# PAI 713 Rev 10 Sample Results

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 0906096

Client Name: Environmental Restoration Group, Inc.

ClientProject ID:

Field ID: SID-12

**Lab ID:** 0906096-7

Library: RA226.LIB

Sample Matrix: SOIL

Prep SOP: PAI 739 Rev 9

Date Collected: 05-Jun-09 Date Prepared: 20-Jun-09

Date Analyzed: 11-Jul-09

Prep Batch: GS090620-2

QCBatchID: GS090620-2-1

Run ID: GS090620-2A Count Time: 30 minutes

Report Basis: Dry Weight

Final Aliquot: 209 g

Prep Basis: Dry Weight Moisture(%): NA Result Units: pCi/g

File Name: 090837d08A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	Lab Qualifier
13982-63-3	Ra-226	37.9 +/- 4.5	0.9	0.2	M3

### Comments:

### Qualifiers/Flags:

- $\bar{U}_{\parallel}$  Result is less than the sample specific MDC or less than the associated TPU
- Y1 Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- Y2 Chemical Yield outside cefault limits.
- LT Result is less than Requested MDC, greater than sample specific MDC.
- M3 The requested MDC was not met, but the reported activity is greater than the reported MDC.
- M The requested MDC was not met.

#### Abbreviations:

- TPU Total Propagated Uncertainty (see PAI SOP 743)
- MDC Minimum Detectable Concentration (see PAI SOP 709)
- BDL Below Detection Limit

Data Package ID: GSS0906096-1

- SQ Spectral quality prevents accurate quantitation.
- SI Nuclide identification, and/or quantitation is tentative
- TI Nuclide identification is tentative.
- R Nuclide has exceeded 8 halflives.
- G Sample density differs by more than 15% of LCS density

### PAI 713 Rev 10 Sample Results

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 0906096

Client Name: Environmental Restoration Group, Inc.

ClientProject ID:

Field ID: SID-12 Lab ID: 0906096-7

Library: FANP.LIB

Sample Matrix: SOIL

Prep SOP: PAI 739 Rev 9
Date Collected: 05-Jun-09

Date Prepared: 20-Jun-09

Date Analyzed: 11-Jul-09

Prep Batch: GS090620-2

QCBatchID: GS090620-2-1

Run ID: GS090620-2A Count Time: 30 minutes Report Basis: Dry Weight Final Aliquot: 209 g

Prep Basis: Dry Weight Moisture(%): NA Result Units: pCi/g File Name: 090837d08

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	Lab Qualifier
14331-83-0	Ac-228	1.33 +/- 0.90	1.36		U
13966-00-2	K-40	16.2 +/- 4.0	3.8		
15100-28-4	Pa-234m	32 +/- 36	59		U
15065-10-8	Th-234	8.9 +/- 3.0	5.1		
14913-50-9	TI-208	0.26 +/- 0.20	0.31		U

#### Comments:

### Qualifiers/Flags:

- U Result is less than the sample specific MDC or less than the associated TPU
- Y1 Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- Y2 Chemical Yield outside default limits.
- LT Result is less than Requested MDC, greater than sample specific MDC.
- M3 The requested MDC was not met, but the reported activity is greater than the reported MDC.
- M The requested MDC was not met.

#### Abbreviations

- TPU Total Propagated Uncertainty (see PAI SOP 743)
- MDC Minimum Detectable Concentration (see PAI SOP 709)
- BDL Below Detection Limit

- SQ Spectral quality prevents accurate quantitation.
- SI Nuclide identification and/or quantitation is tentative.
- TI Nuclide identification is tentative
- R Nuclide has exceeded 8 halflives.
- G Sample density differs by more than 15% of LCS density.

### **PAI 713 Rev 10** Sample Results

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 0906096

Client Name: Environmental Restoration Group, Inc.

ClientProject ID:

Field ID: SID-12D

Lab ID: 0906096-8

Library: RA226.LIB

Sample Matrix: SOIL

Prep SOP: PAI 739 Rev 9 Date Collected: 05-Jun-09

Date Prepared: 20-Jun-09

Date Analyzed: 11-Jul-09

Prep Batch: GS090620-2

QCBatchID: GS090620-2-1 Run ID: GS090620-2A

Count Time: 60 minutes Report Basis: Dry Weight Final Aliquot: 201 g

Prep Basis: Dry Weight Moisture(%): NA Result Units: pCi/g

File Name: 090619d10A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	Lab Qualifier
13982-63-3	Ra-226	32.6 +/- 3.9	0.7	0.2	M3

#### Comments:

- U Result is less than the sample specific MDC or less than the associated TPU
- Y1 Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- Y2 Chemical Yield outside default limits.
- LT Result is less than Requested MDC, greater than sample specific MDC.
- M3 The requested MDC was not met, but the reported activity is greater than the reported MDC
- M The requested MDC was not met.

- TPU Total Propagated Uncertainty (see PAI SOP 743)
- MDC Minimum Detectable Concentration (see PAI SOP 709)
- BDL Below Detection Limit

Data Package ID: GSS0906096-1

- SQ Spectral quality prevents accurate quantitation
- SI Nuclide identification, and/or quantitation is tentative.
- TI Nuclide identification is tentative
- R Nuclide has exceeded 8 halflives.
- G Sample density differs by more than 15% of LCS density.

ALS Laboratory Group - FC LIMS Version: 6.279A

Page 15 of 34

### PAI 713 Rev 10 Sample Results

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 0906096

Client Name: Environmental Restoration Group, Inc.

ClientProject ID:

Field ID: SID-12D Lab ID: 0906096-8

Library: FANP.LIB

Sample Matrix: SOIL

Prep SOP: PAI 739 Rev 9

Date Collected: 05-Jun-09 Date Prepared: 20-Jun-09

Date Analyzed: 11-Jul-09

Prep Batch: GS090620-2

QCBatchID: GS090620-2-1

Run ID: GS090620-2A Count Time: 60 minutes Report Basis: Dry Weight Final Aliquot: 201 g

Prep Basis: Dry Weight Moisture(%): NA Result Units: pCi/g File Name: 090619d10

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	Lab Qualifier
14331-83-0	Ac-228	0.92 +/- 0.54	0.90		TI
13966-00-2	K-40	14.6 +/- 3.2	3.1		
15100-28-4	Pa-234m	-18 +/- 27	49		U
15065-10-8	Th-234	3.3 +/- 3.3	5.3		U
14913-50-9	TI-208	0.28 +/- 0.18	0.28		U

#### Comments:

#### Qualifiers/Flags

- U Result is less than the sample specific MDC or less than the associated TPU
- Y1 Chemical Yield is in control at 100-110%. Quantitative Yield is assumed
- Y2 Chemical Yield outside default limits.
- LT Result is less than Requested MDC, greater than sample specific MDC.
- M3 The requested MDC was not met, but the reported activity is greater than the reported MDC.
- M The requested MDC was not met.

#### Abbreviations

- TPU Total Propagated Uncertainty (see PAI SOP 743)
- MDC Minimum Detectable Concentration (see PAI SOP 709)
- BDL Below Detection Limit

Data Package ID: GSS0906096-1

- SQ Spectral quality prevents accurate quantitation.
- SI Nuclide identification and/or quantitation is tentative.
- TI Nuclide identification is tentative
- R Nuclide has exceeded 8 halflives
- G Sample density differs by more than 15% of LCS density.

37

### **PAI 713 Rev 10** Sample Results

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 0906096

Client Name: Environmental Restoration Group, Inc.

ClientProject ID:

Field ID: SID-14

Lab ID: 0906096-9

Library: RA226.LIB

Sample Matrix: SOIL

Prep SOP: PAI 739 Rev 9

Date Collected: 05-Jun-09

Date Prepared: 20-Jun-09

Date Analyzed: 11-Jul-09

Prep Batch: GS090620-2

QCBatchID: GS090620-2-1

Run ID: GS090620-2A Count Time: 30 minutes

Report Basis: Dry Weight

Final Aliquot: 201 g

Prep Basis: Dry Weight Moisture(%): NA

Result Units: pCi/g

File Name: 090940d04A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	Lab Qualifier
13982-63-3	Ra-226	15.2 +/- 1.9	0.6	0.2	M3

### Comments:

### Qualifiers/Flags:

- U Result is less than the sample specific MDC or less than the associated TPU
- Y1 Chemical Yield is in control at 100-110%. Quantitative Yield is assumed
- Y2 Chemical Yield outside default limits.
- LT Result is less than Requested MDC, greater than sample specific MDC.
- M3 The requested MDC was not met, but the reported activity is greater than the reported MDC.
- M The requested MDC was not met.

#### Abbreviations

- TPU Total Propagated Uncertainty (see PAI SOP 743)
- MDC Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: GSS0906096-1

- SQ Spectral quality prevents accurate quantitation
- SI Nuclide identification and/or quantitation is tentative
- TI Nuclide identification is tentative
- R Nuclide has exceeded 8 halflives.
- G Sample density differs by more than 15% of LCS density.

### PAI 713 Rev 10 Sample Results

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 0906096

Client Name: Environmental Restoration Group, Inc.

ClientProject ID:

Field ID: SID-14 Lab ID: 0906096-9

Library: FANP.LIB

Sample Matrix: SOIL

Prep SOP: PAI 739 Rev 9

Date Collected: 05-Jun-09 Date Prepared: 20-Jun-09 Date Analyzed: 11-Jul-09 **Prep Batch:** GS090620-2 **QCBatchID:** GS090620-2-1

Run ID: GS090620-2A Count Time: 30 minutes Report Basis: Dry Weight Final Aliquot: 201 g

Prep Basis: Dry Weight Moisture(%): NA Result Units: pCi/g File Name: 090940d04

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	Lab Qualifier
14331-83-0	Ac-228	1.23 +/- 0.69	0.95		TI
13966-00-2	K-40	13.6 +/- 3.5	2.7		
15100-28-4	Pa-234m	-15 +/- 26	52		U
15065-10-8	Th-234	6.2 +/- 2.5	3.8		
14913-50-9	TI-208	0.10 +/- 0.18	0.31		U

### Comments:

### Qualifiers/Flags:

- $\ensuremath{\mathsf{U}}\xspace$  Result is less than the sample specific MDC or less than the associated TPU
- Y1 Chemical Yield is in control at 100-110%. Quantitative Yield is assumed
- Y2 Chemical Yield outside default limits.
- LT Result is less than Requested MDC, greater than sample specific MDC.
- M3 The requested MDC was not met, but the reported activity is greater than the reported MDC.
- M The requested MDC was not met.

#### Abbreviations:

- TPU Total Propagated Uncertainty (see PAI SOP 743)
- MDC Minimum Detectable Concentration (see PAI SOP 709)
- BDL Below Detection Limit

Data Package ID: GSS0906096-1

- SQ Spectral quality prevents accurate quantitation.
- SI Nuclide identification and/or quantitation is tentative
- TI Nuclide identification is tentative
- R Nuclide has exceeded 8 halflives.
- G Sample density differs by more than 15% of LCS density.

PAI 713 Rev 10 Sample Results

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 0906096

Client Name: Environmental Restoration Group, Inc.

ClientProject ID:

Field ID: SID-14D

Lab ID: 0906096-10

Library: RA226.LIB

Sample Matrix: SOIL

Prep SOP: PAI 739 Rev 9

Date Collected: 05-Jun-09 Date Prepared: 20-Jun-09

Date Analyzed: 11-Jul-09

Prep Batch: GS090620-2

QCBatchID: GS090620-2-1 Run ID: GS090620-2A

Count Time: 30 minutes Report Basis: Dry Weight Final Aliquot: 207 g

Prep Basis: Dry Weight Moisture(%): NA Result Units: pCi/g

File Name: 090838d08A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	Lab Qualifier
13982-63-3	Ra-226	23.2 +/- 2.8	0.7	0.2	M3

### Comments:

#### Qualifiers/Flags:

- $\ensuremath{\mathsf{U}}\xspace$  Result is less than the sample specific MDC or less than the associated TPU
- Y1 Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- Y2 Chemical Yield outside default limits.
- LT Result is less than Requested MDC, greater than sample specific MDC.
- M3 The requested MDC was not met, but the reported activity is greater than the reported MDC.
- M The requested MDC was not met.

#### Abbreviations

- TPU Total Propagated Uncertainty (see PAI SOP 743)
- MDC Minimum Detectable Concentration (see PAI SOP 709)
- BDL Below Detection Limit

Data Package ID: GSS0906096-1

- SQ Spectral quality prevents accurate quantitation.
- SI Nuclide identification and/or quantitation is tentative.
- TI Nuclide identification is tentative
- R Nuclide has exceeded 8 halflives.
- G Sample density differs by more than 15% of LCS density.

ALS Laboratory Group -- FC LIMS Version: 6.279A Page 19 of 34

### **PAI 713 Rev 10** Sample Results

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 0906096

Client Name: Environmental Restoration Group, Inc.

ClientProject ID:

Field ID: SID-14D Lab ID: 0906096-10

Library: FANF.LIB

Sample Matrix: SOIL

Prep SOP: PAI 739 Rev 9

Date Collected: 05-Jun-09 Date Prepared: 20-Jun-09

Date Analyzed: 11-Jul-09

Prep Batch: GS090620-2

QCBatchID: GS090620-2-1

Run ID: GS090620-2A Count Time: 30 minutes

Report Basis: Dry Weight

Final Aliquot: 207 g

Prep Basis: Dry Weight Moisture(%): NA Result Units: pCi/g

File Name: 090838d08

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	Lab Qualifier
14331-83-0	Ac-228	0.02 +/- 0.75	1.33		U
13966-00-2	K-40	12.4 +/- 3.4	3.3		
15100-28-4	Pa-234m	20 +/- 27	45		U
15065-10-8	Th-234	3.6 +/- 2.2	4.0		U
14913-50-9	TI-208	0.22 +/- 0.16	0.25		U

### Comments:

#### Qualifiers/Flags:

- U Result is less than the sample specific MDC or less than the associated TPU
- Y1 Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- Y2 Chemical Yield outside default limits.
- LT Result is less than Requested MDC, greater than sample specific MDC.
- M3 The requested MDC was not met, but the reported activity is greater than the reported MDC.
- M The requested MDC was not met

#### Abbreviations:

- TPU Total Propagated Uncertainty (see PAI SOP 743)
- MDC Minimum Detectable Concentration (see PAI SOP 709)
- **BDL** Below Detection Limit

- SQ Spectral quality prevents accurate quantitation
- SI Nuclide identification and/or quantitation is tentative
- TI Nuclide identification is tentative
- R Nuclide has exceeded 8 halflives
- G Sample density differs by more than 15% of LCS density

### PAI 713 Rev 10 Sample Duplicate Results

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 0906096

Client Name: Environmental Restoration Group, Inc.

ClientProject ID:

Field ID: SID-14D

Lab ID: 0906096-10DUP

Library: RA226.LIB

Sample Matrix: SOIL

Prep SOP: PAI 739 Rev 9

Date Collected: 05-Jun-09

Date Prepared: 20-Jun-09

Date Analyzed: 11-Jul-09

Prep Batch: GS090620-2

QCBatchID: GS090620-2-1 Run ID: GS090620-2A

Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 211 g

Prep Basis: Dry Weight Moisture(%): NA Result Units: pCi/g

File Name: 090941d04A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	Lab Qualifier
13982-63-3	Ra-226	28.2 +/- 3.4	0.8	0.2	M3

### Comments:

#### Qualifiers/Flags

- U Result is less than the sample specific MDC or less than the associated TPU.
- Y1 Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
- Y2 Chemical Yield outside default limits.
- LT Result is less than Requested MDC, greater than sample specific MDC.
- M The requested MDC was not met.
- M3 The requested MDC was not met, but thereported activity is greater than the reported MDC.
- W DER is greater than Warning Limit of 1.42
- D DER is greater than Control Limit of 2.13

#### Abbreviations:

- TPU Total Propagated Uncertainty (see PAI SOP 743)
- MDC Minimum Detectable Concentration (see PAI SOP 709)
- BDL Below Detection Limit

Data Package ID: GSS0906096-1

Date Printed: Wednesday, July 15, 2009

SQ - Spectral quality prevents accurate quantitation.

S1 - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

G - Sample density differs by more than 15% of LCS density.

ALS Laboratory Group -- FC

Page 1 of 4

### PAI 713 Rev 10 Sample Duplicate Results

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 0906096

Client Name: Environmental Restoration Group, Inc.

ClientProject ID:

Field ID: SID-14D

Lab ID: 0906096-10DUP

Library: FANP.LIB

Sample Matrix: SOIL

Prep SOP: PAI 739 Rev 9

Date Collected: 05-Jun-09 Date Prepared: 20-Jun-09 Date Analyzed: 11-Jul-09 Prep Batch: GS090620-2

QCBatchID: GS090620-2-1 Run ID: GS090620-2A

Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 211 g

Prep Basis: Dry Weight Moisture(%): NA

Result Units: pCi/g File Name: 090941d04

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	Lab Qualifier
14331-83-0	Ac-228	1.01 +/- 0.86	1.35		U
13966-00-2	K-40	7.9 +/- 2.9	3.4		
15100-28-4	Pa-234m	16 +/- 31	52		U
15065-10-8	Th-234	6.5 +/- 3.1	4.7		TI
14913-50-9	TI-208	0.08 +/- 0.22	0.37		U

### Comments:

#### Qualifiers/Flags:

- U Result is less than the sample specific MDC or less than the associated TPU.
- Y1 Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
- Y2 Chemical Yield outside default limits
- LT Result is less than Requested MDC, greater than sample specific MDC.
- M The requested MDC was not met.
- M3 The requested MDC was not met, but thereported activity is greater than the reported MDC.
- W DER is greater than Warning Limit of 1.42
- D DER is greater than Control Limit of 2.13
- Abbreviations:
- TPU Total Propagated Uncertainty (see PAI SOP 743)
- MDC Minimum Detectable Concentration (see PAISOP 709)
- BDL Below Detection Limit

Data Package ID: GSS0906096-1

- SQ Spectral quality prevents accurate quantitation.
- S1- Nuclide identification, and/or quantitation is tentative.
- TI Nuclide identification is tentative
- R Nuclide has exceeded 8 halflives
- G Sample density differs by more than 15% of LCS density

ALS Laboratory Group -- FC LIMS Version: 6.279A Page 2 of 4

### PAI 713 Rev 10 Sample Results

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 0906096

Client Name: Environmental Restoration Group, Inc.

ClientProject ID:

Field ID: SID-20

Lab ID: 0906096-11

Library: RA226.LIB

Sample Matrix: SOIL

Prep SOP: PAI 739 Rev 9

Date Collected: 05-Jun-09
Date Prepared: 20-Jun-09

Date Analyzed: 11-Jul-09

Prep Batch: GS090620-2

QCBatchID: GS090620-2-1

Run ID: GS090620-2A Count Time: 60 minutes

Report Basis: Dry Weight

Final Aliquot: 169 g

Prep Basis: Dry Weight Moisture(%): NA Result Units: pCi/g

File Name: 090840d08A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	Lab Qualifier
13982-63-3	Ra-226	32.5 +/- 3.9	0.6	0.2	M3,G

### Comments:

#### Qualifiers/Flags:

- U Result is less than the sample specific MDC or less than the associated TPU
- Y1 Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- Y2 Chemical Yield outside default limits.
- ET Result is less than Requested MDC, greater than sample specific MDC.
- M3 The requested MDC was not met, but the reported activity is greater than the reported MDC.
- M The requested MDC was not met.

#### Abbreviations

- TPU Total Propagated Uncertainty (see PAI SOP 743)
- MDC Minimum Detectable Concentration (see PAI SOP 709)
- BDL Below Detection Limit

Data Package ID: GSS0906096-1

- SQ Spectral quality prevents accurate quantitation
- SI Nuclide identification and/or quantitation is tentative
- TI Nuclide identification is tentative.
- R Nuclide has exceeded 8 halflives.
- G Sample density differs by more than 15% of LCS density.

ALS Laboratory Group - FC LIMS Version: 6.279A Page 21 of 34

# PAI 713 Rev 10 Sample Results

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 0906096

Client Name: Environmental Restoration Group, Inc.

ClientProject ID:

Field ID: SID-20 Lab ID: 0906096-11

Library: FANP.LIB

Sample Matrix: SOIL

Prep SOP: PAI 739 Rev 9
Date Collected: 05-Jun-09

Date Prepared: 20-Jun-09

Date Analyzed: 11-Jul-09

Prep Batch: GS090620-2

QCBatchID: GS090620-2-1 Run ID: GS090620-2A

Count Time: 60 minutes Report Basis: Dry Weight Final Aliquot: 169 g

Prep Basis: Dry Weight Moisture(%): NA Result Units: pCi/g File Name: 090840d08

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	Lab Qualifier
14331-83-0	Ac-228	0.44 +/- 0.55	0.91		U,G
13966-00-2	K-40	16.4 +/- 3.4	2.8		G
15100-28-4	Pa-234m	24 +/- 29	47		U,G
15065-10-8	Th-234	13.9 +/- 2.5	3.1		G
14913-50-9	TI-208	0.41 +/- 0.18	0.25		G

#### Comments:

### Qualifiers/Flags:

- U Result is less than the sample specific MDC or less than the associated TPU
- Y1 Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- Y2 Chemical Yield outside default limits.
- LT Result is less than Requested MDC, greater than sample specific MDC.
- M3 The requested MDC was not met, but the reported activity is greater than the reported MDC.
- M The requested MDC was not met.

#### Abbreviations

- TPU Total Propagated Uncertainty (see PAI SOP 743)
- MDC Minimum Detectable Concentration (see PAI SOP 709)
- BDL Below Detection Limit

- SQ Spectral quality prevents accurate quantitation.
- SI Nuclide identification and/or quantitation is tentative.
- TI Nuclide identification is tentative
- R Nuclide has exceeded 8 halflives.
- $\ensuremath{\text{G}}$  Sample density differs by more than 15% of LCS density.

PAI 713 Rev 10 Sample Results

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 0906096

Client Name: Environmental Restoration Group, Inc.

ClientProject ID:

Field ID: SID-21

Lab ID: 0906096-12

Library: RA226.LIB

Sample Matrix: SOIL

Prep SOP: PAI 739 Rev 9

Date Collected: 05-Jun-09
Date Prepared: 20-Jun-09

Date Analyzed: 11-Jul-09

Prep Batch: GS090620-2

QCBatchID: GS090620-2-1

Run ID: GS090620-2A Count Time: 30 minutes Report Basis: Dry Weight Final Aliquot: 195 g

Prep Basis: Dry Weight Moisture(%): NA Result Units: pCi/g

File Name: 090620d10A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	Lab Qualifier
13982-63-3	Ra-226	1.27 +/- 0.30	0.48	0.2	M3

### Comments:

### Qualifiers/Flags:

- $\ensuremath{\mathsf{U}}\xspace$  Result is less than the sample specific MDC or less than the associated TPU
- Y1 Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- Y2 Chemical Yield outside default limits.
- LT Result is less than Requested MDC, greater than sample specific MDC.
- M3 The requested MDC was not met, but the reported activity is greater than the reported MDC.
- M The requested MDC was not met.

#### Abbreviations

- TPU Total Propagated Uncertainty (see PAI SOP 743)
- MDC Minimum Detectable Concentration (see PAI SOP 709)
- BDL Below Detection Limit

- SQ Spectral quality prevents accurate quantitation.
- SI Nuclide identification and/or quantitation is tentative
- TI Nuclide identification is tentative
- R Nuclide has exceeded 8 halflives.
- G Sample density differs by more than 15% of LCS density.

**PAI 713 Rev 10** Sample Results

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 0906096

Client Name: Environmental Restoration Group, Inc.

ClientProject ID:

Field ID: SID-21

Lab ID: 0906096-12

Library: FANP.LIB

Sample Matrix: SOIL

Prep SOP: PAI 739 Rev 9 Date Collected: 05-Jun-09

Date Prepared: 20-Jun-09 Date Analyzed: 11-Jul-09

Prep Batch: GS090620-2

QCBatchID: GS090620-2-1 Run ID: GS090620-2A

Count Time: 30 minutes Report Basis: Dry Weight Final Aliquot: 195 g

Prep Basis: Dry Weight Moisture(%): NA Result Units: pCi/g

File Name: 090620d10

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	Lab Qualifier
14331-83-0	Ac-228	1.10 +/- 0.45	0.67		TI
13966-00-2	K-40	9.7 +/- 3.1	3.2		
15100-28-4	Pa-234m	-4 +/- 19	37		U
15065-10-8	Th-234	-0.9 +/- 2.0	3.6		U
14913-50-9	TI-208	0.29 +/- 0.15	. 0.19		

### Comments:

### Qualifiers/Flags:

- U Result is less than the sample specific MDC or less than the associated TPU
- Y1 Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- Y2 Chemical Yield outside default limits
- LT Result is less than Requested MDC, greater than sample specific MDC.
- M3 The requested MDC was not met, but the reported activity is greater than the reported MDC.
- M The requested MDC was not met.

- TPU Total Propagated Uncertainty (see PAI SOP 743)
- MDC Minimum Detectable Concentration (see PAI SOP 709)
- BDL Below Detection Limit

- SQ Spectral quality prevents accurate quantitation.
- SI Nuclide identification and/or quantitation is tentative
- TI Nuclide identification is tentative.
- G Sample density differs by more than 15% of LCS density.

### PAI 713 Rev 10 Sample Results

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 0906096

Client Name: Environmental Restoration Group, Inc.

ClientProject ID:

Field ID: SID-25

Sample Matrix: SOIL

. 0

Prep Batch: GS090620-2

Run ID: GS090620-2A

Final Aliquot: 147 g

**Lab ID:** 0906096-13

Prep SOP: PAI 739 Rev 9

QCBatchID: GS090620-2-1

Prep Basis: Dry Weight

Library: RA226.LIB

Date Collected: 05-Jun-09
Date Prepared: 20-Jun-09

Count Time: 30 minutes

Moisture(%): NA Result Units: pCi/q

Date Analyzed: 13-Jul-09

Report Basis: Dry Weight

File Name: 090946d04A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	Lab Qualifier
13982-63-3	Ra-226	14.6 +/- 1.9	0.7	0.2	M3,G

### Comments:

### Qualifiers/Flags:

- U Result is less than the sample specific MDC or less than the associated TPU
- Y1 Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- Y2 Chemical Yield outside default limits.
- LT Result is less than Requested MDC, greater than sample specific MDC.
- M3 The requested MDC was not met, but the reported activity is greater than the reported MDC.
- M The requested MDC was not met.

#### Abbreviations:

- TPU Total Propagated Uncertainty (see PAI SOP 743)
- MDC Minimum Detectable Concentration (see PAI SOP 709)
- BDL Below Detection Limit

- SQ Spectral quality prevents accurate quantitation.
- SI Nuclide identification and/or quantitation is tentative.
- TI Nuclide identification is tentative.
- R Nuclide has exceeded 8 halflives
- G Sample density differs by more than 15% of LCS density

### **PAI 713 Rev 10** Sample Results

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 0906096

Client Name: Environmental Restoration Group, Inc.

ClientProject ID:

Field ID: SID-25

Lab ID: 0906096-13

Library: FANP LIB

Sample Matrix: SOIL

Prep SOP: PAI 739 Rev 9

Date Collected: 05-Jun-09 Date Prepared: 20-Jun-09

Date Analyzed: 13-Jul-09

Prep Batch: GS090620-2

QCBatchID: GS090620-2-1

Run ID: GS090620-2A Count Time: 30 minutes Report Basis: Dry Weight

Final Aliquot: 147 g Prep Basis: Dry Weight

Moisture(%): NA Result Units: pCi/g File Name: 090946d04

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	Lab Qualifier
14331-83-0	Ac-228	1.50 +/- 0.68	1.07		G,TI
13966-00-2	K-40	16.3 +/- 4.4	3.4		G
15100-28-4	Pa-234m	8 +/- 28	51		U,G
15065-10-8	Th-234	7.5 +/- 3.3	5.1		G
14913-50-9	TI-208	0.40 +/- 0.25	0.37		G

### Comments:

#### Qualifiers/Flags:

- $\bar{U}_{\parallel}$  Result is less than the sample specific MDC or less than the associated TPU
- Y1 Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- Y2 Chemical Yield outside default limits.
- LT Result is less than Requested MDC, greater than sample specific MDC.
- M3 The requested MDC was not met, but the reported activity is greater than the reported MDC
- M The requested MDC was not met.

#### Abbreviations:

- TPU Total Propagated Uncertainty (see PAI SOP 743)
- MDC Minimum Detectable Concentration (see PAI SOP 709)
- BDL Below Detection Limit

Data Package ID: GSS0906096-1

- SQ Spectral quality prevents accurate quantitation
- SI Nuclide identification, and/or quantitation is tentative.
- TI Nuclide identification is tentative.
- R Nuclide has exceeded 8 halflives.
- G Sample density differs by more than 15% of LCS density.

PAI 713 Rev 10 Sample Results

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 0906096

Client Name: Environmental Restoration Group, Inc.

ClientProject ID:

Field ID: SID-23

Lab ID: 0906096-14

Library: RA226.LIB

Sample Matrix: SOIL

Prep SOP: PAI 739 Rev 9

Date Collected: 05-Jun-09
Date Prepared: 20-Jun-09

Date Analyzed: 13-Jul-09

Prep Batch: GS090620-2

QCBatchID: GS090620-2-1 Run ID: GS090620-2A

Run ID: GS090620-2A Count Time: 30 minutes

Report Basis: Dry Weight

Final Aliquot: 165 g

Prep Basis: Dry Weight Moisture(%): NA

Result Units: pCi/g File Name: 091070d07A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	Lab Qualifier
13982-63-3	Ra-226	1.14 +/- 0.32	0.48	0.2	M3,G

### Comments:

#### Qualifiers/Flags:

- U Result is less than the sample specific MDC or less than the associated TPU
- Y1 Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- Y2 Chemical Yield outside default limits.
- LT Result is less than Requested MDC, greater than sample specific MDC.
- M3 The requested MDC was not met, but the reported activity is greater than the reported MDC.
- M The requested MDC was not met.

#### Abbreviations

- TPU Total Propagated Uncertainty (see PAI SOP 743)
- MDC Minimum Detectable Concentration (see PAI SOP 709)
- BDL Below Detection Limit

Data Package ID: GSS0906096-1

- Q Spectral quality prevents accurate quantitation
- SI Nuclide identification and/or quantitation is tentative
- TI Nuclide identification is tentative.
- R Nuclide has exceeded 8 halflives.
- G Sample density differs by more than 15% of LCS density

50

### PAI 713 Rev 10 Sample Results

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 0906096

Client Name: Environmental Restoration Group, Inc.

ClientProject ID:

Field ID: SID-23

Lab ID: 0906096-14

Library: FANP.LIB

Sample Matrix: SOIL

Prep SOP: PAI 739 Rev 9

Date Collected: 05-Jun-09 Date Prepared: 20-Jun-09

Date Analyzed: 13-Jul-09

Prep Batch: GS090620-2

QCBatchID: GS090620-2-1

Run ID: GS090620-2A Count Time: 30 minutes

Report Basis: Dry Weight

Final Aliquot: 165 g

Prep Basis: Dry Weight Moisture(%): NA Result Units: pCi/g

File Name: 091070d07

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	Lab Qualifier
14331-83-0	Ac-228	1.36 +/- 0.61	1.16		G,TI
13966-00-2	K-40	17.4 +/- 4.4	3.5		G
15100-28-4	Pa-234m	6 +/- 23	42		U,G
15065-10-8	Th-234	-1.4 +/- 2.0	3.6		U,G
14913-50-9	TI-208	0.45 +/- 0.21	0.28		G

### Comments:

### Qualifiers/Flags:

- U Result is less than the sample specific MDC or less than the associated TPU
- Y1 Chemical Yield is in control at 100-110%. Quantitative Yield is assumed
- Y2 Chemical Yield outside default limits.
- LT Result is less than Requested MDC, greater than sample specific MDC.
- M3 The requested MDC was not met, but the reported activity is greater than the reported MDC.
- M The requested MDC was not met.

#### Abbreviations

- TPU Total Propagated Uncertainty (see PAI SOP 743)
- MDC Minimum Detectable Concentration (see PAI SOP 709)
- BDL Below Detection Limit

Data Package ID: GSS0906096-1

- SQ Spectral quality prevents accurate quantitation.
- SI Nuclide identification and/or quantitation is tentative.
- TI Nuclide identification is tentative.
- R Nuclide has exceeded 8 halflives
- G Sample density differs by more than 15% of LCS density.

PAI 713 Rev 10 Sample Results

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 0906096

Client Name: Environmental Restoration Group, Inc.

ClientProject ID:

Field ID: SID-24

Lab ID: 0906096-15

Library: RA226.LIB

Sample Matrix: SOIL

Prep SOP: PAI 739 Rev 9

Date Collected: 05-Jun-09 Date Prepared: 20-Jun-09

Date Analyzed: 13-Jul-09

Prep Batch: GS090620-2

QCBatchID: GS090620-2-1

Run ID: GS090620-2A Count Time: 150 minutes

Report Basis: Dry Weight

Final Aliquot: 154 g

Prep Basis: Dry Weight Moisture(%): NA Result Units: pCi/g

File Name: 090849d08A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	Lab Qualifier
13982-63-3	Ra-226	194 +/- 23	1	0.2	M3,G

### Comments:

### Qualifiers/Flags

- U Result is less than the sample specific MDC or less than the associated TPU
- Y1 Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- Y2 Chemical Yield outside default limits.
- LT Result is less than Requested MDC, greater than sample specific MDC.
- M3 The requested MDC was not met, but the reported activity is greater than the reported MDC.
- M The requested MDC was not met.

#### Abbreviations:

- TPU Total Propagated Uncertainty (see PAI SOP 743)
- MDC Minimum Detectable Concentration (see PAI SOP 709)
- BDL Below Detection Limit

Data Package ID: GSS0906096-1

- SQ Spectral quality prevents accurate quantitation
- SI Nuclide identification and/or quantitation is tentative.
- TI Nuclide identification is tentative.
- R Nuclide has exceeded 8 halflives.
- G Sample density differs by more than 15% of LCS density.

ALS Laboratory Group -- FC LIMS Version: 6.279A Page 29 of 34

### PAI 713 Rev 10 Sample Results

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 0906096

Client Name: Environmental Restoration Group, Inc.

ClientProject ID:

Field ID: SID-24

Lab ID: 0906096-15

Library: FANP.LIB

Sample Matrix: SOIL

Prep SOP: PAI 739 Rev 9

Date Collected: 05-Jun-09 Date Prepared: 20-Jun-09

Date Analyzed: 13-Jul-09

Prep Batch: GS090620-2

QCBatchID: GS090620-2-1

Run ID: GS090620-2A Count Time: 150 minutes Report Basis: Dry Weight Final Aliquot: 154 g
Prep Basis: Dry Weight

Moisture(%): NA Result Units: pCi/g File Name: 090849d08

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	Lab Qualifier
14331-83-0	Ac-228	1.60 +/- 0.62	1.42		G
13966-00-2	K-40	19.2 +/- 3.6	3.9		G
15100-28-4	Pa-234m	118 +/- 36	50		G
15065-10-8	Th-234	83.7 +/- 10	5.3		G
14913-50-9	TI-208	0.47 +/- 0.21	0.32		G

### Comments:

#### Qualifiers/Flags

- U Result is less than the sample specific MDC or less than the associated TPU
- Y1 Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- Y2 Chemical Yield outside default limits
- LT Result is less than Requested MDC, greater than sample specific MDC.
- M3 The requested MDC was not met, but the reported activity is greater than the reported MDC.
- M The requested MDC was not met.

#### Abbreviations

- TPU Total Propagated Uncertainty (see PAI SOP 743)
- MDC Minimum Detectable Concentration (see PAI SOP 709)
- BDL Below Detection Limit

- SQ Spectral quality prevents accurate quantitation.
- SI Nuclide identification and/or quantitation is tentative.
- TI Nuclide identification is tentative.
- R Nuclide has exceeded 8 halflives
- G Sample density differs by more than 15% of LCS density.

### PAI 713 Rev 10 Sample Results

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 0906096

Client Name: Environmental Restoration Group, Inc.

ClientProject ID:

Field ID: SID-26

Lab ID: 0906096-16

Library: RA225.LIB

Sample Matrix: SOIL

Prep SOP: PAI 739 Rev 9

Date Collected: 05-Jun-09
Date Prepared: 20-Jun-09

Date Analyzed: 13-Jul-09

Prep Batch: GS090620-2

QCBatchID: GS090620-2-

QCBatchID: GS090620-2-1 Run ID: GS090620-2A

Count Time: 60 minutes

Report Basis: Dry Weight

Final Aliquot: 174 g

Prep Basis: Dry Weight Moisture(%): NA Result Units: pCi/g

File Name: 090948d04A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	Lab Qualifier
13982-63-3	Ra-226	46.7 +/- 5.5	0.7	0.2	M3,G

### Comments:

### Qualifiers/Flags:

- U Result is less than the sample specific MDC or less than the associated TPU
- Y1 Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- Y2 Chemical Yield outside default limits.
- LT Result is less than Requested MDC, greater than sample specific MDC.
- M3 The requested MDC was not met, but the reported activity is greater than the reported MDC.
- M The requested MDC was not met.

#### Abbreviations

- TPU Total Propagated Uncertainty (see PAI SOP 743)
- MDC Minimum Detectable Concentration (see PAI SOP 709)
- BDL Below Detection Limit

- SQ Spectral quality prevents accurate quantitation.
- SI Nuclide identification and/or quantitation is tentative
- TI Nuclide identification is tentative
- R Nuclide has exceeded 8 halflives.
- G Sample density differs by more than 15% of LCS density.

### **PAI 713 Rev 10** Sample Results

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 0906096

Client Name: Environmental Restoration Group, Inc.

ClientProject ID:

Field ID: SID-26

Lab ID: 0906096-16

Library: FANP.LIB

Sample Matrix: SOIL

Prep SOP: PAI 739 Rev 9 Date Collected: 05-Jun-09

Date Prepared: 20-Jun-09 Date Analyzed: 13-Jul-09

Prep Batch: GS090620-2

QCBatchID: GS090620-2-1 Run ID: GS090620-2A

Count Time: 60 minutes Report Basis: Dry Weight Final Aliquot: 174 g Prep Basis: Dry Weight

Moisture(%): NA Result Units: pCi/g File Name: 090948d04

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	Lab Qualifier
14331-83-0	Ac-228	2.38 +/- 0.89	1.21		G,TI
13966-00-2	K-40	16.1 +/- 3.6	3.5		G
15100-28-4	Pa-234m	28 +/- 33	54		U,G
15065-10-8	Th-234	20.1 +/- 3.9	4.7		G
14913-50-9	TI-208	0.18 +/- 0.14	0.21		U,G

#### Comments:

- U Result is less than the sample specific MDC or less than the associated TPU
- Y1 Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- Y2 Chemical Yield outside default limits.
- LT Result is less than Requested MDC, greater than sample specific MDC.
- M3 The requested MDC was not met, but the reported activity is greater than the reported MDC
- M The requested MDC was not met.

- TPU Total Propagated Uncertainty (see PAI SOP 743)
- MDC Minimum Detectable Concentration (see PAI SOP 709)
- BDL Below Detection Limit

- SQ Spectral quality prevents accurate quantitation
- SI Nuclide identification and/or quantitation is tentative
- TI Nuclide identification is tentative
- R Nuclide has exceeded 8 halflives
- G Sample density differs by more than 15% of LCS density

### **PAI 713 Rev 10** Sample Results

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 0906096

Client Name: Environmental Restoration Group, Inc.

ClientProject ID:

Field ID: SID-28

Lab ID: 0906096-17

Library: RA226.LIB

Sample Matrix: SOIL

Prep SOP: PAI 739 Rev 9

Date Collected: 05-Jun-09 Date Prepared: 20-Jun-09

Date Analyzed: 13-Jul-09

Prep Batch: GS090620-2

QCBatchID: GS090620-2-1

Run ID: GS090620-2A Count Time: 45 minutes

Report Basis: Dry Weight

Final Aliquot: 175 g

Result Units: pCi/g

Prep Basis: Dry Weight Moisture(%): NA

File Name: 091072d07A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	Lab Qualifier
13982-63-3	Ra-226	17.6 +/- 2.2	0.7	0.2	M3,G

### Comments:

### Qualifiers/Flags:

- U Result is less than the sample specific MDC or less than the associated TPU
- Y1 Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
- Y2 Chemical Yield outside default limits.
- LT Result is less than Requested MDC, greater than sample specific MDC.
- M3 The requested MDC was not met, but the reported activity is greater than the reported MDC
- M The requested MDC was not met.

#### Abbreviations

- TPU Total Propagated Uncertainty (see PAI SOP 743)
- MDC Minimum Detectable Concentration (see PAI SOP 709)
- BDL Below Detection Limit

Data Package ID: GSS0906096-1

Date Printed: Wednesday, July 15, 2009

- SQ Spectral quality prevents accurate quantitation
- SI Nuclide identification, and/or quantitation is tentative.
- Ti Nuclide identification is tentative.
- R Nuclide has exceeded 8 halflives.
- G Sample density differs by more than 15% of LCS density

56

### PAI 713 Rev 10 Sample Results

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 0906096

Client Name: Environmental Restoration Group, Inc.

ClientProject ID:

Field ID: SID-28

Lab ID: 0906096-17

Library: FANP.LIB

Sample Matrix: SOIL

Prep SOP: PAI 739 Rev 9

Date Collected: 05-Jun-09 Date Prepared: 20-Jun-09 Date Analyzed: 13-Jul-09 Prep Batch: GS090620-2 QCBatchID: GS090620-2-1

Run ID: GS090620-2A Count Time: 45 minutes Report Basis: Dry Weight Final Aliquot: 175 g Prep Basis: Dry Weight

Moisture(%): NA Result Units: pCi/g File Name: 091072d07

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Requested MDC	Lab Qualifier
14331-83-0	Ac-228	0.86 +/- 0.46	0.80		G,TI
13966-00-2	K-40	16.2 +/- 3.7	3.3		G
15100-28-4	Pa-234m	4 +/- 30	53		U,G
15065-10-8	Th-234	5.9 +/- 2.9	4.5		G
14913-50-9	TI-208	0.32 +/- 0.17	0.25		G

#### Comments:

### Qualifiers/Flags:

- U Result is less than the sample specific MDC or less than the associated TPU
- Y1 Chemical Yield is in control at 100-110%. Quantitative Yield is assumed
- Y2 Chemical Yield outside default limits.
- LT Result is less than Requested MDC, greater than sample specific MDC
- M3 The requested MDC was not met, but the reported activity is greater than the reported MDC.
- M The requested MDC was not met.

#### Abbreviations

- TPU Total Propagated Uncertainty (see PAI SOP 743)
- MDC Minimum Detectable Concentration (see PAI SOP 709)
- BDL Below Detection Limit

- SQ Spectral quality prevents accurate quantitation.
- SI Nuclide identification and/or quantitation is tentative.
- TI Nuclide identification is tentative.
- R Nuclide has exceeded 8 halflives
- G Sample density differs by more than 15% of LCS density.