.1	12/03/07	12/08/07
--- Other Detected Radionuclides ---							
Actinium 228	0.62		0.23		0.37	12/03/07	12/08/07
Bismuth 214	1.46		0.22		0.10	12/03/07	12/08/07
ad 212	1.54		0.27		0.21	12/03/07	12/08/07
ead 214	1.05		0.19		0.21	12/03/07	12/08/07
Potassium 40	17.8		2.3		1.0	12/03/07	12/08/07
Thallium 208	0.44		0.11		0.08	12/03/07	12/08/07

E(S)

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Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-29-4.5-SL DUP

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-005X
Work Order: KC15P
Matrix: SOLID

Date Collected: 11/26/07 0955
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7347174**	**Yld % 109**
Technetium 99	-0.18	U	0.35	1.00	0.59	12/13/07	12/17/07

E(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-29-8.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-006
Work Order: KC15R
Matrix: SOLID

Date Collected: 11/26/07 1002
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7341177	Yld % 87
Neptunium 237	-0.017	U	0.012	1.00	0.080	12/07/07	12/13/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7341178	Yld % 90
Plutonium 238	-0.011	U	0.025	1.00	0.084	12/07/07	12/14/07
Plutonium 239/40	0.0007	U	0.023	1.00	0.066	12/07/07	12/14/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7341180	Yld % 86
Uranium 233/234	4.39		0.56	1.00	0.06	12/07/07	12/14/07
Uranium 235/236	0.22	J	0.11	1.00	0.03	12/07/07	12/14/07
Uranium 238	1.03		0.22	1.00	0.03	12/07/07	12/14/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7337299	Yld %
Americium 241	-0.001	U	0.19	1.00	0.33	12/03/07	12/08/07
Cesium 137	0.0	U	0.11	1.00	0.20	12/03/07	12/08/07
Thorium 232	1.04		0.34	1.00	0.60	12/03/07	12/08/07
Uranium 235	0.20	U	0.37	1.00	0.63	12/03/07	12/08/07
Uranium 238	2.3	U	1.3	1.0	2.5	12/03/07	12/08/07
--- Other Detected Radionuclides ---							
Actinium 228	1.04		0.34		0.60	12/03/07	12/08/07
Bismuth 214	1.19		0.26		0.16	12/03/07	12/08/07
Lead 212	1.32		0.23		0.19	12/03/07	12/08/07
Lead 214	1.41		0.27		0.25	12/03/07	12/08/07
Potassium 40	20.0		3.2		1.2	12/03/07	12/08/07
Thallium 208	0.64		0.13		0.06	12/03/07	12/08/07

E(S)

Data are incomplete without the case narrative.

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Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-30-2.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-007
Work Order: KC153
Matrix: SOLID

Date Collected: 11/21/07 0950
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g	Batch # 7347174		Yld % 94
Technetium 99	151		13	1	1	12/13/07	12/17/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 7341181		Yld % 92
Uranium 233/234	16.1		1.6	1.0	0.06	12/07/07	12/14/07
Uranium 235/236	0.72	J	0.20	1.00	0.07	12/07/07	12/14/07
Uranium 238	3.32		0.46	1.00	0.07	12/07/07	12/14/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g	Batch # 7337299		Yld %
Americium 241	0.04	U	0.11	1.00	0.18	12/03/07	12/08/07
Cesium 137	-0.004	U	0.079	1.00	0.12	12/03/07	12/08/07
Thorium 232	0.07	U	0.16	1.00	0.28	12/03/07	12/08/07
Uranium 235	1.37		0.35	1.00	0.46	12/03/07	12/08/07
Uranium 238	2.74		0.72	1.00	1.4	12/03/07	12/08/07
--- Other Detected Radionuclides ---							
Bismuth 214	0.85		0.19		0.14	12/03/07	12/08/07
Lead 212	0.243		0.089		0.090	12/03/07	12/08/07
Lead 214	1.11		0.21		0.13	12/03/07	12/08/07
Potassium 40	1.48		0.88		1.2	12/03/07	12/08/07
Thorium 234	2.74		0.72		1.4	12/03/07	12/08/07

Z(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-30-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-008
Work Order: KC154
Matrix: SOLID

Date Collected: 11/21/07 0950
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7341177	Yld % 74
Neptunium 237	-0.006	U	0.028	1.00	0.089	12/07/07	12/13/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7341178	Yld % 88
Plutonium 238	0.001	U	0.034	1.00	0.083	12/07/07	12/14/07
Plutonium 239/40	-0.0102	U	0.0092	1.00	0.068	12/07/07	12/14/07
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g		Batch # 7347174	Yld % 106
Technetium 99	20.2		1.8	1.0	0.6	12/13/07	12/17/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7337299	Yld %
Americium 241	0.038	U	0.092	1.00	0.15	12/03/07	12/08/07
[illegible]sium 137	-0.003	U	0.37	1.00	0.07	12/03/07	12/08/07
[illegible]rium 232	0.20	U	0.16	1.00	0.24	12/03/07	12/08/07
Uranium 235	1.06		0.26	1.00	0.44	12/03/07	12/08/07
Uranium 238	3.08		0.78	1.00	1.1	12/03/07	12/08/07
--- Other Detected Radionuclides ---							
Bismuth 214	0.36		0.10		0.08	12/03/07	12/08/07
Lead 212	0.266		0.079		0.084	12/03/07	12/08/07
Lead 214	0.370		0.083		0.10	12/03/07	12/08/07
Potassium 40	5.0		1.1		0.8	12/03/07	12/08/07
Thallium 208	0.085		0.050		0.073	12/03/07	12/08/07
Thorium 234	3.08		0.78		1.1	12/03/07	12/08/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7352110	Yld % 103
Uranium 233/234	10.0	J	9.4	250	8.9	12/18/07	12/20/07
Uranium 235/236	2.6	U	5.2	250	7.0	12/18/07	12/20/07
Uranium 238	10.4	J	9.4	250	5.6	12/18/07	12/20/07

E(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-30-4.5-SL DUP

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-008X
Work Order: KC154
Matrix: SOLID

Date Collected: 11/21/07 0950
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7352110**	**Yld % 102**
Uranium 233/234	2.4	U	6.6	250	14	12/18/07	12/20/07
Uranium 235/236	0.0	U	2.4	250	7.6	12/18/07	12/20/07
Uranium 238	3.6	U	6.5	250	11	12/18/07	12/20/07

Σ(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-30-9-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-009
Work Order: KC16L
Matrix: SOLID

Date Collected: 11/21/07 1000
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7337299**		**Yld %**
Americium 241	0.0078	U	0.0996	1.00	0.17	12/03/07	12/08/07
Cesium 137	-0.014	U	0.055	1.00	0.097	12/03/07	12/08/07
Thorium 232	0.71	J	0.21	1.00	0.35	12/03/07	12/08/07
Uranium 235	0.21	U	0.29	1.00	0.49	12/03/07	12/08/07
Uranium 238	1.64		0.62	1.00	1.3	12/03/07	12/08/07
--- Other Detected Radionuclides ---							
Actinium 228	0.71		0.21		0.35	12/03/07	12/08/07
Bismuth 214	0.67		0.16		0.20	12/03/07	12/08/07
Lead 212	0.94		0.16		0.16	12/03/07	12/08/07
Lead 214	1.10		0.16		0.18	12/03/07	12/08/07
Potassium 40	15.1		1.9		1.1	12/03/07	12/08/07
ıllium 208	0.280		0.075		0.096	12/03/07	12/08/07
Thorium 234	1.64		0.62		1.3	12/03/07	12/08/07

.E(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-31-2.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-010
Work Order: KC18L
Matrix: SOLID

Date Collected: 11/26/07 1550
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7341177**	**Yld % 83**
Neptunium 237	-0.0107	U	0.0096	1.00	0.071	12/07/07	12/13/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7341178**	**Yld % 90**
Plutonium 238	-0.041	U	0.036	1.00	0.12	12/07/07	12/14/07
Plutonium 239/40	-0.005	U	0.023	1.00	0.072	12/07/07	12/14/07
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7347174**	**Yld % 97**
Technetium 99	-0.01	U	0.40	1.00	0.66	12/13/07	12/17/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7341180**	**Yld % 90**
Uranium 233/234	10.4		1.1	1.0	0.06	12/07/07	12/14/07
Uranium 235/236	0.67	J	0.19	1.00	0.06	12/07/07	12/14/07
Uranium 238	1.50		0.28	1.00	0.04	12/07/07	12/14/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7337299**	**Yld %**
Americium 241	0.024	U	0.076	1.00	0.13	12/03/07	12/08/07
Cesium 137	0.010	U	0.026	1.00	0.048	12/03/07	12/08/07
Thorium 232	0.12	U	0.17	1.00	0.29	12/03/07	12/08/07
Uranium 235	0.84	J	0.27	1.00	0.34	12/03/07	12/08/07
Uranium 238	0.50	U	0.37	1.00	1.3	12/03/07	12/08/07
--- Other Detected Radionuclides ---							
Bismuth 214	0.213		0.098		0.13	12/03/07	12/08/07
Lead 212	0.154		0.062		0.073	12/03/07	12/08/07
Lead 214	0.39		0.10		0.06	12/03/07	12/08/07
Potassium 40	1.52		0.70		0.84	12/03/07	12/08/07

1(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-31-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-011
Work Order: KC18P
Matrix: SOLID

Date Collected: 11/26/07 1550
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g		Batch # 7347174	Yld % 106
Technetium 99	0.78	J	0.39	1.00	0.61	12/13/07	12/17/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7337299	Yld %
Americium 241	0.05	U	0.17	1.00	0.29	12/03/07	12/08/07
Cesium 137	-0.002	U	0.059	1.00	0.11	12/03/07	12/08/07
Thorium 232	1.01		0.27	1.00	0.40	12/03/07	12/08/07
Uranium 235	0.47	U	0.36	1.00	0.64	12/03/07	12/08/07
Uranium 238	2.2	U	2.0	1.0	2.4	12/03/07	12/08/07
--- Other Detected Radionuclides ---							
Actinium 228	1.01		0.27		0.40	12/03/07	12/08/07
Bismuth 212	1.19		0.52		0.66	12/03/07	12/08/07
[illegible]muth 214	1.03		0.21		0.23	12/03/07	12/08/07
[illegible]d 212	1.25		0.23		0.20	12/03/07	12/08/07
Lead 214	1.18		0.21		0.16	12/03/07	12/08/07
Potassium 40	18.9		2.4		1.1	12/03/07	12/08/07
Thallium 208	0.50		0.11		0.09	12/03/07	12/08/07

3(8)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-31-8.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-012
Work Order: KC18T
Matrix: SOLID

Date Collected: 11/26/07 1555
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7337299**		**Yld %**
Americium 241	-0.03	U	0.19	1.00	0.32	12/03/07	12/08/07
Cesium 137	0.015	U	0.064	1.00	0.11	12/03/07	12/08/07
Thorium 232	1.13		0.31	1.00	0.43	12/03/07	12/08/07
Uranium 235	0.09	U	0.38	1.00	0.65	12/03/07	12/08/07
Uranium 238	1.8	U	1.0	1.0	1.9	12/03/07	12/08/07
--- Other Detected Radionuclides ---							
Actinium 228	1.13		0.31		0.43	12/03/07	12/08/07
Bismuth 214	1.19		0.25		0.25	12/03/07	12/08/07
Lead 212	1.54		0.30		0.25	12/03/07	12/08/07
Lead 214	1.21		0.20		0.20	12/03/07	12/08/07
Potassium 40	19.7		2.6		1.2	12/03/07	12/08/07
llium 208	0.48		0.12		0.10	12/03/07	12/08/07

Σ(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-32-2.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-013
Work Order: KC180
Matrix: SOLID

Date Collected: 11/26/07 0920
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7341177**	**Yld % 84**
Neptunium 237	-0.0107	U	0.0096	1.00	0.071	12/07/07	12/13/07
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7347174**	**Yld % 106**
Technetium 99	-0.40	U	0.35	1.00	0.61	12/13/07	12/17/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7341180**	**Yld % 82**
Uranium 233/234	5.03		0.63	1.00	0.05	12/07/07	12/14/07
Uranium 235/236	0.146	J	0.089	1.00	0.036	12/07/07	12/14/07
Uranium 238	1.42		0.27	1.00	0.03	12/07/07	12/14/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7337299**	**Yld %**
Americium 241	0.04	U	0.14	1.00	0.24	12/03/07	12/08/07
Cesium 137	0.001	U	0.070	1.00	0.13	12/03/07	12/08/07
Thorium 232	0.34	U	0.29	1.00	0.45	12/03/07	12/08/07
Uranium 235	0.38	U	0.34	1.00	0.54	12/03/07	12/08/07
Uranium 238	1.66	U	0.84	1.00	1.7	12/03/07	12/08/07
--- Other Detected Radionuclides ---							
Bismuth 214	0.93		0.24		0.19	12/03/07	12/08/07
Lead 212	0.84		0.20		0.17	12/03/07	12/08/07
Lead 214	1.01		0.23		0.17	12/03/07	12/08/07
Potassium 40	9.8		2.0		1	12/03/07	12/08/07
Thallium 208	0.306		0.085		0.052	12/03/07	12/08/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7352393**	**Yld % 92**
Plutonium 238	-0.0006	U	0.030	1.00	0.077	12/18/07	12/20/07
Plutonium 239/40	-0.0018	U	0.0037	1.00	0.042	12/18/07	12/20/07

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-32-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-014
Work Order: KC185
Matrix: SOLID

Date Collected: 11/26/07 0920
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7347174**		**Yld % 107**
Technetium 99	-0.29	U	0.35	1.00	0.60	12/13/07	12/17/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7337299**		**Yld %**
Americium 241	0.07	U	0.13	1.00	0.22	12/03/07	12/08/07
Cesium 137	0.010	U	0.060	1.00	0.11	12/03/07	12/08/07
Thorium 232	1.16		0.28	1.00	0.41	12/03/07	12/08/07
Uranium 235	0.19	U	0.32	1.00	0.54	12/03/07	12/08/07
Uranium 238	2.20		0.85	1.00	1.6	12/03/07	12/08/07
--- Other Detected Radionuclides ---							
Actinium 228	1.16		0.28		0.41	12/03/07	12/08/07
Bismuth 214	1.16		0.21		0.13	12/03/07	12/08/07
Lead 212	1.46		0.28		0.21	12/03/07	12/08/07
Lead 214	1.05		0.17		0.17	12/03/07	12/08/07
Potassium 40	19.7		2.6		0.5	12/03/07	12/08/07
Thallium 208	0.45		0.13		0.09	12/03/07	12/08/07
Thorium 234	2.20		0.85		1.6	12/03/07	12/08/07

1(8)

Data are incomplete without the case narrative.

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Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-32-13-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-015
Work Order: KC189
Matrix: SOLID

Date Collected: 11/26/07 0928
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**		**Batch # 7337299**		**Yld %**
Americium 241	-0.007	U	0.21	1.00	0.36	12/03/07	12/08/07
Cesium 137	-0.0006	U	0.092	1.00	0.17	12/03/07	12/08/07
Thorium 232	1.14		0.33	1.00	0.43	12/03/07	12/08/07
Uranium 235	0.04	U	0.35	1.00	0.62	12/03/07	12/08/07
Uranium 238	1.2	U	1.6	1.0	2.8	12/03/07	12/08/07
--- Other Detected Radionuclides ---							
Actinium 228	1.14		0.33		0.43	12/03/07	12/08/07
Bismuth 214	1.51		0.31		0.26	12/03/07	12/08/07
Lead 212	1.68		0.30		0.24	12/03/07	12/08/07
Lead 214	1.65		0.30		0.17	12/03/07	12/08/07
Potassium 40	19.1		2.9		0.9	12/03/07	12/08/07
Thallium 208	0.42		0.11		0.06	12/03/07	12/08/07

Σ(S)

Data are incomplete without the case narrative.

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Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-33-2.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-016
Work Order: KC19H
Matrix: SOLID

Date Collected: 11/21/07 1025
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7341177	Yld % 74
Neptunium 237	-0.0095	U	0.0096	1.00	0.074	12/07/07	12/13/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7341178	Yld % 93
Plutonium 238	-0.0114	U	0.0094	1.00	0.066	12/07/07	12/14/07
Plutonium 239/40	0.006	U	0.021	1.00	0.050	12/07/07	12/14/07
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g		Batch # 7347174	Yld % 105
Technetium 99	47.3		4.1	1.0	0.6	12/13/07	12/17/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7341180	Yld % 101
Uranium 233/234	8.66		0.93	1.00	0.06	12/07/07	12/14/07
Uranium 235/236	0.38	J	0.14	1.00	0.05	12/07/07	12/14/07
Uranium 238	2.40		0.37	1.00	0.05	12/07/07	12/14/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7337299	Yld %
Americium 241	0.01	U	0.17	1.00	0.29	12/03/07	12/09/07
Cesium 137	0.001	U	0.066	1.00	0.12	12/03/07	12/09/07
Thorium 232	0.61	J	0.22	1.00	0.40	12/03/07	12/09/07
Uranium 235	0.41	U	0.38	1.00	0.62	12/03/07	12/09/07
Uranium 238	3.01		0.99	1.00	1.9	12/03/07	12/09/07
--- Other Detected Radionuclides ---							
Actinium 228	0.61		0.22		0.40	12/03/07	12/09/07
Bismuth 214	1.10		0.22		0.23	12/03/07	12/09/07
Lead 210	3.7		2.9		3.4	12/03/07	12/09/07
Lead 212	0.88		0.20		0.19	12/03/07	12/09/07
Lead 214	1.36		0.27		0.20	12/03/07	12/09/07
Potassium 40	13.2		2.0		1.1	12/03/07	12/09/07
Thallium 208	0.39		0.11		0.1	12/03/07	12/09/07
Thorium 234	3.01		0.99		1.9	12/03/07	12/09/07

(S)

Data are incomplete without the case narrative.

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Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-33-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-017
Work Order: KC19N
Matrix: SOLID

Date Collected: 11/21/07 1025
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g		Batch # 7347174	Yld % 104
Technetium 99	7.76		0.84	1.00	0.62	12/13/07	12/18/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7337299	Yld %
Americium 241	0.09	U	0.15	1.00	0.26	12/03/07	12/09/07
Cesium 137	0.019	U	0.055	1.00	0.097	12/03/07	12/09/07
Thorium 232	0.96	J	0.29	1.00	0.42	12/03/07	12/09/07
Uranium 235	0.06	U	0.34	1.00	0.59	12/03/07	12/09/07
Uranium 238	2.11		0.94	1.00	2.0	12/03/07	12/09/07
--- Other Detected Radionuclides ---							
Actinium 228	0.96		0.29		0.42	12/03/07	12/09/07
Bismuth 214	1.14		0.23		0.23	12/03/07	12/09/07
[illegible]d 210	3.4		2.1		2.5	12/03/07	12/09/07
[illegible]d 212	1.68		0.28		0.20	12/03/07	12/09/07
Lead 214	1.66		0.23		0.17	12/03/07	12/09/07
Potassium 40	18.7		2.3		1	12/03/07	12/09/07
Thallium 208	0.45		0.11		0.08	12/03/07	12/09/07
Thorium 234	2.11		0.94		2.0	12/03/07	12/09/07

*(S)

Data are incomplete without the case narrative.

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Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-33-12.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-018
Work Order: KC19R
Matrix: SOLID

Date Collected: 11/21/07 1035
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7337299**		**Yld %**
Americium 241	0.01	U	0.20	1.00	0.35	12/03/07	12/09/07
Cesium 137	0.037	U	0.095	1.00	0.17	12/03/07	12/09/07
Thorium 232	1.27		0.38	1.00	0.66	12/03/07	12/09/07
Uranium 235	0.17	U	0.45	1.00	0.77	12/03/07	12/09/07
Uranium 238	1.72	U	0.98	1.00	2.5	12/03/07	12/09/07
--- Other Detected Radionuclides ---							
Actinium 228	1.27		0.38		0.66	12/03/07	12/09/07
Bismuth 214	1.58		0.32		0.18	12/03/07	12/09/07
Lead 212	1.18		0.24		0.22	12/03/07	12/09/07
Lead 214	1.20		0.30		0.32	12/03/07	12/09/07
Potassium 40	19.6		3.3		1.3	12/03/07	12/09/07
allium 208	0.43		0.13		0.09	12/03/07	12/09/07

FN(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-36-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-019
Work Order: KC19W
Matrix: SOLID

Date Collected: 11/26/07 1042
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7341177	Yld % 89
Neptunium 237	0.012	U	0.034	1.00	0.071	12/07/07	12/13/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7341178	Yld % 91
Plutonium 238	0.007	U	0.022	1.00	0.051	12/07/07	12/14/07
Plutonium 239/40	0.005	U	0.022	1.00	0.056	12/07/07	12/14/07
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g		Batch # 7347174	Yld % 94
Technetium 99	-0.24	U	0.40	1.00	0.68	12/13/07	12/18/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7341180	Yld % 89
Uranium 233/234	16.4		1.6	1.0	0.06	12/07/07	12/14/07
nium 235/236	0.69	J	0.20	1.00	0.07	12/07/07	12/14/07
nium 238	1.77		0.32	1.00	0.07	12/07/07	12/14/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7337299	Yld %
Americium 241	-0.06	U	0.24	1.00	0.25	12/03/07	12/09/07
Cesium 137	-0.005	U	0.077	1.00	0.12	12/03/07	12/09/07
Thorium 232	0.74	J	0.24	1.00	0.41	12/03/07	12/09/07
Uranium 235	0.58	U	0.41	1.00	0.65	12/03/07	12/09/07
Uranium 238	3.1		1.1	1.0	2.1	12/03/07	12/09/07
--- Other Detected Radionuclides ---							
Actinium 228	0.74		0.24		0.41	12/03/07	12/09/07
Bismuth 214	1.35		0.27		0.19	12/03/07	12/09/07
Lead 210	2.8		2.1		2.7	12/03/07	12/09/07
Lead 212	0.93		0.16		0.14	12/03/07	12/09/07
Lead 214	1.34		0.25		0.21	12/03/07	12/09/07
Potassium 40	15.6		2.4		0.6	12/03/07	12/09/07
Thallium 208	0.39		0.10		0.07	12/03/07	12/09/07
Thorium 234	3.1		1.1		2.1	12/03/07	12/09/07

Σ(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-36-12.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-020
Work Order: KC192
Matrix: SOLID

Date Collected: 11/26/07 1054
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7337299**		**Yld %**
Americium 241	0.09	U	0.14	1.00	0.24	12/03/07	12/09/07
Cesium 137	-0.034	U	0.092	1.00	0.13	12/03/07	12/09/07
Thorium 232	0.95	J	0.28	1.00	0.35	12/03/07	12/09/07
Uranium 235	0.07	U	0.31	1.00	0.53	12/03/07	12/09/07
Uranium 238	1	U	1.2	1.0	1.9	12/03/07	12/09/07
--- Other Detected Radionuclides ---							
Actinium 228	0.95		0.28		0.35	12/03/07	12/09/07
Bismuth 212	1.01		0.49		0.62	12/03/07	12/09/07
Bismuth 214	1.20		0.23		0.14	12/03/07	12/09/07
Lead 212	1.56		0.22		0.16	12/03/07	12/09/07
Lead 214	1.20		0.18		0.22	12/03/07	12/09/07
Potassium 40	18.5		2.6		1.2	12/03/07	12/09/07
Thallium 208	0.411		0.096		0.061	12/03/07	12/09/07

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-37-2.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-021
Work Order: KC194
Matrix: SOLID

Date Collected: 11/26/07 1320
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7341177	Yld % 81
Neptunium 237	0.005	U	0.026	1.00	0.067	12/07/07	12/13/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7341178	Yld % 94
Plutonium 238	-0.006	U	0.022	1.00	0.070	12/07/07	12/14/07
Plutonium 239/40	0.008	U	0.019	1.00	0.040	12/07/07	12/14/07
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g		Batch # 7347174	Yld % 102
Technetium 99	0.09	U	0.38	1.00	0.63	12/13/07	12/18/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7341180	Yld % 87
Uranium 233/234	2.57		0.39	1.00	0.06	12/07/07	12/14/07
Uranium 235/236	0.117	J	0.079	1.00	0.035	12/07/07	12/14/07
Uranium 238	1.12		0.24	1.00	0.05	12/07/07	12/14/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7337393	Yld %
Americium 241	-0.03	U	0.13	1.00	0.22	12/03/07	12/09/07
Cesium 137	-0.001	U	0.054	1.00	0.097	12/03/07	12/09/07
Thorium 232	0.50	J	0.16	1.00	0.31	12/03/07	12/09/07
Uranium 235	1.04		0.37	1.00	0.50	12/03/07	12/09/07
Uranium 238	3.2		1.8	1.0	1.8	12/03/07	12/09/07
--- Other Detected Radionuclides ---							
Actinium 228	0.50		0.16		0.31	12/03/07	12/09/07
Bismuth 214	0.63		0.16		0.19	12/03/07	12/09/07
Lead 212	0.62		0.12		0.12	12/03/07	12/09/07
Lead 214	0.86		0.16		0.12	12/03/07	12/09/07
Potassium 40	11.6		1.6		0.8	12/03/07	12/09/07
Thallium 208	0.161		0.066		0.093	12/03/07	12/09/07
Thorium 234	3.2		1.8		1.8	12/03/07	12/09/07

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Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-37-2.5-SL DUP

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-021X
Work Order: KC194
Matrix: SOLID

Date Collected: 11/26/07 1320
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7337393**		**Yld %**
Americium 241	-0.07	U	0.15	1.00	0.26	12/03/07	12/09/07
Cesium 137	-0.005	U	0.048	1.00	0.086	12/03/07	12/09/07
Thorium 232	0.51	J	0.17	1.00	0.31	12/03/07	12/09/07
Uranium 235	0.64	J	0.36	1.00	0.56	12/03/07	12/09/07
Uranium 238	3.5		1.2	1.0	1.8	12/03/07	12/09/07
--- Other Detected Radionuclides ---							
Actinium 228	0.51		0.17		0.31	12/03/07	12/09/07
Bismuth 214	0.76		0.17		0.19	12/03/07	12/09/07
Lead 212	0.80		0.17		0.16	12/03/07	12/09/07
Lead 214	0.98		0.18		0.14	12/03/07	12/09/07
Potassium 40	9.9		1.6		1.3	12/03/07	12/09/07
·llium 208	0.282		0.082		0.072	12/03/07	12/09/07
·orium 234	3.5		1.2		1.8	12/03/07	12/09/07

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Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-37-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-022
Work Order: KC199
Matrix: SOLID

Date Collected: 11/26/07 1320
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7347174**		**Yld % 101**
Technetium 99	0.009	U	0.38	1.00	0.63	12/13/07	12/18/07
Gamma Cs-137 @ Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7337393**		**Yld %**
Americium 241	-0.02	U	0.18	1.00	0.30	12/03/07	12/09/07
Cesium 137	0.0	U	0.044	1.00	0.088	12/03/07	12/09/07
Thorium 232	1.52		0.37	1.00	0.16	12/03/07	12/09/07
Uranium 235	0.13	U	0.34	1.00	0.58	12/03/07	12/09/07
Uranium 238	1.0	U	1.4	1.0	2.3	12/03/07	12/09/07
--- Other Detected Radionuclides ---							
Actinium 228	1.52		0.37		0.16	12/03/07	12/09/07
Bismuth 214	1.46		0.26		0.13	12/03/07	12/09/07
[illegible]d 212	1.13		0.18		0.16	12/03/07	12/09/07
[illegible]ead 214	1.42		0.25		0.21	12/03/07	12/09/07
Potassium 40	18.5		2.8		0.9	12/03/07	12/09/07
Thallium 208	0.49		0.14		0.11	12/03/07	12/09/07

.E(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-37-5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-023
Work Order: KC2AC
Matrix: SOLID

Date Collected: 11/26/07 1324
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7337393**		**Yld %**
Americium 241	-0.08	U	0.31	1.00	0.33	12/03/07	12/09/07
Cesium 137	-0.02	U	0.27	1.00	0.16	12/03/07	12/09/07
Thorium 232	0.76	J	0.27	1.00	0.58	12/03/07	12/09/07
Uranium 235	0.18	U	0.35	1.00	0.60	12/03/07	12/09/07
Uranium 238	0.8	U	1.4	1.0	2.4	12/03/07	12/09/07
--- Other Detected Radionuclides ---							
Actinium 228	0.76		0.27		0.58	12/03/07	12/09/07
Bismuth 214	1.32		0.31		0.24	12/03/07	12/09/07
Lead 212	1.29		0.22		0.17	12/03/07	12/09/07
Lead 214	1.65		0.26		0.15	12/03/07	12/09/07
Potassium 40	16.1		2.6		0.7	12/03/07	12/09/07
llium 208	0.54		0.13		0.1	12/03/07	12/09/07

Σ(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-39-2.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-024
Work Order: KC2AF
Matrix: SOLID

Date Collected: 11/26/07 1300
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 7341177		Yld % 78
Neptunium 237	0.005	U	0.026	1.00	0.066	12/07/07	12/13/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 7341178		Yld % 93
Plutonium 238	-0.025	U	0.033	1.00	0.10	12/07/07	12/14/07
Plutonium 239/40	-0.016	U	0.024	1.00	0.084	12/07/07	12/14/07
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g	Batch # 7347174		Yld % 108
Technetium 99	-0.13	U	0.35	1.00	0.59	12/13/07	12/18/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 7341180		Yld % 90
Uranium 233/234	1.65		0.30	1.00	0.06	12/07/07	12/14/07
Uranium 235/236	0.105	J	0.077	1.00	0.057	12/07/07	12/14/07
Uranium 238	0.65	J	0.18	1.00	0.06	12/07/07	12/14/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g	Batch # 7337393		Yld %
Americium 241	-0.005	U	0.13	1.00	0.23	12/03/07	12/09/07
Cesium 137	0.019	U	0.057	1.00	0.10	12/03/07	12/09/07
Thorium 232	0.54	J	0.24	1.00	0.42	12/03/07	12/09/07
Uranium 235	-0.007	U	0.26	1.00	0.45	12/03/07	12/09/07
Uranium 238	1.21	U	0.96	1.00	1.3	12/03/07	12/09/07
--- Other Detected Radionuclides ---							
Actinium 228	0.54		0.24		0.42	12/03/07	12/09/07
Bismuth 214	0.92		0.20		0.13	12/03/07	12/09/07
Lead 212	0.77		0.16		0.14	12/03/07	12/09/07
Lead 214	1.04		0.19		0.13	12/03/07	12/09/07
Potassium 40	16.7		2.4		0.5	12/03/07	12/09/07
Thallium 208	0.314		0.073		0.039	12/03/07	12/09/07

E(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-39-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-025
Work Order: KC2AH
Matrix: SOLID

Date Collected: 11/26/07 1300
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7347174**		**Yld % 101**
Technetium 99	-0.23	U	0.37	1.00	0.64	12/13/07	12/18/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7337393**		**Yld %**
Americium 241	0.05	U	0.15	1.00	0.25	12/03/07	12/09/07
Cesium 137	-0.011	U	0.070	1.00	0.13	12/03/07	12/09/07
Thorium 232	0.82	J	0.25	1.00	0.37	12/03/07	12/09/07
Uranium 235	0.16	U	0.34	1.00	0.58	12/03/07	12/09/07
Uranium 238	0.2	U	1.3	1.0	2.3	12/03/07	12/09/07
--- Other Detected Radionuclides ---							
Actinium 228	0.82		0.25		0.37	12/03/07	12/09/07
Bismuth 214	0.95		0.22		0.23	12/03/07	12/09/07
[illegible]d 212	1.13		0.20		0.15	12/03/07	12/09/07
[illegible]ad 214	1.05		0.21		0.18	12/03/07	12/09/07
Potassium 40	19.4		2.7		0.7	12/03/07	12/09/07
Thallium 208	0.40		0.11		0.07	12/03/07	12/09/07

[illegible]E(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-39-8.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-026
Work Order: KC2AK
Matrix: SOLID

Date Collected: 11/26/07 1305
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7341177**	**Yld % 92**
Neptunium 237	0.009	U	0.032	1.00	0.070	12/07/07	12/13/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7341178**	**Yld % 87**
Plutonium 238	0.005	U	0.046	1.00	0.10	12/07/07	12/14/07
Plutonium 239/40	-0.010	U	0.0089	1.00	0.066	12/07/07	12/14/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7341180**	**Yld % 87**
Uranium 233/234	0.68	J	0.18	1.00	0.05	12/07/07	12/14/07
Uranium 235/236	0.080	J	0.065	1.00	0.036	12/07/07	12/14/07
Uranium 238	1.02		0.23	1.00	0.05	12/07/07	12/14/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7337393**	**Yld %**
Americium 241	0.04	U	0.17	1.00	0.28	12/03/07	12/09/07
Cesium 137	-0.015	U	0.079	1.00	0.14	12/03/07	12/09/07
Thorium 232	1.28		0.33	1.00	0.39	12/03/07	12/09/07
Uranium 235	0.35	U	0.38	1.00	0.62	12/03/07	12/09/07
Uranium 238	0.4	U	1.3	1.0	2.2	12/03/07	12/09/07
--- Other Detected Radionuclides ---							
Actinium 228	1.28		0.33		0.39	12/03/07	12/09/07
Bismuth 214	1.18		0.24		0.25	12/03/07	12/09/07
Lead 212	1.62		0.26		0.20	12/03/07	12/09/07
Lead 214	1.56		0.24		0.16	12/03/07	12/09/07
Potassium 40	21.6		2.6		1.1	12/03/07	12/09/07
Thallium 208	0.41		0.16		0.13	12/03/07	12/09/07

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Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-26-2.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-027
Work Order: KC2AN
Matrix: SOLID

Date Collected: 11/21/07 0825
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7341177**	**Yld % 85**
Neptunium 237	-0.017	U	0.012	1.00	0.083	12/07/07	12/13/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7341178**	**Yld % 94**
Plutonium 238	-0.0131	U	0.00999	1.00	0.068	12/07/07	12/14/07
Plutonium 239/40	-0.0038	U	0.0053	1.00	0.049	12/07/07	12/14/07
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7347174**	**Yld % 99**
Technetium 99	1.86		0.46	1.00	0.65	12/13/07	12/18/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7341180**	**Yld % 92**
Uranium 233/234	1.24		0.25	1.00	0.06	12/07/07	12/14/07
Uranium 235/236	0.075	J	0.063	1.00	0.055	12/07/07	12/14/07
Uranium 238	0.73	J	0.18	1.00	0.03	12/07/07	12/14/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7337393**	**Yld %**
Americium 241	-0.06	U	0.15	1.00	0.26	12/03/07	12/09/07
Cesium 137	0.017	U	0.067	1.00	0.12	12/03/07	12/09/07
Thorium 232	0.68	J	0.23	1.00	0.45	12/03/07	12/09/07
Uranium 235	0.06	U	0.34	1.00	0.59	12/03/07	12/09/07
Uranium 238	1.2	U	1.1	1.0	1.9	12/03/07	12/09/07
--- Other Detected Radionuclides ---							
Actinium 228	0.68		0.23		0.45	12/03/07	12/09/07
Bismuth 214	0.92		0.19		0.12	12/03/07	12/09/07
Lead 212	0.85		0.16		0.14	12/03/07	12/09/07
Lead 214	0.84		0.18		0.20	12/03/07	12/09/07
Potassium 40	15.5		2.5		0.9	12/03/07	12/09/07
Thallium 208	0.405		0.093		0.047	12/03/07	12/09/07
Thorium 234	1.2	U	1.1		1.9	12/03/07	12/09/07

E(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-26-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-028
Work Order: KC2AV
Matrix: SOLID

Date Collected: 11/21/07 0825
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7341177**	**Yld % 80**
Neptunium 237	0.029	U	0.048	1.00	0.082	12/07/07	12/13/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7341178**	**Yld % 90**
Plutonium 238	-0.021	U	0.013	1.00	0.079	12/07/07	12/14/07
Plutonium 239/40	-0.0113	U	0.0094	1.00	0.066	12/07/07	12/14/07
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7347174**	**Yld % 101**
Technetium 99	1.56		0.44	1.00	0.63	12/13/07	12/18/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7341180**	**Yld % 92**
Uranium 233/234	0.75	J	0.19	1.00	0.07	12/07/07	12/14/07
Uranium 235/236	0.034	U	0.045	1.00	0.063	12/07/07	12/14/07
Uranium 238	0.82	J	0.20	1.00	0.05	12/07/07	12/14/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7337393**	**Yld %**
Americium 241	0.08	U	0.17	1.00	0.28	12/03/07	12/09/07
Cesium 137	-0.02	U	0.17	1.00	0.14	12/03/07	12/09/07
Thorium 232	1.13		0.33	1.00	0.44	12/03/07	12/09/07
Uranium 235	-0.08	U	0.90	1.00	0.64	12/03/07	12/09/07
Uranium 238	1.11	U	0.81	1.00	2.3	12/03/07	12/09/07
--- Other Detected Radionuclides ---							
Actinium 228	1.13		0.33		0.44	12/03/07	12/09/07
Bismuth 212	1.06		0.61		0.63	12/03/07	12/09/07
Bismuth 214	1.40		0.26		0.15	12/03/07	12/09/07
Lead 212	1.17		0.21		0.17	12/03/07	12/09/07
Lead 214	1.47		0.31		0.24	12/03/07	12/09/07
Potassium 40	18.3		2.8		0.7	12/03/07	12/09/07
Thallium 208	0.62		0.15		0.1	12/03/07	12/09/07

E(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-26-7.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-029
Work Order: KC2A0
Matrix: SOLID

Date Collected: 11/21/07 0830
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7337393**		**Yld %**
Americium 241	-0.05	U	0.33	1.00	0.27	12/03/07	12/09/07
Cesium 137	0.038	U	0.088	1.00	0.16	12/03/07	12/09/07
Thorium 232	**0.99**	J	0.32	1.00	0.54	12/03/07	12/09/07
Uranium 235	0.05	U	0.38	1.00	0.66	12/03/07	12/09/07
Uranium 238	2.0	U	1.0	1.0	2.1	12/03/07	12/09/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.99**		0.32		0.54	12/03/07	12/09/07
Bismuth 214	**1.46**		0.31		0.23	12/03/07	12/09/07
Lead 212	**1.26**		0.24		0.21	12/03/07	12/09/07
Lead 214	**1.14**		0.21		0.25	12/03/07	12/09/07
Potassium 40	**16.7**		2.8		1.4	12/03/07	12/09/07
Thallium 208	**0.48**		0.12		0.08	12/03/07	12/09/07

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Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-25-2.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-030
Work Order: KC2A4
Matrix: SOLID

Date Collected: 11/26/07 1350
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7341177**		**Yld % 80**
Neptunium 237	0.013	U	0.035	1.00	0.074	12/07/07	12/13/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7341178**		**Yld % 90**
Plutonium 238	-0.025	U	0.014	1.00	0.086	12/07/07	12/14/07
Plutonium 239/40	-0.0039	U	0.0055	1.00	0.051	12/07/07	12/14/07
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7347174**		**Yld % 101**
Technetium 99	-0.004	U	0.38	1.00	0.64	12/13/07	12/18/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7341180**		**Yld % 88**
Uranium 233/234	20.4		1.9	1.0	0.06	12/07/07	12/14/07
Uranium 235/236	0.80	J	0.21	1.00	0.05	12/07/07	12/14/07
Uranium 238	2.87		0.42	1.00	0.04	12/07/07	12/14/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7337393**		**Yld %**
Americium 241	0.004	U	0.099	1.00	0.17	12/03/07	12/09/07
Cesium 137	-0.003	U	0.080	1.00	0.10	12/03/07	12/09/07
Thorium 232	0.39	J	0.17	1.00	0.29	12/03/07	12/09/07
Uranium 235	0.52	J	0.25	1.00	0.36	12/03/07	12/09/07
Uranium 238	1.96		0.79	1.00	1.0	12/03/07	12/09/07
--- Other Detected Radionuclides ---							
Actinium 228	0.39		0.17		0.29	12/03/07	12/09/07
Bismuth 214	0.55		0.13		0.08	12/03/07	12/09/07
Lead 212	0.52		0.17		0.14	12/03/07	12/09/07
Lead 214	0.48		0.12		0.13	12/03/07	12/09/07
Potassium 40	6.8		1.4		1.0	12/03/07	12/09/07
Thallium 208	0.127		0.064		0.091	12/03/07	12/09/07
Thorium 234	1.96		0.79		1.0	12/03/07	12/09/07

E(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-25-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-031
Work Order: KC2A9
Matrix: SOLID

Date Collected: 11/26/07 1350
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7347174**	**Yld % 91**
Technetium 99	0.19	U	0.43	1.00	0.71	12/13/07	12/18/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7337393**	**Yld %**
Americium 241	0.01	U	0.11	1.00	0.20	12/03/07	12/09/07
Cesium 137	-0.023	U	0.074	1.00	0.13	12/03/07	12/09/07
Thorium 232	0.85	J	0.25	1.00	0.43	12/03/07	12/09/07
Uranium 235	0.18	U	0.36	1.00	0.61	12/03/07	12/09/07
Uranium 238	3.09		0.94	1.00	1.7	12/03/07	12/09/07
--- Other Detected Radionuclides ---							
Actinium 228	0.85		0.25		0.43	12/03/07	12/09/07
Bismuth 214	1.05		0.21		0.17	12/03/07	12/09/07
ead 212	1.28		0.25		0.19	12/03/07	12/09/07
d 214	1.06		0.18		0.23	12/03/07	12/09/07
Potassium 40	16.6		2.5		1.4	12/03/07	12/09/07
Thallium 208	0.46		0.11		0.06	12/03/07	12/09/07
Thorium 234	3.09		0.94		1.7	12/03/07	12/09/07

Σ(8)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-25-16.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-032
Work Order: KC2CA
Matrix: SOLID

Date Collected: 11/26/07 1410
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7341177**	**Yld % 84**
Neptunium 237	-0.0107	U	0.0096	1.00	0.071	12/07/07	12/13/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7341178**	**Yld % 90**
Plutonium 238	0.013	U	0.031	1.00	0.062	12/07/07	12/14/07
Plutonium 239/40	-0.0099	U	0.0089	1.00	0.066	12/07/07	12/14/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7341180**	**Yld % 83**
Uranium 233/234	0.85	J	0.21	1.00	0.06	12/07/07	12/14/07
Uranium 235/236	0.134	J	0.088	1.00	0.058	12/07/07	12/14/07
Uranium 238	1.16		0.25	1.00	0.05	12/07/07	12/14/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7337393**	**Yld %**
Americium 241	0.05	U	0.20	1.00	0.35	12/03/07	12/09/07
Cesium 137	-0.03	U	0.70	1.00	0.19	12/03/07	12/09/07
Thorium 232	1.03		0.32	1.00	0.49	12/03/07	12/09/07
Uranium 235	0.12	U	0.44	1.00	0.76	12/03/07	12/09/07
Uranium 238	0.8	U	1.5	1.0	2.6	12/03/07	12/09/07
--- Other Detected Radionuclides ---							
Actinium 228	1.03		0.32		0.49	12/03/07	12/09/07
Bismuth 214	1.04		0.31		0.39	12/03/07	12/09/07
Lead 212	1.36		0.23		0.18	12/03/07	12/09/07
Lead 214	1.28		0.29		0.28	12/03/07	12/09/07
Potassium 40	22.2		3.4		0.8	12/03/07	12/09/07
Thallium 208	0.43		0.14		0.17	12/03/07	12/09/07

E(S)

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Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-23-2.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-033
Work Order: KC2CF
Matrix: SOLID

Date Collected: 11/26/07 1620
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7341177	Yld % 82
Neptunium 237	0.014	U	0.034	1.00	0.067	12/07/07	12/13/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7341178	Yld % 93
Plutonium 238	0.041	U	0.053	1.00	0.082	12/07/07	12/14/07
Plutonium 239/40	0.009	U	0.021	1.00	0.045	12/07/07	12/14/07
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g		Batch # 7347174	Yld % 108
Technetium 99	0.81	J	0.38	1.00	0.59	12/13/07	12/18/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7341180	Yld % 89
Uranium 233/234	4.04		0.53	1.00	0.06	12/07/07	12/14/07
Uranium 235/236	0.104	J	0.074	1.00	0.035	12/07/07	12/14/07
nium 238	0.77	J	0.19	1.00	0.04	12/07/07	12/14/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7337393	Yld %
Americium 241	0.06	U	0.12	1.00	0.20	12/03/07	12/09/07
Cesium 137	-0.004	U	0.17	1.00	0.08	12/03/07	12/09/07
Thorium 232	0.68	J	0.22	1.00	0.28	12/03/07	12/09/07
Uranium 235	0.21	U	0.24	1.00	0.40	12/03/07	12/09/07
Uranium 238	0.32	U	0.97	1.00	1.7	12/03/07	12/09/07
--- Other Detected Radionuclides ---							
Actinium 228	0.68		0.22		0.28	12/03/07	12/09/07
Bismuth 214	1.17		0.20		0.1	12/03/07	12/09/07
Lead 212	0.73		0.13		0.11	12/03/07	12/09/07
Lead 214	0.77		0.14		0.16	12/03/07	12/09/07
Potassium 40	12.5		1.8		0.4	12/03/07	12/09/07
Thallium 208	0.315		0.071		0.045	12/03/07	12/09/07

E(S)

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Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-23-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-034
Work Order: KC2CJ
Matrix: SOLID

Date Collected: 11/26/07 1620
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7347174**	**Yld % 107**
Technetium 99	1.55		0.42	1.00	0.60	12/13/07	12/18/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**		**Batch # 7337393**	**Yld %**
Americium 241	0.02	U	0.16	1.00	0.28	12/03/07	12/09/07
Cesium 137	-0.001	U	0.058	1.00	0.11	12/03/07	12/09/07
Thorium 232	0.71	J	0.28	1.00	0.37	12/03/07	12/09/07
Uranium 235	-0.1	U	1.2	1.0	0.6	12/03/07	12/09/07
Uranium 238	1.9		1.5	1.0	1.9	12/03/07	12/09/07
--- Other Detected Radionuclides ---							
Actinium 228	0.71		0.28		0.37	12/03/07	12/09/07
Bismuth 214	1.10		0.24		0.21	12/03/07	12/09/07
Lead 212	1.12		0.20		0.16	12/03/07	12/09/07
Lead 214	1.06		0.21		0.19	12/03/07	12/09/07
Potassium 40	15.6		2.4		1.1	12/03/07	12/09/07
Thallium 208	0.41		0.11		0.09	12/03/07	12/09/07
Thorium 234	1.9		1.5		1.9	12/03/07	12/09/07

E(S)

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Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-23-5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-035
Work Order: KC2CP
Matrix: SOLID

Date Collected: 11/26/07 1625
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7337393**		**Yld %**
Americium 241	0.09	U	0.14	1.00	0.24	12/03/07	12/09/07
Cesium 137	-0.01	U	0.14	1.00	0.14	12/03/07	12/09/07
Thorium 232	0.68	J	0.26	1.00	0.32	12/03/07	12/09/07
Uranium 235	0.06	U	0.36	1.00	0.62	12/03/07	12/09/07
Uranium 238	2.3		1.5	1.0	1.8	12/03/07	12/09/07
--- Other Detected Radionuclides ---							
Actinium 228	0.68		0.26		0.32	12/03/07	12/09/07
Bismuth 214	1.0		0.23		0.17	12/03/07	12/09/07
Lead 212	0.94		0.17		0.13	12/03/07	12/09/07
Lead 214	1.05		0.21		0.15	12/03/07	12/09/07
Potassium 40	13.0		2.4		1.7	12/03/07	12/09/07
llium 208	0.293		0.087		0.073	12/03/07	12/09/07
orium 234	2.3		1.5		1.8	12/03/07	12/09/07

E(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-22-2.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-036
Work Order: KC2CR
Matrix: SOLID

Date Collected: 11/26/07 1417
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7341177	Yld % 83
Neptunium 237	0.003	U	0.025	1.00	0.067	12/07/07	12/13/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7341178	Yld % 91
Plutonium 238	0.005	U	0.031	1.00	0.073	12/07/07	12/14/07
Plutonium 239/40	0.017	U	0.030	1.00	0.051	12/07/07	12/14/07
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g		Batch # 7347172	Yld % 86
Technetium 99	-0.72	U	0.45	1.00	0.77	12/13/07	12/18/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7341180	Yld % 94
Uranium 233/234	1.16		0.23	1.00	0.06	12/07/07	12/14/07
Uranium 235/236	0.032	U	0.042	1.00	0.059	12/07/07	12/14/07
Uranium 238	0.39	J	0.13	1.00	0.05	12/07/07	12/14/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7337393	Yld %
Americium 241	-0.013	U	0.044	1.00	0.076	12/03/07	12/09/07
Cesium 137	-0.002	U	0.050	1.00	0.064	12/03/07	12/09/07
Thorium 232	0.0	U	0.022	1.00	0.081	12/03/07	12/09/07
Uranium 235	-0.007	U	0.088	1.00	0.16	12/03/07	12/09/07
Uranium 238	-0.11	U	0.58	1.00	0.66	12/03/07	12/09/07
--- Other Detected Radionuclides ---							
Lead 214	0.111		0.054		0.072	12/03/07	12/09/07
Potassium 40	0.96		0.48		0.50	12/03/07	12/09/07

E(S)

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Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-22-2.5-SL DUP

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-036X
Work Order: KC2CR
Matrix: SOLID

Date Collected: 11/26/07 1417
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7347172**	**Yld % 81**
Technetium 99	-0.06	U	0.49	1.00	0.82	12/13/07	12/18/07

E(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-22-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-037
Work Order: KC2C2
Matrix: SOLID

Date Collected: 11/26/07 1417
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7347172**		**Yld % 100**
Technetium 99	-0.40	U	0.39	1.00	0.66	12/13/07	12/18/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7337393**		**Yld %**
Americium 241	0.06	U	0.15	1.00	0.25	12/03/07	12/09/07
Cesium 137	-0.008	U	0.079	1.00	0.14	12/03/07	12/09/07
Thorium 232	0.99	J	0.31	1.00	0.39	12/03/07	12/09/07
Uranium 235	0.04	U	0.34	1.00	0.60	12/03/07	12/09/07
Uranium 238	-0.05	U	1.4	1.0	2.2	12/03/07	12/09/07
--- Other Detected Radionuclides ---							
Actinium 228	0.99		0.31		0.39	12/03/07	12/09/07
Bismuth 214	0.94		0.24		0.24	12/03/07	12/09/07
ad 212	1.14		0.20		0.16	12/03/07	12/09/07
d 214	1.03		0.19		0.20	12/03/07	12/09/07
Potassium 40	14.7		2.3		0.7	12/03/07	12/09/07
Thallium 208	0.50		0.11		0.06	12/03/07	12/09/07

:(S)

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Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-22-12.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-038
Work Order: KC2C5
Matrix: SOLID

Date Collected: 11/26/07 1428
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 7341177		Yld % 80
Neptunium 237	0.025	U	0.035	1.00	0.034	12/07/07	12/13/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 7341178		Yld % 88
Plutonium 238	-0.003	U	0.022	1.00	0.068	12/07/07	12/14/07
Plutonium 239/40	-0.0056	U	0.0065	1.00	0.054	12/07/07	12/14/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	Batch # 7341180		Yld % 79
Uranium 233/234	0.86	J	0.22	1.00	0.07	12/07/07	12/14/07
Uranium 235/236	0.038	U	0.051	1.00	0.072	12/07/07	12/14/07
Uranium 238	0.93	J	0.22	1.00	0.06	12/07/07	12/14/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g	Batch # 7337393		Yld %
Americium 241	0.03	U	0.16	1.00	0.28	12/03/07	12/09/07
Cesium 137	-0.01	U	0.21	1.00	0.20	12/03/07	12/09/07
Thorium 232	1.43		0.38	1.00	0.45	12/03/07	12/09/07
Uranium 235	0.35	U	0.37	1.00	0.60	12/03/07	12/09/07
Uranium 238	0.5	U	1.6	1.0	2.7	12/03/07	12/09/07
--- Other Detected Radionuclides ---							
Actinium 228	1.43		0.38		0.45	12/03/07	12/09/07
Bismuth 214	1.56		0.32		0.24	12/03/07	12/09/07
Lead 212	1.41		0.23		0.18	12/03/07	12/09/07
Lead 214	1.51		0.29		0.20	12/03/07	12/09/07
Potassium 40	19.1		3.0		0.7	12/03/07	12/09/07
Thallium 208	0.47		0.11		0.07	12/03/07	12/09/07

E(S)

Data are incomplete without the case narrative.

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Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-21-2.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-039
Work Order: KC2C6
Matrix: SOLID

Date Collected: 11/26/07 1645
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7347172**		**Yld % 104**
Technetium 99	-0.11	U	0.38	1.00	0.64	12/13/07	12/18/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7337393**		**Yld %**
Americium 241	0.0314	U	0.100	1.00	0.17	12/03/07	12/09/07
Cesium 137	-0.006	U	0.10	1.00	0.08	12/03/07	12/09/07
Thorium 232	**0.62**	J	0.17	1.00	0.29	12/03/07	12/09/07
Uranium 235	0.21	U	0.22	1.00	0.35	12/03/07	12/09/07
Uranium 238	1.16	U	0.62	1.00	1.2	12/03/07	12/09/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.62**		0.17		0.29	12/03/07	12/09/07
Bismuth 214	**0.79**		0.15		0.08	12/03/07	12/09/07
[illegible]d 212	**0.64**		0.12		0.11	12/03/07	12/09/07
[illegible]d 214	**0.84**		0.15		0.08	12/03/07	12/09/07
Potassium 40	**12.0**		1.7		0.4	12/03/07	12/09/07
Thallium 208	**0.138**		0.059		0.079	12/03/07	12/09/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7341181**		**Yld % 96**
Uranium 233/234	3.08		0.44	1.00	0.05	12/07/07	12/14/07
Uranium 235/236	0.098	J	0.071	1.00	0.053	12/07/07	12/14/07
Uranium 238	0.73	J	0.18	1.00	0.05	12/07/07	12/14/07

:(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-21-2.5-SL DUP

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-039X
Work Order: KC2C6
Matrix: SOLID

Date Collected: 11/26/07 1645
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**		**Batch # 7341181**	**Yld % 87**
Uranium 233/234	3.08		0.45	1.00	0.05	12/07/07	12/14/07
Uranium 235/236	0.159	J	0.093	1.00	0.036	12/07/07	12/14/07
Uranium 238	0.86	J	0.20	1.00	0.05	12/07/07	12/14/07

E(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

Energy Solutions, LLC

Client Sample ID: BD-21-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280316-040
Work Order: KC2C8
Matrix: SOLID

Date Collected: 11/26/07 1645
Date Received: 11/28/07 1443

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7341177	Yld % 83
Neptunium 237	-0.001	U	0.025	1.00	0.074	12/07/07	12/13/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7341178	Yld % 85
Plutonium 238	0.006	U	0.034	1.00	0.079	12/07/07	12/14/07
Plutonium 239/40	-0.003	U	0.025	1.00	0.076	12/07/07	12/14/07
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g		Batch # 7347172	Yld % 100
Technetium 99	0.31	U	0.40	1.00	0.66	12/13/07	12/18/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7341180	Yld % 87
Uranium 233/234	0.73	J	0.19	1.00	0.03	12/07/07	12/14/07
Uranium 235/236	0.053	U	0.056	1.00	0.059	12/07/07	12/14/07
Uranium 238	0.68	J	0.18	1.00	0.05	12/07/07	12/14/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7337393	Yld %
Americium 241	0.05	U	0.16	1.00	0.27	12/03/07	12/09/07
Cesium 137	-0.011	U	0.063	1.00	0.11	12/03/07	12/09/07
Thorium 232	0.81	J	0.25	1.00	0.39	12/03/07	12/09/07
Uranium 235	0.33	U	0.31	1.00	0.51	12/03/07	12/09/07
Uranium 238	1.5	U	1.1	1.0	1.6	12/03/07	12/09/07
--- Other Detected Radionuclides ---							
Actinium 228	0.81		0.25		0.39	12/03/07	12/09/07
Bismuth 214	1.11		0.22		0.19	12/03/07	12/09/07
Lead 212	1.45		0.26		0.20	12/03/07	12/09/07
Lead 214	1.01		0.19		0.19	12/03/07	12/09/07
Potassium 40	17.0		2.4		0.7	12/03/07	12/09/07
Thallium 208	0.46		0.10		0.05	12/03/07	12/09/07

I(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

METHOD BLANK REPORT

Severn Trent Laboratories - Radiochemistry

Client Lot ID: F7K280316
Matrix: SOLID

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date	Lab Sample ID
TC-99 by LSC by DOE TC-02-RC Mod.			pCi/g	Batch # 7347172		Yld % 100		F7L130000-172B
Technetium 99	-0.58	U	0.38	1.00	0.66	12/13/07	12/18/07	
TC-99 by LSC by DOE TC-02-RC Mod.			pCi/g	Batch # 7347174		Yld % 109		F7L130000-174B
Technetium 99	-0.16	U	0.35	1.00	0.59	12/13/07	12/17/07	
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			pCi/g	Batch # 7337299		Yld %		F7L030000-299B
Americium 241	0.005	U	0.054	1.00	0.098	12/03/07	12/09/07	
Cesium 137	0.0	U	0.033	1.00	0.066	12/03/07	12/09/07	
Thorium 232	0.07	U	0.12	1.00	0.21	12/03/07	12/09/07	
Uranium 235	-0.02	U	0.26	1.00	0.28	12/03/07	12/09/07	
Uranium 238	0.48	U	0.76	1.00	1.1	12/03/07	12/09/07	
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			pCi/g	Batch # 7337393		Yld %		F7L030000-393B
Americium 241	-0.010	U	0.046	1.00	0.082	12/03/07	12/09/07	
Cesium 137	-0.005	U	0.076	1.00	0.055	12/03/07	12/09/07	
Thorium 232	0.0	U	0.026	1.00	0.098	12/03/07	12/09/07	
Uranium 235	-0.013	U	0.077	1.00	0.14	12/03/07	12/09/07	
Uranium 238	-0.14	U	0.62	1.00	0.73	12/03/07	12/09/07	
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD			pCi/g	Batch # 7341177		Yld % 84		F7L070000-177B
Neptunium 237	-0.0021	U	0.0042	1.00	0.047	12/07/07	12/13/07	
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD			pCi/g	Batch # 7341178		Yld % 90		F7L070000-178B
Plutonium 238	0.021	U	0.037	1.00	0.064	12/07/07	12/14/07	
Plutonium 239/40	0.0	U	0.0090	1.00	0.028	12/07/07	12/14/07	
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g	Batch # 7341180		Yld % 94		F7L070000-180B
Uranium 233/234	0.008	U	0.020	1.00	0.042	12/07/07	12/14/07	
Uranium 235/236	0.0	U	0.011	1.00	0.033	12/07/07	12/14/07	
Uranium 238	0.020	U	0.028	1.00	0.027	12/07/07	12/14/07	
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g	Batch # 7341181		Yld % 99		F7L070000-181B
Uranium 233/234	0.0006	U	0.021	1.00	0.059	12/07/07	12/14/07	
Uranium 235/236	-0.0022	U	0.0045	1.00	0.051	12/07/07	12/14/07	
Uranium 238	0.0	U	0.0083	1.00	0.026	12/07/07	12/14/07	
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g	Batch # 7352110		Yld % 99		F7L180000-110B
Uranium 233/234	0.030	U	0.037	1.00	0.053	12/18/07	12/20/07	
Uranium 235/236	-0.0021	U	0.0043	1.00	0.048	12/18/07	12/20/07	
Uranium 238	0.026	U	0.032	1.00	0.039	12/18/07	12/20/07	

METHOD BLANK REPORT

Severn Trent Laboratories - Radiochemistry

Client Lot ID: F7K280316
Matrix: SOLID

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Lab Sample ID Analysis Date
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD			pCi/g	Batch # 7352393		Yld % 97	F7L180000-393B
Plutonium 238	-0.005	U	0.022	1.00	0.069	12/18/07	12/21/07
Plutonium 239/40	-0.0018	U	0.0037	1.00	0.042	12/18/07	12/21/07

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Data are incomplete without the case narrative.

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Bold results are greater than the MDC

Laboratory Control Sample Report

Severn Trent Laboratories - Radiochemistry

Client Lot ID: F7K280316
Matrix: SOLID

Parameter	Spike Amount	Result	Total Uncert. (2 σ+/-)	MDC	% Yld	% Rec	Lab Sample ID / QC Control Limits
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			pCi/g	GA-01-R MOD			F7L030000-299C
Americium 241	103	105	8.3	1.3		102	(85 - 118)
Cesium 137	40.0	42.9	2.7	0.4		107	(91 - 120)
Cobalt 60	62.7	65.1	3.8	0.3		104	(91 - 112)
	Batch #:	7337299		Analysis Date:	12/09/07		
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			pCi/g	GA-01-R MOD			F7L030000-393C
Americium 241	103	105	8.3	1.5		101	(85 - 118)
Cesium 137	40.0	42.8	2.7	0.5		107	(91 - 120)
Cobalt 60	62.7	63.3	3.8	0.2		101	(91 - 112)
	Batch #:	7337393		Analysis Date:	12/09/07		
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD			pCi/g	A-01-R MOD			F7L070000-177C
Neptunium 237	13.3	14.5	1.4	0.07	93	109	(75 - 119)
	Batch #:	7341177		Analysis Date:	12/14/07		
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD			pCi/g	A-01-R			F7L070000-178C
Plutonium 238	6.13	5.74	0.66	0.04	104	94	(77 - 112)
Plutonium 239/40	5.77	6.23	0.71	0.02	104	108	(82 - 119)
	Batch #:	7341178		Analysis Date:	12/14/07		
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g	A-01-R MOD			F7L070000-180C
Uranium 233/234	19.6	18.8	3.0	0.2	85	96	(76 - 128)
Uranium 238	19.6	16.1	2.7	0.2	85	82	(74 - 125)
	Batch #:	7341180		Analysis Date:	12/14/07		
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g	A-01-R MOD			F7L070000-181C
Uranium 233/234	19.6	23.0	3.3	0.5	95	118	(76 - 128)
Uranium 238	19.6	21.0	3.1	0.4	95	107	(74 - 125)
	Batch #:	7341181		Analysis Date:	12/14/07		
TC-99 by LSC by DOE TC-02-RC Mod.			pCi/g	TC-02-RC MOD			F7L130000-172C
Technetium 99	33.3	27.7	2.5	0.6	109	83	(64 - 114)
	Batch #:	7347172		Analysis Date:	12/18/07		
TC-99 by LSC by DOE TC-02-RC Mod.			pCi/g	TC-02-RC MOD			F7L130000-174C
Technetium 99	33.3	27.8	2.5	0.6	109	83	(64 - 114)
	Batch #:	7347174		Analysis Date:	12/17/07		
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g	A-01-R MOD			F7L180000-110C
Uranium 233/234	19.6	17.7	2.7	0.2	105	91	(76 - 128)
Uranium 238	19.6	16.9	2.6	0.2	105	86	(74 - 125)
	Batch #:	7352110		Analysis Date:	12/20/07		

Laboratory Control Sample Report

Severn Trent Laboratories - Radiochemistry

Client Lot ID: F7K280316
Matrix: SOLID

Parameter	Spike Amount	Result	Total Uncert. (2 σ+/-)	MDC	% Yld	% Rec	Lab Sample ID QC Control Limits
Iso PLUTONIUM (SHORT CT) MOD	DOE A-01-R		pCi/g	A-01-R			F7L180000-393C
Plutonium 238	6.13	6.43	0.75	0.07	89	105	(77 - 112)
Plutonium 239/40	5.77	6.61	0.77	0.06	89	114	(82 - 119)
	Batch #:	7352393		Analysis Date:	12/21/07		

DUPLICATE EVALUATION REPORT

Severn Trent Laboratories - Radiochemistry

Client Lot ID: F7K280316 Date Sampled: 11/26/07
Matrix: SOLID Date Received: 11/28/07

Parameter	SAMPLE Result		Total Uncert. (2σ +/-)	% Yld	DUPLICATE Result		Total Uncert. (2 σ +/-)	% Yld	QC Sample ID Precision	
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**GA-01-R MOD**				**F7K280316-001**	
Americium 241	-0.017	U	0.077		0.013	U	0.060		1480	%RPD
Cesium 137	0.013	U	0.024		-0.014	U	0.094		9580	%RPD
Thorium 232	0.02	U	0.10		0.11	U	0.11		145	%RPD
Uranium 235	0.20	U	0.17		0.20	U	0.17		1	%RPD
Uranium 238	0.72	U	0.40		0.80	J	0.37		11	%RPD
---Other Dedected Radionuclides---										
Bismuth 214	0.121		0.078		0.267		0.078		75	%RPD
Lead 212	0.040	U	0.066		0.116		0.055		96	%RPD
Lead 214	0.166		0.074		0.145		0.060		13	%RPD
Potassium 40	2.72		0.72		1.39		0.55		65	%RPD
Thorium 234	0.72	U	0.40		0.80		0.37		11	%RPD
	Batch #:		7337299	(Sample)	7337299	(Duplicate)				
NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**A-01-R MOD**				**F7K280316-001**	
Neptunium 237	-0.011	U	0.010	85	0.005	U	0.026	81	578	%RPD
	Batch #:		7341177	(Sample)	7341177	(Duplicate)				
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**A-01-R**				**F7K280316-001**	
Plutonium 238	0.013	U	0.035	94	-0.002	U	0.028	101	288	%RPD
Plutonium 239/40	-0.0054	U	0.0063	94	-0.0051	U	0.0060	101	5	%RPD
	Batch #:		7341178	(Sample)	7341178	(Duplicate)				
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**A-01-R MOD**				**F7K280316-001**	
Uranium 233/234	7.11		0.81	85	9.4		1.0	88	28	%RPD
Uranium 235/236	0.38	J	0.15	85	0.42	J	0.15	88	11	%RPD
Uranium 238	0.90	J	0.21	85	1.36		0.27	88	41	%RPD
	Batch #:		7341180	(Sample)	7341180	(Duplicate)				
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**A-01-R MOD**				**F7K280316-008**	
Uranium 233/234	10.0	J	9.4	103	2.4	U	6.6	102	123	%RPD
Uranium 235/236	2.6	U	5.2	103	0.0	U	2.4	102	200	%RPD
Uranium 238	10.4	J	9.4	103	3.6	U	6.5	102	96	%RPD
	Batch #:		7352110	(Sample)	7352110	(Duplicate)				
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**A-01-R**				**F7K280316-004**	
Plutonium 238	-0.027	U	0.015	88	-0.0057	U	0.0066	94	131	%RPD
Plutonium 239/40	-0.0039	U	0.0056	88	-0.0095	U	0.0085	94	83	%RPD
	Batch #:		7352393	(Sample)	7352393	(Duplicate)				
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**TC-02-RC MOD**				**F7K280316-005**	
Technetium 99	0.04	U	0.37	105	-0.18	U	0.35	109	299	%RPD
	Batch #:		7347174	(Sample)	7347174	(Duplicate)				

DUPLICATE EVALUATION REPORT

Severn Trent Laboratories - Radiochemistry

Client Lot ID: F7K280316 Date Sampled: 11/26/07
Matrix: SOLID Date Received: 11/28/07

Parameter	SAMPLE Result		Total Uncert. (2σ +/-)	% Yld	DUPLICATE Result		Total Uncert. (2 σ +/-)	% Yld	QC Sample ID Precision	
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**GA-01-R MOD**				**F7K280316-021**	
Americium 241	-0.03	U	0.13		-0.07	U	0.15		89	%RPD
Cesium 137	-0.001	U	0.054		-0.005	U	0.048		104	%RPD
Thorium 232	0.50	J	0.16		0.51	J	0.17		3	%RPD
Uranium 235	1.04		0.37		0.64	J	0.36		48	%RPD
Uranium 238	3.2		1.8		3.5		1.2		9	%RPD
---Other Dedected Radionuclides---										
Actinium 228	0.50		0.16		0.51		0.17		3	%RPD
Bismuth 214	0.63		0.16		0.76		0.17		20	%RPD
Lead 212	0.62		0.12		0.80		0.17		26	%RPD
Lead 214	0.86		0.16		0.98		0.18		13	%RPD
Potassium 40	11.6		1.6		9.9		1.6		16	%RPD
Thallium 208	0.161		0.066		0.282		0.082		55	%RPD
rium 234	3.2		1.8		3.5		1.2		9	%RPD
	Batch #:		7337393	(Sample)	7337393		(Duplicate)			
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**A-01-R MOD**				**F7K280316-039**	
Uranium 233/234	3.08		0.44	96	3.08		0.45	87	0.09	%RPD
Uranium 235/236	0.098	J	0.071	96	0.159	J	0.093	87	48	%RPD
Uranium 238	0.73	J	0.18	96	0.86	J	0.20	87	17	%RPD
	Batch #:		7341181	(Sample)	7341181		(Duplicate)			
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**TC-02-RC MOD**				**F7K280316-036**	
Technetium 99	-0.72	U	0.45	86	-0.06	U	0.49	81	171	%RPD
	Batch #:		7347172	(Sample)	7347172		(Duplicate)			

NOTE(S)

Data are incomplete without the case narrative.
Calculations are performed before rounding to avoid round-off error in calculated results

F7K280316 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD

Project Manager: IV
Quote #: 77705
SDG:
Date Received: 2007-11-28
Analytical Due Date: 2007-12-25
Project: 313010.202
Hematite Site
Report Due Date: 2007-12-26
PO#:
Report to: Paul Ely
Report Type: W
Client: 1381304 Energy Solutions, LLC
#SMPS in LOT: 40
EDD Code: 00

Gamma library MUST contain U-235, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
1	BD-27-2.5-SL			2007-11-26 / 1515	KC140	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
2	BD-27-4.5-SL			2007-11-26 / 1515	KC15G	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
3	BD-27-13-SL			2007-11-26 / 1529	KC15J	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
4	BD-29-2.5-SL			2007-11-26 / 955	KC15M	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
5	BD-29-4.5-SL			2007-11-26 / 955	KC15P	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06

F7K280316 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD

Date Received: 2007-11-28

Project Manager: IV | Quote #: 77705 | SDG:

Analytical Due Date: 2007-12-25

Project: 313010.202 | Hematite Site

Report Due Date: 2007-12-26

PO#: | Report to: Paul Ely

Report Type: W

Client: 1381304 Energy Solutions, LLC | #SMPS in LOT: 40 | EDD Code: 00

Gamma library MUST contain U-238, U-235, Th-232, and Am-241 Standard QA/QC acceptable.

XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
6	BD-29-8.5-SL			2007-11-26 / 1002	KC15R	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
7	BD-30-2.5-SL			2007-11-21 / 950	KC153	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
8	BD-30-4.5-SL			2007-11-21 / 950	KC154	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
9	BD-30-9-SL			2007-11-21 / 1000	KC16L	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
10	BD-31-2.5-SL			2007-11-26 / 1550	KC18L	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

F7K280316 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD

Project Manager: IV | Quote #: 77705 | SDG:

Date Received: 2007-11-28

Project: 313010.202 | Hematite Site

Analytical Due Date: 2007-12-25

PO#: | Report to: Paul Ely

Report Due Date: 2007-12-26

Client: 1381304 Energy Solutions, LLC

Report Type: W

#SMPS in LOT: 40 | EDD Code: 00

Gamma library MUST contain U-235, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
11	BD-31-4.5-SL			2007-11-26 / 1550	KC18P	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
12	BD-31-8.5-SL			2007-11-26 / 1555	KC18T	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
13	BD-32-2.5-SL			2007-11-26 / 920	KC180	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
14	BD-32-4.5-SL			2007-11-26 / 920	KC185	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
15	BD-32-13-SL			2007-11-26 / 928	KC189	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A

F7K280316 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD
Date Received: 2007-11-28
Analytical Due Date: 2007-12-26
Report Due Date: 2007-12-26
Report Type: W
EDD Code: 00

Project Manager: IV
Quote #: 77706
SDG:
Project: 313010.202
Hematite Site
PO#:
Report to: Paul Ely
Client: 1381304 Energy Solutions, LLC
#SMPS in LOT: 40

Gamma library MUST contain U-236, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
16	BD-33-2.5-SL			2007-11-21 / 1025	KC19H	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
17	BD-33-4.5-SL			2007-11-21 / 1025	KC19N	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
18	BD-33-12.5-SL			2007-11-21 / 1035	KC19R	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
19	BD-36-4.5-SL			2007-11-26 / 1042	KC19W	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
20	BD-36-12.5-SL			2007-11-26 / 1054	KC192	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
21	BD-37-2.5-SL			2007-11-26 / 1320	KC194	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06

F7K280316 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD
Date Received: 2007-11-28
Analytical Due Date: 2007-12-25
Report Due Date: 2007-12-26
Report Type: W
EDD Code: 00

Project Manager: IV
Quote #: 77705
SDG:
Project: 313010.202
Hematite Site
PO#:
Report to: Paul Ely
Client: 1381304 Energy Solutions, LLC
#SMPS in LOT: 40

Gamma library MUST contain U-235, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
22	BD-37-4.5-SL			2007-11-26 / 1320	KC199	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
23	BD-37-6-SL			2007-11-26 / 1324	KC2AC	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
24	BD-39-2.5-SL			2007-11-26 / 1300	KC2AF	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
25	BD-39-4.5-SL			2007-11-26 / 1300	KC2AH	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
26	BD-39-8.5-SL			2007-11-26 / 1305	KC2AK	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

F7K280316 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD
Date Received: 2007-11-28
Analytical Due Date: 2007-12-25
Report Due Date: 2007-12-26
Report Type: W
EDD Code: 00

Project Manager: IV
Quote #: 77705
SDG:
Project: 313010.202
Hematite Site
PO#:
Report to: Paul Ely
Client: 1381304 Energy Solutions, LLC
#SMPS in LOT: 40

Gamma library MUST contain U-235, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
27	BD-26-2.5-SL			2007-11-21 / 825	KC2AN	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
28	BD-26-4.5-SL			2007-11-21 / 825	KC2AV	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
29	BD-26-7.5-SL			2007-11-21 / 830	KC2A0	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
30	BD-25-2.5-SL			2007-11-26 / 1350	KC2A4	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A

F7K280316 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD

Project Manager: IV | Quote #: 77705 | SDG:

Date Received: 2007-11-28

Project: 313010.202 | Hematite Site

Analytical Due Date: 2007-12-25

PO#: | Report to: Paul Ely

Report Due Date: 2007-12-26

Client: 1381304 Energy Solutions, LLC

Report Type: W

#SMPS in LOT: 40 | EDO Code: 00

Gamma library MUST contain U-235, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
31	BD-25-4.5-SL			2007-11-26 / 1350	KC2A9	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
32	BD-25-16.5-SL			2007-11-26 / 1410	KC2CA	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
33	BD-23-2.5-SL			2007-11-26 / 1620	KC2CF	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
34	BD-23-4.5-SL			2007-11-26 / 1620	KC2CJ	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
35	BD-23-5-SL			2007-11-26 / 1625	KC2CP	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
36	BD-22-2.5-SL			2007-11-26 / 1417	KC2CR	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06

F7K280316 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD

Project Manager: IV | Quote #: 77705 | SDG:

Date Received: 2007-11-28

Project: 313010.202 | Hematite Site

Analytical Due Date: 2007-12-25

PO#: | Report to: Paul Ely

Report Due Date: 2007-12-28

Client: 1381304 Energy Solutions, LLC

Report Type: W

#SMPS in LOT: 40 | EDD Code: 00

Gamma library MUST contain U-235, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
37	BD-22-4.5-SL			2007-11-26 / 1417	KC2C2	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
38	BD-22-12.5-SL			2007-11-26 / 1428	KC2C5	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
39	BD-21-2.5-SL			2007-11-26 / 1645	KC2C6	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
40	BD-21-4.5-SL			2007-11-26 / 1645	KC2C8	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

CUL 1296

Soil Surveys, Sample Collections, & Chain-of-Custody Procedure

Attachment 5.2-Chain of Custody Record

Client: WEC Hematite
Address:
City: Festus, Mo
State: Mo Zip Code:

Project Manager: Duane Quayle
Telephone Number: 865-348-7477
Site Contact:
Lab Contact: Ivan Venia

Date: 11/27/07
CoC Number: SC-2
Page: 1 of 7

Project Name: Hematite Characterization
Project Location:
Carrier/Waybill Number: 313010.202
Contract/PO Number:

Sample ID Number	Date	Time	Matrix: Air	Aqueous	Sediment	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis (Attach list if more space is needed): Isotopic Tc-99	Isotopic U	Isotopic Pu	Isotopic Np
BD-27-2.5-SL	11/26/07	1515				✓							✓	✓	✓	✓
BD-27-4.5-SL	11/26/07	1515				✓							✓	✓	✓	✓
BD-27-13-SL	11/26/07	1529				✓							✓	✓	✓	✓
BD-29-2.5-SL	11/26/07	0955				✓							✓	✓	✓	✓
BD-29-4.5-SL	11/26/07	0955				✓							✓	✓	✓	✓
BD-29-8.5-SL	11/26/07	1002				✓							✓	✓	✓	✓
BD-30-2.5-SL	11/27/07	0950				✓							✓	✓	✓	✓
BD-30-4.5-SL	11/27/07	0950				✓							✓	✓	✓	✓

Possible Hazard Identification: Non-haz ☐ Radioactive ☐ Flammable ☐ Skin Irritant ☐ Unknown ☐

Sample Disposal: Return to client ✓ Disposal by lab ☐ Archive for __ months ☐

Turn Around Time: 24 hrs ☐ 48 hrs ☐ 7 days ☐ 14 days ☐ 21 days ☐ Other 20 days ✓

Comments:

	Date	Time		Date	Time
Relinquished by:	11/28/07	2:45	Received by:	11-28-07	[illegible]
Relinquished by:			Received by:		
Relinquished by:			Received by:		

Soil Surveys, Sample Collections, & Chain-of-Custody Procedure

Attachment 5.2-Chain of Custody Record

Client: WEC Hematite
Address:
City: Festus, Mo
State: Mo Zip Code:

Project Manager: Duane Quayle
Telephone Number: 865-368-7477
Site Contact:
Lab Contact: Ivan Venia

Date: 11/27/07
CoC Number: 5 of 2
Page: 2 of 7

Project Name: Hematite Characterization
Project Location:
Carrier/Waybill Number: "3130 10.202"
Contract/PO Number:

Sample ID Number	Date	Time	Matrix: Air	Aqueous	Sediment	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: Isotopic Tc-99	Isotopic U	Isotopic Pu	Isotopic Np
BD-30-9-SL	11/21/07	1500				✓							✓	✓	✓	✓
BD-31-2.5-SL	11/26/07	1550				✓							✓	✓	✓	✓
BD-31-4.5-SL	11/26/07	1550				✓							✓	✓	✓	✓
BD-31-8.5-SL	11/26/07	1555				✓							✓	✓	✓	✓
BD-32-2.5-SL	11/26/07	0920				✓							✓	✓	✓	✓
BD-32-4.5-SL	11/26/07	0920				✓							✓	✓	✓	✓
BD-32-13-SL	11/26/07	0928				✓							✓	✓	✓	✓
BD-33-2.5-SL	11/21/07	1025				✓										

Possible Hazard Identification: Non-haz ☐ Radioactive ☐ Flammable ☐ Skin Irritant ☐ Unknown ☐

Sample Disposal: Return to client ✓ Disposal by lab ☐ Archive for __ months ☐

Turn Around Time: 24 hrs ☐ 48 hrs ☐ 7 days ☐ 14 days ☐ 21 days ☐ Other 20 days ✓

Comments:

	Date	Time		Date	Time
Relinquished by:	11/26/07	2:00	Received by:	11/28/07	1:41
Relinquished by:			Received by:		
Relinquished by:			Received by:		

TestAmerica St. Louis

Soil Surveys, Sample Collections, & Chain-of-Custody Procedure

Attachment 5.2-Chain of Custody Record

Client: WEC Hematite
Address:
City: Festus, Mo
State: Mo Zip Code:

Project Manager: Duane Quayle
Telephone Number: 865-368-7477
Site Contact:
Lab Contact: Ivan Venia

Date: 11/27/07
CoC Number: SC-2
Page: 3 of 7

Project Name: Hematite Characterization
Project Location:
Carrier/Waybill Number: 313010.202
Contract/PO Number:

Sample ID Number	Date	Time	Matrix: Air	Aqueous	Sediment	Soil		Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH		Analysis: Isotopic, Tc-99	Isotopic U	Isotopic Pu	Isotopic Np				
BD-33-4.5-SL	11/27/07	1025				✓									✓	✓						
BD-33-12.5-SL	11/27/07	1035				✓									✓							
BD-36-4.5-SL	11/26/07	1042				✓									✓	✓	✓	✓				
BD-36-12.5-SL	11/26/07	1054				✓									✓	✓	✓	✓				
BD-37-2.5-SL	11/26/07	1320				✓									✓	✓						
BD-37-4.5-SL	11/26/07	1320				✓									✓							
BD-37-5-SL	11/26/07	1324				✓									✓	✓	✓	✓				
BD-39-2.5-SL	11/26/07	1300				✓																

Possible Hazard Identification: Non-haz. ☐ Radioactive ☐ Flammable ☐ Skin Irritant ☐ Unknown ☐

Sample Disposal: Return to client ✓ Disposal by lab ☐ Archive for __ months ☐

Turn Around Time: 24 hrs ☐ 48 hrs ☐ 7 days ☐ 14 days ☐ 21 days ☐ Other 20 days ✓

Comments:

	Date	Time		Date	Time
Relinquished by:	11/28/07	243	Received by:	11-28-07	1443
Relinquished by:			Received by:		
Relinquished by:			Received by:		

Soil Surveys, Sample Collections, & Chain-of-Custody Procedure

Attachment 5.2-Chain of Custody Record

Client: WEC Hematite
Address:
City: Festus, Mo
State: Mo Zip Code:

Project Manager: Duane Quayle
Telephone Number: 865-368-7477
Site Contact:
Lab Contact: Ivan Venia

Date: 11/27/07
CoC Number: SC-2
Page: 4 of 7

Project Name: Hematite Characterization
Project Location:
Carrier/Waybill Number: 313010.202
Contract/PO Number:

Sample ID Number	Date	Time	Matrix: Air	Aqueous	Sediment	Soil		Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH		Analysis (Attach list if more space is needed): Isotopic Pu	Isotopic Tc-99	Isotopic U	Isotopic Pu	Isotopic Np					
BD-39-4.5-SL	11/26/07	1300				✓									✓	✓	✓	✓	✓					
BD-39-8.5-SL	11/26/07	1305				✓									✓	✓	✓	✓	✓					
BD-26-2.5-SL	11/21/07	0825				✓									✓	✓	✓	✓	✓					
BD-26-4.5-SL	11/21/07	0825				✓									✓	✓	✓	✓	✓					
BD-26-7.5-SL	11/21/07	0830				✓									✓	✓	✓	✓	✓					
BD-25-2.5-SL	11/26/07	1350				✓									✓	✓	✓	✓	✓					
BD-25-4.5-SL	11/26/07	1350				✓									✓		✓	✓	✓					
BD-25-16.5-SL	11/26/07	1410				✓																		

Possible Hazard Identification: Non-haz. ☐ Radioactive ☐ Flammable ☐ Skin Irritant ☐ Unknown ☐

Sample Disposal: Return to client ✓ Disposal by lab ☐ Archive for __ months ☐

Turn Around Time: 24 hrs ☐ 48 hrs ☐ 7 days ☐ 14 days ☐ 21 days ☐ Other 20 days ✓

Comments:

	Date	Time		Date	Time
Relinquished by:	11/28/07	2:43	Received by:	11/28/07	1443
Relinquished by:			Received by:		
Relinquished by:			Received by:		

Soil Surveys, Sample Collections, & Chain-of-Custody Procedure

Attachment 5.2-Chain of Custody Record

Client: WEC Hematite
Address:
City: Festus, Mo
State: Mo Zip Code:

Project Manager: Duane Quayle
Telephone Number: 865-368-7477
Site Contact:
Lab Contact: Ivan Vesia

Date: 11/27/07
CoC Number: SC-2
Page: 5 of 7

Project Name: Hematite Characterization
Project Location: "313010.202"
Carrier/Waybill Number:
Contract/PO Number:

Sample ID Number	Date	Time	Matrix: Air	Aqueous	Sediment	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc NaOH		Analysis (Attach list if more space is needed): Isotopic Tc-99	Isotopic U	Isotopic Pu	Isotopic Np					
BD-23-2.5-SL	11/26/07	1620				✓								✓	✓	✓	✓					
BD-23-4.5-SL	11/26/07	1620				✓								✓	✓							
BD-23-5-SL	11/26/07	1625				✓								✓	✓	✓	✓					
BD-22-2.5-SL	11/26/07	1447				✓								✓	✓	✓	✓					
BD-22-4.5-SL	11/26/07	1447				✓								✓	✓	✓	✓					
BD-22-12.5-SL	11/26/07	1478				✓								✓	✓	✓						
BD-21-2.5-SL	11/26/07	1645				✓								✓	✓	✓	✓					
BD-21-4.5-SL	11/26/07	1645				✓																

Possible Hazard Identification: Non-haz ☐ Radioactive ☐ Flammable ☐ Skin Irritant ☐ Unknown ☐

Sample Disposal: Return to client ✓ Disposal by lab ☐ Archive for __ months ☐

Turn Around Time: 24 hrs ☐ 48 hrs ☐ 7 days ☐ 14 days ☐ 21 days ☐ Other 20 days ✓

Comments:

	Date	Time		Date	Time
Relinquished by:	11/28/07	2:00	Received by:	11/28/07	[illegible]
Relinquished by:			Received by:		
Relinquished by:			Received by:		

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

- 1341 -

Lot #(s): ~~F7K260~~ 80 F7K280308 316 318

Condition Upon Receipt Form

Client: Energy Solutions
Quote No: 77705
COC/RFA No: SC-2, SC-3
Initiated By: BA
Date: 11/20/07
Time: 1443

Shipping Information

Shipper Name: client
Shipping # (s):*

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

Multiple Packages (Y) N
Sample Temperature (s):**

1. ambient
2. 1
3.
4.
5.
6.
7.
8.
9.
10.

*Numbered shipping lines correspond to Numbered Sample Temp lines

**Sample must be received at 4°C ± 2°C- If not, note contents below. Temperature variance does NOT affect the following: Metals-Liquid or Rad tests- Liquid or Solids

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

1.	Y (N)	Are there custody seals present on the cooler?	8.	(Y) N	Are there custody seals present on bottles?
2.	Y N (N/A)	Do custody seals on cooler appear to be tampered with?	9.	Y (N) N/A	Do custody seals on bottles appear to be tampered with?
3.	(Y) N	Were contents of cooler frisked after opening, but before unpacking?	10.	Y N (N/A)	Was sample received with proper pH[1]? (If not, make note below)
4.	(Y) N	Sample received with Chain of Custody?	11.	Y N	If N/A- Was pH taken by original TestAmerica lab?
5.	(Y) N N/A	Does the Chain of Custody match sample ID's on the container(s)?	12.	(Y) N	Sample received in proper containers?
6.	Y (N)	Was sample received broken?	13.	Y N (N/A)	Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below)
7.	(Y) N	Is sample volume sufficient for analysis?	14.	Y N	Was Internal COC/Workshare received?

[1] For DOE-AL (Pantex, LANL, Sandia) sites, pH of ALL containers received must be verified, EXCEPT VOA, TOX and soils.

Notes:

Corrective Action:
- ☐ Client Contact Name: Informed by:
- ☐ Sample(s) processed "as is"
- ☐ Sample(s) on hold until: If released, notify:

Project Management Review: Date: 12-3-7

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN

1341

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

PROJECT NO. 313010.202

Hematite Site

Lot #: F7K280318

Paul Ely

Energy Solutions, LLC
1009 Commerce Park Drive
Suite 100
Oak Ridge, TN 37830

TESTAMERICA LABORATORIES, INC.

F012 Ivan Vania
Project Manager

December 19, 2007

Case Narrative
LOT NUMBER: F7K280318

This report contains the analytical results for the 10 samples received under chain of custody by TestAmerica St. Louis on November 28, 2007. These samples are associated with your Hematite Site project.

The analytical results included in this report meet all applicable quality control procedure requirements except as noted on the following page.

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

All chemical analysis results are based upon sample as received, wet weight, unless noted otherwise. All radiochemistry results are based upon sample as dried and ground with the exception of tritium, unless requested wet weight by the client.

Observations/Nonconformances

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

Isotopic Uranium by Alpha Spectroscopy

The Uranium RPD/RER is not within method acceptance criteria. The sample is non-homogeneous. Method performance is demonstrated by acceptable LCS recovery.
Affected Samples:
F7K280318 (2): BD-20-2.5-SL
F7K280318 (5): BD-18-2.5-SL
F7K280318 (7): BD-18-8.5-SL
F7K280318 (8): BD-17-2.5-SL
F7K280318 (9): BD-17-4.5-SL

There were no nonconformances or observations noted with any other analysis on this lot.

METHODS SUMMARY

F7K280318

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Gamma Spectroscopy - Cesium-137 & Hits	EML GA-01-R MOD	
Isotopic Plutonium by Alpha Spectroscopy	EML A-01-R	
Isotopic Uranium by Alpha Spectroscopy	EML A-01-R MOD	
Neptunium by Alpha Spectroscopy	EML A-01-R MOD	
TC-99 by LSC	EML TC-02-RC MO	

References:

EML "ENVIRONMENTAL MEASUREMENTS LABORATORY PROCEDURES MANUAL"
HASL-300 28TH EDITION, VOLUME I and II DEPARTMENT OF ENERGY

SAMPLE SUMMARY

F7K280318

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
KC149	001	BD-21-9-SL	11/26/07	16:45
KC15A	002	BD-20-2.5-SL	11/26/07	18:25
KC15C	003	BD-20-4.5-SL	11/26/07	18:25
KC15H	004	BD-20-16.5-SL	11/26/07	18:46
KC15L	005	BD-18-2.5-SL	11/26/07	17:10
KC15Q	006	BD-18-4.5-SL	11/26/07	17:10
KC15V	007	BD-18-8.5-SL	11/26/07	17:15
KC15X	008	BD-17-2.5-SL	11/26/07	17:45
KC150	009	BD-17-4.5-SL	11/26/07	17:45
KC151	010	BD-17-8.5-SL	11/26/07	17:50

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Energy Solutions, LLC

Client Sample ID: BD-21-9-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280318-001
Work Order: KC149
Matrix: SOLID

Date Collected: 11/26/07 1645
Date Received: 11/28/07 0000

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7338220**		**Yld %**
Americium 241	0.03	U	0.16	1.00	0.27	12/04/07	12/06/07
Cesium 137	0.031	U	0.058	1.00	0.098	12/04/07	12/06/07
Thorium 232	**0.83**	**J**	**0.24**	1.00	**0.36**	**12/04/07**	**12/06/07**
Uranium 235	0.27	U	0.36	1.00	0.59	12/04/07	12/06/07
Uranium 238	**2.30**		**0.91**	1.00	**1.8**	**12/04/07**	**12/06/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.83**		**0.24**		**0.36**	**12/04/07**	**12/06/07**
Bismuth 214	**1.10**		**0.22**		**0.21**	**12/04/07**	**12/06/07**
Lead 212	**1.39**		**0.26**		**0.20**	**12/04/07**	**12/06/07**
Lead 214	**1.02**		**0.18**		**0.20**	**12/04/07**	**12/06/07**
Potassium 40	**16.2**		**2.1**		**1.0**	**12/04/07**	**12/06/07**
Thallium 208	**0.494**		**0.090**		**0.055**	**12/04/07**	**12/06/07**
Thorium 234	**2.30**		**0.91**		**1.8**	**12/04/07**	**12/06/07**

NOTE(S)

are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-21-9-SL DUP

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280318-001X
Work Order: KC149
Matrix: SOLID

Date Collected: 11/26/07 1645
Date Received: 11/28/07 0000

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7338220**		**Yld %**
Americium 241	0.05	U	0.16	1.00	0.28	12/04/07	12/06/07
Cesium 137	0.005	U	0.065	1.00	0.12	12/04/07	12/06/07
Thorium 232	**1.0**	**J**	**0.29**	1.00	**0.46**	**12/04/07**	**12/06/07**
Uranium 235	0.27	U	0.35	1.00	0.58	12/04/07	12/06/07
Uranium 238	**2.8**		**1.7**	1.0	**2.1**	**12/04/07**	**12/06/07**
--- Other Detected Radionuclides ---							
Actinium 228	**1.0**		**0.29**		**0.46**	**12/04/07**	**12/06/07**
Bismuth 214	**1.10**		**0.27**		**0.21**	**12/04/07**	**12/06/07**
Lead 212	**0.96**		**0.22**		**0.21**	**12/04/07**	**12/06/07**
Lead 214	**1.19**		**0.23**		**0.20**	**12/04/07**	**12/06/07**
Potassium 40	**16.8**		**2.7**		**1**	**12/04/07**	**12/06/07**
Thallium 208	**0.44**		**0.10**		**0.05**	**12/04/07**	**12/06/07**
Thorium 234	**2.8**		**1.7**		**2.1**	**12/04/07**	**12/06/07**

NOTE(S)

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-20-2.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280318-002
Work Order: KC15A
Matrix: SOLID

Date Collected: 11/26/07 1825
Date Received: 11/28/07 0000

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7338220**		**Yld %**
Americium 241	0.05	U	0.13	1.00	0.22	12/04/07	12/06/07
Cesium 137	-0.016	U	0.070	1.00	0.12	12/04/07	12/06/07
Thorium 232	**0.67**	**J**	**0.22**	1.00	**0.37**	**12/04/07**	**12/06/07**
Uranium 235	0.22	U	0.31	1.00	0.51	12/04/07	12/06/07
Uranium 238	**1.57**		**0.70**	1.00	**1.4**	**12/04/07**	**12/06/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.67**		**0.22**		**0.37**	**12/04/07**	**12/06/07**
Bismuth 214	**1.02**		**0.20**		**0.11**	**12/04/07**	**12/06/07**
Lead 212	**1.16**		**0.21**		**0.15**	**12/04/07**	**12/06/07**
Lead 214	**1.01**		**0.21**		**0.16**	**12/04/07**	**12/06/07**
Potassium 40	**11.7**		**2.0**		**0.8**	**12/04/07**	**12/06/07**
Thallium 208	**0.272**		**0.077**		**0.057**	**12/04/07**	**12/06/07**
Thorium 234	**1.57**		**0.70**		**1.4**	**12/04/07**	**12/06/07**
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7338568**		**Yld % 87**
Neptunium 237	-0.011	U	0.033	1.00	0.073	12/04/07	12/07/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7338570**		**Yld % 84**
Plutonium 238	-0.006	U	0.036	1.00	0.080	12/04/07	12/10/07
Plutonium 239/40	0.009	U	0.025	1.00	0.048	12/04/07	12/10/07
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7345224**		**Yld % 102**
Technetium 99	0.20	U	0.36	1.00	0.59	12/11/07	12/14/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7338571**		**Yld % 60**
Uranium 233/234	**1.67**		**0.39**	1.00	**0.06**	**12/04/07**	**12/10/07**
Uranium 235/236	**0.13**	**J**	**0.10**	1.00	**0.05**	**12/04/07**	**12/10/07**
Uranium 238	**0.64**	**J**	**0.21**	1.00	**0.04**	**12/04/07**	**12/10/07**

NOTE(S)

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-20-2.5-SL DUP

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280318-002X
Work Order: KC15A
Matrix: SOLID

Date Collected: 11/26/07 1825
Date Received: 11/28/07 0000

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7338568**		**Yld % 81**
Neptunium 237	-0.014	U	0.036	1.00	0.081	12/04/07	12/07/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7338570**		**Yld % 89**
Plutonium 238	0.009	U	0.038	1.00	0.070	12/04/07	12/10/07
Plutonium 239/40	-0.004	U	0.025	1.00	0.053	12/04/07	12/10/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7338571**		**Yld % 74**
Uranium 233/234	**3.06**		**0.56**	1.00	**0.08**	**12/04/07**	**12/10/07**
Uranium 235/236	**0.092**	**J**	**0.082**	1.00	**0.042**	**12/04/07**	**12/10/07**
Uranium 238	**0.97**	**J**	**0.25**	1.00	**0.06**	**12/04/07**	**12/10/07**
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7345224**		**Yld % 97**
Technetium 99	-0.40	U	0.37	1.00	0.63	12/11/07	12/14/07

NOTE(S)

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-20-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280318-003
Work Order: KC15C
Matrix: SOLID

Date Collected: 11/26/07 1825
Date Received: 11/28/07 0000

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7338220**		**Yld %**
Americium 241	0.05	U	0.16	1.00	0.28	12/04/07	12/06/07
Cesium 137	-0.02	U	0.35	1.00	0.16	12/04/07	12/06/07
Thorium 232	**0.64**	**J**	**0.35**	1.00	**0.47**	**12/04/07**	**12/06/07**
Uranium 235	0.21	U	0.38	1.00	0.64	12/04/07	12/06/07
Uranium 238	**2.4**		**1.7**	1.0	**2.0**	**12/04/07**	**12/06/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.64**		**0.35**		**0.47**	**12/04/07**	**12/06/07**
Bismuth 214	**1.45**		**0.26**		**0.14**	**12/04/07**	**12/06/07**
Lead 212	**1.31**		**0.21**		**0.16**	**12/04/07**	**12/06/07**
Lead 214	**0.90**		**0.19**		**0.21**	**12/04/07**	**12/06/07**
Potassium 40	**19.4**		**3.0**		**1.8**	**12/04/07**	**12/06/07**
Thallium 208	**0.48**		**0.11**		**0.08**	**12/04/07**	**12/06/07**
Thorium 234	**2.4**		**1.7**		**2.0**	**12/04/07**	**12/06/07**
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7345224**		**Yld % 108**
Technetium 99	-0.09	U	0.34	1.00	0.57	12/11/07	12/14/07

NOTE(S)

are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-20-16.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280318-004
Work Order: KC15H
Matrix: SOLID

Date Collected: 11/26/07 1846
Date Received: 11/28/07 0000

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7338220**		**Yld %**
Americium 241	-0.09	U	0.20	1.00	0.34	12/04/07	12/06/07
Cesium 137	-0.041	U	0.081	1.00	0.14	12/04/07	12/06/07
Thorium 232	**1.54**		**0.32**	1.00	**0.38**	**12/04/07**	**12/06/07**
Uranium 235	0.12	U	0.41	1.00	0.70	12/04/07	12/06/07
Uranium 238	**2.6**		**1.2**	1.0	**2.1**	**12/04/07**	**12/06/07**
--- Other Detected Radionuclides ---							
Actinium 228	**1.54**		**0.32**		**0.38**	**12/04/07**	**12/06/07**
Bismuth 214	**1.45**		**0.24**		**0.16**	**12/04/07**	**12/06/07**
Lead 210	**4.2**		**3.3**		**3.7**	**12/04/07**	**12/06/07**
Lead 212	**1.38**		**0.24**		**0.22**	**12/04/07**	**12/06/07**
Lead 214	**1.53**		**0.24**		**0.17**	**12/04/07**	**12/06/07**
Potassium 40	**18.6**		**2.4**		**1.2**	**12/04/07**	**12/06/07**
Thallium 208	**0.58**		**0.12**		**0.1**	**12/04/07**	**12/06/07**
Thorium 234	**2.6**		**1.2**		**2.1**	**12/04/07**	**12/06/07**

NOTE(S)

[illegible] are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-18-2.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280318-005
Work Order: KC15L
Matrix: SOLID

Date Collected: 11/26/07 1710
Date Received: 11/28/07 0000

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7338220**		**Yld %**
Americium 241	0.07	U	0.10	1.00	0.17	12/04/07	12/06/07
Cesium 137	-0.011	U	0.051	1.00	0.090	12/04/07	12/06/07
Thorium 232	**0.54**	**J**	**0.17**	1.00	**0.29**	**12/04/07**	**12/06/07**
Uranium 235	0.35	U	0.30	1.00	0.48	12/04/07	12/06/07
Uranium 238	**2.17**		**0.82**	1.00	**1.5**	**12/04/07**	**12/06/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.54**		**0.17**		**0.29**	**12/04/07**	**12/06/07**
Bismuth 214	**0.70**		**0.16**		**0.18**	**12/04/07**	**12/06/07**
Lead 212	**0.84**		**0.15**		**0.13**	**12/04/07**	**12/06/07**
Lead 214	**0.97**		**0.17**		**0.13**	**12/04/07**	**12/06/07**
Potassium 40	**8.9**		**1.5**		**1.2**	**12/04/07**	**12/06/07**
Thallium 208	**0.324**		**0.089**		**0.076**	**12/04/07**	**12/06/07**
Thorium 234	**2.17**		**0.82**		**1.5**	**12/04/07**	**12/06/07**
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7338568**		**Yld % 83**
Neptunium 237	-0.007	U	0.030	1.00	0.066	12/04/07	12/07/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7338570**		**Yld % 90**
Plutonium 238	0.023	U	0.040	1.00	0.060	12/04/07	12/10/07
Plutonium 239/40	0.015	U	0.033	1.00	0.056	12/04/07	12/10/07
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7345224**		**Yld % 98**
Technetium 99	-0.05	U	0.32	1.00	0.54	12/11/07	12/14/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7338571**		**Yld % 81**
Uranium 233/234	**0.64**	**J**	**0.19**	1.00	**0.07**	**12/04/07**	**12/10/07**
Uranium 235/236	0.026	U	0.043	1.00	0.062	12/04/07	12/10/07
Uranium 238	**0.61**	**J**	**0.19**	1.00	**0.06**	**12/04/07**	**12/10/07**

NOTE(S)

are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-18-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280318-006
Work Order: KC150
Matrix: SOLID

Date Collected: 11/26/07 1710
Date Received: 11/28/07 0000

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7338220**		**Yld %**
Americium 241	0.03	U	0.16	1.00	0.28	12/04/07	12/06/07
Cesium 137	0.0006	U	0.077	1.00	0.14	12/04/07	12/06/07
Thorium 232	**0.90**	**J**	**0.30**	1.00	**0.54**	**12/04/07**	**12/06/07**
Uranium 235	0.12	U	0.40	1.00	0.69	12/04/07	12/06/07
Uranium 238	0.4	U	1.3	1.0	2.3	12/04/07	12/06/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.90**		**0.30**		**0.54**	**12/04/07**	**12/06/07**
Bismuth 214	**1.11**		**0.28**		**0.22**	**12/04/07**	**12/06/07**
Lead 212	**1.48**		**0.24**		**0.17**	**12/04/07**	**12/06/07**
Lead 214	**1.43**		**0.24**		**0.17**	**12/04/07**	**12/06/07**
Potassium 40	**17.2**		**2.7**		**1**	**12/04/07**	**12/06/07**
Thallium 208	**0.44**		**0.13**		**0.11**	**12/04/07**	**12/06/07**
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7345224**		**Yld % 100**
Technetium 99	-0.27	U	0.36	1.00	0.62	12/11/07	12/14/07

NOTE(S)

Results are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-18-8.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280318-007
Work Order: KC15V
Matrix: SOLID

Date Collected: 11/26/07 1715
Date Received: 11/28/07 0000

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7338220**		**Yld %**
Americium 241	0.04	U	0.15	1.00	0.26	12/04/07	12/06/07
Cesium 137	-0.04	U	2.2	1.0	0.2	12/04/07	12/06/07
Thorium 232	**0.92**	**J**	**0.33**	1.00	**0.45**	**12/04/07**	**12/06/07**
Uranium 235	0.06	U	0.34	1.00	0.60	12/04/07	12/06/07
Uranium 238	1.1	U	1.5	1.0	2.4	12/04/07	12/06/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.92**		**0.33**		**0.45**	**12/04/07**	**12/06/07**
Bismuth 214	**1.09**		**0.24**		**0.19**	**12/04/07**	**12/06/07**
Lead 212	**1.29**		**0.24**		**0.20**	**12/04/07**	**12/06/07**
Lead 214	**0.92**		**0.19**		**0.24**	**12/04/07**	**12/06/07**
Potassium 40	**20.5**		**3.0**		**0.7**	**12/04/07**	**12/06/07**
Thallium 208	**0.64**		**0.14**		**0.09**	**12/04/07**	**12/06/07**
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7338568**		**Yld % 90**
Neptunium 237	0.016	U	0.035	1.00	0.059	12/04/07	12/07/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7338570**		**Yld % 93**
Plutonium 238	**0.078**	**J**	**0.060**	1.00	**0.055**	**12/04/07**	**12/10/07**
Plutonium 239/40	-0.005	U	0.024	1.00	0.051	12/04/07	12/10/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7338571**		**Yld % 75**
Uranium 233/234	**0.71**	**J**	**0.22**	1.00	**0.07**	**12/04/07**	**12/10/07**
Uranium 235/236	0.013	U	0.035	1.00	0.068	12/04/07	12/10/07
Uranium 238	**1.01**		**0.27**	1.00	**0.07**	**12/04/07**	**12/10/07**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-17-2.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280318-008
Work Order: KC15X
Matrix: SOLID

Date Collected: 11/26/07 1745
Date Received: 11/28/07 0000

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7338568	Yld % 95
Neptunium 237	0.015	U	0.033	1.00	0.055	12/04/07	12/07/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7338570	Yld % 86
Plutonium 238	-0.003	U	0.034	1.00	0.075	12/04/07	12/10/07
Plutonium 239/40	-0.010	U	0.031	1.00	0.068	12/04/07	12/10/07
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g		Batch # 7345224	Yld % 96
Technetium 99	**5.03**		**0.66**	1.00	**0.65**	**12/11/07**	**12/14/07**
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7338571	Yld % 84
Uranium 233/234	**69.0**		**9.1**	1.0	**0.07**	**12/04/07**	**12/10/07**
Uranium 235/236	**3.20**		**0.59**	1.00	**0.04**	**12/04/07**	**12/10/07**
Uranium 238	**11.8**		**1.7**	1.0	**0.06**	**12/04/07**	**12/10/07**
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7338220	Yld %
Americium 241	-0.06	U	0.18	1.00	0.30	12/04/07	12/06/07
Cesium 137	-0.008	U	0.073	1.00	0.13	12/04/07	12/06/07
Thorium 232	**0.58**	**J**	**0.20**	1.00	**0.29**	**12/04/07**	**12/06/07**
Uranium 235	**2.33**		**0.52**	1.00	**0.61**	**12/04/07**	**12/06/07**
Uranium 238	**6.5**		**2.3**	1.0	**2.3**	**12/04/07**	**12/06/07**
--- Other Detected Radionuclides ---							
Actinium 228	**0.58**		**0.20**		**0.29**	**12/04/07**	**12/06/07**
Bismuth 214	**1.15**		**0.23**		**0.15**	**12/04/07**	**12/06/07**
Lead 210	**3.4**		**2.5**		**3.0**	**12/04/07**	**12/06/07**
Lead 212	**1.01**		**0.19**		**0.15**	**12/04/07**	**12/06/07**
Lead 214	**1.08**		**0.22**		**0.17**	**12/04/07**	**12/06/07**
Potassium 40	**11.1**		**2.0**		**0.9**	**12/04/07**	**12/06/07**
Thallium 208	**0.306**		**0.094**		**0.076**	**12/04/07**	**12/06/07**
Thorium 234	**6.5**		**2.3**		**2.3**	**12/04/07**	**12/06/07**

E(S)

are incomplete without the case narrative.

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Bold results are greater than the MDC

J **Result is greater than sample detection limit but less than stated reporting limit.**
Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-17-4.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280318-009
Work Order: KC150
Matrix: SOLID

Date Collected: 11/26/07 1745
Date Received: 11/28/07 0000

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7338220**		**Yld %**
Americium 241	-0.06	U	0.28	1.00	0.29	12/04/07	12/06/07
Cesium 137	-0.05	U	0.47	1.00	0.15	12/04/07	12/06/07
Thorium 232	**0.89**	**J**	**0.29**	1.00	**0.51**	**12/04/07**	**12/06/07**
Uranium 235	0.15	U	0.25	1.00	0.42	12/04/07	12/06/07
Uranium 238	0.93	U	0.72	1.00	2.1	12/04/07	12/06/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.89**		**0.29**		**0.51**	**12/04/07**	**12/06/07**
Bismuth 214	**1.14**		**0.25**		**0.18**	**12/04/07**	**12/06/07**
Lead 212	**1.26**		**0.19**		**0.13**	**12/04/07**	**12/06/07**
Lead 214	**0.93**		**0.21**		**0.21**	**12/04/07**	**12/06/07**
Potassium 40	**18.3**		**2.7**		**0.6**	**12/04/07**	**12/06/07**
Thallium 208	**0.51**		**0.12**		**0.09**	**12/04/07**	**12/06/07**
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7338568**		**Yld % 82**
Neptunium 237	0.034	U	0.054	1.00	0.078	12/04/07	12/07/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7338570**		**Yld % 87**
Plutonium 238	-0.011	U	0.037	1.00	0.083	12/04/07	12/10/07
Plutonium 239/40	0.003	U	0.028	1.00	0.062	12/04/07	12/10/07
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**Batch # 7345224**		**Yld % 103**
Technetium 99	-0.22	U	0.35	1.00	0.60	12/11/07	12/14/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**Batch # 7338571**		**Yld % 77**
Uranium 233/234	**2.43**		**0.46**	1.00	**0.07**	**12/04/07**	**12/10/07**
Uranium 235/236	**0.114**	**J**	**0.087**	1.00	**0.039**	**12/04/07**	**12/10/07**
Uranium 238	**1.27**		**0.29**	1.00	**0.03**	**12/04/07**	**12/10/07**

NOTE(S)

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD-17-8.5-SL

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F7K280318-010
Work Order: KC151
Matrix: SOLID

Date Collected: 11/26/07 1750
Date Received: 11/28/07 0000

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7338220**		**Yld %**
Americium 241	-0.004	U	0.19	1.00	0.33	12/04/07	12/06/07
Cesium 137	0.0004	U	0.085	1.00	0.16	12/04/07	12/06/07
Thorium 232	**0.86**	**J**	**0.32**	1.00	**0.50**	**12/04/07**	**12/06/07**
Uranium 235	0.14	U	0.39	1.00	0.66	12/04/07	12/06/07
Uranium 238	0.4	U	1.4	1.0	2.5	12/04/07	12/06/07
--- Other Detected Radionuclides ---							
Actinium 228	**0.86**		**0.32**		**0.50**	**12/04/07**	**12/06/07**
Bismuth 214	**1.08**		**0.25**		**0.17**	**12/04/07**	**12/06/07**
Lead 212	**1.14**		**0.18**		**0.13**	**12/04/07**	**12/06/07**
Lead 214	**1.24**		**0.23**		**0.15**	**12/04/07**	**12/06/07**
Potassium 40	**18.2**		**2.9**		**1.0**	**12/04/07**	**12/06/07**
Thallium 208	**0.55**		**0.13**		**0.09**	**12/04/07**	**12/06/07**

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

METHOD BLANK REPORT

Severn Trent Laboratories - Radiochemistry

Client Lot ID: F7K280318
Matrix: SOLID

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC		Prep Date	Analysis Date	Lab Sample ID
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**	**Batch # 7338220**		**Yld %**			**F7L040000-220B**
Americium 241	0.013	U	0.056	1.00	0.10		12/04/07	12/06/07	
Cesium 137	-0.03	U	13	1	0.1		12/04/07	12/06/07	
Thorium 232	0.07	U	0.11	1.00	0.19		12/04/07	12/06/07	
Uranium 235	-0.05	U	0.47	1.00	0.26		12/04/07	12/06/07	
Uranium 238	-0.07	U	0.65	1.00	0.92		12/04/07	12/06/07	
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**	**Batch # 7338568**		**Yld % 90**			**F7L040000-568B**
Neptunium 237	0.050	U	0.061	1.00	0.078		12/04/07	12/07/07	
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**	**Batch # 7338570**		**Yld % 91**			**F7L040000-570B**
Plutonium 238	0.046	U	0.051	1.00	0.062		12/04/07	12/10/07	
Plutonium 239/40	-0.007	U	0.025	1.00	0.055		12/04/07	12/10/07	
Iso URANIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**	**Batch # 7338571**		**Yld % 79**			**F7L040000-571B**
Uranium 233/234	**0.035**	**J**	**0.047**	1.00	**0.032**		**12/04/07**	**12/10/07**	
Uranium 235/236	0.0	U	0.0	1.0	0.04		12/04/07	12/10/07	
Uranium 238	0.023	U	0.041	1.00	0.032		12/04/07	12/10/07	
TC-99 by LSC by DOE TC-02-RC Mod.			**pCi/g**	**Batch # 7345224**		**Yld % 109**			**F7L110000-224B**
Technetium 99	-0.24	U	0.33	1.00	0.57		12/11/07	12/14/07	

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined using instrument performance only
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Less than the sample detection limit

Laboratory Control Sample Report

Severn Trent Laboratories - Radiochemistry

Client Lot ID: F7K280318
Matrix: SOLID

Parameter	Spike Amount	Result	Total Uncert. (2 σ+/-)	MDC	% Yld	% Rec	Lab Sample ID / QC Control Limits
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			**pCi/g**	**GA-01-R MOD**			**F7L040000-220C**
Americium 241	103	106	8.4	1.5		103	(85 - 118)
Cesium 137	40.0	41.8	2.6	0.4		104	(91 - 120)
Cobalt 60	62.7	64.4	3.9	0.3		103	(91 - 112)
	Batch #:	7338220		**Analysis Date:**	12/06/07		
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**	**A-01-R MOD**			**F7L040000-568C**
Neptunium 237	13.3	13.3	1.5	0.07	97	100	(75 - 119)
	Batch #:	7338568		**Analysis Date:**	12/07/07		
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**	**A-01-R**			**F7L040000-570C**
Plutonium 238	6.13	6.5	1.0	0.1	85	107	(77 - 112)
Plutonium 239/40	5.77	6.8	1.0	0.07	85	117	(82 - 119)
	Batch #:	7338570		**Analysis Date:**	12/10/07		
Iso URANIUM (SHORT CT) DOE A-01-R MOD			**pCi/g**	**A-01-R MOD**			**F7L040000-571C**
Uranium 233/234	19.6	20.1	3.6	0.4	88	102	(76 - 128)
Uranium 238	19.6	21.2	3.8	0.3	88	108	(74 - 125)
	Batch #:	7338571		**Analysis Date:**	12/10/07		
TC-99 by LSC by DOE TC-02-RC Mod.			**pCi/g**	**TC-02-RC MOD**			**F7L110000-224C**
Technetium 99	33.3	27.6	2.4	0.6	109	83	(64 - 114)
	Batch #:	7345224		**Analysis Date:**	12/14/07		

NOTE(S)

MDC is determined by instrument performance only

DUPLICATE EVALUATION REPORT

Severn Trent Laboratories - Radiochemistry

Client Lot ID: F7K280318 Date Sampled: 11/26/07
Matrix: SOLID Date Received: 11/28/07

Parameter	SAMPLE Result		Total Uncert. (2σ+/-)	% Yld	DUPLICATE Result		Total Uncert. (2 σ+/-)	% Yld	QC Sample ID Precision	
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**GA-01-R MOD**				**F7K280318-001**	
Americium 241	0.03	U	0.16		0.05	U	0.16		47	%RPD
Cesium 137	0.031	U	0.058		0.005	U	0.065		141	%RPD
Thorium 232	**0.83**	J	**0.24**		**1.0**	J	**0.29**		18	%RPD
Uranium 235	0.27	U	0.36		0.27	U	0.35		0.1	%RPD
Uranium 238	**2.30**		**0.91**		**2.8**		**1.7**		19	%RPD
---Other Dedected Radionuclides---										
Actinium 228	**0.83**		**0.24**		**1.0**		**0.29**		18	%RPD
Bismuth 214	**1.10**		**0.22**		**1.10**		**0.27**		0.6	%RPD
Lead 212	**1.39**		**0.26**		**0.96**		**0.22**		37	%RPD
Lead 214	**1.02**		**0.18**		**1.19**		**0.23**		15	%RPD
Potassium 40	**16.2**		**2.1**		**16.8**		**2.7**		4	%RPD
Thallium 208	**0.494**		**0.090**		**0.44**		**0.10**		11	%RPD
Thorium 234	**2.30**		**0.91**		**2.8**		**1.7**		19	%RPD
	Batch #:		7338220	(Sample)	7338220	(Duplicate)				
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**A-01-R MOD**				**F7K280318-002**	
Neptunium 237	-0.011	U	0.033	87	-0.014	U	0.036	81	23	%RPD
	Batch #:		7338568	(Sample)	7338568	(Duplicate)				
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**A-01-R**				**F7K280318-002**	
Plutonium 238	-0.006	U	0.036	84	0.009	U	0.038	89	793	%RPD
Plutonium 239/40	0.009	U	0.025	84	-0.004	U	0.025	89	516	%RPD
	Batch #:		7338570	(Sample)	7338570	(Duplicate)				
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**A-01-R MOD**				**F7K280318-002**	
Uranium 233/234	**1.67**		**0.39**	60	**3.06**		**0.56**	74	59	%RPD
Uranium 235/236	**0.13**	J	**0.10**	60	**0.092**	J	**0.082**	74	32	%RPD
Uranium 238	**0.64**	J	**0.21**	60	**0.97**	J	**0.25**	74	41	%RPD
	Batch #:		7338571	(Sample)	7338571	(Duplicate)				
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**TC-02-RC MOD**				**F7K280318-002**	
Technetium 99	0.20	U	0.36	102	-0.40	U	0.37	97	600	%RPD
	Batch #:		7345224	(Sample)	7345224	(Duplicate)				

NOTE(S)

Data are incomplete without the case narrative.
Calculations are performed before rounding to avoid round-off error in calculated results

J Result is greater than sample detection limit but less than stated reporting limit.

Soil Surveys, Sample Collections, & Chain-of-Custody Procedure

Attachment 5.2-Chain of Custody Record

Client: WEC Hematite
Address:
City: Festus, Mo
State: Mo Zip Code:

Project Manager: Duane Quayle
Telephone Number: 865-368-7477
Site Contact:
Lab Contact: Ivan Vesia

Date: 11/27/07
CoC Number: 3C-2
Page: 6 of 7

Project Name: Hematite Characterization
Project Location:
Carrier/Waybill Number: "313010.202"
Contract/PO Number:

Sample ID Number	Date	Time	Matrix: Air	Aqueous	Sediment	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH		Analysis (Attach list if more space is needed): Isotopic Th	Isotopic Tc-99	Isotopic U	Isotopic Pu	Isotopic Np				
BD-21-9-SL	11/26/07	1645				✓								✓	✓	✓	✓	✓				
BD-20-2.5-SL	11/26/07	1825				✓								✓	✓	✓	✓	✓				
BD-20-4.5-SL	11/26/07	1825				✓								✓		✓	✓	✓				
BD-20-16.5-SL	11/26/07	1846				✓								✓	✓	✓	✓	✓				
BD-18-2.5-SL	11/26/07	1710				✓								✓	✓	✓	✓	✓				
BD-18-4.5-SL	11/26/07	1710				✓								✓		✓	✓	✓				
BD-18-8.5-SL	11/26/07	1715				✓								✓	✓	✓	✓	✓				
BD-17-2.5-SL	11/26/07	1745				✓																

Possible Hazard Identification
- Non-haz. ☐
- Radioactive ☐
- Flammable ☐
- Skin Irritant ☐
- Unknown ☐

Sample Disposal
- Return to client ✓
- Disposal by lab ☐
- Archive for ___ months ☐

Turn Around Time
- 24 hrs ☐
- 48 hrs ☐
- 7 days ☐
- 14 days ☐
- 21 days ☐
- Other 20 days ✓

Comments:

	Date	Time		Date	Time
Relinquished by:	11/28/07	2:42	Received by:	11-28-07	1440
Relinquished by:			Received by:		
Relinquished by:			Received by:		

Soil Surveys, Sample Collections, & Chain-of-Custody Procedure

Attachment 5.2-Chain of Custody Record

Client: WEC Hematite
Address:
City: Festus, Mo
State: MO Zip Code:

Project Manager: Duane Quayle
Telephone Number: 865-348-7477
Site Contact:
Lab Contact: Ivan Venia

Date: 11/27/07
CoC Number: SC-2
Page: 7 of 7

Project Name: Hematite Characterization
Project Location:
Carrier/Waybill Number: 313010.202
Contract/PO Number:

Sample ID Number	Date	Time	Matrix: Air	Aqueous	Sediment	Soil	Containers & Preservatives: Unpres.	H_2SO_4	HNO_3	HCl	NaOH	ZnAc NaOH	Analysis (Attach list if more space is needed): Isotopic Tc-99	Isotopic U	Isotopic Pu	Isotopic Np
BD-17-4.5-SL	11/26/07	1745				✓							✓	✓	✓	✓
BD-17-8.5-SL	11/26/07	1750				✓										

Possible Hazard Identification: Non-haz. / Radioactive / Flammable / Skin Irritant / Unknown

Sample Disposal: Return to client ✓ / Disposal by lab / Archive for __ months

Turn Around Time: 24 hrs / 48 hrs / 7 days / 14 days / 21 days / Other 20 days ✓

Comments:

	Date	Time		Date	Time
Relinquished by:	11/28/07	2:15	Received by:	11/28/07	1445
Relinquished by:			Received by:		
Relinquished by:			Received by:		

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

- 1341 -

Lot #(s): ~~F7K0~~ F7K280308 316 318

Condition Upon Receipt Form

Client: Energy Solutions
Quote No: 77705
COC/RFA No: SC-2, SC-3
Initiated By: BA
Date: 11/20/07
Time: 1443

Shipping Information

Shipper Name: client

Shipping # (s):*

1.		6.	
2.		7.	
3.		8.	
4.		9.	
5.		10.	

*Numbered shipping lines correspond to Numbered Sample Temp lines

Multiple Packages (Y) N

Sample Temperature (s):**

1.	ambient	6.	
2.	1	7.	
3.		8.	
4.		9.	
5.		10.	

**Sample must be received at 4°C ± 2°C- If not, note contents below. Temperature variance does NOT affect the following: Metals-Liquid or Rad tests- Liquid or Solids

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

1.	Y (N)	Are there custody seals present on the cooler?	8.	(Y) N	Are there custody seals present on bottles?
2.	Y N (N/A)	Do custody seals on cooler appear to be tampered with?	9.	Y (N) N/A	Do custody seals on bottles appear to be tampered with?
3.	(Y) N	Were contents of cooler frisked after opening, but before unpacking?	10.	Y N (N/A)	Was sample received with proper pH[1]? (If not, make note below)
4.	(Y) N	Sample received with Chain of Custody?	11.	Y N	If N/A- Was pH taken by original TestAmerica lab?
5.	(Y) N N/A	Does the Chain of Custody match sample ID's on the container(s)?	12.	(Y) N	Sample received in proper containers?
6.	Y (N)	Was sample received broken?	13.	Y N (N/A)	Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below)
7.	(Y) N	Is sample volume sufficient for analysis?	14.	Y N	Was Internal COC/Workshare received?

[1] For DOE-AL (Pantex, LANL, Sandia) sites, pH of ALL containers received must be verified, EXCEPT VOA, TOX and soils.

Notes:

Corrective Action:

- ☐ Client Contact Name: _____ Informed by: _____
- ☐ Sample(s) processed "as is"
- ☐ Sample(s) on hold until: _____ If released, notify: _____

Project Management Review: [signature] Date: 11-3-7

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIAL AND THE DATE NEXT TO THAT ITEM.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

REVISED

PROJECT NO. 313010.202

Hematite Site

Lot #: F7L050305

Paul Ely

Energy Solutions, LLC
1009 Commerce Park Drive
Suite 100
Oak Ridge, TN 37830

TESTAMERICA LABORATORIES, INC.

Ivan Vania
Project Manager

January 7, 2008

13715 Rider Trail North Earth City, MO 63045 tel 314.298.8566 fax 314.298.8757 www.testamericainc.com

METHODS SUMMARY

F7L050305

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Gamma Spectroscopy - Cesium-137 & Hits	EML GA-01-R MOD	
Isotopic Plutonium by Alpha Spectroscopy	EML A-01-R	
Isotopic Uranium by Alpha Spectroscopy	EML A-01-R MOD	
Neptunium by Alpha Spectroscopy	EML A-01-R MOD	
TC-99 by LSC	EML TC-02-RC MO	

References:

EML "ENVIRONMENTAL MEASUREMENTS LABORATORY PROCEDURES MANUAL"
HASL-300 28TH EDITION, VOLUME I and II DEPARTMENT OF ENERGY

SAMPLE SUMMARY

F7L050305

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
KDHL4	001	D08-230-1-SS	11/29/07	12:42
KDHMD	002	D15-230-1-SS	11/29/07	12:25
KDHMG	003	D05-230-1-SS	11/29/07	12:38
KDHMH	004	D13-230-1-SS	11/29/07	12:51
KDHMM	006	BD1-230-1-DUST	11/29/07	19:48
KDKAW	007	BD3-230-1-DUST	12/01/07	08:30

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Case Narrative
LOT NUMBER: F7L050305 – Revision 1

This report contains the analytical results for the seven samples received under chain of custody by TestAmerica St. Louis on December 5, 2007. These samples are associated with your Hematite Site project.

The analytical results included in this report meet all applicable quality control procedure requirements except as noted on the following page.

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

All chemical analysis results are based upon sample as received, wet weight, unless noted otherwise. All radiochemistry results are based upon sample as dried and ground with the exception of tritium, unless requested wet weight by the client.

This revision contains corrected sample identification. The identification for sample F7L050308-007 was changed from "BD1-230-1-DUST" to "BD3-230-1-DUST."

Observations/Nonconformances

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

The lot was received as various limited volume matrices. The enitre sample was weighed and digested. These samples went through six digestions, including two straight HF digestions. Most of the samples did not digest completely to ash.

The samples were analyzed by gamma spectroscopy before a portion was aliquotted for Tc-99. The remainder of the samples were cooked to dryness and processed through the rest of the preparation as listed in the SOP. Most of the samples in the lot were consumed in order to run the analyses required.

The sample results are reported in pCi/g. The sample aliquots were calculated using the original sample weight that was digested. The samples were then brought up to 100 mLs and divided equally for all the analysis. The reporting limits for all analyses may be elevated due to the limited initial sample volumes or high activities of the samples.

Sample F7L050305-005 consisted of one small insect in total. There was not enough matrix to perform any analyses. The sample was removed from the lot and will not be invoiced.

Gamma Spectroscopy - Cesium-137 & Hits (EML GA-01-R MOD)
The reporting limits for various gamma isotopes were not met due to insufficient sample volume available for analysis.

Affected Samples:
F7L050305 (1): D08-230-1-SS
F7L050305 (2): D15-230-1-SS
F7L050305 (3): D05-230-1-SS
F7L050305 (4): D13-230-1-SS
F7L050305 (6): BD1-230-1-DUST
F7L050305 (7): BD1-230-1-DUST

The presence of Thorium-234/Uranium-238 indicates the presence of Protactinium-234M. The Protactinium-234M results were calculated above the MDA in the samples. However, the results may be biased high due to the low abundances at keyline 1001.3 keV.

Affected Samples:
F7L050305 (6): BD1-230-1-DUST
F7L050305 (7): BD1-230-1-DUST

Isotopic Uranium by Alpha Spectroscopy (EML A-01-R MOD)

The original preparation of Uranium samples required an additional dilution due to high activity. .
The re-extracted Uranium sample results are acceptable and reported. The reporting limits for Uranium were not met due to a reduction of sample size attributed to the high activity of the samples.

Affected Samples:
F7L050305 (1): D08-230-1-SS
F7L050305 (3): D05-230-1-SS
F7L050305 (4): D13-230-1-SS
F7L050305 (6): BD1-230-1-DUST
F7L050305 (7): BD1-230-1-DUST

Isotopic Plutonium by Alpha Spectroscopy (EML A-01-R MOD)

The high activity of Uranium-234 is interfering with the Plutonium spectra. The sample was re-prepared and reanalyzed at a dilution. In the re-extract batch the LCS recovery for Plutonium-239 is outside the upper QC limit, indicating a potential positive bias for that analyte. There was insufficient sample to perform re-preparation/reanalysis.
The reporting limit for Plutonium was not met due to a reduction of sample size attributed to the high activity of the sample.

Affected Samples:
F7L050305 (7): BD1-230-1-DUST

Neptunium by Alpha Spectroscopy EML A-01-R MOD

The high activity of Uranium in the sample is causing interference in the Neptunium tracer spectrum. The sample was re-prepared and reanalyzed. In the re-extract batch the Neptunium LCS/LCSD tracer recovery is outside acceptance limits. LCS/LCSD spike recoveries are within QC limits demonstrating acceptable sample preparation and instrument performance. There is an apparent anomaly in the sample preparation, isolated to the LCS and not indicative of the batch.

Affected Samples:
F7L050305 (7): BD1-230-1-DUST

The Neptunium LCS tracer recovery is outside acceptance limits. LCS spike recoveries are within QC limits demonstrating acceptable sample preparation and instrument performance. There is an apparent anomaly in the sample preparation, isolated to the LCS and not indicative of the batch.

Affected Samples:
F7L050305 (1): D08-230-1-SS
F7L050305 (2): D15-230-1-SS
F7L050305 (3): D05-230-1-SS
F7L050305 (4): D13-230-1-SS
F7L050305 (7): BD1-230-1-DUST

Tc-99 by LSC (EML TC-02-RC MOD)
The Technesium-99 reporting limit was not met due to insufficient sample volume available for analysis. Analytical results are reported with the MDC achieved.
Affected Samples:
F7L050305 (2): D15-230-1-SS
F7L050305 (3): D05-230-1-SS
F7L050305 (6): BD1-230-1-DUST

There were no other nonconformances or observations noted with any analysis on this lot.

METHODS SUMMARY

F7K280308

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Gamma Spectroscopy - Cesium-137 & Hits	EML GA-01-R MOD	
Isotopic Plutonium by Alpha Spectroscopy	EML A-01-R	
Isotopic Uranium by Alpha Spectroscopy	EML A-01-R MOD	
Neptunium by Alpha Spectroscopy	EML A-01-R MOD	
TC-99 by LSC	EML TC-02-RC MO	

References:

EML "ENVIRONMENTAL MEASUREMENTS LABORATORY PROCEDURES MANUAL"
HASL-300 28TH EDITION, VOLUME I and II DEPARTMENT OF ENERGY

SAMPLE SUMMARY

F7K280308

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
KC12W	001	D04-230-1-SS	11/28/07	08:28
KC121	002	D05-230-1-SS	11/28/07	08:30
KC124	003	D08-230-1-SS	11/28/07	08:42
KC127	004	D13-230-1-SS	11/28/07	08:35
KC13H	005	D15-230-1-SS	11/28/07	08:59
KC13J	006	D01-230-2-SS	11/28/07	09:50
KC13K	007	D02-230-2-SS	11/28/07	09:35
KC13M	008	D03-230-2-SS	11/28/07	09:55
KC13P	009	D04-230-2-SS	11/28/07	10:00
KC13Q	010	D01-230-3-SS	11/28/07	14:00
KC13R	011	D02-230-3-SS	11/28/07	10:05
KC13V	012	D03-230-3-SS	11/28/07	10:10
KC13W	013	D01-110-3-SS	11/28/07	07:55

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Energy Solutions, LLC

Client Sample ID: D04-230-1-SS

Radiochemistry

Lab Sample ID: F7K280308-001
Work Order: KC12W
Matrix: SOLID

Date Collected: 11/28/07 0828
Date Received: 11/28/07 1456

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7351143**	**Yld % 105**
Technetium 99	0.25	U	0.35	1.00	0.57	12/17/07	12/20/07

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: D04-230-1-SS DUP

Radiochemistry

Lab Sample ID: F7K280308-001X
Work Order: KC12W
Matrix: SOLID

Date Collected: 11/28/07 0828
Date Received: 11/28/07 1456

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**		**Batch # 7351143**	**Yld % 108**
Technetium 99	0.01	U	0.33	1.00	0.56	12/17/07	12/20/07

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: D08-230-1-SS

Radiochemistry

Lab Sample ID: F7L050305-001
Work Order: KDHL4
Matrix: SOLID

Date Collected: 11/29/07 1242
Date Received: 12/05/07 1225

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7347430	Yld % 88
Neptunium 237	-0.0045	U	0.0032	1.00	0.021	12/13/07	12/20/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7347431	Yld % 85
Plutonium 238	-0.0033	U	0.0027	1.00	0.019	12/13/07	12/19/07
Plutonium 239/40	-0.0010	U	0.0015	1.00	0.014	12/13/07	12/19/07
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g		Batch # 7351143	Yld % 103
Technetium 99	0.12	U	0.28	1.00	0.47	12/17/07	12/21/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7351211	Yld %
Americium 241	-0.24	U	0.80	1.00	1.3	12/17/07	12/17/07
Cesium 137	-0.01	U	0.60	1.00	1.1	12/17/07	12/17/07
Thorium 232	-0.8	U	10	1	4	12/17/07	12/17/07
Uranium 235	3.2	U	2.7	1.0	4.4	12/17/07	12/17/07
Uranium 238	4.9	U	3.7	1.0	11	12/17/07	12/17/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7354466	Yld % 87
Uranium 233/234	65		10	1	2	12/20/07	12/20/07
Uranium 235/236	1.3	U	1.5	1.0	1.8	12/20/07	12/20/07
Uranium 238	11.6		3.9	1.0	1.9	12/20/07	12/20/07

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: D08-230-1-SS DUP

Radiochemistry

Lab Sample ID: F7L050305-001X
Work Order: KDHL4
Matrix: SOLID

Date Collected: 11/29/07 1242
Date Received: 12/05/07 1225

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**Batch # 7351211**		**Yld %**
Americium 241	-0.06	U	0.48	1.00	0.83	12/17/07	12/17/07
Cesium 137	0.06	U	0.50	1.00	0.94	12/17/07	12/17/07
Thorium 232	0.5	U	1.5	1.0	2.7	12/17/07	12/17/07
Uranium 235	**3.8**		**2.0**	1.0	3.0	**12/17/07**	**12/17/07**
Uranium 238	7.3	U	3.7	1.0	8.4	12/17/07	12/17/07

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: D15-230-1-SS

Radiochemistry

Lab Sample ID: F7L050305-002
Work Order: KDHMD
Matrix: SOLID

Date Collected: 11/29/07 1225
Date Received: 12/05/07 1225

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7347430	Yld % 105
Neptunium 237	0.49	J	0.37	1.00	0.41	12/13/07	12/20/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7347431	Yld % 96
Plutonium 238	0.11	U	0.23	1.00	0.43	12/13/07	12/19/07
Plutonium 239/40	-0.012	U	0.024	1.00	0.27	12/13/07	12/19/07
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g		Batch # 7351143	Yld % 102
Technetium 99	5.8	U	7.0	1.0	11	12/17/07	12/21/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7347433	Yld % 93
Uranium 233/234	808		69	1	0.4	12/13/07	12/19/07
Uranium 235/236	36.0		4.5	1.0	0.2	12/13/07	12/19/07
Uranium 238	130		12	1	0.3	12/13/07	12/19/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7351211	Yld %
Americium 241	-7	U	18	1	30	12/17/07	12/17/07
Cesium 137	6	U	15	1	26	12/17/07	12/17/07
Thorium 232	-20	U	250	1	100	12/17/07	12/17/07
Uranium 235	77	U	66	1	110	12/17/07	12/17/07
Uranium 238	127	U	75	1	270	12/17/07	12/17/07

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: D05-230-1-SS

Radiochemistry

Lab Sample ID: F7L050305-003
Work Order: KDHMG
Matrix: SOLID

Date Collected: 11/29/07 1238
Date Received: 12/05/07 1225

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7347430	Yld % 100
Neptunium 237	0.46	J	0.16	1.00	0.08	12/13/07	12/20/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7347431	Yld % 99
Plutonium 238	0.019	U	0.038	1.00	0.070	12/13/07	12/19/07
Plutonium 239/40	0.023	U	0.037	1.00	0.055	12/13/07	12/19/07
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g		Batch # 7351143	Yld % 97
Technetium 99	0.2	U	1.5	1.0	2.5	12/17/07	12/21/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7351211	Yld %
Americium 241	-2.5	U	4.7	1.0	7.7	12/17/07	12/17/07
Cesium 137	0.2	U	3.0	1.0	5.4	12/17/07	12/17/07
Thorium 232	-2	U	27	1	22	12/17/07	12/17/07
Uranium 235	139		28	1	24	12/17/07	12/17/07
Uranium 238	246		40	1	64	12/17/07	12/17/07
--- Other Detected Radionuclides ---							
Bismuth 214	18.5		8.7		11	12/17/07	12/17/07
Thorium 234	246		40		64	12/17/07	12/17/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7354466	Yld % 94
Uranium 233/234	2030		230	1	20	12/20/07	12/20/07
Uranium 235/236	106		39	1	14	12/20/07	12/20/07
Uranium 238	315		64	1	11	12/20/07	12/20/07

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: D13-230-1-SS

Radiochemistry

Lab Sample ID: F7L050305-004
Work Order: KDHMH
Matrix: SOLID

Date Collected: 11/29/07 1251
Date Received: 12/05/07 1225

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7347430	Yld % 88
Neptunium 237	-0.0024	U	0.0021	1.00	0.016	12/13/07	12/20/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7347431	Yld % 101
Plutonium 238	-0.0030	U	0.0022	1.00	0.014	12/13/07	12/19/07
Plutonium 239/40	0.0020	U	0.0041	1.00	0.0055	12/13/07	12/19/07
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g		Batch # 7351143	Yld % 96
Technetium 99	0.43	U	0.27	1.00	0.43	12/17/07	12/21/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7351211	Yld %
Americium 241	0.48	U	0.60	1.00	0.99	12/17/07	12/18/07
Cesium 137	0.28	U	0.46	1.00	0.77	12/17/07	12/18/07
Thorium 232	-1.8	U	7.1	1.0	4.0	12/17/07	12/18/07
Uranium 235	12.8		3.6	1.0	4.3	12/17/07	12/18/07
Uranium 238	14.8		4.8	1.0	10	12/17/07	12/18/07
--- Other Detected Radionuclides ---							
Thorium 234	14.8		4.8		10	12/17/07	12/18/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7354466	Yld % 88
Uranium 233/234	156		20	1	1	12/20/07	12/20/07
Uranium 235/236	6.3		3.3	1.0	1.1	12/20/07	12/20/07
Uranium 238	26.5		6.4	1.0	0.9	12/20/07	12/20/07

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD1-230-1-DUST

Radiochemistry

Lab Sample ID: F7L050305-006
Work Order: KDHMM
Matrix: SOLID

Date Collected: 11/29/07 1948
Date Received: 12/05/07 1225

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g		Batch # 7351143	Yld % 103
Technetium 99	6.0	U	4.9	1.0	8.0	12/17/07	12/21/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7351211	Yld %
Americium 241	35	U	25	1	40	12/17/07	12/18/07
Cesium 137	-0.1	U	12	1	21	12/17/07	12/18/07
Thorium 232	1	U	35	1	68	12/17/07	12/18/07
Uranium 235	2240		220	1	130	12/17/07	12/18/07
Uranium 238	5950		530	1	340	12/17/07	12/18/07
--- Other Detected Radionuclides ---							
Protactinium 234M	8900		2300		2600	12/17/07	12/18/07
Thorium 234	5950		530		340	12/17/07	12/18/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7354466	Yld % 85
Uranium 233/234	54100		5100	1	200	12/20/07	12/20/07
Uranium 235/236	2800		640	1	90	12/20/07	12/20/07
Uranium 238	8000		1100	1	100	12/20/07	12/20/07

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Energy Solutions, LLC

Client Sample ID: BD3-230-1-DUST

Radiochemistry

Lab Sample ID: F7L050305-007
Work Order: KDKAW
Matrix: SOLID

Date Collected: 12/01/07 0830
Date Received: 12/05/07 1225

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
TC-99 by LSC by DOE TC-02-RC Mod.				pCi/g		Batch # 7351143	Yld % 97
Technetium 99	0.75	J	0.40	1.00	0.62	12/17/07	12/21/07
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 7351211	Yld %
Americium 241	-5.6	U	5.9	1.0	9.7	12/17/07	12/18/07
Cesium 137	0.2	U	2.3	1.0	3.9	12/17/07	12/18/07
Thorium 232	1.5	U	7.2	1.0	12	12/17/07	12/18/07
Uranium 235	3310		270	1	40	12/17/07	12/18/07
Uranium 238	6240		500	1	90	12/17/07	12/18/07
--- Other Detected Radionuclides ---							
Bismuth 212	31		19		28	12/17/07	12/18/07
Protactinium 234M	9260		820		370	12/17/07	12/18/07
Thorium 234	6240		500		90	12/17/07	12/18/07
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7354468	Yld % 100
Neptunium 237	0.89	U	0.88	1.00	1.1	12/20/07	12/21/07
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7354464	Yld % 89
Plutonium 238	46	U	70	1	120	12/20/07	12/20/07
Plutonium 239/40	0.0	U	15	1	46	12/20/07	12/20/07
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		Batch # 7354466	Yld % 86
Uranium 233/234	40900		3900	1	100	12/20/07	12/20/07
Uranium 235/236	1880		450	1	100	12/20/07	12/20/07
Uranium 238	6090		850	1	100	12/20/07	12/20/07

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

METHOD BLANK REPORT

Radiochemistry

Client Lot ID: F7L050305
Matrix: SOLID

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC		Prep Date	Analysis Date	Lab Sample ID
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD			pCi/g	Batch #	7347430	Yld %	102		F7L130000-430B
Neptunium 237	-0.0018	U	0.0036	1.00	0.041		12/13/07	12/20/07	
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD			pCi/g	Batch #	7347431	Yld %	97		F7L130000-431B
Plutonium 238	0.035	U	0.040	1.00	0.051		12/13/07	12/20/07	
Plutonium 239/40	0.002	U	0.021	1.00	0.059		12/13/07	12/20/07	
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g	Batch #	7347433	Yld %	98		F7L130000-433B
Uranium 233/234	0.74	J	0.19	1.00	0.06		12/13/07	12/20/07	
Uranium 235/236	0.34	J	0.13	1.00	0.05		12/13/07	12/20/07	
Uranium 238	0.33	J	0.12	1.00	0.05		12/13/07	12/20/07	
TC-99 by LSC by DOE TC-02-RC Mod.			pCi/g	Batch #	7351143	Yld %	103		F7L170000-143B
Technetium 99	0.07	U	0.35	1.00	0.58		12/17/07	12/20/07	
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			pCi/g	Batch #	7351211	Yld %			F7L170000-211B
Americium 241	0.004	U	0.11	1.00	0.19		12/17/07	12/18/07	
Cesium 137	0.009	U	0.084	1.00	0.15		12/17/07	12/18/07	
Thorium 232	-0.05	U	0.51	1.00	0.60		12/17/07	12/18/07	
Uranium 235	-0.004	U	0.40	1.00	0.65		12/17/07	12/18/07	
Uranium 238	0.2	U	1.2	1.0	1.7		12/17/07	12/18/07	
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD			pCi/g	Batch #	7354468	Yld %	95		F7L200000-468B
Neptunium 237	-0.0007	U	0.012	1.00	0.034		12/20/07	12/21/07	
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD			pCi/g	Batch #	7354464	Yld %	78		F7L200000-464B
Plutonium 238	0.018	U	0.023	1.00	0.033		12/20/07	12/21/07	
Plutonium 239/40	0.002	U	0.012	1.00	0.031		12/20/07	12/21/07	
Iso URANIUM (SHORT CT) DOE A-01-R MOD			pCi/g	Batch #	7354466	Yld %	86		F7L200000-466B
Uranium 233/234	0.009	U	0.016	1.00	0.027		12/20/07	12/20/07	
Uranium 235/236	0.0	U	0.0058	1.00	0.018		12/20/07	12/20/07	
Uranium 238	0.009	U	0.016	1.00	0.026		12/20/07	12/20/07	

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined using instrument performance only

Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit.

Laboratory Control Sample Report

Radiochemistry

Client Lot ID: F7L050305
Matrix: SOLID

Parameter	Spike Amount	Result	Total Uncert. (2 σ+/-)	MDC	% Yld	% Rec	Lab Sample ID / QC Control Limits
TC-99 by LSC by DOE TC-02-RC Mod.			pCi/g	TC-02-RC MOD			F7L170000-143C
Technetium 99	33.3	28.3	2.5	0.5	110	85	(64 - 114)
	Batch #:	7351143		Analysis Date:	12/20/07		
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			pCi/g	GA-01-R MOD			F7L170000-211C
Americium 241	1570	1500	120	3		95	(85 - 118)
Cesium 137	626	634	37	2		101	(91 - 120)
Cobalt 60	1040	1020	58	2		98	(91 - 112)
	Batch #:	7351211		Analysis Date:	12/18/07		

NOTE(S)

MDC is determined by instrument performance only
Calculations are performed before rounding to avoid round-off error in calculated results
Spiked analyte outside of stated QC limits

Laboratory Control Sample/LCS Duplicate Report

Radiochemistry

Client Lot ID: F7L050305
Matrix: SOLID

Parameter		Spike Amount	Result		Total Uncert. (2 σ+/-)	% Yld	% Rec		QC Control Limits	Precision	
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**A-01-R MOD**				**F7L130000-430C**		
Neptunium 237		13.3	11.9		1.2	117	90		(75 - 119)		
	Spk 2	13.3	13.3		1.3	105	100		(75 - 119)	11	%RPD
		Batch #:	7347430			Analysis Date:	12/20/07				
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**A-01-R**				**F7L130000-431C**		
Plutonium 238		6.13	5.98		0.69	100	98		(77 - 112)		
	Spk 2	6.13	6.12		0.70	98	100		(77 - 112)	2	%RPD
Plutonium 239/40		5.77	5.80		0.67	100	100		(82 - 119)		
	Spk 2	5.77	5.67		0.66	98	98		(82 - 119)	2	%RPD
		Batch #:	7347431			Analysis Date:	12/19/07				
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**A-01-R MOD**				**F7L130000-433C**		
Uranium 233/234		6.56	7.26		0.81	92	110		(76 - 128)		
	Spk 2	6.56	8.06		0.89	83	123		(76 - 128)	10	%RPD
Uranium 238		6.82	7.38		0.82	92	108		(74 - 125)		
	Spk 2	6.82	7.58		0.85	83	111		(74 - 125)	3	%RPD
		Batch #:	7347433			Analysis Date:	12/19/07				
ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**A-01-R MOD**				**F7L200000-468C**		
Neptunium 237		6.64	6.02		0.60	119	91		(75 - 119)		
	Spk 2	6.64	6.23		0.62	112	94		(75 - 119)	3	%RPD
		Batch #:	7354468			Analysis Date:	12/21/07				
Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**A-01-R**				**F7L200000-464C**		
Plutonium 238		3.06	3.16		0.38	85	103		(77 - 112)		
	Spk 2	3.06	3.19		0.37	89	104		(77 - 112)	1	%RPD
Plutonium 239/40		2.88	3.52	a	0.41	85	122	a	(82 - 119)		
	Spk 2	2.88	3.20		0.37	89	111		(82 - 119)	9	%RPD
		Batch #:	7354464			Analysis Date:	12/21/07				
Iso URANIUM (SHORT CT) DOE A-01-R MOD				**pCi/g**	**A-01-R MOD**				**F7L200000-466C**		
Uranium 233/234		3.28	3.57		0.40	93	109		(76 - 128)		
	Spk 2	3.28	3.75		0.42	91	114		(76 - 128)	5	%RPD
Uranium 238		3.41	3.61		0.41	93	106		(74 - 125)		
	Spk 2	3.41	3.60		0.41	91	106		(74 - 125)	0.2	%RPD
		Batch #:	7354466			Analysis Date:	12/20/07				

NOTE(S)

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

a Spiked analyte outside of stated QC limits

DUPLICATE EVALUATION REPORT

Radiochemistry

Client Lot ID: F7L050305 Date Sampled: 11/28/07
Matrix: SOLID Date Received: 11/28/07

Parameter	SAMPLE Result		Total Uncert. (2σ+/-)	% Yld	DUPLICATE Result		Total Uncert. (2 σ+/-)	% Yld	QC Sample ID Precision	
TC-99 by LSC by DOE TC-02-RC Mod.				**pCi/g**	**TC-02-RC MOD**				**F7K280308-001**	
Technetium 99	0.25	U	0.35	105	0.01	U	0.33	108	179	%RPD
	Batch #:		7351143	(Sample)	7351143		(Duplicate)			
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				**pCi/g**	**GA-01-R MOD**				**F7L050305-001**	
Americium 241	-0.24	U	0.80		-0.06	U	0.48		121	%RPD
Cesium 137	-0.01	U	0.60		0.06	U	0.50		293	%RPD
Thorium 232	-0.8	U	10		0.5	U	1.5		803	%RPD
Uranium 235	3.2	U	2.7		3.8		2.0		19	%RPD
Uranium 238	4.9	U	3.7		7.3	U	3.7		38	%RPD
	Batch #:		7351211	(Sample)	7351211		(Duplicate)			

NOTE(S)

Data are incomplete without the case narrative.
Calculations are performed before rounding to avoid round-off error in calculated results

U Result is less than the sample detection limit.

F7L050305 CLIENT ANALYSIS SUMMARY

Storage Loc: RAD

Project Manager: IV | Quote #: 77705 | SDG:

Project: 313010.202 | Hematite Site

PO#: | Report to: Paul Ely

Client: 1381304 Energy Solutions, LLC

#SMPS in LOT: 6

Date Received: 2007-12-05
Analytical Due Date: 2007-12-20
Report Due Date: 2007-12-21
Report Type: W
EDD Code: 00

Gamma library MUST contain U-235, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
1	D08-230-1-SS			2007-11-29 / 1242	KDHL4	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
2	D15-230-1-SS			2007-11-29 / 1225	KDHMD	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
3	D05-230-1-SS			2007-11-29 / 1238	KDHMG	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
4	D13-230-1-SS			2007-11-29 / 1251	KDHMH	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

F7L050305

CLIENT ANALYSIS SUMMARY

Storage Loc: RAD
Date Received: 2007-12-05
Analytical Due Date: 2007-12-20
Report Due Date: 2007-12-21
Report Type: W
EDD Code: 00

Project Manager: IV
Quote #: 77705
SDG:
Project: 313010.202
Hematite Site
PO#:
Report to: Paul Ely
Client: 1381304 Energy Solutions, LLC
#SMPS in LOT: 6

Gamma library MUST contain U-235, U-238, Th-232, and Am-241 Standard QA/QC acceptable.

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
5	D12-230-1-SS			2007-11-29 / 1650	KDHMJ	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
6	BD1-230-1-DUST			2007-11-29 / 1948	KDHMM	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
7	BD1-230-1-DUST			2007-11-29 / 830	KDKAW	SOLID

SAMPLE COMMENTS:

XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0A	EML	GA-01-R MOD	Gamma Cs-137 & Hits by DOE GA-01-R MOD.	G6	Dry, Grind, and Fill Geometry	2X	SPECIAL PROJECTS	PROT: A	WRK LOC	06
XX	2H	EML	A-01-R	Iso PLUTONIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2I	EML	A-01-R MOD	Iso URANIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	2Q	EML	TC-02-RC MOD	TC-99 by LSC by DOE TC-02-RC Mod.	IM	TC-99 by Extraction Chromatography Resin	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	3K	EML	A-01-R MOD	ISO NEPTUNIUM (SHORT CT) DOE A-01-R MOD	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: A	WRK LOC	06

Soil Surveys, Sample Collections, & Chain-of-Custody Procedure

Attachment 5.2-Chain of Custody Record

Client: WEC Hematite
Address: –
City: Festus, Mo
State: MO Zip Code: _____

Project Manager: Duane Quayle
Telephone Number: 865-348-7477
Site Contact: _____
Lab Contact: Ivan Venia

Date: 11/29/07
CoC Number: SC-4 Revision 1
Page: 1 of 1
ACE 12/4/07

Project Name: Hematite Characterization
Project Location: _____
Carrier/Waybill Number: 313010.202
Contract/PO Number: _____

Sample ID Number	Date	Time	Matrix: Air	Aqueous	Sediment	Soil		Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc NaOH		Analysis (Attach list if more space is needed): Basic	Isotopic Tc-99	Isotopic U	Isotopic Pu	Isotopic Np					
D08-230-1-SS	11-29-07	12:42			X										X	X	X	X	X					
D15-230-1-SS	11-29-07	12:25			X										X	X	X	X	X					
D05-230-1-SS	11-29-07	12:38			X										X	X	X	X	X					
D13-230-1-SS	11-29-07	12:51			X										X	X	X	X	X					
D12-230-1-SS	11-29-07	16:50			X										X	X	X	~~X~~	ACE					
BD1-230-1-DUST	11-29-07	17:48				X									X	X	X	X	X					
~~BD2-230-1-CRACKO~~	ACE 12/3/07																							
BD3-230-1-Dust	12-01-07	08:30				X									X	X	X	X	X		ACE		12/6/07	

Possible Hazard Identification: Non-haz. / Radioactive / Flammable / Skin Irritant / Unknown

Sample Disposal: Return to client ✓ / Disposal by lab / Archive for ___ months

Turn Around Time: 24 hrs / 48 hrs / 7 days / 14 days / 21 days / Other ~~20~~ 15 days ✓ ACE 11-29-07

Comments:

	Date	Time		Date	Time
Relinquished by: [signature]	12/5/07	12:25	Received by: [signature]	12/5/07	12:25
Relinquished by:			Received by:		
Relinquished by:			Received by:		

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Lot #(s): F7L050305

- 1359 -

Condition Upon Receipt Form

Client: Energy Solutions COC/RFA No: N/A Date: 12/5/07
Quote No: 77704 Initiated By: 60 Time: 1124

Shipping Information

Shipper Name: client Multiple Packages Y (N)

Shipping # (s):*
1. 2. 3. 4. 5. 6. 7. 8. 9. 10.

Sample Temperature (s):**
1. ambient 2. 3. 4. 5. 6. 7. 8. 9. 10.

*Numbered shipping lines correspond to Numbered Sample Temp lines

**Sample must be received at 4°C ± 2°C- If not, note contents below. Temperature variance does NOT affect the following: Metals-Liquid or Rad tests- Liquid (or Solids)

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

1.	Y (N)	Are there custody seals present on the cooler?	8.	Y (N)	Are there custody seals present on bottles?
2.	Y N (N/A)	Do custody seals on cooler appear to be tampered with?	9.	Y N (N/A)	Do custody seals on bottles appear to be tampered with?
3.	(Y) N	Were contents of cooler frisked after opening, but before unpacking?	10.	Y N (N/A)	Was sample received with proper pH[1]? (If not, make note below)
4.	(Y) N	Sample received with Chain of Custody?	11.	Y N	If N/A- Was pH taken by original TestAmerica lab?
5.	(Y) N N/A	Does the Chain of Custody match sample ID's on the container(s)?	12.	(Y) N	Sample received in proper containers?
6.	Y (N)	Was sample received broken?	13.	Y N (N/A)	Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below)
7.	(Y) N	Is sample volume sufficient for analysis?	14.	Y N	Was Internal COC/Workshare received?

[1] For DOE-AL (Pantex, LANL, Sandia) sites, pH of ALL containers received must be verified, EXCEPT VOA, TOX and soils.

Notes:

Corrective Action:
- ☐ Client Contact Name: Informed by:
- ☐ Sample(s) processed "as is"
- ☐ Sample(s) on hold until: If released, notify:

Project Management Review: [signature] Date: 12-11-7

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIALS AND THE DATE NEXT TO THAT ITEM.

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