

# Gamma Spectroscopy Results

PAI 713 Rev 8

## Sample Results

Lab Name: Paragon Analytics

Work Order Number: 0404142

Client Name: New Horizons

ClientProject ID: 2135

Field ID: Bkgd-01  
Lab ID: 0404142-1

Sample Matrix: SOIL  
Prep SOP: PAI 739 Rev 8  
Date Collected: 15-Apr-04  
Date Prepared: 17-Apr-04  
Date Analyzed: 17-Apr-04

Prep Batch: GS040417-1  
QCBatchID: GS040417-1-1  
Run ID: GS040417-1A  
Count Time: 1000 minutes  
Report Basis: Dry Weight

Final Aliquot: 174 g  
Prep Basis: Dry Weight  
Moisture(%): NA  
Result Units: pCi/g  
File Name: 040434D06C

Library: FANP\_NEW-HO

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
15262-20-1	Ra-228	1.17 +/- 0.18	0.21	M3,G
14391-76-5	Ag-110m	-0.006 +/- 0.020	0.034	U,G
14682-66-7	Al-26	-0.004 +/- 0.027	0.047	U,G
14596-10-2	Am-241	0.02 +/- 0.14	0.24	U,G
13966-02-4	Be-7	0.04 +/- 0.14	0.23	U,G
14913-49-6	Bi-212	1.39 +/- 0.57	0.88	G
14733-03-0	Bi-214	1.27 +/- 0.18	0.15	G
14109-32-1	Cd-109	2.56 +/- 0.56	0.74	SI,G
13982-30-4	Ce-139	-0.011 +/- 0.012	0.020	U,G
14762-78-8	Ce-144	0.018 +/- 0.073	0.121	U,G
14093-03-9	Co-56	0.118 +/- 0.056	0.086	G
13981-50-5	Co-57	-0.0036 +/- 0.0094	0.0158	U,G
13981-38-9	Co-58	0 +/- 0.027	0.045	U,G
10198-40-0	Co-60	0.021 +/- 0.026	0.043	U,G
14392-02-0	Cr-51	0 +/- 1.3	2.2	U,G

### Comments:

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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.

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R - Nuclide has exceeded 8 half-lives.

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

#### Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

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Data Package ID: GSS0404142-1

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Run ID: GS040417-1A

Count Time: 1000 minutes

Report Basis: Dry Weight

Final Aliquot: 174 g

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Result Units: pCi/g

File Name: 040434D06C

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CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13967-70-9	Cs-134	0.062 +/- 0.035	0.055	TI,G
10045-97-3	Cs-137	-0.022 +/- 0.023	0.039	U,G
14683-23-9	Eu-152	0.099 +/- 0.088	0.142	U,G
15585-10-1	Eu-154	0.05 +/- 0.13	0.22	U,G
14391-16-3	Eu-155	0.057 +/- 0.044	0.071	U,G
14596-12-4	Fe-59	-0.038 +/- 0.049	0.084	U,G
10043-66-0	I-131	-0.007 +/- 0.019	0.033	U,G
13966-00-2	K-40	16.2 +/- 2.1	1.0	G
13966-31-9	Mn-54	-0.012 +/- 0.023	0.039	U,G
13966-32-0	Na-22	-0.037 +/- 0.031	0.053	U,G
14681-63-1	Nb-94	0.017 +/- 0.032	0.053	U,G
13967-76-5	Nb-95	-0.034 +/- 0.031	0.054	U,G
15100-28-4	Pa-234m	2.9 +/- 4.1	6.7	U,G
15092-94-1	Pb-212	1.12 +/- 0.14	0.09	G
15067-28-4	Pb-214	1.41 +/- 0.18	0.11	G

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13967-48-1	Ru-106	-0.02 +/- 0.19	0.32	U,G
14683-10-4	Sb-124	0.005 +/- 0.021	0.035	U,G
14234-35-6	Sb-125	0.046 +/- 0.048	0.082	U,G
13967-63-0	Sc-46	-0.006 +/- 0.022	0.037	U,G
15623-47-9	Th-227	1.5 +/- 2.5	4.2	U,G
15065-10-8	Th-234	1.53 +/- 0.44	0.67	G
14913-50-9	Tl-208	0.335 +/- 0.056	0.063	G
15117-96-1	U-235	0.07 +/- 0.16	0.26	U,G
13982-39-3	Zn-65	0.10 +/- 0.11	0.18	U,G

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Report Basis: Dry Weight

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Prep Basis: Dry Weight  
Moisture(%): NA  
Result Units: pCi/g  
File Name: 040434D06B

Library: FANP\_NEW-HO

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13982-63-3	Ra-226	1.71 +/- 0.21	0.14	G

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