APPENDIX A

Radiation Work Permit (RWP)

RADIATION WORK PERMIT (RWP)

RWP #: B-01 Regular X Extended

SECTION I

Contract # GA00419	Date: 6/4/03	Time: 0800

Location/Project: Bethesda NNWC

Exposure Category: (D&D) Source Transfer Waste Processing (Characterization)

Job Description: Removal of USTs, Decon & characterization surveys of Building 150. Soil sampling around Building 150 & under USTs.

Estimated Start Date: 6/4/03 Estimated End Date: 7/3/03

SECTION II

Existing Radiological Conditions:

Radiation Survey No. NA Airborne Survey No. NA Contamination Survey No. NA

Existing General Area Radiation Level(s):	Existing General Contamination Levels:	Airborne DAC Level(s):
.01-.02 mR/hr/γ		<10 % Pα
NA mrad/hr/corrected β	<20 dpm/100cm² α	<10 % Pβγ
NA mrem/hr/η	<1,000 dpm/100cm² βγ	NA % H_3
Existing Maximum Radiation Level(s):	**Existing Maximum Contamination Level(s)**	**Hot Particle?**
.02 mR/hr/γ		Yes
NA mrad/hr/corrected β	<20 dpm/100cm² α	(No)
NA mrem/hr/η	<1,000 dpm/100cm² βγ	

Remarks:

SECTION III

Radiological Limits:

Maximum Allowed WB Exposure Rate : 5 (mr/hr γ) or mrem/hr η

Corrected : _____ mrad/hr Maximum Extremity Exposure Rate: 5 mr/hr

Maximum Allowed Contamination Level : 20 dpm/100cm² α : 1,000 dpm/100cm² βγ

Maximum Allowed Airborne Concentration Level: 10 % DAC

Remarks:

Industrial Hygiene/Safety Concerns: Noise when jackhammering, open excavation at UST area.

RADIATION WORK PERMIT (RWP)

RWP #: R-01 Regular ☐ Extended ☒

SECTION IV

WORKER REQUIREMENTS

CLOTHING:	DOSIMETRY:	INSTRUCTIONS:	RESPIRATORY:
☐ Coveralls	☒ TLD	☒ Contact HP for Line Breaks	☒ FFNP #2
☐ Lab Coat	☐ Film Badge	☒ Protect Cuts	☐ FFAL
☐ Cloth Hood	☐ SRD	☒ Pre-Job Briefing	☐ SCBA
☒ Paper Coveralls #1	☒ Standard	☒ Post-Job Briefing	☐ PAPR
☐ Plastic Suit	☐ Elbows	☒ Contact HP Prior to Work In New Areas	☐ Dust Mask
☐ Plastic Booties	☐ Gonad Pack	☐ Modesty Required	☐ Half Face
☒ Rubber Shoe Covers #1	☐ Hot Cell Entry	☒ Site Specific Instructions	☐ Bubble Hood
☐ Canvas Shoe Covers	☐ Extremity	☒ Equipment Monitor at Job End	
☐ Cotton Gloves	☐ Head Pack	☒ Clean Up Work Area During and After Job	Cartridges:
☒ Rubber Gloves #1	☐ Special	☒ Eating, Drinking, Smoking, Chewing Prohibited	☒ Particulate #2
☒ Leather Gloves	☐ Knees	☒ Frisk Upon Exiting Contaminated Area	☐ Vapor
☒ Beta Goggles/Face Shield #1	☐ Varying Field	☒ Have Prescribed HP Coverage or Stop Work	☐ Combination
☐ Extra	☐ Upper Field	Exit Area Immediately Upon Emergency or Injury. Notify HP Immediately	☐ Other
☐ Other Clothing	☐ Ground Field		
	☐ Alarming Dosimetry		
	☐ None		
Stay Time (Heat Stress, Radiaton, Exposure Limits, etc.): 6 hrs.			

Special Instructions: #1 When performing decontamination.
#2 Determined by HP Supervision & Air Sampling

SECTION V

Health Physics Requirements

1. Job Coverage: Continuous ☐ Intermittent ☒ Start ☒ End of Job ☒
2. Air Sampling: General Area ☐ Breathing Zone ☒ Lapel ☐ AgZ ☐
   Tritium/C-14 ☐ Particulate ☒ Charcoal ☐ LoVol ☐ HiVol ☒
3. Exposure Rate Surveys: Start of Job ☒ Continuous Monitoring ☐ Area Monitoring ☐
   Intermittent Monitoring ☒ End of Job ☒
4. Contamination Surveys: Start of Job ☒ Continuous Monitoring ☐
   Intermittent Monitoring ☒ End of Job ☒
5. Is the ALARA Consideration Complete and Attached? Yes No Why? Low exposure rate
6. Other: _____

B-01

SECTION VI

Personnel Authorized to Perform Work & Acceptance of Responsibility

*My signature verifies that I have read and fully understand the RWP Requirements

Date	Name (Print)	Signature*	SSN	HPS Init	Year Dose to Date (Rem)* TEDE	TODE	LDE	SDE WB	SDE EX
6-4-03	Dan Spencer	Dan Spencer	190544551	DS	0	0	0	0	0
6-4-03	Dick Kowata	[illegible]	351-34-4185	[illegible]	16	0	0	6	0
6-4-03	Roger Freeman	[illegible]	290-48-7647	RF	Ø	Ø	Ø	Ø	Ø
6-4-03	Alan M. Campella	Alan M. Campella	208-36-9914	AMC	Ø	Ø	Ø	Ø	Ø
6-4-03	Jerry Medley	Jerry Medley	282-46-9698	JRM	Ø	Ø	Ø	Ø	Ø
6-4-03	Richard Ruppert	[illegible]	102241062	RAR	0	0	0	0	0

N/A

H	Approvals/Reviews	I	Termination
Technician Generating RWP: Dan Spencer Date/Time: 6/4/03 0800		Date: 7-17-03 Time: 1000	
Industrial Hygiene Approval: Dan Spencer Date/Time: 6/4/03 - 0800		Health Physics Rep: Dan Spencer	
HP Supervisor Approval: Date/Time: N/A		Reason: Job Complete RWP Revision	
RSO Manager Approval: Dan Spencer Date/Time: 6/4/03 - 0800		HP Supervisor Review: Dan Spencer	

New World Technology

Site-Specific Health and Safety Plan Acknowledgment

I have read this Site-Specific Health and Safety Plan, I understand the contents, and I agree to abide by its requirements I also have been properly trained, medically monitored, and fit tested for the work that I am to perform and those dates are provided below. Documentation will be placed in the Project Records.

Date	Name (Printed)	Signature	Company Represented	40-hr Date	8-hr Date*	Medical Date	Fit Test Date
6-2-03	DICK KOUNTZ	[illegible]	NWT	5-25-93	4-10-03	2-12-03	2-18-03
6-2-03	ROGER FREEMAN	[illegible]	NWT	5/25-93	4-10-03	10-5-03	2-18-03
6-2-03	Richard Ruprecht	[illegible]	NWT	6- .92	4-10-03	9-12-03	9-21-03
6-2-03	JERRY MEDLEY	[illegible]	NWT	8-20-93	4-10-03	3-20-03	3-20-03
6-2-03	ALAN M Campbell	[illegible]	NWT	4-15-09	4-10-03	8-15-03	3-20-03

*If 40-hr training is less than one year old, then the 8-hr refresher training is not required. Indicate this with NR

APPENDIX B

Bioassay Sample Results

Date:	25-Jun-03
Lab ID:	03-03067-6

NWT ANALYTICAL LABORATORY REPORT

448 Commerce Way, Livermore CA 94551

Phone: (925) 443-7967

Fax: (925) 443-0119

Client: Bethesda
GA00419

Contact: DanSpicuzza

Title:

Analysis: bioassay

Comment: Collected 6-4-03
C of C #0705

Sample #	Sample ID	Count Time (min)	Activity (DPM)	BKG (DPM)	Net Activity (DPM)*	Counting error(+/-)	Comment
1	Spicuzza	3	57	52	N D	***	< 22 dpm
2	Campellano	3	61	52	N D	***	< 22 dpm
3	Medley	3	54	52	N D	***	< 22 dpm
4	Kountz	3	64	52	N D	***	< 22 dpm
5	Ruprecht	3	62	52	N D	***	< 22 dpm
6	Freeman	3	64	52	N D	***	< 22 dpm

*ND - No activity detected above natural background
**(+/-) values are at 95% confidence level
*** Activity is Less than the limit of detection

Reviewed By: Anne M Kelly
Title: Health Physics Program Manager
Date: 6-25-03

date:

0705

New World Technology

Chain Of Custody

03-03067-6

Page 1 of 1

Project Name: Rockhesda

Project Number: GA00449

Lab ID#: N/A

PO#: N/A

Sampler: Various

Notes: Endsaure Bioassays

Analysis Required

	Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water	Other	# of Containers	LSC Bioassay										Notes	Check if RUSH
1)	#1 Spinnaz	6-4-03	1040					X	1	X											
2)	#2 Campellone	6-4-03	0730					X	1	X											
3)	#3 Medley	6-4-03	0800					X	1	X											
4)	#4 Kowalz	6-4-03	0700					X	1	X											
5)	#5 Ruprecht	6-4-03	0800					X	1	X											
6)	#6 Freeman	6-4-03	1000					X	1	X											
7)																					
8)																					
9)			N/A																		
10)																					

Name of Shipper	Airbill No.	Date	Time
Fed Ex	8397605684	6-4-03	1600

Received by (Lab)	Condition on Receipt	Date	Time

Report Results To: Dan Spinnaz

Address: 7015 Navarre Ave. Suite 203 Oregon, OH 43616

Telephone: (419) 690-4567

Facsimile:

Type: (Please Circle) Haz Rad Mixed Unknown

Disposal By: (Please Circle) Lab Client Contractor

Turnaround Time Requested: (Please Circle) Normal Rush

Rush TAT is subject to client approval and laboratory surcharge

Report Results By: (Date) 7/18/03

Results Requested By: (Please Circle) Mail Fax

Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
Dan Spinnaz	6-4-03	1600	[illegible]	6/5/03	1100

White Copy - (Original) Retain with Samples Yellow Copy - Customer Pink Copy - Retain for Project Files

New World Technology

Chain Of Custody

Project Name: Bethesda

Project Number: GA-00419

03-03078-5

Lab ID#: N/A

PO#: N/A

Sampler: VARIOUS

Notes: EXIT BIOASSAY'S

Analysis Required

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water	Other	# of Containers	ASC Bioassay										Notes	Check if RUSH
1) Al Kounts	7-14-03	1230					X	1	X											
#2 Freeman	7-14-03	1100					X	1	X											
#3 Campellone	7-14-03	0900					X	1	X											
#4 Medley	7-14-03	0700					X	1	X											
#5 Ruprecht	7-14-03	0800					X	1	X											
6)																				
7)																				
8)																				
9)																				
10)																				

Name of Shipper	Airbill No.	Date	Time
Fed Ex	834133766528	7-14-03	1700

Received by (Lab)	Condition on Receipt	Date	Time

Report Results To: DAN SPICUZZA

Address: 3015 NAVARRE AVE SUITE-203 OREGON, OHIO 43616

Telephone: (419) 690-4563

Facsimile:

Type: (Please Circle) Haz Rad Mixed Unknown

Disposal By: (Please Circle) Lab Client Contractor

Turnaround Time Requested: (Please Circle) Normal Rush

(Rush TAT is subject to client approval and laboratory surcharge)

Report Results By: (Date) 7-25-03

Results Requested By: (Please Circle) Mail Fax

Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
[illegible]	7-14-03	1700	[illegible]	7-21-03	1335

Date:	21-Jul-03
Lab ID:	06-03078-5

NWT ANALYTICAL LABORATORY REPORT

448 Commerce Way, Livermore CA 94551
Phone: (925) 443-7967
Fax: (925) 443-0119

Client: Bethesda
GA00419

Contact: DanSpicuzza
Title:
Analysis: bioassay
Comment: Collected 6-4-03
C of C# 0700

Sample #	Sample ID	Count Time (min)	Activity (DPM)	BKG (DPM)	Net Activity (DPM)*	Counting error(+/-)	Comment
1	Kountz	3	66	63	N D	***	< 24 dpm
2	Freeman	3	66	63	N D	***	< 24 dpm
3	Campellano	3	73	63	N D	***	< 24 dpm
4	Medley	3	62	63	N D	***	< 24 dpm
5	Ruprecht	3	58	63	N D	***	< 24 dpm

*ND - No activity detected above natural background
**(+/-) values are at 95% confidence level
*** Activity is Less than the limit of detection

Reviewed By: Anne Wakering
Title: Health Physics Program Manager
Date: Aug 17 03

date:

APPENDIX C

UST Geoprobe Sample Laboratory Data

Gamma Spectroscopy Analysis

Paragon Analytics, Inc.

Radiochemistry Case Narrative
Gamma Spectroscopy

New World Technology
GA00419/Bethesda

Paragon Work Order 0203102

1. This report consists of analysis results for 12 soil samples received by Paragon on 03/28/02. The analysis results for these samples are reported on a dry weight basis in units of pCi/g.
2. The samples were prepared according to Paragon Analytics, Inc. procedure PAI SOP739R5.
3. The samples were analyzed for the presence of gamma emitting radionuclides according to Paragon Analytics, Inc. procedure PAI SOP713R6. The analyses were completed on 04/03/02.
4. Sample volumes were insufficient for the preparation of duplicates. Duplicate analyses of samples UST-1B and UST-5B (PAI IDs 0203102-2 and -10) were performed in lieu of preparation duplicates.
5. Duplicate analysis results elevated above the DER warning limit of 1.42 (2sigma) have been flagged as "W" for Warn. Nuclide DER values exceeding 2.14 (3sigma) have been flagged "H" denoting 'outside limits, high'. For gamma spectroscopic analysis SOP 715 R11 states that 75% of the nuclides must be within the 2 sigma control limit to meet DER or RPD requirements.
6. Activity concentrations above the 2σ TPU are reported in some instances where minimum nuclide identification criteria are not met. Such tentative identifications result when the software attempts to calculate net activity concentrations for analytes where either one or both of the following criteria are not satisfied: the 'diagnostic' peak for a nuclide must be identified above critical level (generally the most abundant, interference-free photopeak), or the minimum library peak tolerance of 75% must be attained. These data have been flagged with a "TI" qualifier.
7. The LCS associated with this batch showed activity above the UCL of 115% at 116% for Cd-109 during the initial analysis on 4/1/02 on detector 5. The LCS was recounted on the same detector on 4/3/02 at which time all the LCS recoveries were in control. The initial

count data is believed to be the result of random statistical variation and data quality is not affected. Data is submitted without further qualification (see QASS 222714).

8. In cases where Cd-109 is identified at a level greater than the MDC, it is assigned an "SI" flag denoting spectral interference at the 88 keV line. This interference occurs with the K_β x-ray of Pb, which occurs at an energy of 87 keV.

9. No further problems were encountered with either the client samples or the associated quality control samples. All quality control criteria were met.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, Paragon Analytics, Inc. certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Scott Hafeman
Radiochemistry Instrument Technician

4/9/02
Date

Radiochemistry Final Data Review

4/8/02
Date

PARAGON ANALYTICS, INC.
Radiochemistry Data Package

3

Section 3

INDIVIDUAL SAMPLE RESULTS

Gamma Spectroscopy Results

Method PAI SOP 713R6

Sample Results

Reported on: Thursday, April 04, 2002 12:25:16

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Field ID: UST-1B
Lab ID: 0203102-2

Sample Matrix: Soil
Date Prepared: 01-Apr-02
Prep SOP: PAI 739R5
Prep Batch: GS01426

Date Collected: 27-Mar-02
Date Analyzed: 01-Apr-02
Analytical SOP: PAI 713R6
Spectrum Code: 020302D01B

Final Aliquot: 255.3 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.03 +/- 0.30	0.45	pCi/g	
Ag-110m	-0.024 +/- 0.059	0.11	pCi/g	U
Al-26	0.088 +/- 0.048	0.048	pCi/g	TI
Am-241	-0.28 +/- 0.32	0.59	pCi/g	U
Be-7	0.12 +/- 0.46	0.80	pCi/g	U
Bi-212	1.7 +/- 1.2	1.7	pCi/g	U
Bi-214	0.54 +/- 0.19	0.24	pCi/g	
Cd-109	1.9 +/- 1.3	1.9	pCi/g	U
Ce-139	0.010 +/- 0.049	0.084	pCi/g	U
Ce-144	-0.03 +/- 0.31	0.55	pCi/g	U
Co-56	0.01 +/- 0.14	0.25	pCi/g	U
Co-57	-0.009 +/- 0.040	0.071	pCi/g	U
Co-58	0.013 +/- 0.057	0.10	pCi/g	U
Co-60	-0.013 +/- 0.056	0.11	pCi/g	U
Cr-51	-0.42 +/- 0.43	0.81	pCi/g	U
Cs-134	0.089 +/- 0.071	0.11	pCi/g	U
Cs-137	0.115 +/- 0.056	0.070	pCi/g	
Eu-152	0.08 +/- 0.30	0.52	pCi/g	U
Eu-154	-0.02 +/- 0.38	0.67	pCi/g	U
Eu-155	0.00 +/- 0.22	0.38	pCi/g	U
Fe-59	0.02 +/- 0.13	0.24	pCi/g	U
I-131	0.039 +/- 0.090	0.15	pCi/g	U
K-40	15.1 +/- 3.0	1.5	pCi/g	
Mn-54	-0.032 +/- 0.070	0.13	pCi/g	U
Na-22	0.014 +/- 0.066	0.12	pCi/g	U
Nb-94	0.020 +/- 0.065	0.11	pCi/g	U

Data Package ID: *GSS0203102-1*

Gamma Spectroscopy Results

Method PAI SOP 713R6

Sample Results

Reported on: Thursday, April 04, 2002 12:25:16

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0203102

Field ID: UST-1B

Lab ID: 0203102-2

Sample Matrix: Soil

Date Prepared: 01-Apr-02

Prep SOP: PAI 739R5

Prep Batch: GS01426

Date Collected: 27-Mar-02

Date Analyzed: 01-Apr-02

Analytical SOP: PAI 713R6

Spectrum Code: 020302D01B

Final Aliquot: 255.3 g

Report Basis: Dry Weight

Count Time (min.): 30

Library: FANP

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.032 +/- 0.063	0.11	pCi/g	U
Pa-234m	12 +/- 12	18	pCi/g	U
Pb-212	1.24 +/- 0.26	0.18	pCi/g	
Pb-214	0.63 +/- 0.19	0.24	pCi/g	
Ru-106	0.58 +/- 0.63	1.0	pCi/g	U
Sb-124	0.065 +/- 0.071	0.11	pCi/g	U
Sb-125	0.07 +/- 0.15	0.25	pCi/g	U
Sc-46	0.014 +/- 0.058	0.10	pCi/g	U
Th-227	-0.23 +/- 0.54	0.95	pCi/g	U
Th-234	1.0 +/- 1.1	1.8	pCi/g	U
Tl-208	0.32 +/- 0.11	0.12	pCi/g	
U-235	-0.16 +/- 0.34	0.60	pCi/g	U
Zn-65	0.21 +/- 0.23	0.37	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0203102-1*

Gamma Spectroscopy Results

Method PAI SOP 713R6

Sample Duplicate Results

Reported on: Thursday, April 04, 2002 12:25:17

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0203102

Field ID: UST-1B

Lab ID: 0203102-2-D1

Sample Matrix: Soil
Date Prepared: 01-Apr-02
Prep SOP: PAI 739R5
Prep Batch: GS01426

Date Collected: 27-Mar-02
Date Analyzed: 01-Apr-02
Analytical SOP: PAI 713R6
Spectrum Code: 020294D10C

Final Aliquot: 255.3
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.08 +/- 0.33	0.60	pCi/g	
Ag-110m	-0.125 +/- 0.093	0.18	pCi/g	U
Al-26	-0.041 +/- 0.070	0.14	pCi/g	U
Am-241	0.09 +/- 0.31	0.52	pCi/g	U
Be-7	0.06 +/- 0.51	0.89	pCi/g	U
Bi-212	0.75 +/- 1.00	1.6	pCi/g	U
Bi-214	0.42 +/- 0.22	0.31	pCi/g	
Cd-109	1.6 +/- 1.7	2.7	pCi/g	U
Ce-139	-0.022 +/- 0.047	0.083	pCi/g	U
Ce-144	-0.38 +/- 0.40	0.71	pCi/g	U
Co-56	0.01 +/- 0.13	0.23	pCi/g	U
Co-57	0.027 +/- 0.048	0.080	pCi/g	U
Co-58	-0.008 +/- 0.067	0.12	pCi/g	U
Co-60	0.045 +/- 0.057	0.093	pCi/g	U
Cr-51	0.11 +/- 0.52	0.90	pCi/g	U
Cs-134	0.00 +/- 0.11	0.20	pCi/g	U
Cs-137	0.096 +/- 0.087	0.14	pCi/g	U
Eu-152	-0.19 +/- 0.37	0.70	pCi/g	U
Eu-154	0.27 +/- 0.38	0.62	pCi/g	U
Eu-155	0.18 +/- 0.20	0.32	pCi/g	U
Fe-59	0.05 +/- 0.14	0.23	pCi/g	U
I-131	-0.068 +/- 0.088	0.16	pCi/g	U
K-40	16.6 +/- 3.3	1.7	pCi/g	
Mn-54	0.015 +/- 0.065	0.11	pCi/g	U
Na-22	-0.009 +/- 0.065	0.12	pCi/g	U
Nb-94	-0.042 +/- 0.069	0.13	pCi/g	U
Nb-95	-0.009 +/- 0.061	0.11	pCi/g	U

Data Package ID: *GSS0203102-1*

Gamma Spectroscopy Results

Method PAI SOP 713R6

Sample Duplicate Results

Reported on: Thursday, April 04, 2002 12:25:17

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0203102

Field ID: UST-1B

Lab ID: 0203102-2-D1

Sample Matrix: Soil

Date Prepared: 01-Apr-02

Prep SOP: PAI 739R5

Prep Batch: GS01426

Date Collected: 27-Mar-02

Date Analyzed: 01-Apr-02

Analytical SOP: PAI 713R6

Spectrum Code: 020294D10C

Final Aliquot: 255.3

Aliquot Units: g

Report Basis: Dry Weight

Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Pa-234m	-3 +/- 12	22	pCi/g	U
Pb-212	1.23 +/- 0.26	0.18	pCi/g	
Pb-214	0.55 +/- 0.19	0.28	pCi/g	
Ru-106	-0.11 +/- 0.66	1.2	pCi/g	U
Sb-124	0.079 +/- 0.084	0.14	pCi/g	U
Sb-125	-0.03 +/- 0.16	0.28	pCi/g	U
Sc-46	-0.009 +/- 0.061	0.11	pCi/g	U
Th-227	-1.13 +/- 0.66	1.2	pCi/g	U
Th-234	1.5 +/- 1.1	1.8	pCi/g	U
Tl-208	0.39 +/- 0.12	0.12	pCi/g	
U-235	-0.34 +/- 0.40	0.71	pCi/g	U
Zn-65	-0.20 +/- 0.17	0.32	pCi/g	U

Data Package ID: *GSS0203102-1*

Gamma Spectroscopy Results

Method PAI SOP 713R6

Sample Duplicate Results

Reported on: Thursday, April 04, 2002 12:25:17

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Field ID: UST-1B
Lab ID: 0203102-2-D1

Sample Matrix: Soil
Date Prepared: 01-Apr-02
Prep SOP: PAI 739R5
Prep Batch: GS01426

Date Collected: 27-Mar-02
Date Analyzed: 01-Apr-02
Analytical SOP: PAI 713R6
Spectrum Code: 020294D10C

Final Aliquot: 255.3
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier

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.
* - Duplicate DER not within control limits.
LT - Result is less than Requested MDC, greater than sample specific MDC.
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.

Abbreviations:

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

Data Package ID: *GSS0203102-1*

Gamma Spectroscopy Results

Method PAI SOP 713R6

Sample Results

Reported on: Thursday, April 04, 2002 12:25:19

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0203102

Field ID: UST-2B

Lab ID: 0203102-4

Sample Matrix: Soil

Date Prepared: 01-Apr-02

Prep SOP: PAI 739R5

Prep Batch: GS01426

Date Collected: 27-Mar-02

Date Analyzed: 01-Apr-02

Analytical SOP: PAI 713R6

Spectrum Code: 020308D02B

Final Aliquot: 311.2 g

Report Basis: Dry Weight

Count Time (min.): 30

Library: FANP

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.22 +/- 0.35	0.52	pCi/g	
Ag-110m	-0.023 +/- 0.056	0.11	pCi/g	U
Al-26	-0.003 +/- 0.053	0.12	pCi/g	U
Am-241	0.23 +/- 0.55	0.93	pCi/g	U
Be-7	0.11 +/- 0.49	0.88	pCi/g	U
Bi-212	1.1 +/- 1.2	1.8	pCi/g	U
Bi-214	0.37 +/- 0.19	0.24	pCi/g	
Cd-109	1.9 +/- 2.0	3.1	pCi/g	U
Ce-139	-0.002 +/- 0.050	0.089	pCi/g	U
Ce-144	0.02 +/- 0.31	0.56	pCi/g	U
Co-56	0.06 +/- 0.14	0.24	pCi/g	U
Co-57	0.006 +/- 0.041	0.073	pCi/g	U
Co-58	0.019 +/- 0.055	0.099	pCi/g	U
Co-60	0.004 +/- 0.058	0.12	pCi/g	U
Cr-51	-0.03 +/- 0.48	0.89	pCi/g	U
Cs-134	0.010 +/- 0.070	0.13	pCi/g	U
Cs-137	-0.006 +/- 0.054	0.11	pCi/g	U
Eu-152	-0.02 +/- 0.25	0.53	pCi/g	U
Eu-154	-0.06 +/- 0.37	0.73	pCi/g	U
Eu-155	0.24 +/- 0.21	0.33	pCi/g	U
Fe-59	0.04 +/- 0.12	0.22	pCi/g	U
I-131	0.054 +/- 0.096	0.16	pCi/g	U
K-40	16.6 +/- 3.6	1.2	pCi/g	
Mn-54	0.048 +/- 0.063	0.10	pCi/g	U
Na-22	0.025 +/- 0.079	0.14	pCi/g	U
Nb-94	0.037 +/- 0.056	0.093	pCi/g	U

Data Package ID: *GSS0203102-1*

Gamma Spectroscopy Results

Method PAI SOP 713R6

Sample Results

Reported on: Thursday, April 04, 2002 12:25:19

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Field ID: UST-2B
Lab ID: 0203102-4

Sample Matrix: Soil
Date Prepared: 01-Apr-02
Prep SOP: PAI 739R5
Prep Batch: GS01426

Date Collected: 27-Mar-02
Date Analyzed: 01-Apr-02
Analytical SOP: PAI 713R6
Spectrum Code: 020308D02B

Final Aliquot: 311.2 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.024 +/- 0.060	0.12	pCi/g	U
Pa-234m	7.7 +/- 10.0	16	pCi/g	U
Pb-212	1.38 +/- 0.30	0.17	pCi/g	
Pb-214	0.76 +/- 0.21	0.22	pCi/g	
Ru-106	-0.20 +/- 0.57	1.1	pCi/g	U
Sb-124	-0.040 +/- 0.073	0.14	pCi/g	U
Sb-125	0.01 +/- 0.16	0.30	pCi/g	U
Sc-46	0.004 +/- 0.067	0.13	pCi/g	U
Th-227	-0.02 +/- 0.31	0.57	pCi/g	U
Th-234	0.8 +/- 1.6	2.6	pCi/g	U
Tl-208	0.36 +/- 0.12	0.12	pCi/g	
U-235	0.16 +/- 0.32	0.53	pCi/g	U
Zn-65	-0.03 +/- 0.18	0.34	pCi/g	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.
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.

Abbreviations:

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

Data Package ID: *GSS0203102-1*

Gamma Spectroscopy Results

Method PAI SOP 713R6

Sample Results

Reported on: Thursday, April 04, 2002 12:25:20

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Field ID: UST-3B
Lab ID: 0203102-6

Sample Matrix: Soil
Date Prepared: 01-Apr-02
Prep SOP: PAI 739R5
Prep Batch: GS01426

Date Collected: 27-Mar-02
Date Analyzed: 01-Apr-02
Analytical SOP: PAI 713R6
Spectrum Code: 020131D03B

Final Aliquot: 299.1 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.26 +/- 0.44	0.53	pCi/g	
Ag-110m	-0.015 +/- 0.096	0.18	pCi/g	U
Al-26	-0.013 +/- 0.094	0.19	pCi/g	U
Am-241	-0.05 +/- 0.57	1.0	pCi/g	U
Be-7	0.56 +/- 0.66	1.1	pCi/g	U
Bi-212	1.1 +/- 1.3	2.1	pCi/g	U
Bi-214	0.81 +/- 0.29	0.32	pCi/g	
Cd-109	2.8 +/- 2.1	3.3	pCi/g	U
Ce-139	-0.057 +/- 0.062	0.12	pCi/g	U
Ce-144	-0.16 +/- 0.45	0.81	pCi/g	U
Co-56	0.13 +/- 0.19	0.32	pCi/g	U
Co-57	-0.048 +/- 0.062	0.11	pCi/g	U
Co-58	-0.022 +/- 0.072	0.15	pCi/g	U
Co-60	-0.055 +/- 0.095	0.20	pCi/g	U
Cr-51	-0.12 +/- 0.68	1.3	pCi/g	U
Cs-134	-0.090 +/- 0.095	0.19	pCi/g	U
Cs-137	0.17 +/- 0.11	0.16	pCi/g	
Eu-152	0.17 +/- 0.43	0.78	pCi/g	U
Eu-154	-0.21 +/- 0.35	0.78	pCi/g	U
Eu-155	-0.12 +/- 0.24	0.44	pCi/g	U
Fe-59	0.00 +/- 0.19	0.36	pCi/g	U
I-131	-0.03 +/- 0.12	0.22	pCi/g	U
K-40	16.7 +/- 3.9	2.2	pCi/g	
Mn-54	-0.028 +/- 0.094	0.18	pCi/g	U
Na-22	0.06 +/- 0.10	0.18	pCi/g	U
Nb-94	0.088 +/- 0.096	0.15	pCi/g	U

Data Package ID: *GSS0203102-1*

Gamma Spectroscopy Results

Method PAI SOP 713R6

Sample Results

Reported on: Thursday, April 04, 2002 12:25:20

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0203102

Field ID: UST-3B

Lab ID: 0203102-6

Sample Matrix: Soil
Date Prepared: 01-Apr-02
Prep SOP: PAI 739R5
Prep Batch: GS01426

Date Collected: 27-Mar-02
Date Analyzed: 01-Apr-02
Analytical SOP: PAI 713R6
Spectrum Code: 020131D03B

Final Aliquot: 299.1 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.021 +/- 0.084	0.15	pCi/g	U
Pa-234m	-6 +/- 14	28	pCi/g	U
Pb-212	1.18 +/- 0.30	0.25	pCi/g	
Pb-214	0.71 +/- 0.24	0.33	pCi/g	
Ru-106	-0.09 +/- 0.86	1.6	pCi/g	U
Sb-124	-0.065 +/- 0.099	0.19	pCi/g	U
Sb-125	0.06 +/- 0.22	0.39	pCi/g	U
Sc-46	0.000 +/- 0.094	0.18	pCi/g	U
Th-227	-0.13 +/- 0.67	1.2	pCi/g	U
Th-234	-0.2 +/- 1.4	2.5	pCi/g	U
Tl-208	0.46 +/- 0.16	0.15	pCi/g	
U-235	0.08 +/- 0.47	0.82	pCi/g	U
Zn-65	-0.33 +/- 0.26	0.54	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0203102-1*

Gamma Spectroscopy Results

Method PAI SOP 713R6

Sample Results

Reported on: Friday, April 05, 2002 14:19:38

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Field ID: UST-4B
Lab ID: 0203102-8

Sample Matrix: Soil
Date Prepared: 01-Apr-02
Prep SOP: PAI 739R5
Prep Batch: GS01426

Date Collected: 27-Mar-02
Date Analyzed: 01-Apr-02
Analytical SOP: PAI 713R6
Spectrum Code: 020266D06C

Final Aliquot: 290.3 L
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.07 +/- 0.39	0.52	pCi/L	
Ag-110m	-0.031 +/- 0.084	0.16	pCi/L	U
Al-26	-0.030 +/- 0.095	0.20	pCi/L	U
Am-241	-0.23 +/- 0.40	0.74	pCi/L	U
Be-7	0.32 +/- 0.59	1.0	pCi/L	U
Bi-212	1.2 +/- 1.2	1.9	pCi/L	U
Bi-214	0.52 +/- 0.28	0.38	pCi/L	
Cd-109	2.0 +/- 1.4	2.0	pCi/L	SI
Ce-139	-0.053 +/- 0.053	0.10	pCi/L	U
Ce-144	-0.16 +/- 0.36	0.67	pCi/L	U
Co-56	-0.05 +/- 0.20	0.38	pCi/L	U
Co-57	0.002 +/- 0.042	0.076	pCi/L	U
Co-58	0.018 +/- 0.084	0.15	pCi/L	U
Co-60	0.042 +/- 0.071	0.12	pCi/L	U
Cr-51	-0.05 +/- 0.59	1.1	pCi/L	U
Cs-134	0.01 +/- 0.13	0.22	pCi/L	U
Cs-137	0.047 +/- 0.091	0.15	pCi/L	U
Eu-152	0.12 +/- 0.52	0.95	pCi/L	U
Eu-154	0.28 +/- 0.46	0.78	pCi/L	U
Eu-155	0.18 +/- 0.21	0.34	pCi/L	U
Fe-59	0.04 +/- 0.14	0.26	pCi/L	U
I-131	-0.027 +/- 0.095	0.18	pCi/L	U
K-40	14.3 +/- 3.5	2.0	pCi/L	
Mn-54	0.029 +/- 0.075	0.13	pCi/L	U
Na-22	-0.075 +/- 0.094	0.20	pCi/L	U
Nb-94	0.018 +/- 0.075	0.13	pCi/L	U

Data Package ID: *GSS0203102-1*

Gamma Spectroscopy Results

Method PAI SOP 713R6

Sample Results

Reported on: Friday, April 05, 2002 14:19:38

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Field ID: UST-4B
Lab ID: 0203102-8

Sample Matrix: Soil
Date Prepared: 01-Apr-02
Prep SOP: PAI 739R5
Prep Batch: GS01426

Date Collected: 27-Mar-02
Date Analyzed: 01-Apr-02
Analytical SOP: PAI 713R6
Spectrum Code: 020266D06C

Final Aliquot: 290.3 L
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.005 +/- 0.075	0.14	pCi/L	U
Pa-234m	-7 +/- 14	29	pCi/L	U
Pb-212	1.09 +/- 0.28	0.26	pCi/L	
Pb-214	0.62 +/- 0.22	0.33	pCi/L	
Ru-106	-0.39 +/- 0.76	1.5	pCi/L	U
Sb-124	0.001 +/- 0.084	0.15	pCi/L	U
Sb-125	-0.10 +/- 0.16	0.33	pCi/L	U
Sc-46	-0.038 +/- 0.073	0.15	pCi/L	U
Th-227	0.10 +/- 0.40	0.70	pCi/L	U
Th-234	1.9 +/- 1.4	2.2	pCi/L	U
Tl-208	0.41 +/- 0.15	0.16	pCi/L	
U-235	0.01 +/- 0.41	0.72	pCi/L	U
Zn-65	-0.16 +/- 0.25	0.49	pCi/L	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.
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.

Abbreviations:

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

Data Package ID: *GSS0203102-1*

Gamma Spectroscopy Results

Method PAI SOP 713R6

Sample Results

Reported on: Thursday, April 04, 2002 12:25:11

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Field ID: UST-5B
Lab ID: 0203102-10

Sample Matrix: Soil
Date Prepared: 01-Apr-02
Prep SOP: PAI 739R5
Prep Batch: GS01426

Date Collected: 27-Mar-02
Date Analyzed: 01-Apr-02
Analytical SOP: PAI 713R6
Spectrum Code: 020307D07B

Final Aliquot: 329.6 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.17 +/- 0.41	0.60	pCi/g	
Ag-110m	-0.013 +/- 0.065	0.13	pCi/g	U
Al-26	0.028 +/- 0.040	0.038	pCi/g	U
Am-241	0.05 +/- 0.13	0.21	pCi/g	U
Be-7	0.35 +/- 0.51	0.84	pCi/g	U
Bi-212	1.6 +/- 1.3	2.0	pCi/g	U
Bi-214	0.52 +/- 0.22	0.25	pCi/g	
Cd-109	3.2 +/- 1.6	2.2	pCi/g	SI
Ce-139	0.025 +/- 0.046	0.078	pCi/g	U
Ce-144	-0.11 +/- 0.30	0.55	pCi/g	U
Co-56	0.16 +/- 0.16	0.25	pCi/g	U
Co-57	-0.017 +/- 0.038	0.071	pCi/g	U
Co-58	0.003 +/- 0.052	0.10	pCi/g	U
Co-60	-0.005 +/- 0.075	0.15	pCi/g	U
Cr-51	-0.11 +/- 0.54	1.0	pCi/g	U
Cs-134	0.023 +/- 0.081	0.14	pCi/g	U
Cs-137	0.056 +/- 0.079	0.13	pCi/g	U
Eu-152	-0.05 +/- 0.29	0.65	pCi/g	U
Eu-154	-0.33 +/- 0.37	0.85	pCi/g	U
Eu-155	0.06 +/- 0.16	0.28	pCi/g	U
Fe-59	-0.07 +/- 0.15	0.32	pCi/g	U
I-131	-0.03 +/- 0.10	0.19	pCi/g	U
K-40	14.4 +/- 3.6	1.9	pCi/g	
Mn-54	-0.001 +/- 0.068	0.13	pCi/g	U
Na-22	0.01 +/- 0.10	0.19	pCi/g	U
Nb-94	-0.057 +/- 0.059	0.13	pCi/g	U

Data Package ID: *GSS0203102-1*

Gamma Spectroscopy Results

Method PAI SOP 713R6

Sample Results

Reported on: Thursday, April 04, 2002 12:25:13

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Field ID: UST-5B
Lab ID: 0203102-10

Sample Matrix: Soil
Date Prepared: 01-Apr-02
Prep SOP: PAI 739R5
Prep Batch: GS01426

Date Collected: 27-Mar-02
Date Analyzed: 01-Apr-02
Analytical SOP: PAI 713R6
Spectrum Code: 020307D07B

Final Aliquot: 329.6 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.067 +/- 0.088	0.14	pCi/g	U
Pa-234m	10 +/- 11	17	pCi/g	U
Pb-212	1.22 +/- 0.29	0.21	pCi/g	
Pb-214	0.67 +/- 0.20	0.23	pCi/g	
Ru-106	0.52 +/- 0.65	1.0	pCi/g	U
Sb-124	-0.071 +/- 0.086	0.17	pCi/g	U
Sb-125	-0.07 +/- 0.21	0.40	pCi/g	U
Sc-46	-0.013 +/- 0.075	0.15	pCi/g	U
Th-227	-0.43 +/- 0.37	1.0	pCi/g	U
Th-234	1.56 +/- 0.93	1.4	pCi/g	TI
Tl-208	0.29 +/- 0.12	0.14	pCi/g	
U-235	0.07 +/- 0.33	0.58	pCi/g	U
Zn-65	0.09 +/- 0.19	0.32	pCi/g	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.
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.

Abbreviations:

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

Data Package ID: *GSS0203102-1*

Gamma Spectroscopy Results

Method PAI SOP 713R6

Sample Duplicate Results

Reported on: Thursday, April 04, 2002 12:25:13

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Field ID: UST-5B
Lab ID: 0203102-10-D1

Sample Matrix: Soil
Date Prepared: 01-Apr-02
Prep SOP: PAI 739R5
Prep Batch: GS01426

Date Collected: 27-Mar-02
Date Analyzed: 01-Apr-02
Analytical SOP: PAI 713R6
Spectrum Code: 020271D08B

Final Aliquot: 329.6
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.11 +/- 0.34	0.41	pCi/g	
Ag-110m	-0.037 +/- 0.059	0.12	pCi/g	U
Al-26	0.034 +/- 0.039	0.030	pCi/g	U
Am-241	0.03 +/- 0.12	0.21	pCi/g	U
Be-7	-0.29 +/- 0.48	0.97	pCi/g	U
Bi-212	0.8 +/- 1.3	2.2	pCi/g	U
Bi-214	0.63 +/- 0.23	0.24	pCi/g	
Cd-109	0.4 +/- 1.3	2.2	pCi/g	U
Ce-139	0.018 +/- 0.048	0.083	pCi/g	U
Ce-144	-0.18 +/- 0.34	0.62	pCi/g	U
Co-56	0.13 +/- 0.15	0.25	pCi/g	U
Co-57	0.007 +/- 0.032	0.057	pCi/g	U
Co-58	-0.042 +/- 0.067	0.14	pCi/g	U
Co-60	0.005 +/- 0.063	0.12	pCi/g	U
Cr-51	0.14 +/- 0.43	0.75	pCi/g	U
Cs-134	0.005 +/- 0.062	0.11	pCi/g	U
Cs-137	0.000 +/- 0.061	0.12	pCi/g	U
Eu-152	0.35 +/- 0.28	0.32	pCi/g	TI
Eu-154	-0.27 +/- 0.37	0.80	pCi/g	U
Eu-155	0.17 +/- 0.16	0.24	pCi/g	U
Fe-59	0.11 +/- 0.10	0.13	pCi/g	U
I-131	0.032 +/- 0.093	0.16	pCi/g	U
K-40	17.0 +/- 3.8	1.6	pCi/g	
Mn-54	0.050 +/- 0.067	0.11	pCi/g	U
Na-22	-0.019 +/- 0.085	0.17	pCi/g	U
Nb-94	0.001 +/- 0.064	0.12	pCi/g	U
Nb-95	-0.032 +/- 0.075	0.15	pCi/g	U

Data Package ID: *GSS0203102-1*

Gamma Spectroscopy Results

Method PAI SOP 713R6

Sample Duplicate Results

Reported on: Thursday, April 04, 2002 12:25:13

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Field ID: UST-5B
Lab ID: 0203102-10-D1

Sample Matrix: Soil
Date Prepared: 01-Apr-02
Prep SOP: PAI 739R5
Prep Batch: GS01426

Date Collected: 27-Mar-02
Date Analyzed: 01-Apr-02
Analytical SOP: PAI 713R6
Spectrum Code: 020271D08B

Final Aliquot: 329.6
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Pa-234m	0 +/- 10	20	pCi/g	U
Pb-212	1.16 +/- 0.29	0.25	pCi/g	
Pb-214	0.45 +/- 0.16	0.21	pCi/g	
Ru-106	-0.05 +/- 0.65	1.2	pCi/g	U
Sb-124	-0.005 +/- 0.065	0.12	pCi/g	U
Sb-125	-0.01 +/- 0.16	0.29	pCi/g	U
Sc-46	0.010 +/- 0.068	0.13	pCi/g	U
Th-227	-0.04 +/- 0.37	0.66	pCi/g	U
Th-234	1.14 +/- 0.88	1.7	pCi/g	U
Tl-208	0.50 +/- 0.15	0.12	pCi/g	
U-235	0.33 +/- 0.36	0.58	pCi/g	U
Zn-65	-0.18 +/- 0.18	0.39	pCi/g	U

Data Package ID: *GSS0203102-1*

Gamma Spectroscopy Results

Method PAI SOP 713R6

Sample Duplicate Results

Reported on: Thursday, April 04, 2002 12:25:13

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0203102

Field ID: UST-5B

Lab ID: 0203102-10-D1

Sample Matrix: Soil
Date Prepared: 01-Apr-02
Prep SOP: PAI 739R5
Prep Batch: GS01426

Date Collected: 27-Mar-02
Date Analyzed: 01-Apr-02
Analytical SOP: PAI 713R6
Spectrum Code: 020271D08B

Final Aliquot: 329.6
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier

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.

* - Duplicate DER not within control limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0203102-1*

Gamma Spectroscopy Results

Method PAI SOP 713R6

Sample Results

Reported on: Thursday, April 04, 2002 12:25:14

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Field ID: UST-6B
Lab ID: 0203102-12

Sample Matrix: Soil
Date Prepared: 01-Apr-02
Prep SOP: PAI 739R5
Prep Batch: GS01426

Date Collected: 27-Mar-02
Date Analyzed: 01-Apr-02
Analytical SOP: PAI 713R6
Spectrum Code: 020293D10B

Final Aliquot: 341.2 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.33 +/- 0.33	0.46	pCi/g	
Ag-110m	-0.032 +/- 0.052	0.096	pCi/g	U
Al-26	-0.016 +/- 0.051	0.098	pCi/g	U
Am-241	-0.15 +/- 0.20	0.35	pCi/g	U
Be-7	-0.03 +/- 0.40	0.71	pCi/g	U
Bi-212	1.11 +/- 0.71	1.0	pCi/g	
Bi-214	0.44 +/- 0.17	0.26	pCi/g	
Cd-109	3.1 +/- 1.5	2.1	pCi/g	SI
Ce-139	-0.019 +/- 0.040	0.070	pCi/g	U
Ce-144	-0.24 +/- 0.33	0.57	pCi/g	U
Co-56	0.01 +/- 0.11	0.19	pCi/g	U
Co-57	0.027 +/- 0.041	0.067	pCi/g	U
Co-58	-0.024 +/- 0.050	0.092	pCi/g	U
Co-60	0.005 +/- 0.055	0.097	pCi/g	U
Cr-51	0.46 +/- 0.45	0.72	pCi/g	U
Cs-134	0.34 +/- 0.35	0.57	pCi/g	U
Cs-137	0.010 +/- 0.058	0.100	pCi/g	U
Eu-152	0.03 +/- 0.25	0.45	pCi/g	U
Eu-154	-0.05 +/- 0.29	0.53	pCi/g	U
Eu-155	0.14 +/- 0.18	0.29	pCi/g	U
Fe-59	0.02 +/- 0.11	0.19	pCi/g	U
I-131	-0.054 +/- 0.071	0.13	pCi/g	U
K-40	16.8 +/- 3.2	1.3	pCi/g	
Mn-54	-0.026 +/- 0.058	0.10	pCi/g	U
Na-22	-0.039 +/- 0.063	0.12	pCi/g	U
Nb-94	0.039 +/- 0.053	0.087	pCi/g	U

Data Package ID: *GSS0203102-1*

Gamma Spectroscopy Results

Method PAI SOP 713R6

Sample Results

Reported on: Thursday, April 04, 2002 12:25:14

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0203102

Field ID: UST-6B

Lab ID: 0203102-12

Sample Matrix: Soil

Date Prepared: 01-Apr-02

Prep SOP: PAI 739R5

Prep Batch: GS01426

Date Collected: 27-Mar-02

Date Analyzed: 01-Apr-02

Analytical SOP: PAI 713R6

Spectrum Code: 020293D10B

Final Aliquot: 341.2 g

Report Basis: Dry Weight

Count Time (min.): 30

Library: FANP

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.027 +/- 0.084	0.15	pCi/g	U
Pa-234m	7.1 +/- 8.8	14	pCi/g	U
Pb-212	1.41 +/- 0.28	0.15	pCi/g	
Pb-214	0.62 +/- 0.16	0.21	pCi/g	
Ru-106	0.09 +/- 0.47	0.81	pCi/g	U
Sb-124	0.057 +/- 0.063	0.10	pCi/g	U
Sb-125	-0.04 +/- 0.11	0.20	pCi/g	U
Sc-46	-0.033 +/- 0.046	0.087	pCi/g	U
Th-227	-1.57 +/- 0.59	1.1	pCi/g	U
Th-234	0.89 +/- 0.97	1.6	pCi/g	U
Tl-208	0.43 +/- 0.11	0.100	pCi/g	
U-235	-0.09 +/- 0.34	0.58	pCi/g	U
Zn-65	0.02 +/- 0.20	0.35	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0203102-1*

Gamma Spectroscopy Results

Method PAI SOP 713R6

Sample Results

Reported on: Thursday, April 04, 2002 12:25:14

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0203102

Field ID: UST-7B

Lab ID: 0203102-14

Sample Matrix: Soil
Date Prepared: 01-Apr-02
Prep SOP: PAI 739R5
Prep Batch: GS01426

Date Collected: 27-Mar-02
Date Analyzed: 01-Apr-02
Analytical SOP: PAI 713R6
Spectrum Code: 020136D05B

Final Aliquot: 358.4 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.13 +/- 0.36	0.61	pCi/g	
Ag-110m	-0.041 +/- 0.086	0.16	pCi/g	U
Al-26	-0.011 +/- 0.070	0.15	pCi/g	U
Am-241	0.34 +/- 0.55	0.91	pCi/g	U
Be-7	0.04 +/- 0.65	1.2	pCi/g	U
Bi-212	1.0 +/- 1.5	2.5	pCi/g	U
Bi-214	0.53 +/- 0.24	0.32	pCi/g	
Cd-109	0.8 +/- 2.3	3.8	pCi/g	U
Ce-139	-0.011 +/- 0.058	0.10	pCi/g	U
Ce-144	-0.13 +/- 0.42	0.74	pCi/g	U
Co-56	0.19 +/- 0.20	0.32	pCi/g	U
Co-57	-0.040 +/- 0.054	0.099	pCi/g	U
Co-58	-0.036 +/- 0.084	0.16	pCi/g	U
Co-60	-0.11 +/- 0.11	0.23	pCi/g	U
Cr-51	-0.07 +/- 0.60	1.1	pCi/g	U
Cs-134	-0.01 +/- 0.12	0.22	pCi/g	U
Cs-137	-0.028 +/- 0.098	0.18	pCi/g	U
Eu-152	0.32 +/- 0.41	0.66	pCi/g	U
Eu-154	-0.06 +/- 0.52	0.96	pCi/g	U
Eu-155	0.07 +/- 0.26	0.44	pCi/g	U
Fe-59	-0.09 +/- 0.20	0.38	pCi/g	U
I-131	0.005 +/- 0.092	0.17	pCi/g	U
K-40	20.4 +/- 4.4	2.2	pCi/g	
Mn-54	-0.034 +/- 0.077	0.15	pCi/g	U
Na-22	0.07 +/- 0.10	0.17	pCi/g	U
Nb-94	0.000 +/- 0.089	0.16	pCi/g	U

Data Package ID: *GSS0203102-1*

Gamma Spectroscopy Results

Method PAI SOP 713R6

Sample Results

Reported on: Thursday, April 04, 2002 12:25:15

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Field ID: UST-7B
Lab ID: 0203102-14

Sample Matrix: Soil
Date Prepared: 01-Apr-02
Prep SOP: PAI 739R5
Prep Batch: GS01426

Date Collected: 27-Mar-02
Date Analyzed: 01-Apr-02
Analytical SOP: PAI 713R6
Spectrum Code: 020136D05B

Final Aliquot: 358.4 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.080 +/- 0.091	0.15	pCi/g	U
Pa-234m	13 +/- 16	26	pCi/g	U
Pb-212	1.53 +/- 0.33	0.19	pCi/g	
Pb-214	0.75 +/- 0.23	0.28	pCi/g	
Ru-106	0.61 +/- 0.80	1.3	pCi/g	U
Sb-124	-0.004 +/- 0.078	0.14	pCi/g	U
Sb-125	0.11 +/- 0.21	0.35	pCi/g	U
Sc-46	0.032 +/- 0.087	0.15	pCi/g	U
Th-227	-0.24 +/- 0.56	1.0	pCi/g	U
Th-234	0.5 +/- 1.2	2.1	pCi/g	U
Tl-208	0.38 +/- 0.14	0.15	pCi/g	
U-235	-0.02 +/- 0.40	0.71	pCi/g	U
Zn-65	-0.24 +/- 0.28	0.53	pCi/g	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.
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.

Abbreviations:

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

Data Package ID: *GSS0203102-1*

Gamma Spectroscopy Results

Method PAI SOP 713R6

Sample Results

Reported on: Thursday, April 04, 2002 12:25:15

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Field ID: UST-8B
Lab ID: 0203102-16

Sample Matrix: Soil
Date Prepared: 01-Apr-02
Prep SOP: PAI 739R5
Prep Batch: GS01426

Date Collected: 27-Mar-02
Date Analyzed: 01-Apr-02
Analytical SOP: PAI 713R6
Spectrum Code: 020270D08B

Final Aliquot: 348.0 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.36 +/- 0.36	0.43	pCi/g	
Ag-110m	0.010 +/- 0.062	0.11	pCi/g	U
Al-26	-0.012 +/- 0.039	0.10	pCi/g	U
Am-241	-0.07 +/- 0.12	0.21	pCi/g	U
Be-7	0.10 +/- 0.46	0.82	pCi/g	U
Bi-212	1.0 +/- 1.1	1.7	pCi/g	U
Bi-214	0.59 +/- 0.23	0.27	pCi/g	
Cd-109	0.92 +/- 0.96	1.5	pCi/g	U
Ce-139	-0.007 +/- 0.047	0.084	pCi/g	U
Ce-144	-0.10 +/- 0.33	0.59	pCi/g	U
Co-56	0.02 +/- 0.14	0.27	pCi/g	U
Co-57	0.012 +/- 0.034	0.059	pCi/g	U
Co-58	0.018 +/- 0.055	0.100	pCi/g	U
Co-60	-0.033 +/- 0.069	0.15	pCi/g	U
Cr-51	-0.03 +/- 0.51	0.93	pCi/g	U
Cs-134	0.009 +/- 0.057	0.10	pCi/g	U
Cs-137	-0.011 +/- 0.070	0.13	pCi/g	U
Eu-152	-0.12 +/- 0.32	0.69	pCi/g	U
Eu-154	0.00 +/- 0.34	0.66	pCi/g	U
Eu-155	0.15 +/- 0.15	0.24	pCi/g	U
Fe-59	-0.08 +/- 0.13	0.27	pCi/g	U
I-131	0.027 +/- 0.081	0.14	pCi/g	U
K-40	16.0 +/- 3.6	1.5	pCi/g	
Mn-54	0.004 +/- 0.062	0.12	pCi/g	U
Na-22	0.018 +/- 0.069	0.13	pCi/g	U
Nb-94	0.008 +/- 0.070	0.13	pCi/g	U

Data Package ID: *GSS0203102-1*

Gamma Spectroscopy Results

Method PAI SOP 713R6

Sample Results

Reported on: Thursday, April 04, 2002 12:25:15

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Field ID: UST-8B
Lab ID: 0203102-16

Sample Matrix: Soil
Date Prepared: 01-Apr-02
Prep SOP: PAI 739R5
Prep Batch: GS01426

Date Collected: 27-Mar-02
Date Analyzed: 01-Apr-02
Analytical SOP: PAI 713R6
Spectrum Code: 020270D08B

Final Aliquot: 348.0 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.001 +/- 0.073	0.14	pCi/g	U
Pa-234m	0 +/- 10	20	pCi/g	U
Pb-212	1.35 +/- 0.30	0.22	pCi/g	
Pb-214	0.72 +/- 0.20	0.22	pCi/g	
Ru-106	0.32 +/- 0.50	0.83	pCi/g	U
Sb-124	-0.038 +/- 0.060	0.12	pCi/g	U
Sb-125	0.09 +/- 0.14	0.23	pCi/g	U
Sc-46	-0.018 +/- 0.050	0.11	pCi/g	U
Th-227	0.10 +/- 0.31	0.53	pCi/g	U
Th-234	0.9 +/- 1.1	1.8	pCi/g	U
Tl-208	0.37 +/- 0.13	0.13	pCi/g	
U-235	0.05 +/- 0.35	0.61	pCi/g	U
Zn-65	0.01 +/- 0.16	0.30	pCi/g	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.
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.

Abbreviations:

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

Data Package ID: *GSS0203102-1*

Gamma Spectroscopy Results

Method PAI SOP 713R6

Sample Results

Reported on: Thursday, April 04, 2002 12:25:16

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Field ID: UST-9B
Lab ID: 0203102-18

Sample Matrix: Soil
Date Prepared: 01-Apr-02
Prep SOP: PAI 739R5
Prep Batch: GS01426

Date Collected: 27-Mar-02
Date Analyzed: 01-Apr-02
Analytical SOP: PAI 713R6
Spectrum Code: 020303D01B

Final Aliquot: 355.1 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.20 +/- 0.28	0.36	pCi/g	
Ag-110m	-0.024 +/- 0.046	0.085	pCi/g	U
Al-26	-0.036 +/- 0.052	0.10	pCi/g	U
Am-241	-0.16 +/- 0.24	0.43	pCi/g	U
Be-7	0.13 +/- 0.38	0.66	pCi/g	U
Bi-212	2.43 +/- 0.98	1.3	pCi/g	
Bi-214	0.50 +/- 0.17	0.21	pCi/g	
Cd-109	1.00 +/- 0.96	1.5	pCi/g	U
Ce-139	0.039 +/- 0.041	0.066	pCi/g	U
Ce-144	0.26 +/- 0.28	0.45	pCi/g	U
Co-56	0.14 +/- 0.13	0.21	pCi/g	U
Co-57	0.029 +/- 0.037	0.061	pCi/g	U
Co-58	0.007 +/- 0.047	0.083	pCi/g	U
Co-60	0.006 +/- 0.045	0.080	pCi/g	U
Cr-51	-0.07 +/- 0.38	0.68	pCi/g	U
Cs-134	-0.019 +/- 0.076	0.13	pCi/g	U
Cs-137	-0.004 +/- 0.051	0.091	pCi/g	U
Eu-152	-0.02 +/- 0.28	0.51	pCi/g	U
Eu-154	-0.02 +/- 0.29	0.51	pCi/g	U
Eu-155	0.14 +/- 0.17	0.27	pCi/g	U
Fe-59	-0.05 +/- 0.11	0.19	pCi/g	U
I-131	0.054 +/- 0.070	0.11	pCi/g	U
K-40	18.7 +/- 3.5	1.2	pCi/g	
Mn-54	-0.031 +/- 0.057	0.10	pCi/g	U
Na-22	-0.026 +/- 0.056	0.10	pCi/g	U
Nb-94	0.026 +/- 0.049	0.082	pCi/g	U

Data Package ID: *GSS0203102-1*

Gamma Spectroscopy Results

Method PAI SOP 713R6

Sample Results

Reported on: Thursday, April 04, 2002 12:25:15

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Field ID: UST-9B
Lab ID: 0203102-18

Sample Matrix: Soil
Date Prepared: 01-Apr-02
Prep SOP: PAI 739R5
Prep Batch: GS01426

Date Collected: 27-Mar-02
Date Analyzed: 01-Apr-02
Analytical SOP: PAI 713R6
Spectrum Code: 020303D01B

Final Aliquot: 355.1 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.036 +/- 0.053	0.087	pCi/g	U
Pa-234m	0.1 +/- 8.8	16	pCi/g	U
Pb-212	1.42 +/- 0.27	0.14	pCi/g	
Pb-214	0.67 +/- 0.16	0.17	pCi/g	
Ru-106	-0.38 +/- 0.47	0.86	pCi/g	U
Sb-124	0.039 +/- 0.055	0.090	pCi/g	U
Sb-125	0.06 +/- 0.11	0.21	pCi/g	U
Sc-46	0.045 +/- 0.046	0.073	pCi/g	U
Th-227	1.4 +/- 5.5	9.1	pCi/g	U
Th-234	1.0 +/- 1.1	1.7	pCi/g	U
Tl-208	0.42 +/- 0.10	0.084	pCi/g	
U-235	0.01 +/- 0.28	0.48	pCi/g	U
Zn-65	-0.11 +/- 0.13	0.25	pCi/g	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.
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.

Abbreviations:

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

Data Package ID: *GSS0203102-1*

Gamma Spectroscopy Results

Method PAI SOP 713R6

Sample Results

Reported on: Thursday, April 04, 2002 12:25:17

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Field ID: UST-10B
Lab ID: 0203102-20

Sample Matrix: Soil
Date Prepared: 01-Apr-02
Prep SOP: PAI 739R5
Prep Batch: GS01426

Date Collected: 27-Mar-02
Date Analyzed: 01-Apr-02
Analytical SOP: PAI 713R6
Spectrum Code: 020309D02B

Final Aliquot: 352.3 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.39 +/- 0.37	0.33	pCi/g	
Ag-110m	-0.106 +/- 0.063	0.14	pCi/g	U
Al-26	0.052 +/- 0.071	0.12	pCi/g	U
Am-241	0.09 +/- 0.51	0.89	pCi/g	U
Be-7	0.08 +/- 0.47	0.86	pCi/g	U
Bi-212	1.7 +/- 1.0	1.3	pCi/g	TI
Bi-214	0.73 +/- 0.23	0.23	pCi/g	
Cd-109	1.4 +/- 1.3	2.0	pCi/g	U
Ce-139	-0.022 +/- 0.050	0.090	pCi/g	U
Ce-144	-0.14 +/- 0.32	0.58	pCi/g	U
Co-56	0.11 +/- 0.12	0.19	pCi/g	U
Co-57	-0.014 +/- 0.039	0.073	pCi/g	U
Co-58	0.001 +/- 0.065	0.12	pCi/g	U
Co-60	0.004 +/- 0.046	0.094	pCi/g	U
Cr-51	0.15 +/- 0.46	0.81	pCi/g	U
Cs-134	-0.013 +/- 0.067	0.12	pCi/g	U
Cs-137	0.068 +/- 0.069	0.11	pCi/g	U
Eu-152	-0.25 +/- 0.28	0.65	pCi/g	U
Eu-154	-0.11 +/- 0.33	0.66	pCi/g	U
Eu-155	0.01 +/- 0.19	0.34	pCi/g	U
Fe-59	-0.10 +/- 0.14	0.30	pCi/g	U
I-131	-0.088 +/- 0.096	0.19	pCi/g	U
K-40	18.0 +/- 3.8	1.2	pCi/g	
Mn-54	-0.100 +/- 0.080	0.16	pCi/g	U
Na-22	-0.047 +/- 0.079	0.16	pCi/g	U
Nb-94	-0.019 +/- 0.061	0.12	pCi/g	U

Data Package ID: *GSS0203102-1*

Gamma Spectroscopy Results

Method PAI SOP 713R6

Sample Results

Reported on: Thursday, April 04, 2002 12:25:18

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Field ID: UST-10B
Lab ID: 0203102-20

Sample Matrix: Soil
Date Prepared: 01-Apr-02
Prep SOP: PAI 739R5
Prep Batch: GS01426

Date Collected: 27-Mar-02
Date Analyzed: 01-Apr-02
Analytical SOP: PAI 713R6
Spectrum Code: 020309D02B

Final Aliquot: 352.3 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.021 +/- 0.064	0.11	pCi/g	U
Pa-234m	9 +/- 10	16	pCi/g	U
Pb-212	1.42 +/- 0.31	0.21	pCi/g	
Pb-214	0.76 +/- 0.21	0.25	pCi/g	
Ru-106	-0.78 +/- 0.56	1.2	pCi/g	U
Sb-124	-0.022 +/- 0.070	0.13	pCi/g	U
Sb-125	-0.06 +/- 0.14	0.27	pCi/g	U
Sc-46	0.001 +/- 0.047	0.093	pCi/g	U
Th-227	0.29 +/- 0.35	0.56	pCi/g	U
Th-234	-0.3 +/- 1.1	1.9	pCi/g	U
Tl-208	0.59 +/- 0.16	0.13	pCi/g	
U-235	-0.04 +/- 0.33	0.59	pCi/g	U
Zn-65	0.22 +/- 0.26	0.41	pCi/g	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.
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.

Abbreviations:

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

Data Package ID: *GSS0203102-1*

Gamma Spectroscopy Results

Method PAI SOP 713R6

Sample Results

Reported on: Thursday, April 04, 2002 12:25:18

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Field ID: UST-11B
Lab ID: 0203102-22

Sample Matrix: Soil
Date Prepared: 01-Apr-02
Prep SOP: PAI 739R5
Prep Batch: GS01426

Date Collected: 27-Mar-02
Date Analyzed: 01-Apr-02
Analytical SOP: PAI 713R6
Spectrum Code: 020132D03B

Final Aliquot: 345.1 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.49 +/- 0.43	0.64	pCi/g	
Ag-110m	0.021 +/- 0.081	0.14	pCi/g	U
Al-26	0.055 +/- 0.078	0.13	pCi/g	U
Am-241	0.04 +/- 0.57	0.99	pCi/g	U
Be-7	0.36 +/- 0.68	1.2	pCi/g	U
Bi-212	2.1 +/- 1.4	2.1	pCi/g	
Bi-214	0.79 +/- 0.28	0.29	pCi/g	
Cd-109	1.6 +/- 1.6	2.5	pCi/g	U
Ce-139	0.016 +/- 0.057	0.098	pCi/g	U
Ce-144	0.28 +/- 0.42	0.69	pCi/g	U
Co-56	0.06 +/- 0.19	0.33	pCi/g	U
Co-57	-0.019 +/- 0.057	0.10	pCi/g	U
Co-58	-0.094 +/- 0.082	0.17	pCi/g	U
Co-60	0.00 +/- 0.10	0.20	pCi/g	U
Cr-51	-0.20 +/- 0.63	1.2	pCi/g	U
Cs-134	-0.01 +/- 0.12	0.21	pCi/g	U
Cs-137	-0.043 +/- 0.098	0.18	pCi/g	U
Eu-152	0.16 +/- 0.43	0.78	pCi/g	U
Eu-154	-0.26 +/- 0.48	0.96	pCi/g	U
Eu-155	0.06 +/- 0.24	0.42	pCi/g	U
Fe-59	0.13 +/- 0.18	0.29	pCi/g	U
I-131	0.01 +/- 0.11	0.19	pCi/g	U
K-40	19.7 +/- 4.2	1.5	pCi/g	
Mn-54	0.037 +/- 0.080	0.14	pCi/g	U
Na-22	-0.03 +/- 0.10	0.20	pCi/g	U
Nb-94	0.033 +/- 0.079	0.14	pCi/g	U

Data Package ID: *GSS0203102-1*

Gamma Spectroscopy Results

Method PAI SOP 713R6

Sample Results

Reported on: Thursday, April 04, 2002 12:25:18

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Field ID: UST-11B
Lab ID: 0203102-22

Sample Matrix: Soil
Date Prepared: 01-Apr-02
Prep SOP: PAI 739R5
Prep Batch: GS01426

Date Collected: 27-Mar-02
Date Analyzed: 01-Apr-02
Analytical SOP: PAI 713R6
Spectrum Code: 020132D03B

Final Aliquot: 345.1 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.018 +/- 0.091	0.16	pCi/g	U
Pa-234m	19 +/- 15	22	pCi/g	U
Pb-212	1.28 +/- 0.30	0.22	pCi/g	
Pb-214	0.96 +/- 0.24	0.22	pCi/g	
Ru-106	-0.27 +/- 0.72	1.4	pCi/g	U
Sb-124	0.051 +/- 0.086	0.14	pCi/g	U
Sb-125	-0.02 +/- 0.20	0.37	pCi/g	U
Sc-46	0.053 +/- 0.080	0.13	pCi/g	U
Th-227	-0.10 +/- 0.72	1.3	pCi/g	U
Th-234	1.3 +/- 1.4	2.3	pCi/g	U
Tl-208	0.44 +/- 0.15	0.17	pCi/g	
U-235	-0.32 +/- 0.43	0.79	pCi/g	U
Zn-65	-0.11 +/- 0.22	0.43	pCi/g	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.
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.

Abbreviations:

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

Data Package ID: *GSS0203102-1*

Gamma Spectroscopy Results

Method PAI SOP 713R6

Sample Results

Reported on: Thursday, April 04, 2002 12:25:19

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Field ID: UST-12B
Lab ID: 0203102-24

Sample Matrix: Soil
Date Prepared: 01-Apr-02
Prep SOP: PAI 739R5
Prep Batch: GS01426

Date Collected: 27-Mar-02
Date Analyzed: 01-Apr-02
Analytical SOP: PAI 713R6
Spectrum Code: 020227D06B

Final Aliquot: 311.9 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.29 +/- 0.43	0.77	pCi/g	
Ag-110m	-0.034 +/- 0.081	0.16	pCi/g	U
Al-26	0.064 +/- 0.074	0.11	pCi/g	U
Am-241	0.26 +/- 0.40	0.66	pCi/g	U
Be-7	-0.42 +/- 0.56	1.1	pCi/g	U
Bi-212	2.4 +/- 1.4	1.9	pCi/g	TI
Bi-214	0.86 +/- 0.30	0.34	pCi/g	
Cd-109	2.2 +/- 1.7	2.6	pCi/g	U
Ce-139	0.005 +/- 0.049	0.087	pCi/g	U
Ce-144	-0.17 +/- 0.36	0.66	pCi/g	U
Co-56	0.08 +/- 0.18	0.31	pCi/g	U
Co-57	-0.019 +/- 0.042	0.078	pCi/g	U
Co-58	-0.101 +/- 0.083	0.18	pCi/g	U
Co-60	0.007 +/- 0.095	0.18	pCi/g	U
Cr-51	0.21 +/- 0.56	0.97	pCi/g	U
Cs-134	-0.016 +/- 0.068	0.13	pCi/g	U
Cs-137	0.138 +/- 0.098	0.14	pCi/g	U
Eu-152	0.09 +/- 0.31	0.59	pCi/g	U
Eu-154	0.09 +/- 0.43	0.79	pCi/g	U
Eu-155	0.05 +/- 0.20	0.34	pCi/g	U
Fe-59	-0.01 +/- 0.19	0.35	pCi/g	U
I-131	-0.051 +/- 0.100	0.19	pCi/g	U
K-40	17.5 +/- 4.0	2.0	pCi/g	
Mn-54	-0.040 +/- 0.072	0.15	pCi/g	U
Na-22	-0.12 +/- 0.10	0.22	pCi/g	U
Nb-94	0.063 +/- 0.082	0.13	pCi/g	U

Data Package ID: *GSS0203102-1*

Gamma Spectroscopy Results

Method PAI SOP 713R6

Sample Results

Reported on: Thursday, April 04, 2002 12:25:19

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Field ID: UST-12B
Lab ID: 0203102-24

Sample Matrix: Soil
Date Prepared: 01-Apr-02
Prep SOP: PAI 739R5
Prep Batch: GS01426

Date Collected: 27-Mar-02
Date Analyzed: 01-Apr-02
Analytical SOP: PAI 713R6
Spectrum Code: 020227D06B

Final Aliquot: 311.9 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.007 +/- 0.085	0.16	pCi/g	U
Pa-234m	-7 +/- 13	27	pCi/g	U
Pb-212	1.36 +/- 0.33	0.28	pCi/g	
Pb-214	0.78 +/- 0.22	0.24	pCi/g	
Ru-106	-0.16 +/- 0.62	1.2	pCi/g	U
Sb-124	-0.033 +/- 0.071	0.14	pCi/g	U
Sb-125	-0.09 +/- 0.16	0.32	pCi/g	U
Sc-46	-0.007 +/- 0.085	0.16	pCi/g	U
Th-227	-0.23 +/- 0.38	0.72	pCi/g	U
Th-234	1.06 +/- 0.87	1.3	pCi/g	U
Tl-208	0.45 +/- 0.15	0.15	pCi/g	
U-235	0.04 +/- 0.36	0.62	pCi/g	U
Zn-65	-0.02 +/- 0.23	0.43	pCi/g	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.
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.

Abbreviations:

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

Data Package ID: *GSS0203102-1*

Liquid Scintillation Analysis

Paragon Analytics, Inc.

Radiochemistry Case Narrative
Tritium

New World Technology

Bethesda / GA00419

PAI WO 0203102

1. This report consists of twelve soil samples received by Paragon on 3/28/02.
2. These samples were prepared according to Paragon Analytics, Inc. procedures SOP754R1.
3. The samples were analyzed for the presence of tritium according to Paragon Analytics, Inc. procedure SOP704R5. The analyses were completed on 4/6/02.
4. The analysis results for these samples are reported on a 'dry weight' basis in units of pCi/gram.
5. No anomalous situations were noted during the preparation and analysis of these samples. All quality control criteria were met.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, Paragon Analytics, Inc. certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Kevin Fillion
Radiochemistry Instrument Technician

4-9-02
Date

Radiochemistry Final Data Review

4/11/02
Date

1

PARAGON ANALYTICS, INC.
Radiochemistry Data Package

Section 1

SAMPLE RESULTS SUMMARY

Sample Results Summary

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Reported on: Tuesday, April 09, 2002 09:06:51

Lab Sample ID	Client Sample ID	Test	Nuclide	Result +/- 2 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0203102-1	UST-1A	TRITIUM	H-3	0.07 +/- 0.13	0.21	pCi/g	Soil	LS01152	4/5/02	U
0203102-3	UST-2A	TRITIUM	H-3	0.006 +/- 0.067	0.11	pCi/g	Soil	LS01152	4/5/02	U
0203102-5	UST-3A	TRITIUM	H-3	0.045 +/- 0.083	0.14	pCi/g	Soil	LS01152	4/5/02	U
0203102-7	UST-4A	TRITIUM	H-3	-0.012 +/- 0.080	0.13	pCi/g	Soil	LS01152	4/5/02	U
0203102-9	UST-5A	TRITIUM	H-3	-0.003 +/- 0.049	0.083	pCi/g	Soil	LS01152	4/5/02	U
0203102-11	UST-6A	TRITIUM	H-3	0.004 +/- 0.045	0.075	pCi/g	Soil	LS01152	4/5/02	U
0203102-13	UST-7A	TRITIUM	H-3	0.290 +/- 0.059	0.065	pCi/g	Soil	LS01152	4/6/02	LT
0203102-15	UST-8A	TRITIUM	H-3	0.052 +/- 0.043	0.069	pCi/g	Soil	LS01152	4/6/02	U
0203102-17	UST-9A	TRITIUM	H-3	0.042 +/- 0.046	0.075	pCi/g	Soil	LS01152	4/6/02	U
0203102-19	UST-10A	TRITIUM	H-3	0.047 +/- 0.047	0.076	pCi/g	Soil	LS01152	4/6/02	U
0203102-21	UST-11A	TRITIUM	H-3	0.039 +/- 0.047	0.076	pCi/g	Soil	LS01152	4/6/02	U

Comments:

Data Package ID: *H3S0203102-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.

Abbreviations:

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

Sample Results Summary

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Reported on: Tuesday, April 09, 2002 09:06:52

Lab Sample ID	Client Sample ID	Test	Nuclide	Result +/- 2 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0203102-23	UST-12A	TRITIUM	H-3	0.005 +/- 0.046	0.077	pCi/g	Soil	LS01152	4/6/02	U

Comments:

Data Package ID: *H3S0203102-1*

Qualifiers/Flags:
U - Result is less than the sample specific MDC.
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.

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

Tritium Analysis By Liquid Scintillation

Method 906.0M

Sample Results

Reported on: Tuesday, April 09, 2002 09:06:51

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Field ID: UST-1A
Lab ID: 0203102-1

Sample Matrix: Soil
Date Prepared: 01-Apr-02
Prep SOP: PAI 754R1
Prep Batch: LS01152

Date Collected: 27-Mar-02
Date Analyzed: 05-Apr-02
Analytical SOP: PAI 704R5

Final Aliquot: 21.45 g
Report Basis: Dry Weight
Count Time (min.): 60

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
H-3	0.07 +/- 0.13	0.21	pCi/g	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *H3S0203102-1*

Tritium Analysis By Liquid Scintillation

Method 906.0M

Sample Results

Reported on: Tuesday, April 09, 2002 09:06:52

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Field ID: UST-2A
Lab ID: 0203102-3

Sample Matrix: Soil
Date Prepared: 01-Apr-02
Prep SOP: PAI 754R1
Prep Batch: LS01152

Date Collected: 27-Mar-02
Date Analyzed: 05-Apr-02
Analytical SOP: PAI 704R5

Final Aliquot: 39.75 g
Report Basis: Dry Weight
Count Time (min.): 60

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
H-3	0.006 +/- 0.067	0.11	pCi/g	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *H3S0203102-1*

Tritium Analysis By Liquid Scintillation

Method 906.0M

Sample Results

Reported on: Tuesday, April 09, 2002 09:06:52

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Field ID: UST-3A
Lab ID: 0203102-5

Sample Matrix: Soil
Date Prepared: 01-Apr-02
Prep SOP: PAI 754R1
Prep Batch: LS01152

Date Collected: 27-Mar-02
Date Analyzed: 05-Apr-02
Analytical SOP: PAI 704R5

Final Aliquot: 32.74 g
Report Basis: Dry Weight
Count Time (min.): 60

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
H-3	0.045 +/- 0.083	0.14	pCi/g	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *H3S0203102-1*

Tritium Analysis By Liquid Scintillation

Method 906.0M

Sample Results

Reported on: Tuesday, April 09, 2002 09:06:52

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Field ID: UST-4A
Lab ID: 0203102-7

Sample Matrix: Soil
Date Prepared: 01-Apr-02
Prep SOP: PAI 754R1
Prep Batch: LS01152

Date Collected: 27-Mar-02
Date Analyzed: 05-Apr-02
Analytical SOP: PAI 704R5

Final Aliquot: 33.29 g
Report Basis: Dry Weight
Count Time (min.): 60

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
H-3	-0.012 +/- 0.080	0.13	pCi/g	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *H3S0203102-1*

Tritium Analysis By Liquid Scintillation

Method 906.0M

Sample Results

Reported on: Tuesday, April 09, 2002 09:06:52

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Field ID: UST-5A
Lab ID: 0203102-9

Sample Matrix: Soil
Date Prepared: 01-Apr-02
Prep SOP: PAI 754R1
Prep Batch: LS01152

Date Collected: 27-Mar-02
Date Analyzed: 05-Apr-02
Analytical SOP: PAI 704R5

Final Aliquot: 53.67 g
Report Basis: Dry Weight
Count Time (min.): 60

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
H-3	-0.003 +/- 0.049	0.083	pCi/g	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *H3S0203102-1*

Tritium Analysis By Liquid Scintillation

Method 906.0M

Sample Duplicate Results

Reported on: Tuesday, April 09, 2002 09:06:52

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Field ID: UST-5A
Lab ID: 0203102-9-D1

Sample Matrix: Soil
Date Prepared: 01-Apr-02
Prep SOP: PAI 754R1
Prep Batch: LS01152

Date Collected: 27-Mar-02
Date Analyzed: 05-Apr-02
Analytical SOP: PAI 704R5

Final Aliquot: 53.74
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 60

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
H-3	0.008 +/- 0.050	0.083	pCi/g	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
* - Duplicate DER not within control limits.
LT - Result is less than Requested MDC, greater than sample specific MDC.

Abbreviations:

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

Data Package ID: *H3S0203102-1*

Tritium Analysis By Liquid Scintillation

Method 906.0M

Sample Results

Reported on: Tuesday, April 09, 2002 09:06:51

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Field ID: UST-6A
Lab ID: 0203102-11

Sample Matrix: Soil
Date Prepared: 01-Apr-02
Prep SOP: PAI 754R1
Prep Batch: LS01152

Date Collected: 27-Mar-02
Date Analyzed: 05-Apr-02
Analytical SOP: PAI 704R5

Final Aliquot: 59.81 g
Report Basis: Dry Weight
Count Time (min.): 60

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
H-3	0.004 +/- 0.045	0.075	pCi/g	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *H3S0203102-1*

Tritium Analysis By Liquid Scintillation

Method 906.0M

Sample Results

Reported on: Tuesday, April 09, 2002 09:06:51

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Field ID: UST-7A
Lab ID: 0203102-13

Sample Matrix: Soil
Date Prepared: 01-Apr-02
Prep SOP: PAI 754R1
Prep Batch: LS01152

Date Collected: 27-Mar-02
Date Analyzed: 06-Apr-02
Analytical SOP: PAI 704R5

Final Aliquot: 68.62 g
Report Basis: Dry Weight
Count Time (min.): 60

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
H-3	0.290 +/- 0.059	0.065	pCi/g	LT

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *H3S0203102-1*

Tritium Analysis By Liquid Scintillation

Method 906.0M

Sample Results

Reported on: Tuesday, April 09, 2002 09:06:51

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Field ID: UST-8A
Lab ID: 0203102-15

Sample Matrix: Soil
Date Prepared: 01-Apr-02
Prep SOP: PAI 754R1
Prep Batch: LS01152

Date Collected: 27-Mar-02
Date Analyzed: 06-Apr-02
Analytical SOP: PAI 704R5

Final Aliquot: 65.17 g
Report Basis: Dry Weight
Count Time (min.): 60

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
H-3	0.052 +/- 0.043	0.069	pCi/g	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *H3S0203102-1*

Tritium Analysis By Liquid Scintillation

Method 906.0M

Sample Results

Reported on: Tuesday, April 09, 2002 09:06:51

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Field ID: UST-9A
Lab ID: 0203102-17

Sample Matrix: Soil
Date Prepared: 01-Apr-02
Prep SOP: PAI 754R1
Prep Batch: LS01152

Date Collected: 27-Mar-02
Date Analyzed: 06-Apr-02
Analytical SOP: PAI 704R5

Final Aliquot: 59.67 g
Report Basis: Dry Weight
Count Time (min.): 60

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
H-3	0.042 +/- 0.046	0.075	pCi/g	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *H3S0203102-1*

Tritium Analysis By Liquid Scintillation

Method 906.0M

Sample Results

Reported on: Tuesday, April 09, 2002 09:06:51

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0203102

Field ID: UST-10A

Lab ID: 0203102-19

Sample Matrix: Soil

Date Prepared: 01-Apr-02

Prep SOP: PAI 754R1

Prep Batch: LS01152

Date Collected: 27-Mar-02

Date Analyzed: 06-Apr-02

Analytical SOP: PAI 704R5

Final Aliquot: 59.24 g

Report Basis: Dry Weight

Count Time (min.): 60

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
H-3	0.047 +/- 0.047	0.076	pCi/g	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *H3S0203102-1*

Tritium Analysis By Liquid Scintillation

Method 906.0M

Sample Results

Reported on: Tuesday, April 09, 2002 09:06:51

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Field ID: UST-11A
Lab ID: 0203102-21

Sample Matrix: Soil
Date Prepared: 01-Apr-02
Prep SOP: PAI 754R1
Prep Batch: LS01152

Date Collected: 27-Mar-02
Date Analyzed: 06-Apr-02
Analytical SOP: PAI 704R5

Final Aliquot: 58.61 g
Report Basis: Dry Weight
Count Time (min.): 60

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
H-3	0.039 +/- 0.047	0.076	pCi/g	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *H3S0203102-1*

Tritium Analysis By Liquid Scintillation

Method 906.0M

Sample Duplicate Results

Reported on: Tuesday, April 09, 2002 09:06:52

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Field ID: UST-11A
Lab ID: 0203102-21-D1

Sample Matrix: Soil
Date Prepared: 01-Apr-02
Prep SOP: PAI 754R1
Prep Batch: LS01152

Date Collected: 27-Mar-02
Date Analyzed: 06-Apr-02
Analytical SOP: PAI 704R5

Final Aliquot: 58.84
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 60

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
H-3	0.032 +/- 0.046	0.076	pCi/g	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
* - Duplicate DER not within control limits.
LT - Result is less than Requested MDC, greater than sample specific MDC.

Abbreviations:

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

Data Package ID: *H3S0203102-1*

Paragon Analytics Inc.

Paragon Analytics, Inc.

Radiochemistry Case Narrative
Carbon 14

New World Technology

Bethesda / GA00419

PAI WO 0203102

1. This report consists of twelve soil samples received by Paragon on 3/28/02.

2. These samples were prepared according to Paragon Analytics, Inc. procedures SOP772R0.

3. The samples were analyzed for the presence of Carbon 14 according to Paragon Analytics, Inc. procedure SOP704R5. The analyses were completed on 4/9/02.

4. The analysis results for these samples are reported on a 'dry weight' basis in units of pCi/gram.

5. Due to a lower than normal requested MDC, a 2.0g aliquot was taken instead of the normal 1.0g aliquot. Therefore twice the amount of 18N H_2SO_4 and 5% $KMnO_4$ was used. Please refer to QASS 237426 in Section 5 of the following report.

6. The luminescence was above the 5% control limit at 5.43% for the reagent blank LS01156RB1 used in the background determination. However, the count rate was in control for the background determination. Therefore the data obtained on 4/8/02 will be used in the background determination.

7. The matrix spike recovery for 0203102-15-MS1 was above the upper control limit of 117% at 127%. Possible matrix interferences could account for the high recovery. PAI does not control the batch on the matrix spike and data is submitted without further qualification. Please refer to NCR 03918 in Section 5 of the following report.

8. No further anomalous situations were noted during the preparation and analysis of these samples. All remaining quality control criteria were met.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, Paragon Analytics, Inc. certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Kevin Fillion
Radiochemistry Instrument Technician

4-10-02
Date

Radiochemistry Final Data Review

4/11/02
Date

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PARAGON ANALYTICS, INC.
Radiochemistry Data Package

Section 1

SAMPLE RESULTS SUMMARY

Sample Results Summary

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Reported on: Wednesday, April 10, 2002 09:22:00

Lab Sample ID	Client Sample ID	Test	Nuclide	Result +/- 2 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0203102-1	UST-1A	C-14	C-14	5.6 +/- 6.6	11	pCi/g	Soil	LS01156	4/8/02	U
0203102-3	UST-2A	C-14	C-14	2.8 +/- 6.5	11	pCi/g	Soil	LS01156	4/8/02	U
0203102-5	UST-3A	C-14	C-14	5.8 +/- 6.6	11	pCi/g	Soil	LS01156	4/8/02	U
0203102-7	UST-4A	C-14	C-14	7.5 +/- 6.6	11	pCi/g	Soil	LS01156	4/8/02	U
0203102-9	UST-5A	C-14	C-14	2.8 +/- 6.4	11	pCi/g	Soil	LS01156	4/8/02	U
0203102-11	UST-6A	C-14	C-14	5.7 +/- 6.5	11	pCi/g	Soil	LS01156	4/8/02	U
0203102-13	UST-7A	C-14	C-14	7.2 +/- 6.6	11	pCi/g	Soil	LS01156	4/8/02	U
0203102-15	UST-8A	C-14	C-14	3.9 +/- 6.5	11	pCi/g	Soil	LS01156	4/8/02	U
0203102-17	UST-9A	C-14	C-14	6.4 +/- 6.6	11	pCi/g	Soil	LS01156	4/8/02	U
0203102-19	UST-10A	C-14	C-14	5.9 +/- 6.6	11	pCi/g	Soil	LS01156	4/8/02	U
0203102-21	UST-11A	C-14	C-14	6.4 +/- 6.5	11	pCi/g	Soil	LS01156	4/8/02	U

Comments:

Data Package ID: *14C0203102-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.

Abbreviations:

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

00004

Sample Results Summary

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Reported on: Wednesday, April 10, 2002 09:22:00

Lab Sample ID	Client Sample ID	Test	Nuclide	Result +/- 2 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0203102-23	UST-12A	C-14	C-14	1.1 +/- 6.4	11	pCi/g	Soil	LS01156	4/9/02	U

Comments:

Data Package ID: *14C0203102-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

00005

PARAGON ANALYTICS, INC.
Radiochemistry Data Package

3

Section 3

INDIVIDUAL SAMPLE RESULTS

Carbon-14 by Liquid Scintillation

Method EERF-00-01 (mod)

Sample Results

Reported on: Wednesday, April 10, 2002 09:22:00

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Field ID: UST-1A
Lab ID: 0203102-1

Sample Matrix: Soil
Date Prepared: 08-Apr-02
Prep SOP: PAI 772R0
Prep Batch: LS01156

Date Collected: 27-Mar-02
Date Analyzed: 08-Apr-02
Analytical SOP: PAI 704R5

Final Aliquot: 0.2008 g
Report Basis: Dry Weight
Count Time (min.): 75

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
C-14	5.6 +/- 6.6	11	pCi/g	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *14C0203102-1*

Carbon-14 by Liquid Scintillation

Method EERF-00-01 (mod)

Sample Results

Reported on: Wednesday, April 10, 2002 09:22:00

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0203102

Field ID: UST-2A

Lab ID: 0203102-3

Sample Matrix: Soil

Date Prepared: 08-Apr-02

Prep SOP: PAI 772R0

Prep Batch: LS01156

Date Collected: 27-Mar-02

Date Analyzed: 08-Apr-02

Analytical SOP: PAI 704R5

Final Aliquot: 0.2012 g

Report Basis: Dry Weight

Count Time (min.): 75

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
C-14	2.8 +/- 6.5	11	pCi/g	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *14C0203102-1*

Carbon-14 by Liquid Scintillation

Method EERF-00-01 (mod)

Sample Results

Reported on: Wednesday, April 10, 2002 09:22:00

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0203102

Field ID: UST-3A

Lab ID: 0203102-5

Sample Matrix: Soil

Date Prepared: 08-Apr-02

Prep SOP: PAI 772R0

Prep Batch: LS01156

Date Collected: 27-Mar-02

Date Analyzed: 08-Apr-02

Analytical SOP: PAI 704R5

Final Aliquot: 0.2001 g

Report Basis: Dry Weight

Count Time (min.): 75

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
C-14	5.8 +/- 6.6	11	pCi/g	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *14C0203102-1*

Carbon-14 by Liquid Scintillation

Method EERF-00-01 (mod)

Sample Results

Reported on: Wednesday, April 10, 2002 09:22:00

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0203102

Field ID: UST-4A

Lab ID: 0203102-7

Sample Matrix: Soil

Date Prepared: 08-Apr-02

Prep SOP: PAI 772R0

Prep Batch: LS01156

Date Collected: 27-Mar-02

Date Analyzed: 08-Apr-02

Analytical SOP: PAI 704R5

Final Aliquot: 0.2026 g

Report Basis: Dry Weight

Count Time (min.): 75

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
C-14	7.5 +/- 6.6	11	pCi/g	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *14C0203102-1*

Carbon-14 by Liquid Scintillation

Method EERF-00-01 (mod)

Sample Results

Reported on: Wednesday, April 10, 2002 09:22:00

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Field ID: UST-5A
Lab ID: 0203102-9

Sample Matrix: Soil
Date Prepared: 08-Apr-02
Prep SOP: PAI 772R0
Prep Batch: LS01156

Date Collected: 27-Mar-02
Date Analyzed: 08-Apr-02
Analytical SOP: PAI 704R5

Final Aliquot: 0.2042 g
Report Basis: Dry Weight
Count Time (min.): 75

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
C-14	2.8 +/- 6.4	11	pCi/g	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *14C0203102-1*

Carbon-14 by Liquid Scintillation

Method EERF-00-01 (mod)

Sample Duplicate Results

Reported on: Wednesday, April 10, 2002 09:22:00

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Field ID: UST-5A
Lab ID: 0203102-9-D1

Sample Matrix: Soil
Date Prepared: 08-Apr-02
Prep SOP: PAI 772R0
Prep Batch: LS01156

Date Collected: 27-Mar-02
Date Analyzed: 08-Apr-02
Analytical SOP: PAI 704R5

Final Aliquot: 0.2025
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 75

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
C-14	3.0 +/- 6.5	11	pCi/g	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
* - Duplicate DER not within control limits.
LT - Result is less than Requested MDC, greater than sample specific MDC.

Abbreviations:

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

Data Package ID: *14C0203102-1*

Carbon-14 by Liquid Scintillation

Method EERF-00-01 (mod)

Sample Results

Reported on: Wednesday, April 10, 2002 09:22:00

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0203102

Field ID: UST-6A

Lab ID: 0203102-11

Sample Matrix: Soil

Date Prepared: 08-Apr-02

Prep SOP: PAI 772R0

Prep Batch: LS01156

Date Collected: 27-Mar-02

Date Analyzed: 08-Apr-02

Analytical SOP: PAI 704R5

Final Aliquot: 0.2047 g

Report Basis: Dry Weight

Count Time (min.): 75

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
C-14	5.7 +/- 6.5	11	pCi/g	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *14C0203102-1*

Carbon-14 by Liquid Scintillation

Method EERF-00-01 (mod)

Sample Results

Reported on: Wednesday, April 10, 2002 09:22:00

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Field ID: UST-7A
Lab ID: 0203102-13

Sample Matrix: Soil
Date Prepared: 08-Apr-02
Prep SOP: PAI 772R0
Prep Batch: LS01156

Date Collected: 27-Mar-02
Date Analyzed: 08-Apr-02
Analytical SOP: PAI 704R5

Final Aliquot: 0.2029 g
Report Basis: Dry Weight
Count Time (min.): 75

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
C-14	7.2 +/- 6.6	11	pCi/g	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *14C0203102-1*

Carbon-14 by Liquid Scintillation

Method EERF-00-01 (mod)

Sample Results

Reported on: Wednesday, April 10, 2002 09:22:00

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0203102

Field ID: UST-8A

Lab ID: 0203102-15

Sample Matrix: Soil

Date Prepared: 08-Apr-02

Prep SOP: PAI 772R0

Prep Batch: LS01156

Date Collected: 27-Mar-02

Date Analyzed: 08-Apr-02

Analytical SOP: PAI 704R5

Final Aliquot: 0.2018 g

Report Basis: Dry Weight

Count Time (min.): 75

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
C-14	3.9 +/- 6.5	11	pCi/g	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *14C0203102-1*

Carbon-14 by Liquid Scintillation

Method EERF-00-01 (mod)

Sample Results

Reported on: Wednesday, April 10, 2002 09:22:00

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Field ID: UST-9A
Lab ID: 0203102-17

Sample Matrix: Soil
Date Prepared: 08-Apr-02
Prep SOP: PAI 772R0
Prep Batch: LS01156

Date Collected: 27-Mar-02
Date Analyzed: 08-Apr-02
Analytical SOP: PAI 704R5

Final Aliquot: 0.2013 g
Report Basis: Dry Weight
Count Time (min.): 75

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
C-14	6.4 +/- 6.6	11	pCi/g	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *14C0203102-1*

Carbon-14 by Liquid Scintillation

Method EERF-00-01 (mod)

Sample Results

Reported on: Wednesday, April 10, 2002 09:22:00

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Field ID: UST-10A
Lab ID: 0203102-19

Sample Matrix: Soil
Date Prepared: 08-Apr-02
Prep SOP: PAI 772R0
Prep Batch: LS01156

Date Collected: 27-Mar-02
Date Analyzed: 08-Apr-02
Analytical SOP: PAI 704R5

Final Aliquot: 0.2008 g
Report Basis: Dry Weight
Count Time (min.): 75

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
C-14	5.9 +/- 6.6	11	pCi/g	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *14C0203102-1*

Carbon-14 by Liquid Scintillation

Method EERF-00-01 (mod)

Sample Results

Reported on: Wednesday, April 10, 2002 09:22:00

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Field ID: UST-11A
Lab ID: 0203102-21

Sample Matrix: Soil
Date Prepared: 08-Apr-02
Prep SOP: PAI 772R0
Prep Batch: LS01156

Date Collected: 27-Mar-02
Date Analyzed: 08-Apr-02
Analytical SOP: PAI 704R5

Final Aliquot: 0.2042 g
Report Basis: Dry Weight
Count Time (min.): 75

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
C-14	6.4 +/- 6.5	11	pCi/g	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *14C0203102-1*

Carbon-14 by Liquid Scintillation

Method EERF-00-01 (mod)

Sample Results

Reported on: Wednesday, April 10, 2002 09:22:00

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Field ID: UST-12A
Lab ID: 0203102-23

Sample Matrix: Soil
Date Prepared: 08-Apr-02
Prep SOP: PAI 772R0
Prep Batch: LS01156

Date Collected: 27-Mar-02
Date Analyzed: 09-Apr-02
Analytical SOP: PAI 704R5

Final Aliquot: 0.2044 g
Report Basis: Dry Weight
Count Time (min.): 75

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
C-14	1.1 +/- 6.4	11	pCi/g	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *14C0203102-1*

Carbon-14 by Liquid Scintillation

Method EERF-00-01 (mod)

Sample Duplicate Results

Reported on: Wednesday, April 10, 2002 09:22:00

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0203102

Field ID: UST-12A
Lab ID: 0203102-23-D1

Sample Matrix: Soil
Date Prepared: 08-Apr-02
Prep SOP: PAI 772R0
Prep Batch: LS01156

Date Collected: 27-Mar-02
Date Analyzed: 09-Apr-02
Analytical SOP: PAI 704R5

Final Aliquot: 0.2026
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 75

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
C-14	-0.8 +/- 6.4	11	pCi/g	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
* - Duplicate DER not within control limits.
LT - Result is less than Requested MDC, greater than sample specific MDC.

Abbreviations:

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

Data Package ID: *14C0203102-1*

APPENDIX D

NNMC Dig Permits

DIGGING REQUEST
NATIONAL NAVAL MEDICAL CENTER
BETHESDA, MARYLAND 20889-5000

Duplicate POW.

Permit No. 2626

Date 5-21-03

From: New World Technology Daniel Spicuzza

To: Facilities-Management Department, National Naval Medical Center, Bethesda

Subj: DIGGING PERMIT REQUEST

1. A Digging Permit is requested between the hours of 0800

and 1700 on 2 June 3 July

Description of requested action: Excavate + Remove Old radioactive water storage Tank

Type of outage: N/A

Location: 35' South of Westend of B-17 See Attached Drawing

Reference to NAVFAC Drawing

For Further information and coordination, please contact:
Dan Spicuzza (419) 690-4563 cell (412) 848-7022
CDR Simpson

copy to:

Requestor's Signature

ENCLOSURE (1)

DIGGING IMPACT MEMO
NATIONAL NAVAL MEDICAL CENTER
BETHESDA, MARYLAND 20889-5000

Permit Control No. 2626

Permit Request of: New World Technology

From: Public Works Center, Zone 3, Code 530

To: Facilities Management Department, NNMC

Subj: DIGGING PERMIT REQUEST

1. The requested action will have the following impact:

STORM sewer located of S.corner of 17B See Drawing
4" STEAM, 2½ Condensate to STM L0504 MANHOLE
From B-155 ST L03104 Runs to STM L0804

Comments and recommendations:

ENCLOSURE (2)

DIGGING PERMIT APPROVAL
NATIONAL NAVAL MEDICAL CENTER
BETHESDA, MARYLAND, 20889-5000

Permit No. 2626

Date 2 June

From: Facilities Management Department, National Naval Medical Center, Bethesda

To:

Subj: DIGGING PERMIT REQUEST

1. The permit requested above is Approved [ ]
Disapproved (see remarks) [ ]
Approved as noted [X]

For coordination, Patrick Whittington (301) 295 2827 will be the point of contact.

Remarks:
See Attach Utility Drawings for Steam and Sewer Locations.
Back fill and Level Excavation, Restore sod

FMO retain one copy

Patrick O Whittington
Facilities Management Officer

ENCLOSURE (3)

DIGGING REQUEST
NATIONAL NAVAL MEDICAL CENTER
BETHESDA, MARYLAND 20889-5000

Permit No. 2657

Date: 16 JUNE 2003

From: LCDR Daniel S. Simpson, MSC, USN of Naval Medical Research Center

To: Facilities-Management Department, National Naval Medical Center, Bethesda

Subj: DIGGING PERMIT REQUEST

1. A Digging Permit is requested between the hours of 0800 and 1700 from 17 June – 3 July 2003.

2. Description of requested action: This is to take soil samples around the old building 150. Most samples will only be taken about 6 to 10 inches into the ground. There maybe a need to remove underground piping that came out of building 150, but that will be determined with the testing from the soil samples.

Type of outage: NONE

Location: Old building 150 which is located in the woods at the end of building 21.

Reference to NAVFAC Drawing: attached is a drawing of the site.

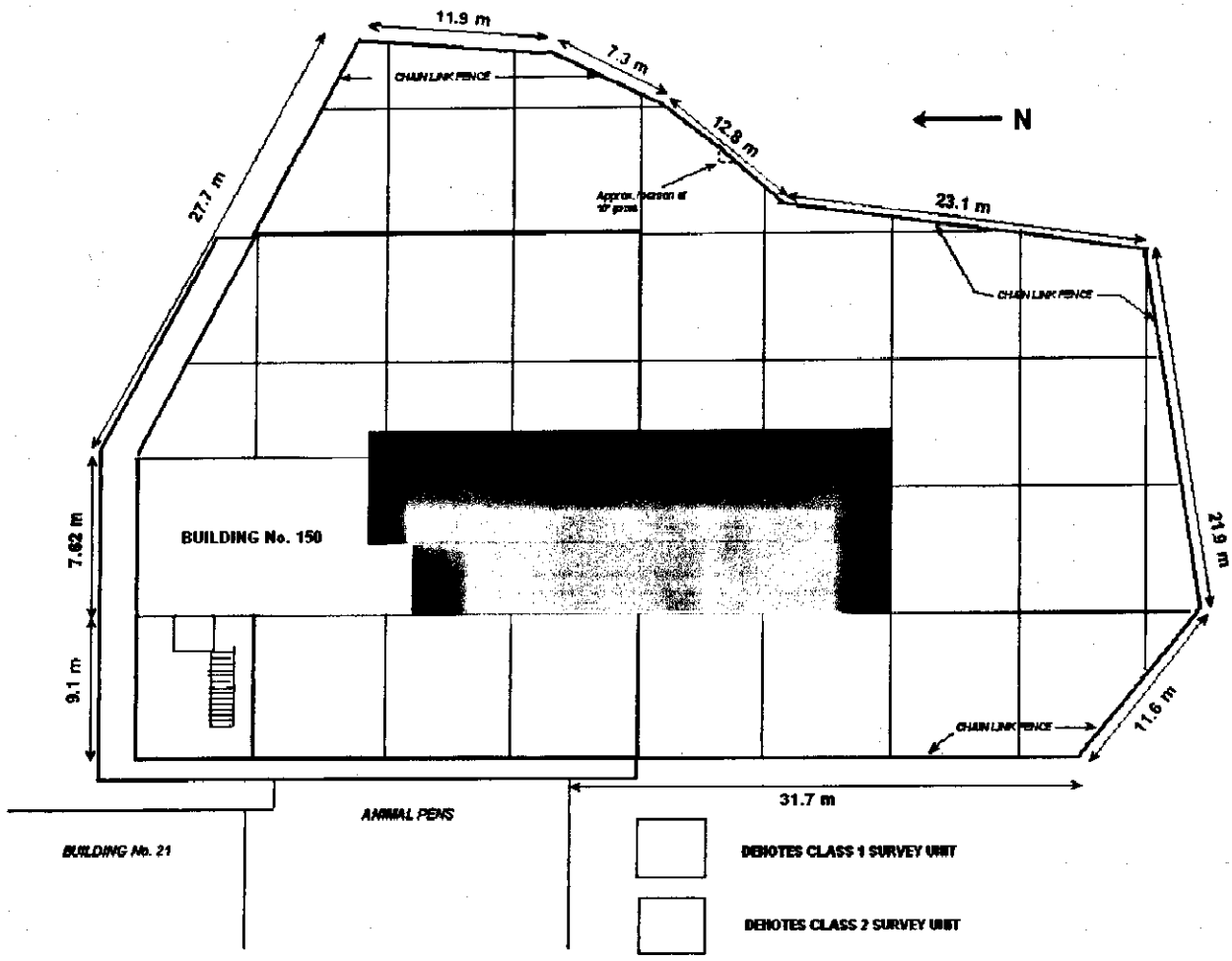
For Further information and coordination, please contact:

LCDR Simpson 301-319-7518/9010

Requestor's Signature

Figure 3

BUILDING 150 SITE GROUNDS SURVEY UNIT MAP



Full Grids are 10 Meters by 10 Meters

DIGGING IMPACT MEMO
NATIONAL NAVAL MEDICAL CENTER
BETHESDA, MARYLAND 20889-5000

Permit Control No. 2657

Permit Request of: _____

From: Public Works Center, Zone 3, Code 530

To: Facilities Management Department, NNMC

Subj: DIGGING PERMIT REQUEST

1. The requested action will have the following impact:

Digging 6" to 10" Surface Samples near B-150.
No impact.
8" Sanitary sewer in area
Storm Sewer

Comments and recommendations:

Fill holes

ENCLOSURE (2)

DIGGING PERMIT APPROVAL
NATIONAL NAVAL MEDICAL CENTER
BETHESDA, MARYLAND, 20889-5000

Permit No. 2657

Date 18 June 03

From: Facilities Management Department, National Naval Medical Center, Bethesda

To:

Subj: DIGGING PERMIT REQUEST

1. The permit requested above is Approved [ ]
Disapproved (see remarks) [ ]
Approved as noted [X]

For coordination, Patrick Whittington will be the point of contact.

Remarks: Hand dig samples only. Do not remove any piping unless cleared by Base Engineering. Use required safety procedure and equipment. Refill excavations
May use Backhoe to excavate pipe

FMO retain one copy

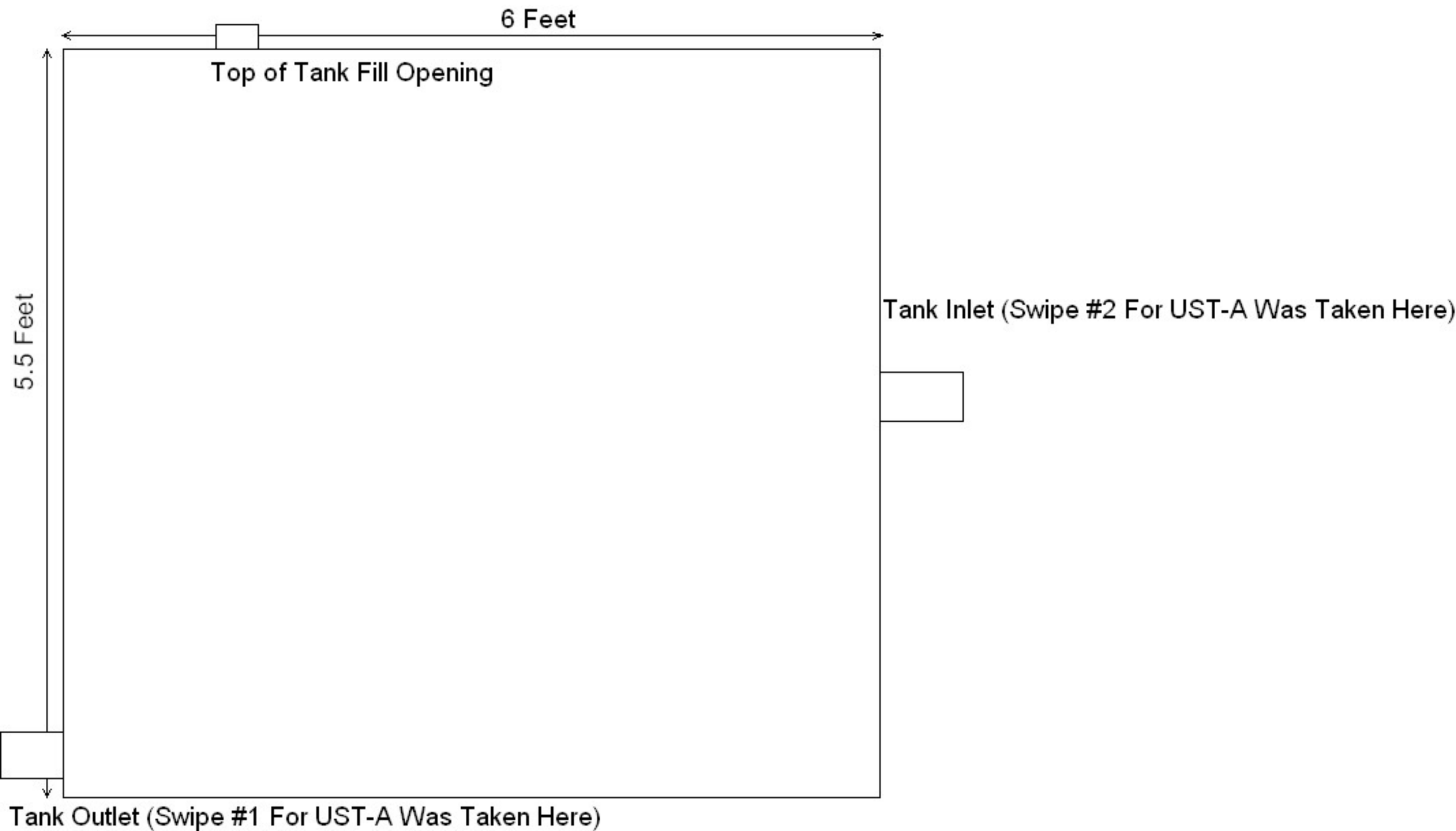
Patrick Whittington
Facilities Management Officer

ENCLOSURE (3)

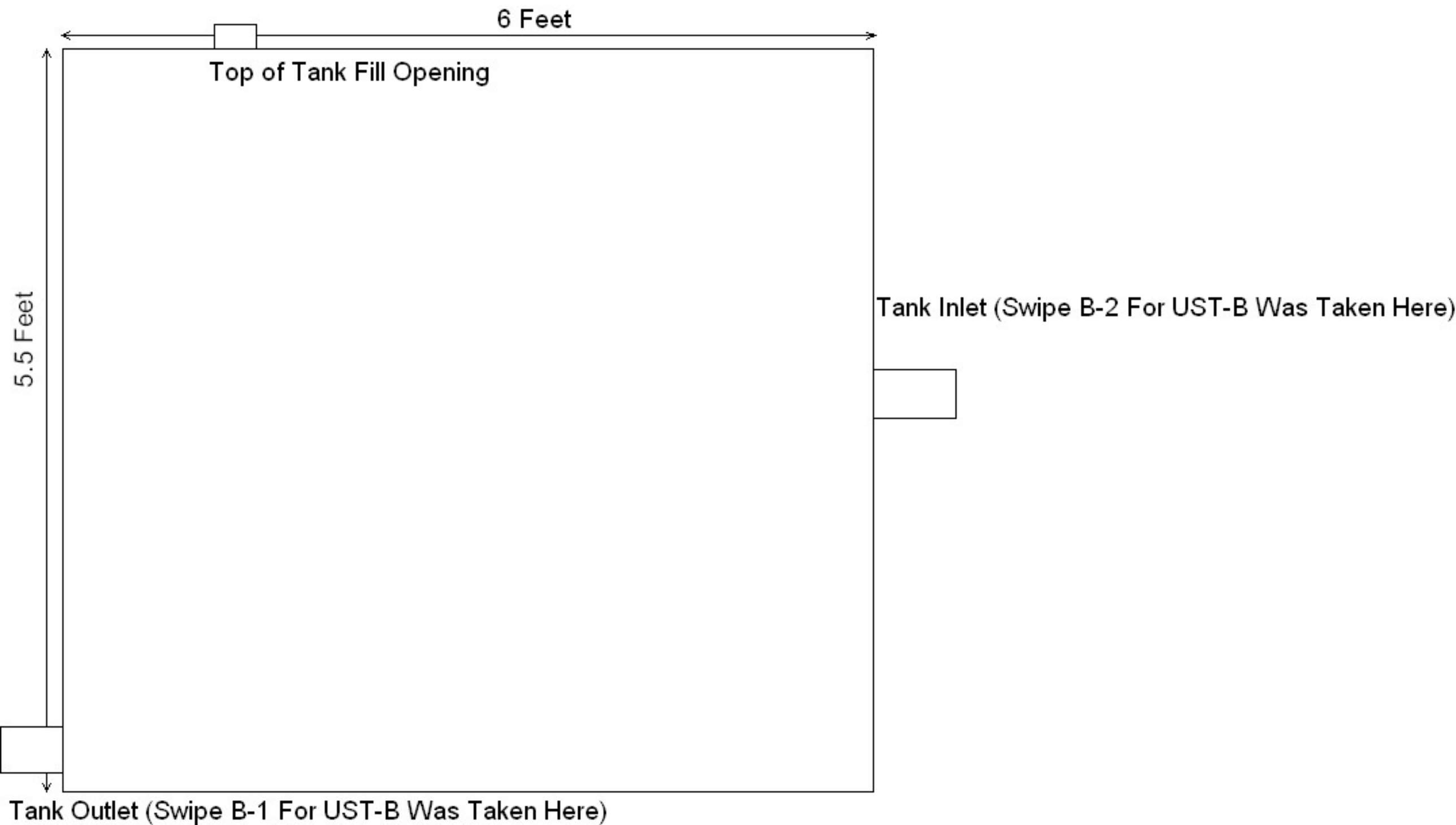
APPENDIX E

UST Survey Data

Side View of Waste Tanks
Tank #_____



Side View of Waste Tanks
Tank #_____



RADIOLOGICAL SURVEY REPORT

NWTS #: N/A

DATE:6/9/03	INSTRUMENTATION USED				
TIME:1230	MODEL	S/N	EFF.%	BKRD CPM	CAL. DUE DATE
SURVEYOR: Daniel Spicuzza	2224 43-68	118242 147403	α 29 β 35	α 1 β 200	5-30-03
LOCATION: Bethesda NNMC	2929 43-10-1	143876 146481	α 41 β 21	α 0.4 β 95.5	11-6-03
REVIEWED BY: Richard Kountz	See Attached	Sheet	For	LSC	Counter Data
Smear Locations Circled; Dose Rates = μR/hr					

PURPOSE OF SURVEY: Pre Shipment Survey of UST-A .

The tank internal and external surfaces were 100% direct scan surveyed for alpha & beta radiation.

See attached map for smear locations.

Remarks: All accessible areas were 100% direct scan surveyed for alpha-beta radiation. All results were ≤ Bkgd.

The tank meets the release criteria defined in Regulatory Guide 1.86.

SMEAR RESULTS

RESULTS = DPM/100cm^2 UNLESS NOTED

#	βγ	α
	See	
	Attached	
	Sheet	

RADIOLOGICAL SURVEY REPORT

NWTS #: N/A

DATE:6/10/03	INSTRUMENTATION USED				
TIME:1130	MODEL	S/N	EFF.%	BKRD CPM	CAL. DUE DATE
SURVEYOR: Daniel Spicuzza	2224 43-68	118242 147403	α 29 β 35	α 1 β 200	5-30-03
LOCATION: Bethesda NNMC	2929 43-10-1	143876 146481	α 41 β 21	α 0.6 β 101.7	11-6-03
REVIEWED BY: Richard Kountz	See Attached	Sheet	For	LSC	Counter Data

Smear Locations Circled; Dose Rates = µR/hr

PURPOSE OF SURVEY: Pre Shipment Survey of UST-B .

The tank internal and external surfaces were 100% direct scan surveyed for alpha & beta radiation.

See attached map for smear locations.

Remarks: All accessible areas were 100% direct scan surveyed for alpha-beta radiation. All results were ≤ Bkgd.

The tank meets the release criteria defined in Regulatory Guide 1.86.

SMEAR RESULTS
RESULTS = DPM/100cm^2
UNLESS NOTED

#	βγ	α
	See	
	Attached	
	Sheet	

Protocol #: 1 Swipe Counting/CPM User :

Time: 1.00
Data Mode: Dual DPM Nuclides: 3H-14C-UG Quench Sets
Low Energy: 3H-UG
High Energy: 14C-UG
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.0 -	12.0	0	0.0	8.38
Region B:	12.0 -	156	0	0.0	6.02
Region C:	0.0 -	0.0	0	0.0	0.00

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: prot.dat
Count Data Filename: c:\swipes\swipes.032

	S#	TIME	CPMA	CPMB	DPM1	DPM2	SIS	tSIE	FLAG
	1	10.00	8.38	6.02			64.802	996.86	B
	2	1.00	15407.8	104099	0.00	123659	155.77	972.70	E
	3	1.00	71610.2	5609.35	125029	647.05	19.107	992.35	E
A-1	4	1.00	9.62	5.43	41.61	5.09	0.000	273.82	"
A-2		1.00	0.62	3.98	0.29	4.92	0.000	376.41	"

Protocol #: 1 Swipe Counting/CPM User :

Time: 1.00
Data Mode: Dual DPM Nuclides: I125-32PUG Quench Sets
Low Energy: I125-UG
Background Subtract: 1st Vial High Energy: 32P-UG

	LL	UL	LCR	2S%	BKG
Region A:	0.0 -	70.0	0	0.0	13.50
Region B:	0.0 -	2000	0	0.0	19.00
Region C:	0.0 -	0.0	0	0.0	0.00

Quench Indicator: tSIE/AB
Ext Std Terminator: Count
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: prot.dat
Count Data Filename: c:\swipes\swipes.032

SP	TIME	CPMA	CPMB	DPM1	DPM2	SIS	tSIE	FLAG
1	10.00	13.50	19.00			852.74	996.86	B
2	1.00	87874.5	119880	410304	0.00	156.89	972.70	E
3	1.00	77219.5	77223.0	416385	0.00	19.037	992.35	E
4	1.00	14.50	19.00	24.95	5.45	0.000	273.82	E
5	1.00	3.50	6.00	5.46	2.92	0.000	376.41	"

A1
A2

Protocol #: 1 Swipe Counting/CPM User :

Time: 1.00
Data Mode: Dual DPM Nuclides: I125-32PUG Quench Sets
Low Energy: I125-UG
Background Subtract: 1st Vial High Energy: 32P-UG

	LL	UL	LCR	2S%	BKG
Region A:	0.0 -	70.0	0	0.0	11.17
Region B:	0.0 -	2000	0	0.0	17.00
Region C:	0.0 -	0.0	0	0.0	0.00

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: prot.dat
Count Data Filename: c:\swipes\swipes.035

S#	TIME	CPMA	CPMB	DPM1	DPM2	SIS	tSIE	FLAG
1	10.00	11.17	17.00			870.65	997.97	B
2	1.00	86907.8	118981	406072	0.00	157.23	972.45	E
3	1.00	77236.8	77235.0	415763	0.00	18.999	992.07	E
1	1.00	20.91	21.00	36.73	0.06	0.000	976.30	E
2	1.00	0.83	1.00	1.33	0.20	0.000	385.04	
3	1.00	38.83	41.00	68.02	2.56	0.000	270.45	E
4	1.00	8.83	8.00	15.66	0.00	0.000	238.39	E
5	1.00	7.83	11.00	12.52	3.54	0.000	363.96	
6	1.00	2.83	6.00	4.07	3.68	0.000	555.45	E
7	1.00	18.83	17.00	31.68	0.00	0.000	340.69	
8	1.00	13.83	16.00	24.10	2.68	0.000	248.21	E
9	1.00	14.83	16.00	26.01	1.45	0.000	237.54	E
10	1.00	1.83	4.00	2.96	2.73	0.000	239.90	E
11	1.00	4.83	0.00	9.06	0.00	0.000	279.21	E
12	1.00	0.00	0.00	0.00	0.00	0.000	355.55	
13	1.00	0.00	0.00	0.00	0.00	0.000	514.53	
14	1.00	0.00	0.00	0.00	0.00	0.000	510.59	
15	1.00	0.00	0.00	0.00	0.00	0.000	420.00	
16	1.00	1.83	2.00	2.77	0.19	0.000	540.19	
17	1.00	0.00	0.00	0.00	0.00	0.000	306.54	E
18	1.00	0.00	0.00	0.00	0.00	0.000	410.41	
19	1.00	0.00	0.00	0.00	0.00	0.000	437.31	
20	1.00	0.00	0.00	0.00	0.00	0.000	487.50	
B-1	1.00	1.83	7.00	2.42	5.84	0.000	358.38	
B-2	1.00	0.00	6.00	0.00	7.03	0.000	316.84	E

10 Jun 2003 12:36 TRI-CARB - 1.09 Page #1
Protocol #: 1 Swipe Counting/CPM User :

Time: 1.00
Data Mode: Dual DPM Nuclides: 3H-14C-UG Quench Sets
Low Energy: 3H-UG
High Energy: 14C-UG

Background Subtract: 1st Vial

	LL	UL	LCR	26%	BKG
Region A:	0.0 -	12.0	0	0.0	7.90
Region B:	12.0 -	156	0	0.0	3.80
Region C:	0.0 -	0.0	0	0.0	0.00

Quench Indicator: tSIE/aSQ
Ext Std Terminator: Count
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: prot.dat
Count Data Filename: c:\swipes\swipes.035

	S#	TIME	CPM1	CPMP	DPM1	DPM2	%TS	%SIE	FLAG
	1	10.00	7.90	3.80			52.300	997.97	B
	2	1.00	15055.6	103579	0.00	123064	156.23	972.45	E
	3	1.00	71653.4	5582.88	[illegible]5130	609.76	19.116	992.07	E
1	4	1.00	15.83	7.47	68.62	6.49	3.393	276.30	
2	5	1.00	0.00	2.58	0.00	3.24	0.000	395.04	
3	[illegible]	1.00	36.10	5.69	167.24	0.00	6.266	270.45	
4	[illegible]	1.00	5.52	4.78	26.93	5.00	0.000	238.39	
5	8	1.00	3.10	6.20	7.87	7.33	15.575	363.96	
6	9	1.00	0.00	6.20	0.00	7.65	70.332	555.45	
7	10	1.00	11.75	8.55	39.02	8.88	7.729	340.69	
8	11	1.00	11.10	4.20	55.21	3.02	0.000	248.21	
9	12	1.00	10.90	5.40	56.16	4.57	0.000	237.54	
10	13	1.00	0.00	7.20	0.00	9.45	0.000	239.90	
11	14	1.00	0.00	8.20	0.00	10.62	0.000	279.21	
12	15	1.00	0.00	3.30	0.00	4.05	0.000	355.55	
13	16	1.00	0.00	3.20	0.00	3.96	0.000	514.53	
14	17	1.00	0.00	2.20	0.00	2.72	0.000	510.39	
15	18	1.00	0.00	1.20	0.00	1.49	0.000	420.00	
16	19	1.00	0.00	2.20	0.00	2.72	0.000	540.19	
17	20	1.00	0.00	2.20	0.00	2.82	0.000	306.54	
18	21	1.00	0.00	3.20	0.00	3.99	0.000	410.41	
19	22	1.00	0.00	6.20	0.00	7.70	0.000	437.31	
20	23	1.00	0.00	4.20	0.00	5.20	0.000	487.50	
B-1	24	1.00	0.00	4.16	0.00	5.27	0.000	358.28	
B-2	25	1.00	0.00	8.07	0.00	10.33	108.69	316.84	

APPENDIX F

UST Exterior Survey Data

RADIOLOGICAL SURVEY REPORT

NWTS #: N/A

DATE:6/9/03	INSTRUMENTATION USED				
TIME:1230	MODEL	S/N	EFF.%	BKRD CPM	CAL. DUE DATE
SURVEYOR: Daniel Spicuzza	2224 43-68	118242 147403	α 29 β 35	α 1 β 200	5-30-03
LOCATION: Bethesda NNMC	2929 43-10-1	143876 146481	α 41 β 21	α 0.4 β 95.5	11-6-03
REVIEWED BY: Richard Kountz	See Attached	Sheet	For	LSC	Counter Data
Smear Locations Circled; Dose Rates = μR/hr					

PURPOSE OF SURVEY: Pre Shipment Survey of UST-A .

The tank internal and external surfaces were 100% direct scan surveyed for alpha & beta radiation.

See attached map for smear locations.

Remarks: All accessible areas were 100% direct scan surveyed for alpha-beta radiation. All results were ≤ Bkgd.

The tank meets the release criteria defined in Regulatory Guide 1.86.

SMEAR RESULTS

RESULTS = DPM/100cm^2 UNLESS NOTED

#	βγ	α
	See	
	Attached	
	Sheet	

RADIOLOGICAL SURVEY REPORT

NWTS #: N/A

DATE:6/10/03	INSTRUMENTATION USED				
TIME:1130	MODEL	S/N	EFF.%	BKRD CPM	CAL. DUE DATE
SURVEYOR: Daniel Spicuzza	2224 43-68	118242 147403	α 29 β 35	α 1 β 200	5-30-03
LOCATION: Bethesda NNMC	2929 43-10-1	143876 146481	α 41 β 21	α 0.6 β 101.7	11-6-03
REVIEWED BY: Richard Kountz	See Attached	Sheet	For	LSC	Counter Data

Smear Locations Circled; Dose Rates = µR/hr

PURPOSE OF SURVEY: Pre Shipment Survey of UST-B .

The tank internal and external surfaces were 100% direct scan surveyed for alpha & beta radiation.

See attached map for smear locations.

Remarks: All accessible areas were 100% direct scan surveyed for alpha-beta radiation. All results were ≤ Bkgd.

The tank meets the release criteria defined in Regulatory Guide 1.86.

SMEAR RESULTS
RESULTS = DPM/100cm^2
UNLESS NOTED

#	βγ	α
	See	
	Attached	
	Sheet	

Protocol #: 1 Swipe Counting/CPM User :

Time: 1.00
Data Mode: Dual DPM Nuclides: 3H-14C-UG Quench Sets
Low Energy: 3H-UG
High Energy: 14C-UG
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.0 -	12.0	0	0.0	8.38
Region B:	12.0 -	156	0	0.0	6.02
Region C:	0.0 -	0.0	0	0.0	0.00

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: prot.dat
Count Data Filename: c:\swipes\swipes.032

	S#	TIME	CPMA	CPMB	DPM1	DPM2	SIS	tSIE	FLAG
	1	10.00	8.38	6.02			64.802	996.86	B
	2	1.00	15407.8	104099	0.00	123659	155.77	972.70	E
	3	1.00	71610.2	5609.35	125029	647.05	19.107	992.35	E
A-1	4	1.00	9.62	5.43	41.61	5.09	0.000	273.82	"
A-2		1.00	0.62	3.98	0.29	4.92	0.000	376.41	"

Protocol #: 1 Swipe Counting/CPM User :

Time: 1.00
Data Mode: Dual DPM Nuclides: I125-32PUG Quench Sets
Low Energy: I125-UG
Background Subtract: 1st Vial High Energy: 32P-UG

	LL	UL	LCR	2S%	BKG
Region A:	0.0 -	70.0	0	0.0	13.50
Region B:	0.0 -	2000	0	0.0	19.00
Region C:	0.0 -	0.0	0	0.0	0.00

Quench Indicator: tSIE/AB
Ext Std Terminator: Count
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: prot.dat
Count Data Filename: c:\swipes\swipes.032

SP	TIME	CPMA	CPMB	DPM1	DPM2	SIS	tSIE	FLAG
1	10.00	13.50	19.00			852.74	996.86	B
2	1.00	87874.5	119880	410304	0.00	156.89	972.70	E
3	1.00	77219.5	77223.0	416385	0.00	19.037	992.35	E
4	1.00	14.50	19.00	24.95	5.45	0.000	273.82	E
5	1.00	3.50	6.00	5.46	2.92	0.000	376.41	"

A1
A2

Protocol #: 1 Swipe Counting/CPM User :

Time: 1.00
Data Mode: Dual DPM Nuclides: I125-32PUG Quench Sets
Low Energy: I125-UG
Background Subtract: 1st Vial High Energy: 32P-UG

	LL	UL	LCR	2S%	BKG
Region A:	0.0 -	70.0	0	0.0	11.17
Region B:	0.0 -	2000	0	0.0	17.00
Region C:	0.0 -	0.0	0	0.0	0.00

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: prot.dat
Count Data Filename: c:\swipes\swipes.035

S#	TIME	CPMA	CPMB	DPM1	DPM2	SIS	tSIE	FLAG
1	10.00	11.17	17.00			870.65	997.97	B
2	1.00	86907.8	118981	406072	0.00	157.23	972.45	E
3	1.00	77236.8	77235.0	415763	0.00	18.999	992.07	E
1	1.00	20.91	21.00	36.73	0.06	0.000	976.30	E
2	1.00	0.83	1.00	1.33	0.20	0.000	385.04	
3	1.00	38.83	41.00	68.02	2.56	0.000	270.45	E
4	1.00	8.83	8.00	15.66	0.00	0.000	238.39	E
5	1.00	7.83	11.00	12.52	3.54	0.000	363.96	
6	1.00	2.83	6.00	4.07	3.68	0.000	555.45	E
7	1.00	18.83	17.00	31.68	0.00	0.000	340.69	
8	1.00	13.83	16.00	24.10	2.68	0.000	248.21	E
9	1.00	14.83	16.00	26.01	1.45	0.000	237.54	E
10	1.00	1.83	4.00	2.96	2.73	0.000	239.90	E
11	1.00	4.83	0.00	9.06	0.00	0.000	279.21	E
12	1.00	0.00	0.00	0.00	0.00	0.000	355.55	
13	1.00	0.00	0.00	0.00	0.00	0.000	514.53	
14	1.00	0.00	0.00	0.00	0.00	0.000	510.59	
15	1.00	0.00	0.00	0.00	0.00	0.000	420.00	
16	1.00	1.83	2.00	2.77	0.19	0.000	540.19	
17	1.00	0.00	0.00	0.00	0.00	0.000	306.54	E
18	1.00	0.00	0.00	0.00	0.00	0.000	410.41	
19	1.00	0.00	0.00	0.00	0.00	0.000	437.31	
20	1.00	0.00	0.00	0.00	0.00	0.000	487.50	
B-1	1.00	1.83	7.00	2.42	5.84	0.000	358.38	
B-2	1.00	0.00	6.00	0.00	7.03	0.000	316.84	E

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Protocol #: 1 Swipe Counting/CPM User :

Time: 1.00
Data Mode: Dual DPM Nuclides: 3H-14C-UG Quench Sets
Low Energy: 3H-UG
High Energy: 14C-UG

Background Subtract: 1st Vial

	LL	UL	LCR	26%	BKG
Region A:	0.0 -	12.0	0	0.0	7.90
Region B:	12.0 -	156	0	0.0	3.80
Region C:	0.0 -	0.0	0	0.0	0.00

Quench Indicator: tSIE/aSQ
Ext Std Terminator: Count
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: prot.dat
Count Data Filename: c:\swipes\swipes.035

	S#	TIME	CPM1	CPMP	DPM1	DPM2	%TS	%SIE	FLAG
	1	10.00	7.90	3.80			52.300	997.97	B
	2	1.00	15055.6	103579	0.00	123064	156.23	972.45	E
	3	1.00	71653.4	5582.88	[illegible]5130	609.76	19.116	992.07	E
1	4	1.00	15.83	7.47	68.62	6.49	3.393	276.30	
2	5	1.00	0.00	2.58	0.00	3.24	0.000	395.04	
3	[illegible]	1.00	36.10	5.69	167.24	0.00	6.266	270.45	
4	[illegible]	1.00	5.52	4.78	26.93	5.00	0.000	238.39	
5	8	1.00	3.10	6.20	7.87	7.33	15.575	363.96	
6	9	1.00	0.00	6.20	0.00	7.65	70.332	555.45	
7	10	1.00	11.75	8.55	39.02	8.88	7.729	340.69	
8	11	1.00	11.10	4.20	55.21	3.02	0.000	248.21	
9	12	1.00	10.90	5.40	56.16	4.57	0.000	237.54	
10	13	1.00	0.00	7.20	0.00	9.45	0.000	239.90	
11	14	1.00	0.00	8.20	0.00	10.62	0.000	279.21	
12	15	1.00	0.00	3.30	0.00	4.05	0.000	355.55	
13	16	1.00	0.00	3.20	0.00	3.96	0.000	514.53	
14	17	1.00	0.00	2.20	0.00	2.72	0.000	510.39	
15	18	1.00	0.00	1.20	0.00	1.49	0.000	420.00	
16	19	1.00	0.00	2.20	0.00	2.72	0.000	540.19	
17	20	1.00	0.00	2.20	0.00	2.82	0.000	306.54	
18	21	1.00	0.00	3.20	0.00	3.99	0.000	410.41	
19	22	1.00	0.00	6.20	0.00	7.70	0.000	437.31	
20	23	1.00	0.00	4.20	0.00	5.20	0.000	487.50	
B-1	24	1.00	0.00	4.16	0.00	5.27	0.000	358.28	
B-2	25	1.00	0.00	8.07	0.00	10.33	108.69	316.84	

DATE: 06/09/2003	NWTS# N/A		ANALYSIS PERFORMED BY: Daniel Spicuzza				
COUNTING SYSTEM DATA							
INSTRUMENT I.D.:	α 143876	β 143876	DETECTOR I.D.:	α 146481	β 146481		
MODEL NUMBER:	α 2929	β 2929	MODEL NUMBER:	α 43-10-1	β 43-10-1		
EFFICIENCIES: α:	0.41		MDA: α:	13.8	DPM	Cal DueDate:	11/603
βγ:	0.21		βγ:	229.3	DPM		
PERFORMED BY:	Dan Spicuzza						
SAMPLE COUNT TIME:		1 Minute	ACTIVITY REPORT IN:		DPM/100 cm^2		
α BACKGROUND:	0.4	CPM	βγ BACKGROUND:	95.5	CPM		

SAMPLE I.D./DESCRIPTION	GROSS COUNTS		NET COUNTS		ACTIVITY	
	α	βγ	α	βγ	α	βγ
1	0	97	-0.4	1.5	-1.0	7.1
2	0	96	-0.4	0.5	-1.0	2.4
3	0	99	-0.4	3.5	-1.0	16.7
4	0	99	-0.4	3.5	-1.0	16.7
5	0	92	-0.4	-3.5	-1.0	-16.7
6	2	100	1.6	4.5	3.9	21.4
7	1	92	0.6	-3.5	1.5	-16.7
8	0	94	-0.4	-1.5	-1.0	-7.1
9	0	92	-0.4	-3.5	-1.0	-16.7
10	0	103	-0.4	7.5	-1.0	35.7
11	0	96	-0.4	0.5	-1.0	2.4
12	0	97	-0.4	1.5	-1.0	7.1
13	0	95	-0.4	-0.5	-1.0	-2.4
14	0	93	-0.4	-2.5	-1.0	-11.9
15	0	94	-0.4	-1.5	-1.0	-7.1
16	0	100	-0.4	4.5	-1.0	21.4
17	1	94	0.6	-1.5	1.5	-7.1
18	1	98	0.6	2.5	1.5	11.9
19	0	97	-0.4	1.5	-1.0	7.1
20	0	92	-0.4	-3.5	-1.0	-16.7

Remarks: Smear survey of internal surfaces of UST-A.

Reviewed by: Dan Spicuzza Date: 06/09/2003

DATE: 06/10/2003	NWTS# N/A		ANALYSIS PERFORMED BY: Daniel Spicuzza				
COUNTING SYSTEM DATA							
INSTRUMENT I.D.:	α 143876	β 143876	DETECTOR I.D.:	α 146481	β 146481		
MODEL NUMBER:	α 2929	β 2929	MODEL NUMBER:	α 43-10-1	β 43-10-1		
EFFICIENCIES: α:	0.41		MDA: α:	15.4	DPM	Cal DueDate:	11/603
βγ:	0.21		βγ:	236.2	DPM		
PERFORMED BY:	Dan Spicuzza						
SAMPLE COUNT TIME:		1 Minute	ACTIVITY REPORT IN:		DPM/100 cm^2		
α BACKGROUND:	0.6	CPM	βγ BACKGROUND:	101.7	CPM		

SAMPLE I.D./DESCRIPTION	GROSS COUNTS		NET COUNTS		ACTIVITY	
	α	βγ	α	βγ	α	βγ
1	1	102	0.4	0.3	1.0	1.4
2	1	99	0.4	-2.7	1.0	-12.9
3	0	101	-0.6	-0.7	-1.5	-3.3
4	0	99	-0.6	-2.7	-1.5	-12.9
5	0	92	-0.6	-9.7	-1.5	-46.2
6	1	94	0.4	-7.7	1.0	-36.7
7	0	97	-0.6	-4.7	-1.5	-22.4
8	0	94	-0.6	-7.7	-1.5	-36.7
9	0	99	-0.6	-2.7	-1.5	-12.9
10	0	100	-0.6	-1.7	-1.5	-8.1
11	0	101	-0.6	-0.7	-1.5	-3.3
12	1	93	0.4	-8.7	1.0	-41.4
13	0	98	-0.6	-3.7	-1.5	-17.6
14	0	96	-0.6	-5.7	-1.5	-27.1
15	1	99	0.4	-2.7	1.0	-12.9
16	0	98	-0.6	-3.7	-1.5	-17.6
17	0	95	-0.6	-6.7	-1.5	-31.9
18	1	98	0.4	-3.7	1.0	-17.6
19	0	97	-0.6	-4.7	-1.5	-22.4
20	0	92	-0.6	-9.7	-1.5	-46.2

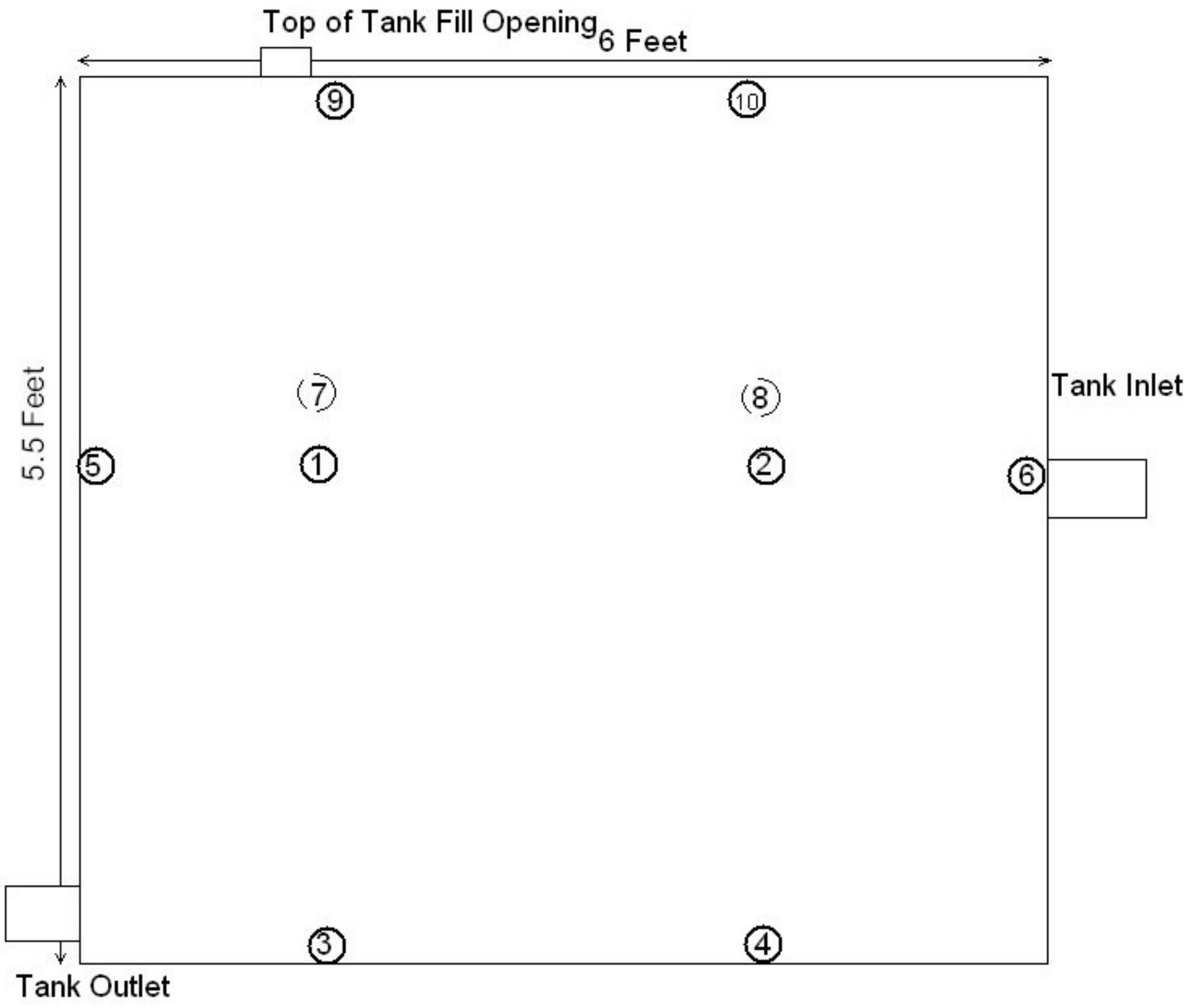
Remarks: Smear survey of internal surfaces of UST-B.

Reviewed by: Dan Spicuzza Date: 06/10/2003

APPENDIX G

UST Interior Survey Data

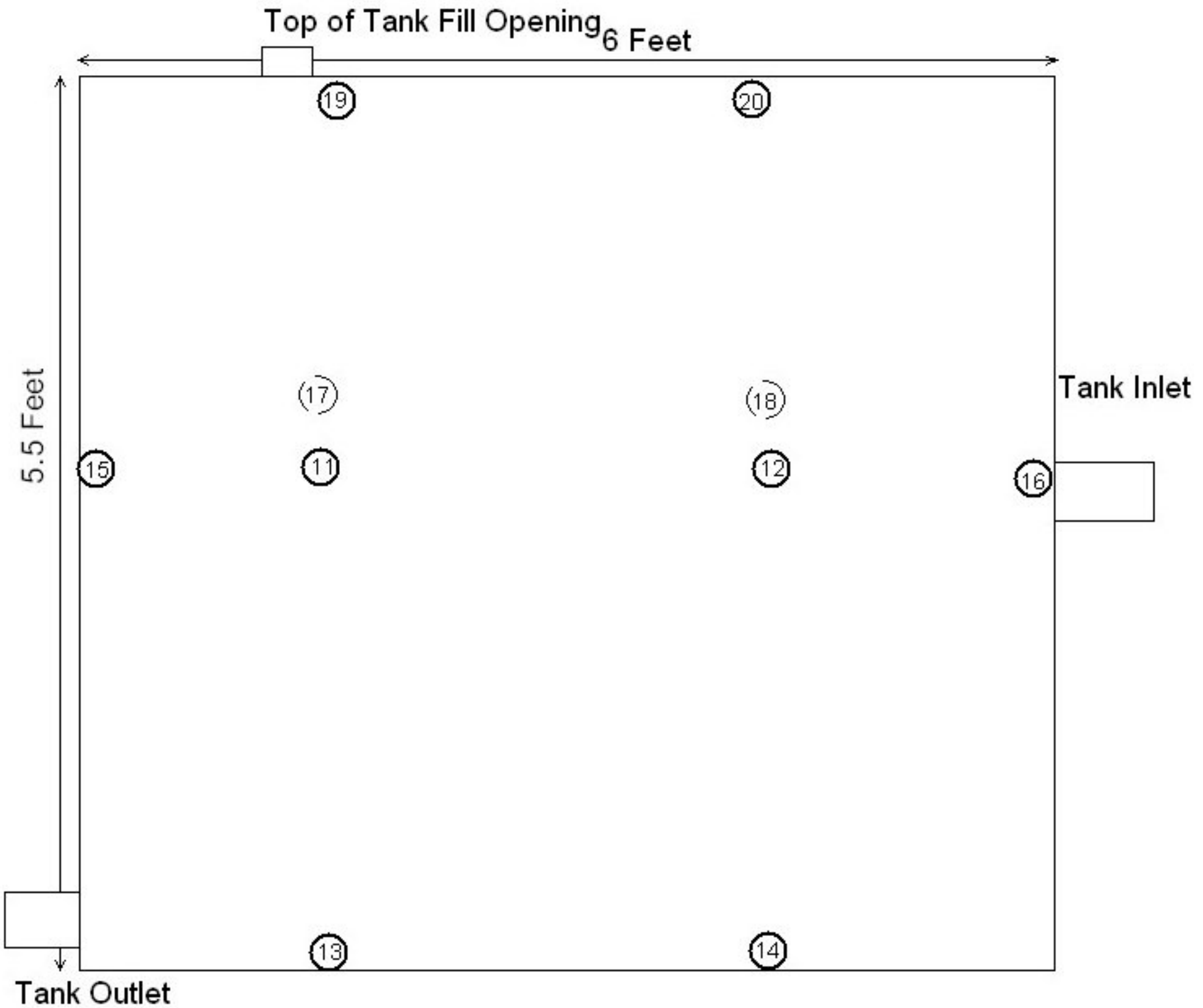
Side View of Waste Tanks
Tank # A



Denotes Swipe Taken On Opposite Side of Tank

Denotes Swipe Taken On Near Side of Tank

Side View of Waste Tanks
Tank # B



Denotes Swipe Taken On Opposite Side of Tank

Denotes Swipe Taken On Near Side of Tank

RADIOLOGICAL SURVEY REPORT

NWTS #: N/A

DATE:6/9/03	INSTRUMENTATION USED				
TIME:1230	MODEL	S/N	EFF.%	BKRD CPM	CAL. DUE DATE
SURVEYOR: Daniel Spicuzza	2224 43-68	118242 147403	α 29 β 35	α 1 β 200	5-30-03
LOCATION: Bethesda NNMC	2929 43-10-1	143876 146481	α 41 β 21	α 0.4 β 95.5	11-6-03
REVIEWED BY: Richard Kountz	See Attached	Sheet	For	LSC	Counter Data
Smear Locations Circled; Dose Rates = μR/hr					

PURPOSE OF SURVEY: Pre Shipment Survey of UST-A .

The tank internal and external surfaces were 100% direct scan surveyed for alpha & beta radiation.

See attached map for smear locations.

Remarks: All accessible areas were 100% direct scan surveyed for alpha-beta radiation. All results were ≤ Bkgd.

The tank meets the release criteria defined in Regulatory Guide 1.86.

SMEAR RESULTS

RESULTS = DPM/100cm^2 UNLESS NOTED

#	βγ	α
	See	
	Attached	
	Sheet	

RADIOLOGICAL SURVEY REPORT

NWTS #: N/A

DATE:6/10/03	INSTRUMENTATION USED				
TIME:1130	MODEL	S/N	EFF.%	BKRD CPM	CAL. DUE DATE
SURVEYOR: Daniel Spicuzza	2224 43-68	118242 147403	α 29 β 35	α 1 β 200	5-30-03
LOCATION: Bethesda NNMC	2929 43-10-1	143876 146481	α 41 β 21	α 0.6 β 101.7	11-6-03
REVIEWED BY: Richard Kountz	See Attached	Sheet	For	LSC	Counter Data

Smear Locations Circled; Dose Rates = µR/hr

PURPOSE OF SURVEY: Pre Shipment Survey of UST-B .

The tank internal and external surfaces were 100% direct scan surveyed for alpha & beta radiation.

See attached map for smear locations.

Remarks: All accessible areas were 100% direct scan surveyed for alpha-beta radiation. All results were ≤ Bkgd.

The tank meets the release criteria defined in Regulatory Guide 1.86.

SMEAR RESULTS
RESULTS = DPM/100cm^2
UNLESS NOTED

#	βγ	α
	See	
	Attached	
	Sheet	

Protocol #: 1 Swipe Counting/CPM User :

Time: 1.00
Data Mode: Dual DPM Nuclides: 3H-14C-UG Quench Sets
Low Energy: 3H-UG
High Energy: 14C-UG
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.0 -	12.0	0	0.0	8.38
Region B:	12.0 -	156	0	0.0	6.02
Region C:	0.0 -	0.0	0	0.0	0.00

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: prot.dat
Count Data Filename: c:\swipes\swipes.032

	S#	TIME	CPMA	CPMB	DPM1	DPM2	SIS	tSIE	FLAG
	1	10.00	8.38	6.02			64.802	996.86	B
	2	1.00	15407.8	104099	0.00	123659	155.77	972.70	E
	3	1.00	71610.2	5609.35	125029	647.05	19.107	992.35	E
A-1	4	1.00	9.62	5.43	41.61	5.09	0.000	273.82	"
A-2		1.00	0.62	3.98	0.29	4.92	0.000	376.41	"

Protocol #: 1 Swipe Counting/CPM User :

Time: 1.00
Data Mode: Dual DPM Nuclides: I125-32PUG Quench Sets
Low Energy: I125-UG
Background Subtract: 1st Vial High Energy: 32P-UG

	LL	UL	LCR	2S%	BKG
Region A:	0.0 -	70.0	0	0.0	13.50
Region B:	0.0 -	2000	0	0.0	19.00
Region C:	0.0 -	0.0	0	0.0	0.00

Quench Indicator: tSIE/AB
Ext Std Terminator: Count
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: prot.dat
Count Data Filename: c:\swipes\swipes.032

SP	TIME	CPMA	CPMB	DPM1	DPM2	SIS	tSIE	FLAG
1	10.00	13.50	19.00			852.74	996.86	B
2	1.00	87874.5	119880	410304	0.00	156.89	972.70	E
3	1.00	77219.5	77223.0	416385	0.00	19.037	992.35	E
4	1.00	14.50	19.00	24.95	5.45	0.000	273.82	E
5	1.00	3.50	6.00	5.46	2.92	0.000	376.41	"

A1
A2

Protocol #: 1 Swipe Counting/CPM User :

Time: 1.00
Data Mode: Dual DPM Nuclides: I125-32PUG Quench Sets
Low Energy: I125-UG
Background Subtract: 1st Vial High Energy: 32P-UG

	LL	UL	LCR	2S%	BKG
Region A:	0.0 -	70.0	0	0.0	11.17
Region B:	0.0 -	2000	0	0.0	17.00
Region C:	0.0 -	0.0	0	0.0	0.00

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: prot.dat
Count Data Filename: c:\swipes\swipes.035

S#	TIME	CPMA	CPMB	DPM1	DPM2	SIS	tSIE	FLAG
1	10.00	11.17	17.00			870.65	997.97	B
2	1.00	86907.8	118981	406072	0.00	157.23	972.45	E
3	1.00	77236.8	77235.0	415763	0.00	18.999	992.07	E
1	1.00	20.91	21.00	36.73	0.06	0.000	976.30	E
2	1.00	0.83	1.00	1.33	0.20	0.000	385.04	
3	1.00	38.83	41.00	68.02	2.56	0.000	270.45	E
4	1.00	8.83	8.00	15.66	0.00	0.000	238.39	E
5	1.00	7.83	11.00	12.52	3.54	0.000	363.96	
6	1.00	2.83	6.00	4.07	3.68	0.000	555.45	E
7	1.00	18.83	17.00	31.68	0.00	0.000	340.69	
8	1.00	13.83	16.00	24.10	2.68	0.000	248.21	E
9	1.00	14.83	16.00	26.01	1.45	0.000	237.54	E
10	1.00	1.83	4.00	2.96	2.73	0.000	239.90	E
11	1.00	4.83	0.00	9.06	0.00	0.000	279.21	E
12	1.00	0.00	0.00	0.00	0.00	0.000	355.55	
13	1.00	0.00	0.00	0.00	0.00	0.000	514.53	
14	1.00	0.00	0.00	0.00	0.00	0.000	510.59	
15	1.00	0.00	0.00	0.00	0.00	0.000	420.00	
16	1.00	1.83	2.00	2.77	0.19	0.000	540.19	
17	1.00	0.00	0.00	0.00	0.00	0.000	306.54	E
18	1.00	0.00	0.00	0.00	0.00	0.000	410.41	
19	1.00	0.00	0.00	0.00	0.00	0.000	437.31	
20	1.00	0.00	0.00	0.00	0.00	0.000	487.50	
B-1	1.00	1.83	7.00	2.42	5.84	0.000	358.38	
B-2	1.00	0.00	6.00	0.00	7.03	0.000	316.84	E

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Protocol #: 1 Swipe Counting/CPM User :

Time: 1.00
Data Mode: Dual DPM Nuclides: 3H-14C-UG Quench Sets
Low Energy: 3H-UG
High Energy: 14C-UG

Background Subtract: 1st Vial

	LL	UL	LCR	26%	BKG
Region A:	0.0 -	12.0	0	0.0	7.90
Region B:	12.0 -	156	0	0.0	3.80
Region C:	0.0 -	0.0	0	0.0	0.00

Quench Indicator: tSIE/aSQ
Ext Std Terminator: Count
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: prot.dat
Count Data Filename: c:\swipes\swipes.035

	S#	TIME	CPM1	CPMP	DPM1	DPM2	%TS	%SIE	FLAG
	1	10.00	7.90	3.80			52.300	997.97	B
	2	1.00	15055.6	103579	0.00	123064	156.23	972.45	E
	3	1.00	71653.4	5582.88	[illegible]5130	609.76	19.116	992.07	E
1	4	1.00	15.83	7.47	68.62	6.49	3.393	276.30	
2	5	1.00	0.00	2.58	0.00	3.24	0.000	395.04	
3	[illegible]	1.00	36.10	5.69	167.24	0.00	6.266	270.45	
4	[illegible]	1.00	5.52	4.78	26.93	5.00	0.000	238.39	
5	8	1.00	3.10	6.20	7.87	7.33	15.575	363.96	
6	9	1.00	0.00	6.20	0.00	7.65	70.332	555.45	
7	10	1.00	11.75	8.55	39.02	8.88	7.729	340.69	
8	11	1.00	11.10	4.20	55.21	3.02	0.000	248.21	
9	12	1.00	10.90	5.40	56.16	4.57	0.000	237.54	
10	13	1.00	0.00	7.20	0.00	9.45	0.000	239.90	
11	14	1.00	0.00	8.20	0.00	10.62	0.000	279.21	
12	15	1.00	0.00	3.30	0.00	4.05	0.000	355.55	
13	16	1.00	0.00	3.20	0.00	3.96	0.000	514.53	
14	17	1.00	0.00	2.20	0.00	2.72	0.000	510.39	
15	18	1.00	0.00	1.20	0.00	1.49	0.000	420.00	
16	19	1.00	0.00	2.20	0.00	2.72	0.000	540.19	
17	20	1.00	0.00	2.20	0.00	2.82	0.000	306.54	
18	21	1.00	0.00	3.20	0.00	3.99	0.000	410.41	
19	22	1.00	0.00	6.20	0.00	7.70	0.000	437.31	
20	23	1.00	0.00	4.20	0.00	5.20	0.000	487.50	
B-1	24	1.00	0.00	4.16	0.00	5.27	0.000	358.28	
B-2	25	1.00	0.00	8.07	0.00	10.33	108.69	316.84	

DATE: 06/09/2003	NWTS# N/A		ANALYSIS PERFORMED BY: Daniel Spicuzza				
COUNTING SYSTEM DATA							
INSTRUMENT I.D.:	α 143876	β 143876	DETECTOR I.D.:	α 146481	β 146481		
MODEL NUMBER:	α 2929	β 2929	MODEL NUMBER:	α 43-10-1	β 43-10-1		
EFFICIENCIES: α:	0.41		MDA: α:	13.8	DPM	Cal DueDate:	11/603
βγ:	0.21		βγ:	229.3	DPM		
PERFORMED BY:	Dan Spicuzza						
SAMPLE COUNT TIME:		1 Minute	ACTIVITY REPORT IN:		DPM/100 cm^2		
α BACKGROUND:	0.4	CPM	βγ BACKGROUND:	95.5	CPM		

SAMPLE I.D./DESCRIPTION	GROSS COUNTS		NET COUNTS		ACTIVITY	
	α	βγ	α	βγ	α	βγ
1	0	97	-0.4	1.5	-1.0	7.1
2	0	96	-0.4	0.5	-1.0	2.4
3	0	99	-0.4	3.5	-1.0	16.7
4	0	99	-0.4	3.5	-1.0	16.7
5	0	92	-0.4	-3.5	-1.0	-16.7
6	2	100	1.6	4.5	3.9	21.4
7	1	92	0.6	-3.5	1.5	-16.7
8	0	94	-0.4	-1.5	-1.0	-7.1
9	0	92	-0.4	-3.5	-1.0	-16.7
10	0	103	-0.4	7.5	-1.0	35.7
11	0	96	-0.4	0.5	-1.0	2.4
12	0	97	-0.4	1.5	-1.0	7.1
13	0	95	-0.4	-0.5	-1.0	-2.4
14	0	93	-0.4	-2.5	-1.0	-11.9
15	0	94	-0.4	-1.5	-1.0	-7.1
16	0	100	-0.4	4.5	-1.0	21.4
17	1	94	0.6	-1.5	1.5	-7.1
18	1	98	0.6	2.5	1.5	11.9
19	0	97	-0.4	1.5	-1.0	7.1
20	0	92	-0.4	-3.5	-1.0	-16.7

Remarks: Smear survey of internal surfaces of UST-A.

Reviewed by: Dan Spicuzza Date: 06/09/2003

DATE: 06/10/2003	NWTS# N/A		ANALYSIS PERFORMED BY: Daniel Spicuzza				
COUNTING SYSTEM DATA							
INSTRUMENT I.D.:	α 143876	β 143876	DETECTOR I.D.:	α 146481	β 146481		
MODEL NUMBER:	α 2929	β 2929	MODEL NUMBER:	α 43-10-1	β 43-10-1		
EFFICIENCIES: α:	0.41		MDA: α:	15.4	DPM	Cal DueDate:	11/603
βγ:	0.21		βγ:	236.2	DPM		
PERFORMED BY:	Dan Spicuzza						
SAMPLE COUNT TIME:		1 Minute	ACTIVITY REPORT IN:		DPM/100 cm^2		
α BACKGROUND:	0.6	CPM	βγ BACKGROUND:	101.7	CPM		

SAMPLE I.D./DESCRIPTION	GROSS COUNTS		NET COUNTS		ACTIVITY	
	α	βγ	α	βγ	α	βγ
1	1	102	0.4	0.3	1.0	1.4
2	1	99	0.4	-2.7	1.0	-12.9
3	0	101	-0.6	-0.7	-1.5	-3.3
4	0	99	-0.6	-2.7	-1.5	-12.9
5	0	92	-0.6	-9.7	-1.5	-46.2
6	1	94	0.4	-7.7	1.0	-36.7
7	0	97	-0.6	-4.7	-1.5	-22.4
8	0	94	-0.6	-7.7	-1.5	-36.7
9	0	99	-0.6	-2.7	-1.5	-12.9
10	0	100	-0.6	-1.7	-1.5	-8.1
11	0	101	-0.6	-0.7	-1.5	-3.3
12	1	93	0.4	-8.7	1.0	-41.4
13	0	98	-0.6	-3.7	-1.5	-17.6
14	0	96	-0.6	-5.7	-1.5	-27.1
15	1	99	0.4	-2.7	1.0	-12.9
16	0	98	-0.6	-3.7	-1.5	-17.6
17	0	95	-0.6	-6.7	-1.5	-31.9
18	1	98	0.4	-3.7	1.0	-17.6
19	0	97	-0.6	-4.7	-1.5	-22.4
20	0	92	-0.6	-9.7	-1.5	-46.2

Remarks: Smear survey of internal surfaces of UST-B.

Reviewed by: Dan Spicuzza Date: 06/10/2003

APPENDIX H

UST Footprint Sample Laboratory Data

Paragon Analytics, Inc.

Radiochemistry Case Narrative
Tritium

New World Technology

Bethesda / GA00419

PAI WO 0306045

1. This report consists of 8 soil samples received by Paragon on 6/10/03.

2. These samples were prepared according to Paragon Analytics, Inc. procedures SOP754R3.

3. The samples were analyzed for the presence of tritium according to Paragon Analytics, Inc. procedure SOP704R6. The analyses were completed on 6/12/03.

4. The analysis results for these samples are reported on a 'dry weight' basis in units of pCi/gram.

5. The recovery for the matrix spike of sample UST-B-3 (PAI ID 0306045-7-MS1) is above the upper control limit of 115%, at 132%. All other quality control criteria have been met. Paragon does not control on matrix spike recovery. The result for this sample is considered an estimated value and is included in this data package.

6. The radiometric recovery for laboratory control sample LS01703LCS1 is below the lower control limit of 85%, at 81%. The client was contacted on 6/13/03, and per client's request, results are reported. Please refer to NCR 5044.

7. No further anomalous situations were noted during the preparation and analysis of these samples. All remaining quality control criteria were met.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, Paragon Analytics, Inc. certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Clare Lenich — 6/13/03
Clare Lenich — Date
Radiochemistry Instrument Technician

Radiochemistry Final Data Review — 6/13/03
Date

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PARAGON ANALYTICS, INC.
Radiochemistry Data Package

Section 1

SAMPLE RESULTS SUMMARY

Sample Results Summary

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306045

Reported on: Friday, June 13, 2003 13:46:22

Lab Sample ID	Client Sample ID	Test	Nuclide	Result +/- 2 s TPU	MDC	Units	Matrix	Prep Batch	Date Analyzed	Flags
0306045-1	UST-A-1	TRITIUM	H-3	15.9 +/- 2.4	0.18	pCi/g	Soil	LS01703	6/12/03	
0306045-2	UST-A-2	TRITIUM	H-3	0.153 +/- 0.071	0.10	pCi/g	Soil	LS01703	6/12/03	LT
0306045-3	UST-A-3	TRITIUM	H-3	0.007 +/- 0.055	0.093	pCi/g	Soil	LS01703	6/12/03	U
0306045-4	UST-A-4	TRITIUM	H-3	0.152 +/- 0.073	0.11	pCi/g	Soil	LS01703	6/12/03	LT
0306045-5	UST-B-1	TRITIUM	H-3	-0.015 +/- 0.070	0.12	pCi/g	Soil	LS01703	6/12/03	U
0306045-6	UST-B-2	TRITIUM	H-3	0.029 +/- 0.084	0.14	pCi/g	Soil	LS01703	6/12/03	U
0306045-7	UST-B-3	TRITIUM	H-3	-0.002 +/- 0.076	0.13	pCi/g	Soil	LS01703	6/12/03	U
0306045-8	UST-B-4	TRITIUM	H-3	-0.025 +/- 0.079	0.14	pCi/g	Soil	LS01703	6/12/03	U

Comments:

Data Package ID: *H3S0306045-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.

Abbreviations:

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

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PARAGON ANALYTICS, INC.

Radiochemistry Data Package

Section 2

QC RESULTS SUMMARY

Tritium Analysis By Liquid Scintillation

Method 906.0M

Method Blank Results

Reported on: Friday, June 13, 2003 13:46:23

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306045

Field ID:
Lab ID: LS01703BLK1

Sample Matrix: Soil
Date Prepared: 11-Jun-03
Prep SOP: PAI 754R3
Prep Batch: LS01703

Date Collected: 11-Jun-03
Date Analyzed: 12-Jun-03
Analytical SOP: PAI 704R6

Final Aliquot: 40.10
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier
H-3	-0.044 +/- 0.091	0.16	pCi/g	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
B3 - Analyte concentration greater than MDC but less than Requested MDC.
B - Analyte concentration greater than MDC.

Abbreviations:

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

Data Package ID: *H3S0306045-1*

Tritium Analysis By Liquid Scintillation

Method 906.0M

LCS Results

Reported on: Friday, June 13, 2003 13:46:23

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306045

Field ID:
Lab ID: LS01703LCS1

Sample Matrix: Soil
Date Prepared: 11-Jun-03
Prep SOP: PAI 754R3
Prep Batch: LS01703

Date Collected: 11-Jun-03
Date Analyzed: 12-Jun-03
Analytical SOP: PAI 704R6

Final Aliquot: 40.29
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	LCS Results +/- 2s TPU	MDC	Spike Added	Reporting Units	LCS Recovery	Control Limits	Lab Qualifier
H-3	1.72 +/- 0.30	0.16	2.14	pCi/g	81%	85-115%	L

Comments:

Data Package ID: *H3S0306045-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC.
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
* - Duplicate DER not within control limits.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS Recovery within control limits.

Abbreviations:

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

Tritium Analysis By Liquid Scintillation

Method 906.0M

Duplicate Sample Results (DER)

Reported on: Friday, June 13, 2003 13:46:23

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306045

	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Field ID: UST-A-4				
Lab ID: 0306045-4	6/11/03	6/12/03	LS01703	58.97
DUP ID: 0306045-4-D1	6/11/03	6/12/03	LS01703	58.97

Sample Matrix: Soil
Date Collected: 09-Jun-03
Analytical SOP: PAI 704R6
Prep SOP: PAI 754R3
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
H-3	0.152 +/- 0.073	0.129 +/- 0.071	pCi/g	0.23	< 1.42	

Comments:

Qualifiers/Flags:

W - DER is greater than Warning Limit of 1.42

H - DER is Higher han Control Limit of 2.13

Abbreviations.

TPU - Total Propagated Uncertainty (see PAI SOP 743)

DER - Duplicate Error Ratio

Data Package ID: *H3S0306045-1*

Tritium Analysis By Liquid Scintillation

Method 906.0M

Matrix Spike Results

Reported on: Friday, June 13, 2003 13:46:23

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306045

Field ID: UST-B-3

Lab ID: 0306045-7-MS1

Sample Matrix: Soil

Date Prepared: 11-Jun-03

Prep SOP: PAI 754R3

Prep Batch: LS01703

Date Collected: 09-Jun-03

Date Analyzed: 12-Jun-03

Analytical SOP: PAI 704R6

Final Aliquot: 48.13

Aliquot Units: g

Report Basis: Dry Weight

Target Nuclide	Matrix Spike	Sample Activity	MDC	Spike Added	Reporting Units	MS % Rec	Control Limits	Lab Qualifier
H-3	3.37	-0.002	0.13	2.55	pCi/g	132%	85-115%	N

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield in control at 100-110%. Quantitative yield is assumed.

Y2 - Chemical Yield outside default limits.

* - Duplicate DER not within control limits.

N - Matrix Spike Recovery outside control limits

Abbreviations:

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *H3S0306045-1*

PARAGON ANALYTICS, INC.
Radiochemistry Data Package

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Section 3

INDIVIDUAL SAMPLE RESULTS

Tritium Analysis By Liquid Scintillation

Method 906.0M

Sample Results

Reported on: Friday, June 13, 2003 13:46:22

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306045

Field ID: UST-A-1

Lab ID: 0306045-1

Sample Matrix: Soil

Date Prepared: 11-Jun-03

Prep SOP: PAI 754R3

Prep Batch: LS01703

Date Collected: 09-Jun-03

Date Analyzed: 12-Jun-03

Analytical SOP: PAI 704R6

Final Aliquot: 35.45 g

Report Basis: Dry Weight

Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
H-3	15.9 +/- 2.4	0.18	pCi/g	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *H3S0306045-1*

Tritium Analysis By Liquid Scintillation

Method 906.0M

Sample Results

Reported on: Friday, June 13, 2003 13:46:23

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306045

Field ID: UST-A-2

Lab ID: 0306045-2

Sample Matrix: Soil

Date Prepared: 11-Jun-03

Prep SOP: PAI 754R3

Prep Batch: LS01703

Date Collected: 09-Jun-03

Date Analyzed: 12-Jun-03

Analytical SOP: PAI 704R6

Final Aliquot: 60.92 g

Report Basis: Dry Weight

Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
H-3	0.153 +/- 0.071	0.10	pCi/g	LT

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *H3S0306045-1*

Tritium Analysis By Liquid Scintillation

Method 906.0M

Sample Results

Reported on: Friday, June 13, 2003 13:46:23

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306045

Field ID: UST-A-3

Lab ID: 0306045-3

Sample Matrix: Soil

Date Prepared: 11-Jun-03

Prep SOP: PAI 754R3

Prep Batch: LS01703

Date Collected: 09-Jun-03

Date Analyzed: 12-Jun-03

Analytical SOP: PAI 704R6

Final Aliquot: 68.13 g

Report Basis: Dry Weight

Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
H-3	0.007 +/- 0.055	0.093	pCi/g	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *H3S0306045-1*

Tritium Analysis By Liquid Scintillation

Method 906.0M

Sample Results

Reported on: Friday, June 13, 2003 13:46:23

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306045

Field ID: UST-A-4

Lab ID: 0306045-4

Sample Matrix: Soil

Date Prepared: 11-Jun-03

Prep SOP: PAI 754R3

Prep Batch: LS01703

Date Collected: 09-Jun-03

Date Analyzed: 12-Jun-03

Analytical SOP: PAI 704R6

Final Aliquot: 58.97 g

Report Basis: Dry Weight

Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
H-3	0.152 +/- 0.073	0.11	pCi/g	LT

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *H3S0306045-1*

Tritium Analysis By Liquid Scintillation

Method 906.0M

Sample Duplicate Results

Reported on: Friday, June 13, 2003 13:46:23

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306045

Field ID: UST-A-4

Lab ID: 0306045-4-D1

Sample Matrix: Soil

Date Prepared: 11-Jun-03

Prep SOP: PAI 754R3

Prep Batch: LS01703

Date Collected: 09-Jun-03

Date Analyzed: 12-Jun-03

Analytical SOP: PAI 704R6

Final Aliquot: 58.97

Aliquot Units: g

Report Basis: Dry Weight

Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
H-3	0.129 +/- 0.071	0.11	pCi/g	LT

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.

Y2 - Chemical Yield outside default limits.

* - Duplicate DER not within control limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *H3S0306045-1*

Tritium Analysis By Liquid Scintillation

Method 906.0M

Sample Results

Reported on: Friday, June 13, 2003 13:46:23

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306045

Field ID: UST-B-1

Lab ID: 0306045-5

Sample Matrix: Soil

Date Prepared: 11-Jun-03

Prep SOP: PAI 754R3

Prep Batch: LS01703

Date Collected: 09-Jun-03

Date Analyzed: 12-Jun-03

Analytical SOP: PAI 704R6

Final Aliquot: 52.50 g

Report Basis: Dry Weight

Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
H-3	-0.015 +/- 0.070	0.12	pCi/g	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *H3S0306045-1*

Tritium Analysis By Liquid Scintillation

Method 906.0M

Sample Results

Reported on: Friday, June 13, 2003 13:46:23

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306045

Field ID: UST-B-2

Lab ID: 0306045-6

Sample Matrix: Soil

Date Prepared: 11-Jun-03

Prep SOP: PAI 754R3

Prep Batch: LS01703

Date Collected: 09-Jun-03

Date Analyzed: 12-Jun-03

Analytical SOP: PAI 704R6

Final Aliquot: 44.95 g

Report Basis: Dry Weight

Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
H-3	0.029 +/- 0.084	0.14	pCi/g	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *H3S0306045-1*

Tritium Analysis By Liquid Scintillation

Method 906.0M

Sample Results

Reported on: Friday, June 13, 2003 13:46:23

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306045

Field ID: UST-B-3

Lab ID: 0306045-7

Sample Matrix: Soil

Date Prepared: 11-Jun-03

Prep SOP: PAI 754R3

Prep Batch: LS01703

Date Collected: 09-Jun-03

Date Analyzed: 12-Jun-03

Analytical SOP: PAI 704R6

Final Aliquot: 48.82 g

Report Basis: Dry Weight

Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
H-3	-0.002 +/- 0.076	0.13	pCi/g	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *H3S0306045-1*

Tritium Analysis By Liquid Scintillation

Method 906.0M

Sample Results

Reported on: Friday, June 13, 2003 13:46:23

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306045

Field ID: UST-B-4

Lab ID: 0306045-8

Sample Matrix: Soil

Date Prepared: 11-Jun-03

Prep SOP: PAI 754R3

Prep Batch: LS01703

Date Collected: 09-Jun-03

Date Analyzed: 12-Jun-03

Analytical SOP: PAI 704R6

Final Aliquot: 46.50 g

Report Basis: Dry Weight

Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
H-3	-0.025 +/- 0.079	0.14	pCi/g	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *H3S0306045-1*

APPENDIX I
Import Backfill Soil Certification Letter

5/23/2003

Mr. Mulch / Mr. Topsoil
3605 Dewberry Cir.
Westminster MD 21157
410-552-4525

To: Whom it may concern.

Our fill dirt is obtained at a local reputable materials dealer and is said to be free of hazardous materials but is not certified as such. 11900 Tech Road, Silver Spring MD 20904 Percontee Incorporated 301-622-2355

Furthermore our top soil is also obtained at a local reputable materials dealer and is said to be free of hazardous materials but is not certified as such. 5050 Sheppero LA Clarksville MD – Forest Recycling Project 410-531-2193

Sincerely,
William Flanders
William H. Flanders

Owner

APPENDIX J
Import Backfill Soil Gamma Scan Survey Data

RADIOLOGICAL SURVEY REPORT

NWTS #: N/A

DATE: 6/4/03	INSTRUMENTATION USED				
TIME: 1230	MODEL	S/N	EFF.%	BKRD	CAL. DUE DATE
SURVEYOR: R. FREEMAN	2350-1	95337	N/A	5-7 KCPM	3/19/04
LOCATION: BETHESDA NNMC	2x2	170810	N/A	N/A	3/19/04
REVIEWED BY: [signature]	←	→	N/A ←		→
Smear Locations Circled; ~~Dose Rates = µR/hr~~ RF 6/4/03					

PURPOSE OF SURVEY: INCOMING SCAN SURVEY OF 40 CU/YD FILL DIRT USED FOR UST BACK-FILL

SMEAR RESULTS
RESULTS = DPM/100cm^2 UNLESS NOTED

#	βγ	α
	N/A	

Remarks: PERFORMED 100% SCAN SURVEY OF INCOMING FILL DIRT. ALL SCANS = ≤ BACKGROUND.

[signature] 6/4/03

APPENDIX K

Post Remediation Soil Sample Laboratory Data

Gamma Spectroscopy Results

Sample results given in (pCi/g)

NWT GA00419 Bethesda , MD

Ufo ID	Sample Description
1N002153	BETH.G1-I-1 296g 6/23/03 13:00

Dry Weight (g)	Time Counted (s)	Operator
296	2700	Paul Wall

Date Acquired	Time Acquired
24-Jun-03	9:55:01 AM

Library Path
Hunter Point1.Lib

Date Sampled	Time Sampled
23-Jun-03	1:00:00 PM

Nuclide	Net Activity	MDA	Uncertainty	Soil DCGL
AC-228	1.2695E+00	1.9596E-01	4.8616E-01	*NA
Am-241	*<MDA	2.6477E-01	**	7.8000E+00
BI-212	1.1932E+00	2.8465E-01	8.7787E-01	*NA
BI-214	6.8537E-01	1.2304E-01	3.0086E-01	*NA
Co-60	1.3834E+00	2.0184E-02	1.7220E-01	3.8000E+00
Cs-137	5.7528E-01	5.4176E-02	1.7137E-01	1.3000E-01
Eu-152	*<MDA	1.0524E-01	**	1.3000E-01
Eu-154	1.5961E-01	5.7099E-02	1.1728E-01	2.3000E-01
K-40	1.5753E+01	1.1448E+00	3.0178E+00	*NA
PA-234	*<MDA	1.3822E-01	**	*NA
PB-212	9.6784E-01	8.7082E-02	2.0961E-01	*NA
PB-214	6.3963E-01	1.0461E-01	2.3609E-01	*NA
Ra-226	1.2664E+00	9.8260E-01	2.1834E+00	*NA *BKG
Rn-221	1.6889E-01	4.6840E-01	**	*NA
Th-232	1.2729E+01	2.9260E+01	**	5.7000E+01
TH-234	6.2938E-01	2.1092E+00	**	*NA
TL-208	1.4562E-01	1.0609E-01	5.7579E-02	*NA
U-235	4.1987E-02	2.7934E-01	**	5.7000E-01

***F=Failed energy identification fraction and key energy tests demonstrating non-existence of the nuclide**

#F = All energy peakes determining this isotope had bad poisson shape; this distortion signifies non-existence of the radionuclide

***<DCGL=Nuclide failed key line energy and shape tests and is determined not to be present in sample**

***<MDA = Activity for this Nuclide is less than the Minimum Detectable Activity (MDA)**

**** = Activity for this Nuclide is less than the MDA, therefore no Uncertainty is neccesary**

***BKG= Background is either naturally occurring (nonanthropogenic) or ambient (anthropogenic) conditions that are unrelated to Navy activity or operations. Background levels are currently under development for specific media such as soil, concrete structures, wood structures, asphalt pavement, and concrete pavement.**

***NA = No DCGL available for this Nuclide**

Gamma Spectroscopy Results

Sample results given in (pCi/g)

NWT GA00419 Bethesda , MD

Ufo ID	Sample Description
1N002154	BETH.G1-I-2 300g 6/23/03 13:30

Dry Weight (g)	Time Counted (s)	Operator
300	2700	Paul Wall

Date Acquired	Time Acquired
24-Jun-03	10:53:19 AM

Library Path
Hunter Point1.Lib

Date Sampled	Time Sampled
23-Jun-03	1:30:00 PM

Nuclide	Net Activity	MDA	Uncertainty	Soil DCGL
AC-228	1.3939E+00	1.5234E-01	4.7933E-01	*NA
Am-241	1.4202E-01	2.3955E-01	**	7.8000E+00
BI-212	1.4791E+00	2.1785E-01	7.8474E-01	*NA
BI-214	4.4342E-01	1.2178E-01	2.5438E-01	*NA
Co-60	2.8438E-01	1.6662E-02	8.7228E-02	3.8000E+00
Cs-137	1.0549E-01	5.4447E-02	1.3207E-01	1.3000E-01
Eu-152	6.4864E-02	1.1138E-01	**	1.3000E-01
Eu-154	*<MDA	7.0512E-02	**	2.3000E-01
K-40	1.9465E+01	9.8809E-02	2.7257E+00	*NA
PA-234	7.9811E-02	1.3908E-01	**	*NA
PB-212	1.0537E+00	8.5008E-02	2.1234E-01	*NA
PB-214	5.4338E-01	1.0861E-01	2.5552E-01	*NA
Ra-226	8.3584E-01	8.4814E-01	**	*NA *BKG
Rn-221	*<MDA	3.0156E-01	**	*NA
Th-232	1.1035E+01	2.0820E+01	**	5.7000E+01
TH-234	*<MDA	1.7421E+00	**	*NA
TL-208	*<MDA	1.2480E-01	**	*NA
U-235	8.1232E-02	2.8194E-01	**	5.7000E-01

***F=Failed energy identification fraction and key energy tests demonstrating non-existence of the nuclide**

#F = All energy peakes determining this isotope had bad poisson shape; this distortion signifies non-existence of the radionuclide

***<DCGL=Nuclide failed key line energy and shape tests and is determined not to be present in sample**

***<MDA = Activity for this Nuclide is less than the Minimum Detectable Activity (MDA)**

**** = Activity for this Nuclide is less than the MDA, therefore no Uncertainty is neccesary**

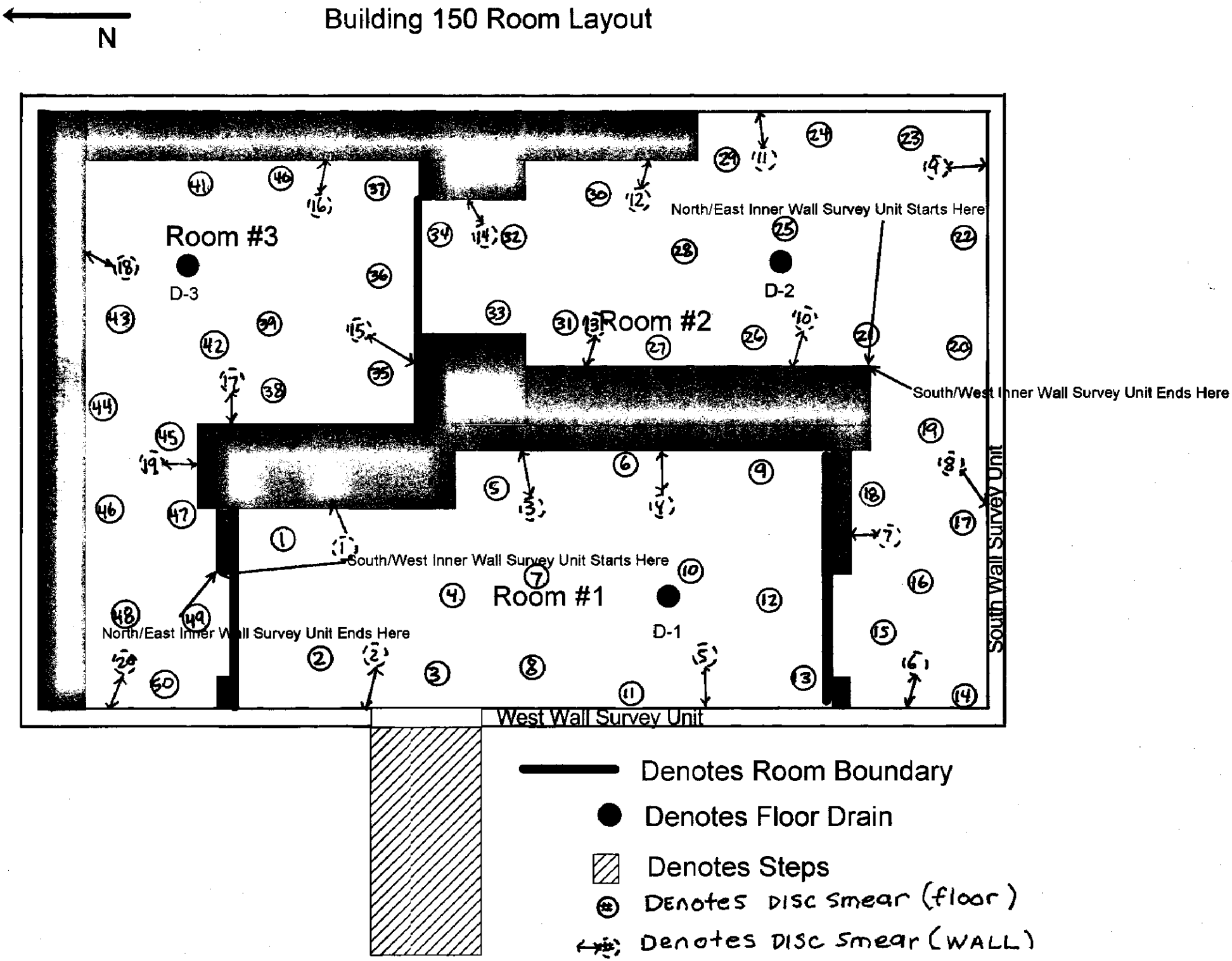
***BKG= Background is either naturally occurring (nonanthropogenic) or ambient (anthropogenic) conditions that are unrelated to Navy activity or operations. Background levels are currently under development for specific media such as soil, concrete structures, wood structures, asphalt pavement, and concrete pavement.**

***NA = No DCGL available for this Nuclide**

APPENDIX L

Building 150 Loose Surface Contamination Survey Data

Building 150 Room Layout



DATE: 06/05/2003	NWTS# N/A		ANALYSIS PERFORMED BY: Daniel Spicuzza				
COUNTING SYSTEM DATA							
INSTRUMENT I.D.:	α 143876	β 143876	DETECTOR I.D.:	α 146481	β 146481		
MODEL NUMBER:	α 2929	β 2929	MODEL NUMBER:	α 43-10-1	β 43-10-1		
EFFICIENCIES: α:	0.41		MDA: α:	11.7	DPM	Cal DueDate:	11/603
βγ:	0.21		βγ:	227.6	DPM		
PERFORMED BY:	Roger Freeman						
SAMPLE COUNT TIME:		1 Minute	ACTIVITY REPORT IN:		DPM/100 cm^2		
α BACKGROUND:	0.2	CPM	βγ BACKGROUND:	94	CPM		

SAMPLE I.D./DESCRIPTION		GROSS COUNTS		NET COUNTS		ACTIVITY	
		α	βγ	α	βγ	α	βγ
1	Floor	0	97	-0.2	3	-0.5	14.3
2	Floor	0	96	-0.2	2	-0.5	9.5
3	Floor	0	92	-0.2	-2	-0.5	-9.5
4	Floor	0	99	-0.2	5	-0.5	23.8
5	Floor	0	89	-0.2	-5	-0.5	-23.8
6	Floor	0	100	-0.2	6	-0.5	28.6
7	Floor	1	92	0.8	-2	2.0	-9.5
8	Floor	0	94	-0.2	0	-0.5	0.0
9	Floor	0	100	-0.2	6	-0.5	28.6
10	Floor	0	103	-0.2	9	-0.5	42.9
11	Floor	0	96	-0.2	2	-0.5	9.5
12	Floor	0	97	-0.2	3	-0.5	14.3
13	Floor	0	95	-0.2	1	-0.5	4.8
14	Floor	0	96	-0.2	2	-0.5	9.5
15	Floor	0	99	-0.2	5	-0.5	23.8
16	Floor	0	100	-0.2	6	-0.5	28.6
17	Floor	1	94	0.8	0	2.0	0.0
18	Floor	0	95	-0.2	1	-0.5	4.8
19	Floor	0	97	-0.2	3	-0.5	14.3
20	Floor	0	92	-0.2	-2	-0.5	-9.5
21	Floor	1	93	0.8	-1	2.0	-4.8
22	Floor	0	102	-0.2	8	-0.5	38.1
23	Floor	0	116	-0.2	22	-0.5	104.8
24	Floor	0	109	-0.2	15	-0.5	71.4
25	Floor	0	85	-0.2	-9	-0.5	-42.9
26	Floor	0	113	-0.2	19	-0.5	90.5
27	Floor	0	109	-0.2	15	-0.5	71.4
28	Floor	0	97	-0.2	3	-0.5	14.3
29	Floor	0	90	-0.2	-4	-0.5	-19.0
30	Floor	0	81	-0.2	-13	-0.5	-61.9
31	Floor	1	98	0.8	4	2.0	19.0
32	Floor	1	88	0.8	-6	2.0	-28.6
33	Floor	0	92	-0.2	-2	-0.5	-9.5
34	Floor	0	96	-0.2	2	-0.5	9.5
35	Floor	0	95	-0.2	1	-0.5	4.8
36	Floor	0	94	-0.2	0	-0.5	0.0
37	Floor	0	97	-0.2	3	-0.5	14.3
38	Floor	0	97	-0.2	3	-0.5	14.3
39	Floor	0	98	-0.2	4	-0.5	19.0
40	Floor	0	102	-0.2	8	-0.5	38.1
41	Floor	0	104	-0.2	10	-0.5	47.6
42	Floor	0	98	-0.2	4	-0.5	19.0
43	Floor	0	99	-0.2	5	-0.5	23.8
44	Floor	0	105	-0.2	11	-0.5	52.4
45	Floor	0	94	-0.2	0	-0.5	0.0
46	Floor	0	100	-0.2	6	-0.5	28.6
47	Floor	0	99	-0.2	5	-0.5	23.8
48	Floor	0	98	-0.2	4	-0.5	19.0
49	Floor	0	96	-0.2	2	-0.5	9.5
50	Floor	0	93	-0.2	-1	-0.5	-4.8
1	Wall	0	99	-0.2	5	-0.5	23.8
2	Wall	0	100	-0.2	6	-0.5	28.6
3	Wall	0	91	-0.2	-3	-0.5	-14.3
4	Wall	0	87	-0.2	-7	-0.5	-33.3
5	Wall	0	89	-0.2	-5	-0.5	-23.8
6	Wall	0	94	-0.2	0	-0.5	0.0
7	Wall	0	97	-0.2	3	-0.5	14.3
8	Wall	0	98	-0.2	4	-0.5	19.0
9	Wall	0	96	-0.2	2	-0.5	9.5
10	Wall	1	92	0.8	-2	2.0	-9.5
11	Wall	0	100	-0.2	6	-0.5	28.6
12	Wall	0	102	-0.2	8	-0.5	38.1
13	Wall	1	95	0.8	1	2.0	4.8
14	Wall	1	99	0.8	5	2.0	23.8
15	Wall	0	96	-0.2	2	-0.5	9.5
16	Wall	0	99	-0.2	5	-0.5	23.8
17	Wall	1	102	0.8	8	2.0	38.1
18	Wall	0	98	-0.2	4	-0.5	19.0
19	Wall	0	98	-0.2	4	-0.5	19.0
20	Wall	0	93	-0.2	-1	-0.5	-4.8

Remarks: Survey of Building 150 Floor and Walls

Reviewed by: Dan Spicuzza Date: 06/05/2003

APPENDIX M

Building 150 Debris Survey Data

RADIOLOGICAL SURVEY REPORT

NWTS #: NA

1 of 3

DATE: 6-6-03	INSTRUMENTATION USED				
TIME: 1100	MODEL	S/N	EFF.%	BKRD CPM	CAL. DUE DATE
SURVEYOR: [illegible]	2224 43-68	118242 147405	α 30 β 35	α 1 β 150	5-30-04
LOCATION: Bethesda Bldg 150	3/444	64029 151125	β-17	20	10-15-03
REVIEWED BY: [illegible]	2929	148876	α 41 β 21	α 03 β 98	11-6-03

Smear Locations Circled; Dose Rates = μR/hr

PURPOSE OF SURVEY: Free release survey of Misc. Debris in Bldg 150

All debris was 100% direct scan surveyed. No detectable activity above background was found.

Remarks:

SMEAR RESULTS
RESULTS = DPM/100cm²
UNLESS NOTED

#	βγ	α
See Attached Sheet		
	NA	

NEW WORLD TECHNOLOGY FORM NWT-001

RADIOLOGICAL SURVEY REPORT

NWTS #: NA 1 of 3

DATE: 6-6-03	INSTRUMENTATION USED				
TIME: 0900	MODEL	S/N	EFF.% 30	BKRD CPM	CAL. DUE DATE
SURVEYOR: [illegible]	2224	118244	α 35	α 1	
	43-68	147442	β 35	β 150	5-30-04
LOCATION: Bethesda Bldg. 150	3	64019			
	44.9	151155	β 17	10	10-15-03
REVIEWED BY: Dick Kay	2929	147586	α 41 β 21	α .3 β 98	11-6-03

Smear Locations Circled; Dose Rates = ~~μR/hr~~

PURPOSE OF SURVEY: Free release survey of 4 lead sheets & 1 lead brick.

All of the lead sheets & lead brick were 100% direct scan surveyed. No detectable activity above background was found.

SMEAR RESULTS
RESULTS = DPM/100cm^2
UNLESS NOTED

#	βγ	α
See Attached Sheet		

NA

Remarks:

NEW WORLD TECHNOLOGY FORM NWT-001

UNCONDITIONAL RELEASE OF EQUIPMENT OR ITEMS REPORT

3 of 3.

NWTS #: N/A	DATE: 6-6-03

PROJECT/LOCATION: Bethesda NNMC

DESCRIPTION OF EQUIPMENT OR ITEMS: Misc. debris from inside Building 150

SURVEY EQUIPMENT:

MODEL NO:	S/N:	BKRD:	EFF:	CAL DUE DATE:
3	64029 151135	20 CPM	B- 17%	10-15-03
2224 43-68	118242 147403	α 2 β 150	α 30% B-35%	5-30-04
~~MODEL NO:~~	~~S/N:~~ N/A	~~BKRD:~~	~~EFF:~~	~~CAL DUE DATE:~~

CONTAMINATION LEVELS:

<MDA <1,000	Dpm/100 cm2 βγ	REMOVABLE
<MDA <20	Dpm/100 cm2 α	REMOVABLE
<5,000	Dpm/100 cm βγ	FIXED
<100	Dpm/100 cm2 α	FIXED

THIS IS TO CERTIFY THAT THE ABOVE DESCRIBED EQUIPMENT OR ITEMS HAS BEEN SURVEYED AND FOUND TO BE WITHIN ACCEPTABLE SURFACE CONTAMINATION LEVELS FOR UNCONDITIONAL RELEASE AS REQUIRED BY NUCLEAR REGULATORY GUIDE 1.86.

HEALTH PHYSICS TECHNICIAN: [signature]	DATE/TIME: 6/6/03/1100

DISPOSITION OF EQUIPMENT OR ITEMS: Free Released.

REVIEWED BY: [signature]	DATE: 6-6-03

UNCONDITIONAL RELEASE OF EQUIPMENT OR ITEMS REPORT

3 of 3

NWTS #: NA	DATE: 6-6-03
PROJECT/LOCATION: Bethesda NNMC	
DESCRIPTION OF EQUIPMENT OR ITEMS: Lead Blankets 4 total. 1 lead brick.	

SURVEY EQUIPMENT:

MODEL NO:	3 44-9	S/N:	64029 157135	BKRD: 20 CPM	EFF: B 17%	CAL DUE DATE: 10-15-03
MODEL NO:	1224 43-68	S/N:	118241 147403	BKRD: 1 B 150	EFF: 30% B 35%	CAL DUE DATE: 5-30-04
MODEL NO:		S/N:		BKRD: NA	EFF:	CAL DUE DATE:

CONTAMINATION LEVELS:

<MDA	<1,000	Dpm/100 cm2 βγ	REMOVABLE
<MDA	<20	Dpm/100 cm2 α	REMOVABLE
	<5000	Dpm/100 cm βγ	FIXED
	<100	Dpm/100 cm2 α	FIXED

THIS IS TO CERTIFY THAT THE ABOVE DESCRIBED EQUIPMENT OR ITEMS HAS BEEN SURVEYED AND FOUND TO BE WITHIN ACCEPTABLE SURFACE CONTAMINATION LEVELS FOR UNCONDITIONAL RELEASE AS REQUIRED BY NUCLEAR REGULATORY GUIDE 1.86.

HEALTH PHYSICS TECHNICIAN: [signature]	DATE/TIME: 6/6/03 0900
DISPOSITION OF EQUIPMENT OR ITEMS: Free Released.	
REVIEWED BY: [signature]	DATE: 6-6-03

NEW WORLD TECHNOLOGY FORM NWT-010

APPENDIX N

Air Sampling Data

AIR SAMPLE DATA AND ANALYSIS

INSTRUCTION 1: Complete the following information concerning the sample:

Project/Location: Bethesda NNMC Building 150

A/S ID Number: AS-001 RWP Number: B-01 NWTS Number: N/A

Date Start: 06/19/2003 Date Stop: 06/19/2003

Time Start: 12:45 Time Stop: 13:15 Total Time: 0:30 Minutes

Sample Location: Building 150

Sample Type:

Breathing Zone		General Area	X	Other	
High Volume	X	Low Volume		Lapel/Personal	

Comments: General Area During Scabbling of Concrete Surfaces

Technician Performing Sample: Dan Spicuzza 06/19/2003
Date

INSTRUCTION 2: Complete the following information concerning sampling equipment and counting equipment:

Type Sampler: HiVol

Sampler I.D.: 21406P

Cal. Date: N/A

Cal. Due Date: N/A

Flow Rate Start: 25 CFM
LPM

Flow Rate Stop: 25 CFM
LPM

Average Flow Rate: 25 CFM
LPM

Type Counter: 2929

Counter I.D.: 143876

Probe I.D.: PR146481

Cal. Date: 11/06/2002

Cal. Due Date: 11/06/2003

Count Time: 10 Minutes

Alpha Eff: 41 %

Beta/Gamma Eff: 21 %

Alpha Background: 0.3 CPM

Beta/Gamma Background: 98 CPM

Technician Performing Count: Dan Spicuzza 06/19/2003
Date

INSTRUCTION 3: Calculate the alpha and beta-gamma MDA values:

$$\text{MDA in } \mu\text{Ci/ml} = \frac{2.71 + 4.65\ \text{SQRT}(R_B/T)}{2.22\ \text{E+6} * E * V}$$

where: V = Sample Volume in Milliliters
T = Sample Count Time in Minutes
R_B = Background Count Rate in CPM
E = Instrument Efficiency Expressed as a Decimal

Alpha MDA = 1.82E-13 µCi/ml Beta/Gamma MDA= 1.74E-12 µCi/ml

Technician Performing Calculation: Dan Spicuzza 06/19/2003
Date

INSTRUCTION 4: Upon completion of the end of sampling period, perform the initial count of the sample within 15 (if feasible) minutes:

Initial Count	Time Counted	Gross Counts	Count Period (Min)	Gross Count Rate	Background Count Rate	Net Count Rate	CF	EFF CPM/DPM	DPM/µCi	Activity
α	13:20	2214	10	221.4	0.3	221.1	0.67	0.41	2.22E+06	3.63E-04
βγ	13:20	5576	10	557.6	98	459.6	0.95	0.21	2.22E+06	1.04E-03

Technician Performing Initial Count: Dan Spicuzza 06/19/2003
Date

INSTRUCTION 5: Calculate the Total Sample Volume:

Total Sample Run Time		Sample Average Flow Rate		Total Volume	
30	min	25	CFM	2.1E+07	milliliters
		0	LPM	0	milliliters

Technician Performing Calculation: Dan Spicuzza 06/19/2003
Date

INSTRUCTION 6: Determine the Initial Airborne Concentration

Initial Activity			Volume		Initial Activity		Corrected Activity If High Volume 4" Filter	
α	3.6E-04	µCi	21225000	milliliters	1.7E-11	µCi/ml α	5.1E-11	µCi/ml α
βγ	1.0E-03	µCi	21225000	milliliters	4.9E-11	µCi/ml βγ	1.5E-10	µCi/ml βγ

Technician Performing Calculation: Dan Spicuzza 06/19/2003
Date

INSTRUCTION 7: If either the Alpha/Beta-Gamma activity exceeds 10% of the DAC value of the known radionuclide(s) of concern, then a recount of the sample is required after a 1 hour decay period (if feasible) to allow the short lived Radon daughters to decay.

1 hr. Decay Count	Time Counted	Gross Counts	Count Period (Min)	Gross Count Rate	Background Count Rate	Net Count Rate	CF	EFF CPM/DPM	DPM/µCi	Activity µCi
α	14:20	524	10	52.4	0.3	52.1	0.67	0.41	2.22E+06	8.54E-05
βγ	14:20	2351	10	235.1	98	137.1	0.95	0.21	2.22E+06	3.10E-04

Technician Performing Decay Count: Dan Spicuzza 06/19/2003
Date

INSTRUCTION 8: Determine the airborne concentration following 1 Hr. decay and utilizing volume data in Instruction 5:

1 hr. Decayed Activity			Volume		1 hr. Decayed Activity		Corrected Activity If High Volume 4" Filter	
α	8.5E-05	µCi	21225000	milliliters	4.0E-12	µCi/ml α	1.2E-11	µCi/ml α
βγ	3.1E-04	µCi	21225000	milliliters	1.5E-11	µCi/ml βγ	4.4E-11	µCi/ml βγ

Technician Performing Calculation: Dan Spicuzza 06/19/2003
Date

INSTRUCTION 9: Determine the half-life of the radionuclide(s) using the following formula:

$$T1/2\ (Min) = \frac{-.693(t)}{\ln \frac{\text{Final Activity}}{\text{Initial Activity}}}$$

t =	60	elapsed time between counts in minutes.
T 1/2 α =	28.8	Minutes
T 1/2 βγ =	34.4	Minutes

Technician Performing Calculation: Dan Spicuzza 06/19/2003
Date

INSTRUCTION 10: If either the Alpha/Beta-Gamma activity exceeds 10% of the DAC value of the known radionuclide(s) of concern following the 1 hour decay, then a 16 hour (if feasible) decay count of the sample is required to remove the Thoron component of the sample.

INSTRUCTION 11: **Decay sample for 16 hours (if feasible) and then recount the sample:**

16hr. Decay Count	Time Counted	Gross Counts	Count Period (Min)	Gross Count Rate	Background Count Rate	Net Count Rate	CF	EFF CPM/DPM	DPM/µCi	Activity
α			10	0	0.3	0	0.67	0.41	2.22E+06	0.00E+00
βγ			10	0	98	0	0.95	0.21	2.22E+06	0.00E+00

Technician Performing Decay Count: _____ Date

16 hr. Decayed Activity			Volume		16 hr. Decayed Activity	
α	0.00E+00	mCi	21225000	milliliters	0	mCi/ml α
βγ	0.00E+00	mCi	21225000	milliliters	0	mCi/ml βγ

Technician Performing Calculation: _____ Date

INSTRUCTION 12: **Using the 1 hour and the 20 hour activity, determine the long-lived activity due to alpha:**

$$A_{LL} = \frac{A_{20} - A_1 \left(e^{-0.0655(T)}\right)}{1 - e^{-0.0655(T)}}$$

where:

A_{LL}	=	long-lived activity which emits alpha
A_{20}	=	20 hour decayed activity due to alpha
A_1	=	1 hour decayed activity due to alpha
0.0655	=	Pb-212 decay constant; since Bi-212 is in transient equilibrium with the Pb-212 and Po-212 is in secular equilibrium with the Bi-212, it is also Po-212's decay constant.
T	=	elapsed time between the 1 hour decay period midpoint and the 20 hour decay period midpoint in hours

$$A_{LL}\mu Ci = \frac{A_{20}mCi - A_1mCi\left(e^{-0.0655(hrs)}\right)}{1 - e^{-0.0655(hrs)}}$$

$$= \frac{mCi - mCi\left(e^{-0.0655(-\_\_\_\_hrs)}\right)}{1 - e^{-0.0655(\quad hrs)}}$$

$$= \_\_\_\_\_ mCi$$

Technician Performing Calculation: _____ Date

INSTRUCTION 13: **Using the value of alpha long-lived activity from Instruction 12, calculate the beta long-lived activity:**

_____ $A_{LL}\mu Ci = (A_{LL}\mu Ci)(0.67)$

where 0.67 is:

Nuclide	T½	Ci		Emission		Yield	Energy
Th-232	1.4E+10 y	1		Alpha		100%	4.01 Mev
Ra-228	5.75 yr.	0.9446		Beta		100%	0.05 Mev
Ac-228	6.13 hr.	0.9446		Beta		100%	2.11 Mev
Th-228	1.91 yr.	0.9171		Alpha		100%	5.4 Mev
Ra-224	3.62 day	0.9169		Alpha		100%	5.5 Mev
Rn-220	55 sec.	0.9169		Alpha		100%	6.3 Mev
Po-216	0.15 sec.	0.9169		Alpha		100%	6.8 Mev
Pb-212	10.6 hr.	0.9169		Beta		100%	0.6 Mev
Bi-212	60.6 min	0.9169		Beta		100%	2.25 Mev

Total long-lived alpha activity= 1 + .917 + .917 = 2.[illegible] 1.89 = .67

Total long-lived beta activity= .945 + .945 = 1.89 2.83

Technician Performing Calculation: _____ _____

Date

INSTRUCTION 14: **Calculate the long-lived activity concentrations from the values determined in Instructions 12 and 13:**

_____ A_{LL} µCi = µCi/ml $[A_{LL}]a$

volume

_____ A_{LL} µCi = µCi/ml $[A_{LL}]bg$

volume

If: $[A_{LL}]$ > 1E-13 µCi/ml α

$[A_{LL}]$ > 2E-10 µCi/ml βγ

Then:
- Report this to the HP Supervisor Immediately
- Post the area as Airborne Radioactivity Area
- Calculate and record DAC Hours for the affected individuals
- Send the sample out for an isotopic analysis

Technician Performing Calculation: _____ _____

Date

HP Supervisor Review: Daniel Spicuzza 06/19/2003

Date

AIR SAMPLE DATA AND ANALYSIS

INSTRUCTION 1: Complete the following information concerning the sample:

Project/Location: Bethesda NNMC Building 150

A/S ID Number: AS-002 RWP Number: B-01 NWTS Number: N/A

Date Start: 06/20/2003 Date Stop: 06/20/2003

Time Start: 7:18 Time Stop: 7:38 Total Time: 0:20 Minutes

Sample Location: Building 150

Sample Type:

Breathing Zone		General Area	X	Other	
High Volume	X	Low Volume		Lapel/Personal	

Comments: General Area During Scabbling of Concrete Surfaces

Technician Performing Sample: Roger Freeman 06/20/2003
Date

INSTRUCTION 2: Complete the following information concerning sampling equipment and counting equipment:

Type Sampler: HiVol

Sampler I.D.: 21406P

Cal. Date: N/A

Cal. Due Date: N/A

Flow Rate Start: 25 CFM
LPM

Flow Rate Stop: 25 CFM
LPM

Average Flow Rate: 25 CFM
LPM

Type Counter: 2929

Counter I.D.: 143876

Probe I.D.: PR146481

Cal. Date: 11/06/2002

Cal. Due Date: 11/06/2003

Count Time: 10 Minutes

Alpha Eff: 41 %

Beta/Gamma Eff: 21 %

Alpha Background: 0.2 CPM

Beta/Gamma Background: 95 CPM

Technician Performing Count: Dan Spicuzza 06/20/2003
Date

INSTRUCTION 3: Calculate the alpha and beta-gamma MDA values:

$$\text{MDA in } \mu\text{Ci/ml} = \frac{2.71 + 4.65\ \text{SQRT}(R_B/T)}{2.22\ \text{E+6} * E * V}$$

where: V = Sample Volume in Milliliters
T = Sample Count Time in Minutes
R_B = Background Count Rate in CPM
E = Instrument Efficiency Expressed as a Decimal

Alpha MDA = 2.61E-13 µCi/ml Beta/Gamma MDA= 2.58E-12 µCi/ml

Technician Performing Calculation: Dan Spicuzza 06/20/2003
Date

INSTRUCTION 4: Upon completion of the end of sampling period, perform the initial count of the sample within 15 (if feasible) minutes:

Initial Count	Time Counted	Gross Counts	Count Period (Min)	Gross Count Rate	Background Count Rate	Net Count Rate	CF	EFF CPM/DPM	DPM/µCi	Activity
α	8:20	2556	10	255.6	0.2	255.4	0.67	0.41	2.22E+06	4.19E-04
βγ	8:20	5132	10	513.2	95	418.2	0.95	0.21	2.22E+06	9.44E-04

Technician Performing Initial Count: Roger Freeman 06/20/2003
Date

INSTRUCTION 5: Calculate the Total Sample Volume:

Total Sample Run Time		Sample Average Flow Rate		Total Volume	
20	min	25	CFM	1.4E+07	milliliters
		0	LPM	0	milliliters

Technician Performing Calculation: Dan Spicuzza 06/20/2003
Date

INSTRUCTION 6: Determine the Initial Airborne Concentration

Initial Activity			Volume		Initial Activity		Corrected Activity If High Volume 4" Filter	
α	4.2E-04	µCi	14150000	milliliters	3.0E-11	µCi/ml α	8.9E-11	µCi/ml α
βγ	9.4E-04	µCi	14150000	milliliters	6.7E-11	µCi/ml βγ	2.0E-10	µCi/ml βγ

Technician Performing Calculation: Dan Spicuzza 06/20/2003
Date

INSTRUCTION 7: If either the Alpha/Beta-Gamma activity exceeds 10% of the DAC value of the known radionuclide(s) of concern, then a recount of the sample is required after a 1 hour decay period (if feasible) to allow the short lived Radon daughters to decay.

1 hr. Decay Count	Time Counted	Gross Counts	Count Period (Min)	Gross Count Rate	Background Count Rate	Net Count Rate	CF	EFF CPM/DPM	DPM/µCi	Activity µCi
α	9:20	805	10	80.5	0.2	80.3	0.67	0.41	2.22E+06	1.32E-04
βγ	9:20	2103	10	210.3	95	115.3	0.95	0.21	2.22E+06	2.60E-04

Technician Performing Decay Count: Dan Spicuzza 06/20/2003
Date

INSTRUCTION 8: Determine the airborne concentration following 1 Hr. decay and utilizing volume data in Instruction 5:

1 hr. Decayed Activity			Volume		1 hr. Decayed Activity		Corrected Activity If High Volume 4" Filter	
α	1.3E-04	µCi	14150000	milliliters	9.3E-12	µCi/ml α	2.8E-11	µCi/ml α
βγ	2.6E-04	µCi	14150000	milliliters	1.8E-11	µCi/ml βγ	5.5E-11	µCi/ml βγ

Technician Performing Calculation: Dan Spicuzza 06/20/2003
Date

INSTRUCTION 9: Determine the half-life of the radionuclide(s) using the following formula:

$$T1/2\ (Min) = \frac{-.693(t)}{\ln \frac{\text{Final Activity}}{\text{Initial Activity}}}$$

t =	60	elapsed time between counts in minutes.
T 1/2 α =	35.9	Minutes
T 1/2 βγ =	32.3	Minutes

Technician Performing Calculation: Dan Spicuzza 06/20/2003
Date

INSTRUCTION 10: If either the Alpha/Beta-Gamma activity exceeds 10% of the DAC value of the known radionuclide(s) of concern following the 1 hour decay, then a 16 hour (if feasible) decay count of the sample is required to remove the Thoron component of the sample.

INSTRUCTION 11: **Decay sample for 16 hours (if feasible) and then recount the sample:**

16hr. Decay Count	Time Counted	Gross Counts	Count Period (Min)	Gross Count Rate	Background Count Rate	Net Count Rate	CF	EFF CPM/DPM	DPM/µCi	Activity
α			10	0	0.2	0	0.67	0.41	2.22E+06	0.00E+00
βγ			10	0	95	0	0.95	0.21	2.22E+06	0.00E+00

Technician Performing Decay Count: _____ Date

16 hr. Decayed Activity			Volume		16 hr. Decayed Activity	
α	0.00E+00	mCi	14150000	milliliters	0	mCi/ml α
βγ	0.00E+00	mCi	14150000	milliliters	0	mCi/ml βγ

Technician Performing Calculation: _____ Date

INSTRUCTION 12: **Using the 1 hour and the 20 hour activity, determine the long-lived activity due to alpha:**

$$A_{LL} = \frac{A_{20} - A_1 \left(e^{-0.0655(T)}\right)}{1 - e^{-0.0655(T)}}$$

where:

A_{LL} = long-lived activity which emits alpha

A_{20} = 20 hour decayed activity due to alpha

A_1 = 1 hour decayed activity due to alpha

0.0655 = Pb-212 decay constant; since Bi-212 is in transient equilibrium with the Pb-212 and Po-212 is in secular equilibrium with the Bi-212, it is also Po-212's decay constant.

T = elapsed time between the 1 hour decay period midpoint and the 20 hour decay period midpoint in hours

$$A_{LL}\mu Ci = \frac{A_{20}mCi - A_1mCi\left(e^{-0.0655(hrs)}\right)}{1 - e^{-0.0655(hrs)}}$$

$$= \frac{mCi - mCi\left(e^{-0.0655(-\_\_\_hrs)}\right)}{1 - e^{-0.0655(\quad hrs)}}$$

= _____ mCi

Technician Performing Calculation: _____ Date

INSTRUCTION 13: **Using the value of alpha long-lived activity from Instruction 12, calculate the beta long-lived activity:**

_____ $A_{LL}\mu Ci = (A_{LL}\mu Ci)(0.67)$

where 0.67 is:

Nuclide	T½	Ci		Emission		Yield	Energy
Th-232	1.4E+10 y	1		Alpha		100%	4.01 Mev
Ra-228	5.75 yr.	0.9446		Beta		100%	0.05 Mev
Ac-228	6.13 hr.	0.9446		Beta		100%	2.11 Mev
Th-228	1.91 yr.	0.9171		Alpha		100%	5.4 Mev
Ra-224	3.62 day	0.9169		Alpha		100%	5.5 Mev
Rn-220	55 sec.	0.9169		Alpha		100%	6.3 Mev
Po-216	0.15 sec.	0.9169		Alpha		100%	6.8 Mev
Pb-212	10.6 hr.	0.9169		Beta		100%	0.6 Mev
Bi-212	60.6 min	0.9169		Beta		100%	2.25 Mev

Total long-lived alpha activity= 1 + .917 + .917 = 2.8 / 1.89 = .67

Total long-lived beta activity= .945 + .945 = 1.89 / 2.83

Technician Performing Calculation: _____ _____

Date

INSTRUCTION 14: **Calculate the long-lived activity concentrations from the values determined in Instructions 12 and 13:**

_____ A_{LL} µCi = µCi/ml $[A_{LL}]a$

volume

_____ A_{LL} µCi = µCi/ml $[A_{LL}]bg$

volume

If: $[A_{LL}]$ > 1E-13 µCi/ml α

$[A_{LL}]$ > 2E-10 µCi/ml βγ

Then:
- Report this to the HP Supervisor Immediately
- Post the area as Airborne Radioactivity Area
- Calculate and record DAC Hours for the affected individuals
- Send the sample out for an isotopic analysis

Technician Performing Calculation: _____ _____

Date

HP Supervisor Review: Dan Spicuzza 06/20/2003

Date

APPENDIX O

Building 150 Drain Sample Laboratory Data

Paragon Analytics, Inc.

Radiochemistry Case Narrative
Gamma Spectroscopy

New World Technology
Bethesda / GA00419

Paragon Work Order 0307081

1. This report consists of analysis results for thirteen soil samples received by Paragon on 7/15/03. The analysis results for these samples are reported on a 'dry weight' basis in units of pCi/gram.
2. These samples were prepared according to Paragon Analytics, Inc. procedure PAI SOP739R6.
3. The samples were analyzed for the presence of gamma emitting radionuclides according to Paragon Analytics, Inc. procedure PAI SOP713R8. The analyses were completed on 7/23/03.
4. Sample volumes were insufficient to allow preparation of duplicates. Duplicate analyses of samples Bldg 150 Room#1 Grid A-0, In Trench Grid B-11, and Inside Drain Pipe #1 (PAI ID 0307081-1, -11, and -12) were performed in lieu of a preparation duplicate.
5. Activity concentrations above the calculated MDC are reported in some instances where minimum nuclide identification criteria are not met. Such tentative identifications result when the software attempts to calculate net activity concentrations for analytes where either one or both of the following criteria are not satisfied: the 'diagnostic' peak for a nuclide must be identified above critical level (generally the most abundant, interference-free photopeak), or the minimum library peak tolerance of 75% must be attained. These data have been flagged with a "TI" qualifier.
6. In cases where Cd-109 is identified at a level greater than the MDC, it is assigned an "SI" flag denoting spectral interference at the 88 keV line. This interference occurs with the K_β x-ray of Pb, which occurs at an energy of 87 keV.
7. There are cases where the magnitude of the negative activity is greater than the 2-sigma TPU. The analyst's review of the data does not indicate a problem with the instrument data or the subsequent reporting systems. The data quality is believed to be unaffected and the results are submitted without qualification. Under typical conditions, where background level sample data is normally distributed and analyzed by paired observations, this event is likely to occur at least 2.5% of the time.
8. No problems were encountered with either the client samples or the associated quality control samples. All quality control criteria were met.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, Paragon Analytics, Inc. certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Radiochemistry Instrument Technician — Date: 7-25-03

Radiochemistry Final Data Review — Date

1

PARAGON ANALYTICS, INC.
Radiochemistry Data Package

Section 1

SAMPLE RESULTS SUMMARY

A summary report is not provided.

Please refer to the individual sample results data in Section 3.

2

PARAGON ANALYTICS, INC.

Radiochemistry Data Package

Section 2

QC RESULTS SUMMARY

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Reported on: Friday, July 25, 2003 15:56:00
Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID:
Lab ID: GS02158BLK1

Sample Matrix: Soil
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02158

Date Collected: 22-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030958D07A

Final Aliquot: 390.7
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	0.01 +/- 0.24	0.46	pCi/g	U
Ag-110m	0.030 +/- 0.046	0.078	pCi/g	U
Al-26	0.008 +/- 0.060	0.13	pCi/g	U
Am-241	0.030 +/- 0.056	0.097	pCi/g	U
Be-7	-0.08 +/- 0.34	0.69	pCi/g	U
Bi-212	-0.27 +/- 0.69	1.5	pCi/g	U
Bi-214	-0.03 +/- 0.13	0.25	pCi/g	U
Cd-109	-0.21 +/- 0.51	1.0	pCi/g	U
Ce-139	-0.027 +/- 0.027	0.057	pCi/g	U
Ce-144	0.18 +/- 0.18	0.27	pCi/g	U
Co-56	-0.040 +/- 0.089	0.20	pCi/g	U
Co-57	0.006 +/- 0.021	0.037	pCi/g	U
Co-58	-0.057 +/- 0.047	0.11	pCi/g	U
Co-60	0.019 +/- 0.038	0.071	pCi/g	U
Cr-51	0.20 +/- 0.29	0.48	pCi/g	U
Cs-134	-0.013 +/- 0.053	0.10	pCi/g	U
Cs-137	-0.019 +/- 0.053	0.11	pCi/g	U
Eu-152	0.05 +/- 0.29	0.57	pCi/g	U
Eu-154	0.00 +/- 0.26	0.55	pCi/g	U
Eu-155	0.022 +/- 0.079	0.14	pCi/g	U
Fe-59	-0.034 +/- 0.063	0.17	pCi/g	U
I-131	0.005 +/- 0.034	0.065	pCi/g	U
K-40	-0.51 +/- 0.56	1.4	pCi/g	U
Mn-54	0.032 +/- 0.039	0.059	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Friday, July 25, 2003 15:56:01

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID:
Lab ID: GS02158BLK1

Sample Matrix: Soil
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02158

Date Collected: 22-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030958D07A

Final Aliquot: 390.7
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier
Na-22	0.009 +/- 0.041	0.086	pCi/g	U
Nb-94	-0.049 +/- 0.056	0.12	pCi/g	U
Nb-95	0.011 +/- 0.047	0.089	pCi/g	U
Pa-234m	3.8 +/- 7.6	14	pCi/g	U
Pb-212	0.008 +/- 0.067	0.12	pCi/g	U
Pb-214	0.039 +/- 0.093	0.16	pCi/g	U
Ru-106	0.23 +/- 0.58	1.0	pCi/g	U
Sb-124	-0.007 +/- 0.050	0.097	pCi/g	U
Sb-125	-0.08 +/- 0.12	0.25	pCi/g	U
Sc-46	-0.027 +/- 0.051	0.11	pCi/g	U
Th-227	-0.07 +/- 0.22	0.43	pCi/g	U
Th-234	-0.25 +/- 0.39	0.77	pCi/g	U
Tl-208	0.017 +/- 0.048	0.087	pCi/g	U
U-235	0.18 +/- 0.20	0.32	pCi/g	U
Zn-65	-0.04 +/- 0.11	0.24	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Reported on: Friday, July 25, 2003 15:56:01
Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID:
Lab ID: GS02158BLK1

Sample Matrix: Soil
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02158

Date Collected: 22-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030958D07A

Final Aliquot: 390.7
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
B3 - Analyte concentration greater than MDC but less than Requested MDC.
B - Analyte concentration greater than MDC.

SQ - Spectral iquality prevents accurate quantitation.
SI - Nuclide identification and/or quantitation is tentative.
TI - Nuclide identification is tentative.
R - Nuclide has exceeded 8 halflives.

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

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Friday, July 25, 2003 15:56:02

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID:
Lab ID: GS02159BLK1

Sample Matrix: Solid
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02159

Date Collected: 22-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030599D04A

Final Aliquot: 339.0
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	0.03 +/- 0.18	0.35	pCi/g	U
Ag-110m	-0.005 +/- 0.038	0.077	pCi/g	U
Al-26	0.024 +/- 0.055	0.10	pCi/g	U
Am-241	-0.01 +/- 0.20	0.38	pCi/g	U
Be-7	-0.13 +/- 0.25	0.56	pCi/g	U
Bi-212	0.15 +/- 0.58	1.1	pCi/g	U
Bi-214	-0.029 +/- 0.100	0.20	pCi/g	U
Cd-109	0.20 +/- 0.83	1.5	pCi/g	U
Ce-139	0.010 +/- 0.025	0.045	pCi/g	U
Ce-144	-0.04 +/- 0.18	0.34	pCi/g	U
Co-56	-0.043 +/- 0.068	0.16	pCi/g	U
Co-57	0.002 +/- 0.020	0.037	pCi/g	U
Co-58	0.011 +/- 0.033	0.063	pCi/g	U
Co-60	0.013 +/- 0.045	0.086	pCi/g	U
Cr-51	-0.08 +/- 0.30	0.59	pCi/g	U
Cs-134	0.016 +/- 0.045	0.080	pCi/g	U
Cs-137	0.004 +/- 0.040	0.078	pCi/g	U
Eu-152	-0.13 +/- 0.21	0.52	pCi/g	U
Eu-154	-0.01 +/- 0.20	0.43	pCi/g	U
Eu-155	0.03 +/- 0.10	0.19	pCi/g	U
Fe-59	0.027 +/- 0.065	0.12	pCi/g	U
I-131	-0.004 +/- 0.043	0.082	pCi/g	U
K-40	-0.03 +/- 0.49	1.0	pCi/g	U
Mn-54	0.005 +/- 0.035	0.070	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Reported on: Friday, July 25, 2003 15:56:02
Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID:
Lab ID: GS02159BLK1

Sample Matrix: Solid
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02159

Date Collected: 22-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030599D04A

Final Aliquot: 339.0
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier
Na-22	-0.037 +/- 0.040	0.10	pCi/g	U
Nb-94	-0.014 +/- 0.050	0.099	pCi/g	U
Nb-95	-0.005 +/- 0.039	0.080	pCi/g	U
Pa-234m	1.9 +/- 5.3	10	pCi/g	U
Pb-212	0.065 +/- 0.066	0.10	pCi/g	U
Pb-214	0.111 +/- 0.091	0.13	pCi/g	U
Ru-106	-0.23 +/- 0.38	0.81	pCi/g	U
Sb-124	0.003 +/- 0.044	0.083	pCi/g	U
Sb-125	0.00 +/- 0.11	0.21	pCi/g	U
Sc-46	0.039 +/- 0.034	0.041	pCi/g	U
Th-227	-0.19 +/- 0.25	0.49	pCi/g	U
Th-234	-0.02 +/- 0.54	0.99	pCi/g	U
Tl-208	-0.015 +/- 0.046	0.093	pCi/g	U
U-235	-0.03 +/- 0.19	0.36	pCi/g	U
Zn-65	-0.040 +/- 0.070	0.17	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Friday, July 25, 2003 15:56:02

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID:
Lab ID: GS02159BLK1

Sample Matrix: Solid
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02159

Date Collected: 22-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030599D04A

Final Aliquot: 339.0
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
B3 - Analyte concentration greater than MDC but less than Requested MDC.
B - Analyte concentration greater than MDC.

SQ - Spectral iquality prevents accurate quantitation.
SI - Nuclide identification and/or quantitation is tentative.
TI - Nuclide identification is tentative.
R - Nuclide has exceeded 8 halflives.

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

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

LCS Results

Reported on: Friday, July 25, 2003 15:56:01

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID:
Lab ID: GS02158LCS1

Sample Matrix: Soil
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02158

Date Collected: 22-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 031029D08A

Final Aliquot: 500.0
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	LCS Results +/- 2s TPU	MDC	Spike Added	Reporting Units	LCS Recovery	Control Limits	Lab Qualifier
Am-241	209 +/- 34	1.3	196	pCi/g	106%	85-115%	P
Cd-109	830 +/- 140	7.3	775	pCi/g	107%	85-115%	P
Co-60	95 +/- 16	0.31	92.4	pCi/g	103%	85-115%	P
Cs-137	86 +/- 14	0.53	80.3	pCi/g	107%	85-115%	P

Comments:

Data Package ID: *GSS0307081-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
* - Duplicate DER not within control limits.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS Recovery within control limits.

Abbreviations:

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

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.

Gamma Spectroscopy Results

Method PAI 713R8

LCS Results

Reported on: Friday, July 25, 2003 15:56:02

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID:
Lab ID: GS02159LCS1

Sample Matrix: Solid
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02159

Date Collected: 22-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030956D07A

Final Aliquot: 500.0
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	LCS Results +/- 2s TPU	MDC	Spike Added	Reporting Units	LCS Recovery	Control Limits	Lab Qualifier
Am-241	204 +/- 34	1.3	196	pCi/g	104%	85-115%	P
Cd-109	800 +/- 130	7.2	775	pCi/g	103%	85-115%	P
Co-60	97 +/- 16	0.35	92.4	pCi/g	105%	85-115%	P
Cs-137	84 +/- 14	0.64	80.3	pCi/g	104%	85-115%	P

Comments:

Data Package ID: *GSS0307081-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
* - Duplicate DER not within control limits.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS Recovery within control limits.

Abbreviations:

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

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.

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Friday, July 25, 2003 15:55:56

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID:	Bldg 150 Room#1 Grid A-0	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID:	0307081-1	7/22/03	7/23/03	GS02158	430.7
DUP ID:	0307081-1-D1	7/22/03	7/23/03	GS02158	430.7

Sample Matrix: Soil
Date Collected: 08-Jul-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Ac-228	1.36 +/- 0.35	1.40 +/- 0.31	pCi/g	0.09	< 1.42	
Ag-110m	-0.012 +/- 0.061	-0.020 +/- 0.041	pCi/g	0.11	< 1.42	
Al-26	0.013 +/- 0.054	-0.015 +/- 0.039	pCi/g	0.43	< 1.42	
Am-241	0.06 +/- 0.11	-0.07 +/- 0.21	pCi/g	0.52	< 1.42	
Be-7	-0.24 +/- 0.46	-0.11 +/- 0.39	pCi/g	0.22	< 1.42	
Bi-212	1.28 +/- 0.94	1.14 +/- 0.91	pCi/g	0.1	< 1.42	
Bi-214	0.77 +/- 0.23	0.57 +/- 0.17	pCi/g	0.71	< 1.42	
Cd-109	2.1 +/- 1.2	1.0 +/- 1.4	pCi/g	0.57	< 1.42	
Ce-139	-0.010 +/- 0.044	0.014 +/- 0.038	pCi/g	0.41	< 1.42	
Ce-144	0.11 +/- 0.29	0.13 +/- 0.25	pCi/g	0.05	< 1.42	
Co-56	-0.01 +/- 0.13	0.070 +/- 0.097	pCi/g	0.53	< 1.42	
Co-57	-0.012 +/- 0.038	-0.018 +/- 0.033	pCi/g	0.11	< 1.42	
Co-58	-0.023 +/- 0.054	-0.074 +/- 0.045	pCi/g	0.72	< 1.42	
Co-60	0.028 +/- 0.065	0.009 +/- 0.046	pCi/g	0.24	< 1.42	
Cr-51	-0.02 +/- 0.59	0.05 +/- 0.38	pCi/g	0.1	< 1.42	
Cs-134	0.011 +/- 0.055	0.049 +/- 0.044	pCi/g	0.53	< 1.42	
Cs-137	0.013 +/- 0.062	-0.013 +/- 0.045	pCi/g	0.33	< 1.42	
Eu-152	0.10 +/- 0.27	0.00 +/- 0.23	pCi/g	0.28	< 1.42	
Eu-154	-0.09 +/- 0.34	-0.11 +/- 0.26	pCi/g	0.05	< 1.42	
Eu-155	0.03 +/- 0.16	0.11 +/- 0.15	pCi/g	0.36	< 1.42	
Fe-59	0.00 +/- 0.13	-0.10 +/- 0.11	pCi/g	0.59	< 1.42	
I-131	0.03 +/- 0.16	0.02 +/- 0.13	pCi/g	0.04	< 1.42	
K-40	15.1 +/- 3.3	14.6 +/- 2.8	pCi/g	0.12	< 1.42	
Mn-54	0.002 +/- 0.048	-0.003 +/- 0.049	pCi/g	0.07	< 1.42	
Na-22	0.020 +/- 0.064	-0.043 +/- 0.056	pCi/g	0.74	< 1.42	
Nb-94	0.013 +/- 0.065	0.033 +/- 0.041	pCi/g	0.27	< 1.42	
Nb-95	0.061 +/- 0.077	0.010 +/- 0.050	pCi/g	0.55	< 1.42	
Pa-234m	9.3 +/- 9.6	7.9 +/- 7.1	pCi/g	0.11	< 1.42	

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Friday, July 25, 2003 15:55:57

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

		Prep Date	Analysis Date	Prep Batch	Final Aliquot
Field ID:	Bldg 150 Room#1 Grid A-0				
Lab ID:	0307081-1	7/22/03	7/23/03	GS02158	430.7
DUP ID:	0307081-1-D1	7/22/03	7/23/03	GS02158	430.7

Sample Matrix: Soil
Date Collected: 08-Jul-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Pb-212	1.42 +/- 0.29	1.37 +/- 0.26	pCi/g	0.14	< 1.42	
Pb-214	0.63 +/- 0.17	0.68 +/- 0.15	pCi/g	0.2	< 1.42	
Ru-106	-0.12 +/- 0.50	0.00 +/- 0.41	pCi/g	0.18	< 1.42	
Sb-124	-0.048 +/- 0.064	0.025 +/- 0.050	pCi/g	0.9	< 1.42	
Sb-125	0.10 +/- 0.12	-0.01 +/- 0.11	pCi/g	0.68	< 1.42	
Sc-46	-0.112 +/- 0.068	-0.038 +/- 0.046	pCi/g	0.91	< 1.42	
Th-227	-0.23 +/- 0.32	0.8 +/- 6.6	pCi/g	0.15	< 1.42	
Th-234	1.42 +/- 0.68	0.66 +/- 0.76	pCi/g	0.74	< 1.42	
Tl-208	0.45 +/- 0.13	0.43 +/- 0.10	pCi/g	0.12	< 1.42	
U-235	-0.22 +/- 0.32	0.08 +/- 0.26	pCi/g	0.76	< 1.42	
Zn-65	0.05 +/- 0.14	-0.07 +/- 0.13	pCi/g	0.59	< 1.42	

Comments:

Qualifiers/Flags:

W - DER is greater than Warning Limit of 1.42

H - DER is Higher han Control Limit of 2.13

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

DER - Duplicate Error Ratio

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Friday, July 25, 2003 15:55:57

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

		Prep Date	Analysis Date	Prep Batch	Final Aliquot
Field ID:	In Trench Grid B-11				
Lab ID:	0307081-11	7/22/03	7/23/03	GS02158	401.6
DUP ID:	0307081-11-D1	7/22/03	7/23/03	GS02158	401.6

Sample Matrix: Soil
Date Collected: 14-Jul-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Ac-228	1.20 +/- 0.29	1.20 +/- 0.32	pCi/g	0	< 1.42	
Ag-110m	-0.019 +/- 0.044	0.013 +/- 0.051	pCi/g	0.48	< 1.42	
Al-26	0.016 +/- 0.037	-0.006 +/- 0.045	pCi/g	0.37	< 1.42	
Am-241	0.13 +/- 0.19	-0.19 +/- 0.35	pCi/g	0.81	< 1.42	
Be-7	-0.06 +/- 0.37	0.09 +/- 0.51	pCi/g	0.25	< 1.42	
Bi-212	0.67 +/- 0.58	0.8 +/- 1.1	pCi/g	0.1	< 1.42	
Bi-214	0.82 +/- 0.21	0.85 +/- 0.25	pCi/g	0.08	< 1.42	
Cd-109	1.2 +/- 1.0	1.0 +/- 1.7	pCi/g	0.09	< 1.42	
Ce-139	-0.002 +/- 0.036	0.018 +/- 0.045	pCi/g	0.35	< 1.42	
Ce-144	-0.11 +/- 0.26	-0.06 +/- 0.30	pCi/g	0.13	< 1.42	
Co-56	0.11 +/- 0.11	0.03 +/- 0.14	pCi/g	0.47	< 1.42	
Co-57	0.013 +/- 0.034	0.002 +/- 0.039	pCi/g	0.23	< 1.42	
Co-58	-0.036 +/- 0.049	0.000 +/- 0.060	pCi/g	0.47	< 1.42	
Co-60	0.085 +/- 0.057	0.100 +/- 0.072	pCi/g	0.16	< 1.42	
Cr-51	0.07 +/- 0.38	-0.03 +/- 0.49	pCi/g	0.15	< 1.42	
Cs-134	0.29 +/- 0.57	0.041 +/- 0.057	pCi/g	0.44	< 1.42	
Cs-137	0.028 +/- 0.048	-0.028 +/- 0.056	pCi/g	0.76	< 1.42	
Eu-152	0.08 +/- 0.21	-0.12 +/- 0.28	pCi/g	0.58	< 1.42	
Eu-154	-0.13 +/- 0.27	0.22 +/- 0.36	pCi/g	0.8	< 1.42	
Eu-155	0.04 +/- 0.13	0.03 +/- 0.19	pCi/g	0.04	< 1.42	
Fe-59	-0.01 +/- 0.11	-0.02 +/- 0.12	pCi/g	0.07	< 1.42	
I-131	0.006 +/- 0.084	0.01 +/- 0.10	pCi/g	0	< 1.42	
K-40	16.0 +/- 3.0	14.7 +/- 3.1	pCi/g	0.31	< 1.42	
Mn-54	0.006 +/- 0.053	-0.028 +/- 0.064	pCi/g	0.41	< 1.42	
Na-22	-0.004 +/- 0.056	-0.006 +/- 0.055	pCi/g	0.03	< 1.42	
Nb-94	-0.025 +/- 0.048	-0.044 +/- 0.062	pCi/g	0.24	< 1.42	
Nb-95	0.002 +/- 0.050	0.023 +/- 0.065	pCi/g	0.25	< 1.42	
Pa-234m	-3.4 +/- 7.5	5 +/- 10	pCi/g	0.67	< 1.42	

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Friday, July 25, 2003 15:55:57

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307081

Field ID:	In Trench Grid B-11	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID:	0307081-11	7/22/03	7/23/03	GS02158	401.6
DUP ID:	0307081-11-D1	7/22/03	7/23/03	GS02158	401.6

Sample Matrix: Soil
Date Collected: 14-Jul-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Pb-212	1.45 +/- 0.27	1.54 +/- 0.31	pCi/g	0.21	< 1.42	
Pb-214	0.63 +/- 0.16	0.65 +/- 0.18	pCi/g	0.08	< 1.42	
Ru-106	0.17 +/- 0.44	0.16 +/- 0.44	pCi/g	0.01	< 1.42	
Sb-124	0.027 +/- 0.045	0.045 +/- 0.062	pCi/g	0.24	< 1.42	
Sb-125	0.011 +/- 0.100	0.06 +/- 0.14	pCi/g	0.31	< 1.42	
Sc-46	-0.008 +/- 0.050	-0.056 +/- 0.061	pCi/g	0.61	< 1.42	
Th-227	-1.02 +/- 0.47	-0.22 +/- 0.54	pCi/g	1.12	< 1.42	
Th-234	1.37 +/- 0.80	1.0 +/- 1.1	pCi/g	0.28	< 1.42	
Tl-208	0.43 +/- 0.10	0.49 +/- 0.13	pCi/g	0.39	< 1.42	
U-235	-0.09 +/- 0.26	0.22 +/- 0.31	pCi/g	0.76	< 1.42	
Zn-65	0.26 +/- 0.22	-0.06 +/- 0.14	pCi/g	1.23	< 1.42	

Comments:

Qualifiers/Flags:

W - DER is greater than Warning Limit of 1.42

H - DER is Higher han Control Limit of 2.13

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

DER - Duplicate Error Ratio

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Friday, July 25, 2003 15:56:01

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID:	Inside Drain Pipe #1	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID:	0307081-12	7/22/03	7/23/03	GS02159	348.2
DUP ID:	0307081-12-D1	7/22/03	7/23/03	GS02159	348.2

Sample Matrix: Solid
Date Collected: 14-Jul-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Ac-228	0.23 +/- 0.77	0.3 +/- 1.0	pCi/g	0.05	< 1.42	
Ag-110m	0.10 +/- 0.18	0.03 +/- 0.17	pCi/g	0.29	< 1.42	
Al-26	0.038 +/- 0.078	-0.038 +/- 0.093	pCi/g	0.62	< 1.42	
Am-241	0.34 +/- 0.39	-0.1 +/- 1.0	pCi/g	0.4	< 1.42	
Be-7	-0.34 +/- 0.96	0.3 +/- 1.3	pCi/g	0.37	< 1.42	
Bi-212	-0.5 +/- 2.0	-0.9 +/- 2.8	pCi/g	0.11	< 1.42	
Bi-214	0.06 +/- 0.23	0.19 +/- 0.36	pCi/g	0.31	< 1.42	
Cd-109	-0.8 +/- 2.1	1.9 +/- 3.1	pCi/g	0.71	< 1.42	
Ce-139	-0.022 +/- 0.071	-0.006 +/- 0.090	pCi/g	0.13	< 1.42	
Ce-144	0.36 +/- 0.47	-0.13 +/- 0.64	pCi/g	0.62	< 1.42	
Co-56	0.01 +/- 0.18	0.16 +/- 0.23	pCi/g	0.48	< 1.42	
Co-57	0.008 +/- 0.063	-0.026 +/- 0.081	pCi/g	0.33	< 1.42	
Co-58	0.03 +/- 0.17	-0.21 +/- 0.25	pCi/g	0.8	< 1.42	
Co-60	34.3 +/- 5.7	33.8 +/- 5.6	pCi/g	0.06	< 1.42	
Cr-51	-0.07 +/- 0.88	0.5 +/- 1.3	pCi/g	0.36	< 1.42	
Cs-134	0.01 +/- 0.16	-0.01 +/- 0.17	pCi/g	0.1	< 1.42	
Cs-137	2.02 +/- 0.39	2.38 +/- 0.49	pCi/g	0.58	< 1.42	
Eu-152	0.24 +/- 0.38	-0.09 +/- 0.39	pCi/g	0.6	< 1.42	
Eu-154	0.2 +/- 1.1	-0.3 +/- 1.4	pCi/g	0.29	< 1.42	
Eu-155	0.03 +/- 0.27	-0.15 +/- 0.36	pCi/g	0.41	< 1.42	
Fe-59	-0.08 +/- 0.42	-0.03 +/- 0.55	pCi/g	0.08	< 1.42	
I-131	0.02 +/- 0.20	0.19 +/- 0.30	pCi/g	0.47	< 1.42	
K-40	4.5 +/- 1.3	2.9 +/- 1.5	pCi/g	0.8	< 1.42	
Mn-54	-0.17 +/- 0.17	0.11 +/- 0.23	pCi/g	0.99	< 1.42	
Na-22	0.06 +/- 0.10	0.01 +/- 0.12	pCi/g	0.28	< 1.42	
Nb-94	-0.02 +/- 0.12	-0.08 +/- 0.17	pCi/g	0.27	< 1.42	
Nb-95	0.01 +/- 0.15	-0.05 +/- 0.22	pCi/g	0.21	< 1.42	
Pa-234m	-13 +/- 33	-47 +/- 46	pCi/g	0.6	< 1.42	

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Friday, July 25, 2003 15:56:01

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID:	Inside Drain Pipe #1	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID:	0307081-12	7/22/03	7/23/03	GS02159	348.2
DUP ID:	0307081-12-D1	7/22/03	7/23/03	GS02159	348.2

Sample Matrix: Solid
Date Collected: 14-Jul-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Pb-212	0.30 +/- 0.21	0.25 +/- 0.17	pCi/g	0.18	< 1.42	
Pb-214	0.14 +/- 0.14	0.44 +/- 0.34	pCi/g	0.8	< 1.42	
Ru-106	0.0 +/- 1.2	0.5 +/- 1.6	pCi/g	0.23	< 1.42	
Sb-124	0.08 +/- 0.12	0.01 +/- 0.19	pCi/g	0.32	< 1.42	
Sb-125	0.09 +/- 0.30	-0.04 +/- 0.41	pCi/g	0.26	< 1.42	
Sc-46	-0.03 +/- 0.20	-0.18 +/- 0.29	pCi/g	0.44	< 1.42	
Th-227	-0.21 +/- 0.98	0.36 +/- 0.79	pCi/g	0.45	< 1.42	
Th-234	0.5 +/- 1.2	-0.2 +/- 1.8	pCi/g	0.33	< 1.42	
Tl-208	0.11 +/- 0.10	-0.04 +/- 0.18	pCi/g	0.75	< 1.42	
U-235	-0.32 +/- 0.46	0.18 +/- 0.59	pCi/g	0.67	< 1.42	
Zn-65	0.02 +/- 0.41	0.51 +/- 0.54	pCi/g	0.73	< 1.42	

Comments:

Qualifiers/Flags:

W - DER is greater than Warning Limit of 1.42

H - DER is Higher han Control Limit of 2.13

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

DER - Duplicate Error Ratio

Data Package ID: *GSS0307081-1*

PARAGON ANALYTICS, INC.
Radiochemistry Data Package

3

Section 3

INDIVIDUAL SAMPLE RESULTS

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:56:01

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID: Inside Drain Pipe #1
Lab ID: 0307081-12

Sample Matrix: Solid
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02159

Date Collected: 14-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 031095D01A

Final Aliquot: 348.2 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	0.23 +/- 0.77	1.3	pCi/g	U
Ag-110m	0.10 +/- 0.18	0.29	pCi/g	U
Al-26	0.038 +/- 0.078	0.13	pCi/g	U
Am-241	0.34 +/- 0.39	0.63	pCi/g	U
Be-7	-0.34 +/- 0.96	1.6	pCi/g	U
Bi-212	-0.5 +/- 2.0	3.4	pCi/g	U
Bi-214	0.06 +/- 0.23	0.39	pCi/g	U
Cd-109	-0.8 +/- 2.1	3.6	pCi/g	U
Ce-139	-0.022 +/- 0.071	0.12	pCi/g	U
Ce-144	0.36 +/- 0.47	0.78	pCi/g	U
Co-56	0.01 +/- 0.18	0.31	pCi/g	U
Co-57	0.008 +/- 0.063	0.11	pCi/g	U
Co-58	0.03 +/- 0.17	0.28	pCi/g	U
Co-60	34.3 +/- 5.7	0.27	pCi/g	
Cr-51	-0.07 +/- 0.88	1.5	pCi/g	U
Cs-134	0.01 +/- 0.16	0.26	pCi/g	U
Cs-137	2.02 +/- 0.39	0.25	pCi/g	
Eu-152	0.24 +/- 0.38	0.63	pCi/g	U
Eu-154	0.2 +/- 1.1	1.8	pCi/g	U
Eu-155	0.03 +/- 0.27	0.46	pCi/g	U
Fe-59	-0.08 +/- 0.42	0.71	pCi/g	U
I-131	0.02 +/- 0.20	0.34	pCi/g	U
K-40	4.5 +/- 1.3	1.5	pCi/g	
Mn-54	-0.17 +/- 0.17	0.29	pCi/g	U
Na-22	0.06 +/- 0.10	0.17	pCi/g	U
Nb-94	-0.02 +/- 0.12	0.21	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:56:01

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID: Inside Drain Pipe #1
Lab ID: 0307081-12

Sample Matrix: Solid
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02159

Date Collected: 14-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 031095D01A

Final Aliquot: 348.2 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.01 +/- 0.15	0.26	pCi/g	U
Pa-234m	-13 +/- 33	55	pCi/g	U
Pb-212	0.30 +/- 0.21	0.33	pCi/g	U
Pb-214	0.14 +/- 0.14	0.23	pCi/g	U
Ru-106	0.0 +/- 1.2	2.0	pCi/g	U
Sb-124	0.08 +/- 0.12	0.20	pCi/g	U
Sb-125	0.09 +/- 0.30	0.49	pCi/g	U
Sc-46	-0.03 +/- 0.20	0.33	pCi/g	U
Th-227	-0.21 +/- 0.98	1.6	pCi/g	U
Th-234	0.5 +/- 1.2	2.0	pCi/g	U
Tl-208	0.11 +/- 0.10	0.17	pCi/g	U
U-235	-0.32 +/- 0.46	0.80	pCi/g	U
Zn-65	0.02 +/- 0.41	0.70	pCi/g	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.
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.

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

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Friday, July 25, 2003 15:56:01

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID: Inside Drain Pipe #1
Lab ID: 0307081-12-D1

Sample Matrix: Solid
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02159

Date Collected: 14-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 031004D02A

Final Aliquot: 348.2
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	0.3 +/- 1.0	1.7	pCi/g	U
Ag-110m	0.03 +/- 0.17	0.30	pCi/g	U
Al-26	-0.038 +/- 0.093	0.19	pCi/g	U
Am-241	-0.1 +/- 1.0	1.8	pCi/g	U
Be-7	0.3 +/- 1.3	2.2	pCi/g	U
Bi-212	-0.9 +/- 2.8	4.8	pCi/g	U
Bi-214	0.19 +/- 0.36	0.60	pCi/g	U
Cd-109	1.9 +/- 3.1	5.1	pCi/g	U
Ce-139	-0.006 +/- 0.090	0.15	pCi/g	U
Ce-144	-0.13 +/- 0.64	1.1	pCi/g	U
Co-56	0.16 +/- 0.23	0.39	pCi/g	U
Co-57	-0.026 +/- 0.081	0.14	pCi/g	U
Co-58	-0.21 +/- 0.25	0.43	pCi/g	U
Co-60	33.8 +/- 5.6	0.22	pCi/g	
Cr-51	0.5 +/- 1.3	2.1	pCi/g	U
Cs-134	-0.01 +/- 0.17	0.29	pCi/g	U
Cs-137	2.38 +/- 0.49	0.33	pCi/g	
Eu-152	-0.09 +/- 0.39	0.77	pCi/g	U
Eu-154	-0.3 +/- 1.4	2.5	pCi/g	U
Eu-155	-0.15 +/- 0.36	0.63	pCi/g	U
Fe-59	-0.03 +/- 0.55	0.95	pCi/g	U
I-131	0.19 +/- 0.30	0.50	pCi/g	U
K-40	2.9 +/- 1.5	1.9	pCi/g	
Mn-54	0.11 +/- 0.23	0.39	pCi/g	U
Na-22	0.01 +/- 0.12	0.22	pCi/g	U
Nb-94	-0.08 +/- 0.17	0.30	pCi/g	U
Nb-95	-0.05 +/- 0.22	0.38	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Friday, July 25, 2003 15:56:01

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID: Inside Drain Pipe #1
Lab ID: 0307081-12-D1

Sample Matrix: Solid
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02159

Date Collected: 14-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 031004D02A

Final Aliquot: 348.2
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Pa-234m	-47 +/- 46	80	pCi/g	U
Pb-212	0.25 +/- 0.17	0.26	pCi/g	U
Pb-214	0.44 +/- 0.34	0.53	pCi/g	U
Ru-106	0.5 +/- 1.6	2.6	pCi/g	U
Sb-124	0.01 +/- 0.19	0.32	pCi/g	U
Sb-125	-0.04 +/- 0.41	0.71	pCi/g	U
Sc-46	-0.18 +/- 0.29	0.51	pCi/g	U
Th-227	0.36 +/- 0.79	1.3	pCi/g	U
Th-234	-0.2 +/- 1.8	3.1	pCi/g	U
Tl-208	-0.04 +/- 0.18	0.32	pCi/g	U
U-235	0.18 +/- 0.59	1.00	pCi/g	U
Zn-65	0.51 +/- 0.54	0.86	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Friday, July 25, 2003 15:56:01

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID: Inside Drain Pipe #1
Lab ID: 0307081-12-D1

Sample Matrix: Solid
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02159

Date Collected: 14-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 031004D02A

Final Aliquot: 348.2
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier

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.
* - Duplicate DER not within control limits.
LT - Result is less than Requested MDC, greater than sample specific MDC.
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.

Abbreviations:

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

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:56:02

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID: Inside Drain Pipe #2
Lab ID: 0307081-13

Sample Matrix: Solid
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02159

Date Collected: 14-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030804D03A

Final Aliquot: 320.5 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.9 +/- 1.9	3.1	pCi/g	U
Ag-110m	-0.27 +/- 0.46	0.78	pCi/g	U
Al-26	0.04 +/- 0.16	0.28	pCi/g	U
Am-241	-0.5 +/- 1.0	1.8	pCi/g	U
Be-7	-0.4 +/- 2.3	3.9	pCi/g	U
Bi-212	0.3 +/- 4.9	8.3	pCi/g	U
Bi-214	0.85 +/- 0.59	0.92	pCi/g	U
Cd-109	3.5 +/- 4.5	7.4	pCi/g	U
Ce-139	-0.14 +/- 0.15	0.25	pCi/g	U
Ce-144	-0.3 +/- 1.0	1.7	pCi/g	U
Co-56	0.06 +/- 0.41	0.70	pCi/g	U
Co-57	-0.01 +/- 0.13	0.23	pCi/g	U
Co-58	-0.20 +/- 0.40	0.68	pCi/g	U
Co-60	71 +/- 12	0.46	pCi/g	
Cr-51	-1.0 +/- 2.0	3.4	pCi/g	U
Cs-134	0.06 +/- 0.27	0.46	pCi/g	U
Cs-137	4.02 +/- 0.81	0.59	pCi/g	
Eu-152	-0.14 +/- 0.70	1.3	pCi/g	U
Eu-154	-0.6 +/- 2.5	4.3	pCi/g	U
Eu-155	0.09 +/- 0.57	0.96	pCi/g	U
Fe-59	0.40 +/- 0.94	1.7	pCi/g	U
I-131	0.02 +/- 0.49	0.83	pCi/g	U
K-40	3.2 +/- 1.8	2.5	pCi/g	
Mn-54	-0.10 +/- 0.39	0.67	pCi/g	U
Na-22	-0.02 +/- 0.22	0.39	pCi/g	U
Nb-94	-0.15 +/- 0.33	0.57	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:56:02

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307081

Field ID: Inside Drain Pipe #2

Lab ID: 0307081-13

Sample Matrix: Solid
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02159

Date Collected: 14-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030804D03A

Final Aliquot: 320.5 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.11 +/- 0.38	0.65	pCi/g	U
Pa-234m	34 +/- 77	130	pCi/g	U
Pb-212	0.33 +/- 0.37	0.60	pCi/g	U
Pb-214	0.46 +/- 0.50	0.80	pCi/g	U
Ru-106	0.1 +/- 2.7	4.5	pCi/g	U
Sb-124	0.08 +/- 0.29	0.49	pCi/g	U
Sb-125	-0.03 +/- 0.66	1.1	pCi/g	U
Sc-46	0.04 +/- 0.51	0.85	pCi/g	U
Th-227	1.0 +/- 2.1	3.4	pCi/g	U
Th-234	1.7 +/- 2.7	4.5	pCi/g	U
Tl-208	0.14 +/- 0.31	0.51	pCi/g	U
U-235	-0.7 +/- 1.0	1.7	pCi/g	U
Zn-65	0.45 +/- 0.95	1.6	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0307081-1*

APPENDIX P

Equipment Release Survey Data

UNCONDITIONAL RELEASE OF EQUIPMENT OR ITEMS REPORT

NWTS #: N/A	DATE: 7/15/03
PROJECT/LOCATION: BETHESDA NNMC	
DESCRIPTION OF EQUIPMENT OR ITEMS: 1 CASE 582 DL BACKHOE / LOADER	

SURVEY EQUIPMENT:

MODEL NO: LUDLUM 2929	S/N: 143876	BKRD: α 0.4 β 95.4	EFF: α 41% β 20%	CAL DUE DATE: 11/6/03
MODEL NO: LUDLUM 3	S/N: 131895	BKRD: 50 CPM	EFF: 17%	CAL DUE DATE: 3/25/04
MODEL NO: LUDLUM 44-9	S/N: 115135	BKRD: 50 CPM	EFF: 17%	CAL DUE DATE: 3/25/04

CONTAMINATION LEVELS:

PLEASE ~~SEE~~ SEE PAGE #2	Dpm/100 cm2 βγ	REMOVABLE	< 1000 DPM/100 cm2
RADIOLOGICAL SURVEY	Dpm/100 cm2 α	REMOVABLE	< 220 DPM/100 cm2
REPORT	Dpm/100 cm βγ	FIXED	< 1000 DPM/100 cm2
	Dpm/100 cm2 α	FIXED	< 220 DPM/100 cm2

THIS IS TO CERTIFY THAT THE ABOVE DESCRIBED EQUIPMENT OR ITEMS HAS BEEN SURVEYED AND FOUND TO BE WITHIN ACCEPTABLE SURFACE CONTAMINATION LEVELS FOR UNCONDITIONAL RELEASE AS REQUIRED BY NUCLEAR REGULATORY GUIDE 1.86.

HEALTH PHYSICS TECHNICIAN: ROGER L. FREEMAN	DATE/TIME: 7/15/03 @ 1330

DISPOSITION OF EQUIPMENT OR ITEMS:

RETURNED TO RENTAL COMPANY

REVIEWED BY:	DATE: 7-16-03

RADIOLOGICAL SURVEY REPORT

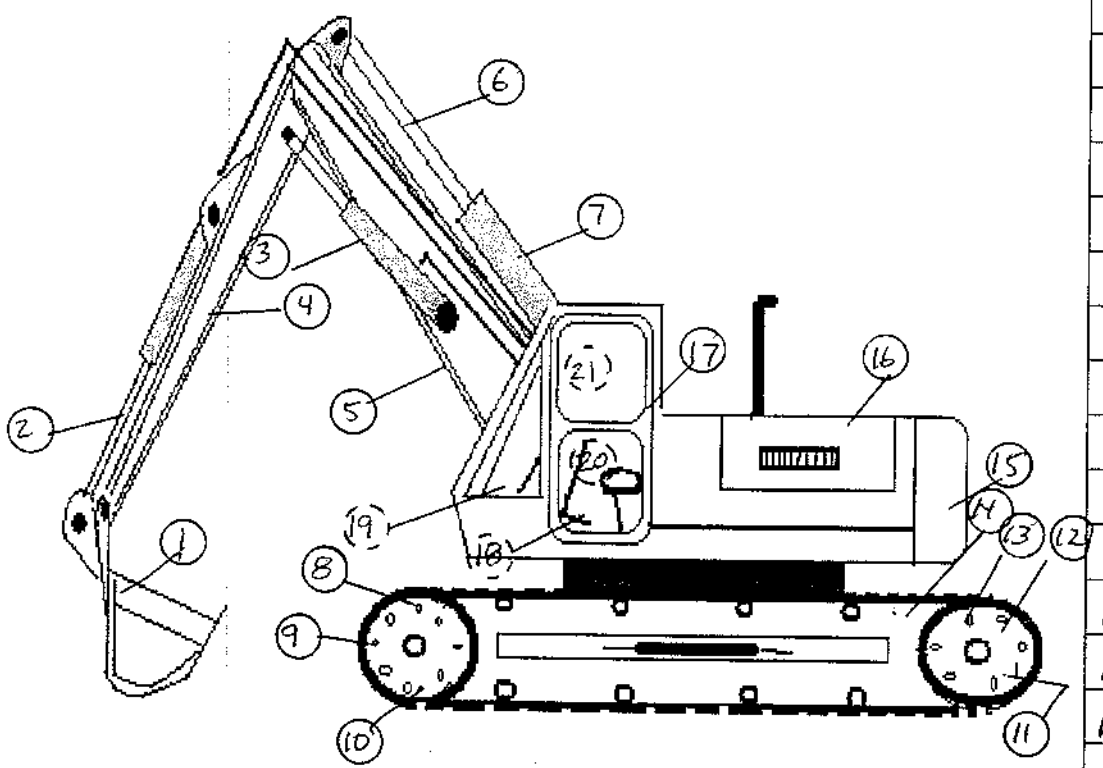
NWTS #: N/A

DATE: 7/15/03	INSTRUMENTATION USED				
TIME: 1330	MODEL	S/N	EFF.%	BKRD	CAL. DUE DATE
SURVEYOR: ROGER FREEMAN	LUDLUM 2929	143876	α β 41% 20%	α β 0.4 95.4	11/6/03
LOCATION: BETHESDA NNMC	LUDLUM 3	131895	17%	50 CPM	3/25/04
REVIEWED BY: [signature]	LUDLUM 44-9	115135	17%	50 CPM	3/25/04

Smear Locations Circled; Dose Rates ~~μR/hr~~

PURPOSE OF SURVEY: UNCONDITIONAL RELEASE OF CASE 582 DL BACKHOE/LOADER

100% SCAN PERFORMED.
ALL SCAN RESULTS: ≤ BACKGROUND



SMEAR RESULTS
RESULTS = DPM/100cm²
UNLESS NOTED

#	βγ	α
1	85	2
2	105	2
3	99	Ø
4	82	2
5	88	1
6	91	Ø
7	88	1
8	83	Ø
9	89	2
10	90	1
11	89	1
12	93	1
13	89	Ø
14	112	Ø
15	80	Ø
16	91	1
17	87	1
18	98	Ø
19	99	2
20	86	Ø
21	104	1

Remarks: EQUIPMENT HAD WHEELS RATHER THAN TRACKS, SMEAR LOCATIONS @ TRACKS INDICATE WHEELS. RLF
(#) DENOTES SMEAR I/S CAB. RLF

UNCONDITIONAL RELEASE OF EQUIPMENT OR ITEMS REPORT

NWTS #: N/A	DATE: 7/15/03
PROJECT/LOCATION: BETHESDA NNMC	
DESCRIPTION OF EQUIPMENT OR ITEMS: 1 CASE 582 DL FORKLIFT	

SURVEY EQUIPMENT:

MODEL NO: LUDLUM 2929	S/N: 143876	BKRD: α 0.4 β 95.4	EFF: α 41% β 20%	CAL DUE DATE: 11/6/03
MODEL NO: LUDLUM 3	S/N: 131895	BKRD: 50 CPM	EFF: 17%	CAL DUE DATE: 3/25/04
MODEL NO: LUDLUM 44-9	S/N: 115135	BKRD: 50 CPM	EFF: 17%	CAL DUE DATE: 3/25/04

CONTAMINATION LEVELS:

PLEASE SEE PAGE #2	Dpm/100 cm2 βγ	REMOVABLE	< 1000 DPM/100cm²
RADIOLOGICA SURVEY	Dpm/100 cm2 α	REMOVABLE	< 220 DPM/100cm²
REPORT	Dpm/100 cm βγ	FIXED	< 1000 DPM/100cm
	Dpm/100 cm2 α	FIXED	< 220 DPM/100cm

THIS IS TO CERTIFY THAT THE ABOVE DESCRIBED EQUIPMENT OR ITEMS HAS BEEN SURVEYED AND FOUND TO BE WITHIN ACCEPTABLE SURFACE CONTAMINATION LEVELS FOR UNCONDITIONAL RELEASE AS REQUIRED BY NUCLEAR REGULATORY GUIDE 1.86.

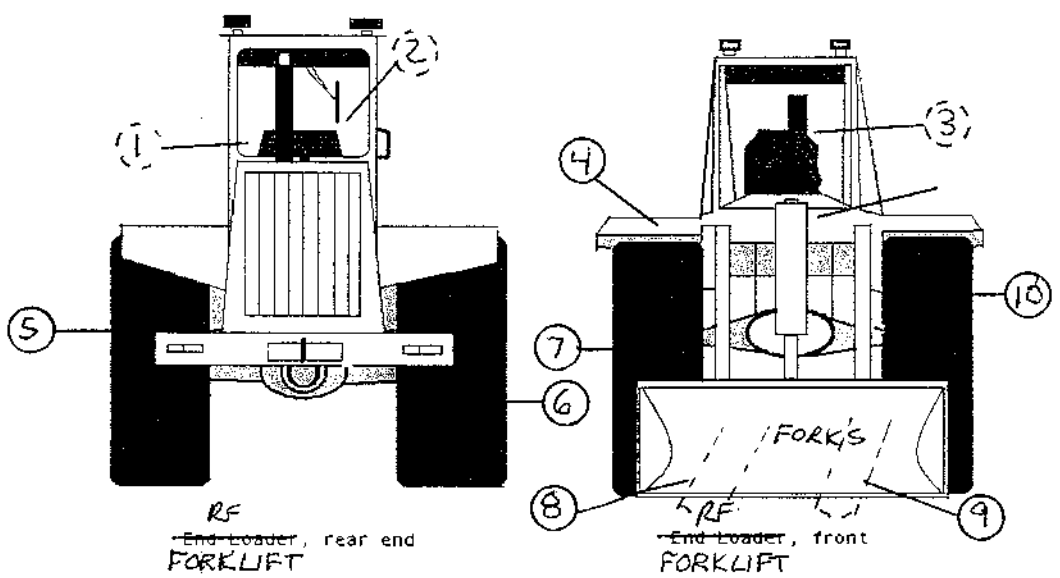
HEALTH PHYSICS TECHNICIAN: ROGER L. FREEMAN	DATE/TIME: 7/15/03 @ 1200
DISPOSITION OF EQUIPMENT OR ITEMS: RETURNED TO RENTAL COMPANY	
REVIEWED BY:	DATE: 7-16-03

NWTS #: N/A

DATE: 7/15/03	INSTRUMENTATION USED				
TIME: 1200	MODEL	S/N	EFF.%	BKRD	CAL. DUE DATE
SURVEYOR: ROGER FREEMAN	LUDLUM 2929	143876	9 13 41% 20%	9 13 0.4 95.4	11/6/03
LOCATION: BETHESDA NNMC	LUDLUM 3	131895	17%	50CPM	3/25/04
REVIEWED BY: [signature]	LUDLUM 44-9	115135	17%	50CPM	3/25/04

Smear Locations Circled; Dose Rates ~~μR/hr~~

PURPOSE OF SURVEY: UNCONDITIONAL RELEASE OF FORKLIFT



100% SCAN WAS PERFORMED ON FORKLIFT.
ALL SCAN RESULTS: ≤ BACKGROUND RLF

( ) DENOTES SMEAR I/S CAB

Remarks: FORKLIFT WAS NOT USED IN ANY AFFECTED AREAS. ALL ITEMS MOVED BY FORKLIFT WERE SEALED AND/OR WRAPPED. RLF

SMEAR RESULTS
RESULTS = DPM/100cm^2 UNLESS NOTED

#	βγ	α
1	104	1
2	84	Ø
3	87	Ø
4	84	1
5	81	Ø
6	98	Ø
7	97	Ø
8	79	Ø
9	92	1
10	93	Ø
	N/A	

UNCONDITIONAL RELEASE OF EQUIPMENT OR ITEMS REPORT

NWTS #:	DATE: 7/15/03
PROJECT/LOCATION: BETHESDA NNMC	
DESCRIPTION OF EQUIPMENT OR ITEMS:	
21 - 3" X 1" LEAD "COLLARS"	
NOTE: SURVEY RESULTS & BACKGROUNDS GIVEN IN CPM	

SURVEY EQUIPMENT:

MODEL NO: LUDLUM MODEL 2929	S/N: 143876	BKRD: α 0.4 β 95.4	EFF: α 41% β 20%	CAL DUE DATE: 11/6/03
MODEL NO: LUDLUM MODEL 3	S/N: 131895	BKRD: 50 CPM	EFF: 17%	CAL DUE DATE: 3/25/04
MODEL NO: LUDLUM MODEL 44-9	S/N: 151135	BKRD: 50 CPM	EFF: 17%	CAL DUE DATE: 3/25/04

CONTAMINATION LEVELS:

PLEASE REFER TO RAD SURVEY REPORT PAGE #2	Dpm/100 cm2 βγ	REMOVABLE	< 1000 DPM/100cm²
	Dpm/100 cm2 α	REMOVABLE	RE < ~~1000~~ 220 DPM/100cm²
	Dpm/100 cm βγ	FIXED	< 1000 DPM/100cm²
	Dpm/100 cm2 α	FIXED	< 220 DPM/100cm²

THIS IS TO CERTIFY THAT THE ABOVE DESCRIBED EQUIPMENT OR ITEMS HAS BEEN SURVEYED AND FOUND TO BE WITHIN ACCEPTABLE SURFACE CONTAMINATION LEVELS FOR UNCONDITIONAL RELEASE AS REQUIRED BY NUCLEAR REGULATORY GUIDE 1.86.

HEALTH PHYSICS TECHNICIAN: ROGER L. FREEMAN	DATE/TIME: 7/15/03 @ 0800
DISPOSITION OF EQUIPMENT OR ITEMS: RELEASED TO BETHESDA NNMC STAFF FOR PROPER DISPOSAL RLF.	
REVIEWED BY:	DATE: 7-16-03

RADIOLOGICAL SURVEY REPORT

NWTS #: N/A

DATE: 7/14/03	INSTRUMENTATION USED				
TIME: 0800	MODEL	S/N	EFF.%	BKRD	CAL. DUE DATE
SURVEYOR: ROGER FREEMAN	2929	143876	a 41% b 20%	a 0.4 b 95.4	11/6/03
LOCATION: BETHESDA NNMC BLDG 150	3	131895	17%	50 CPM	3/25/04
REVIEWED BY: [signature]	44-9	151135	17%	50 CPM	3/25/04

Smear Locations Circled; Dose Rates = µR/hr

PURPOSE OF SURVEY: RELEASE SURVEY OF 21 LEAD "COLLARS" 1"X3", REMOVED FROM PIPING

PERFORMED 100% SCAN SURVEY, AND SUBSEQUENT SMEAR SURVEY OF 21 3" LEAD "COLLARS" WHICH WERE USED TO SEAL THE JOINTS OF THE REMOVED UNDERGROUND PIPING. "COLLARS" ARE 3" IN DIAMETER, 1" THICK, AND WEIGH APPROX 10-12 OZ. EACH.

ALL DIRECT SCANS WERE ≤ BACKGROUND

ALL SMEAR RESULTS LISTED IN RIGHT HAND COLUMN.

SMEAR RESULTS
RESULTS = DPM/100cm²
UNLESS NOTED

#	βγ	α
1	92	1
2	101	1
3	86	Ø
4	110	Ø
5	85	Ø
6	103	2
7	112	Ø
8	97	2
9	84	Ø
10	86	Ø

N/A

Remarks:

UNCONDITIONAL RELEASE OF EQUIPMENT OR ITEMS REPORT

NWTS #: N/A	DATE: 7/15/03
PROJECT/LOCATION: BETHESDA NNMC	
DESCRIPTION OF EQUIPMENT OR ITEMS: VARIOUS HAND TOOLS AND EQUIPMENT	

SURVEY EQUIPMENT:

MODEL NO: LUDLUM 2929	S/N: 143876	BKRD: a 0.4 b 95.4	EFF: a 41% b 20%	CAL DUE DATE: 11/6/03
MODEL NO: LUDLUM 3	S/N: 131895	BKRD: 50 CPM	EFF: 17%	CAL DUE DATE: 3/25/04
MODEL NO: LUDLUM 44-9	S/N: 115135	BKRD: 50 CPM	EFF: 17%	CAL DUE DATE: 3/25/04

CONTAMINATION LEVELS:

PLEASE SEE PAGE #2	Dpm/100 cm2 βγ	REMOVABLE	<1000 DPM/100CM2
RADIOLOGICAL SURVEY	Dpm/100 cm2 α	REMOVABLE	< 220 PPM/100CM2
REPORT	Dpm/100 cm βγ	FIXED	<1000 DPM/100CM2
	Dpm/100 cm2 α	FIXED	< 220 DPM/100CM2

THIS IS TO CERTIFY THAT THE ABOVE DESCRIBED EQUIPMENT OR ITEMS HAS BEEN SURVEYED AND FOUND TO BE WITHIN ACCEPTABLE SURFACE CONTAMINATION LEVELS FOR UNCONDITIONAL RELEASE AS REQUIRED BY NUCLEAR REGULATORY GUIDE 1.86.

HEALTH PHYSICS TECHNICIAN: ROGER L. FREEMAN	DATE/TIME: 7/15/03 @ 0900
DISPOSITION OF EQUIPMENT OR ITEMS: RETURNED TO NWT OFFICES	
REVIEWED BY:	DATE: 7-16-03

RADIOLOGICAL SURVEY REPORT

NWTS #: N/A

	INSTRUMENTATION USED				
DATE: 7/15/03					
TIME: 0900	MODEL	S/N	EFF.%	BKRD	CAL. DUE DATE
SURVEYOR: ROGER FREEMAN	2929	143876	9 13 41% 20%	9 13 0.4 95.4	11/6/03
LOCATION: BETHESDA NNMC	3	131895	17%	50 CPM	3/25/04
REVIEWED BY: [illegible]	44-9	151135	17%	50 CPM	3/25/04

Smear Locations Circled; Dose Rates = µR/hr

PURPOSE OF SURVEY: UNCONDITIONAL RELEASE OF VARIOUS HAND TOOLS AND EQUIPMENT

PERFORMED 100 % SCAN SURVEY, AND SUBSEQUENT ~~SMEAR~~ SMEAR RF SURVEY ON VARIOUS LIGHTS, CORDS, SAWS, LADDERS, AND HAND TOOLS USED DURING BLDG 150 REMEDIATION, POST DECON.

ALL SCANS = ≤ BACKGROUND.

SMEAR RESULTS IN RIGHT HAND COLUMN.

Remarks:

SMEAR RESULTS
RESULTS = DPM/100cm² UNLESS NOTED

#	βγ	α
1	92	Ø
2	92	1
3	104	Ø
4	101	Ø
5	114	Ø
6	83	Ø
7	102	Ø
8	90	2
9	99	Ø
10	87	Ø
11	90	2
12	89	1
13	95	Ø
14	101	Ø
15	103	Ø
16	86	1
17	90	Ø
18	98	Ø
19	93	1
20	86	1
21	81	Ø

RADIOLOGICAL SURVEY REPORT

NWTS #: N/A

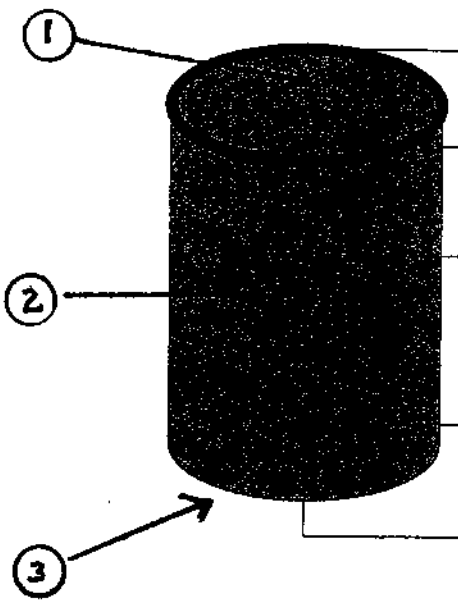
	INSTRUMENTATION USED				
DATE: 7-15-03					
TIME: 0900	MODEL	S/N	EFF.%	BKRD	CAL. DUE DATE
SURVEYOR: J. Ruprecht	Ludlum 19	138436	NA	12 μR/hr	8-30-03
LOCATION: Bethesda MD.	Ludlum 2929	143876	9 β 41% 20%	9 β 0.4 95.4	11/6/03
REVIEWED BY: [illegible]			N/A		

Smear Locations Circled; Dose Rates – mR/hr

PURPOSE OF SURVEY: SHIPPING SURVEY

DRUM ID NUMBER: Source Drum

DRUM GROSS WEIGHT: 20. LBS.



CONTACT	90 μR/hr.
1 METER	28 μR/hr.
CONTACT	70 μR/hr.
1 METER	23 μR/hr.
CONTACT	150 μR/hr.
1 METER	30 μR/hr.
CONTACT	110 μR/hr.
1 METER	30 μR/hr.
CONTACT	230 μR/hr.
1 METER	30 μR/hr.

SMEAR RESULTS
RESULTS = DPM/100cm^2
UNLESS NOTED

#	βγ	α
1	107	1
2	81	Ø
3	93	1

N A

Remarks: BACKGROUNDS GIVEN IN CPM

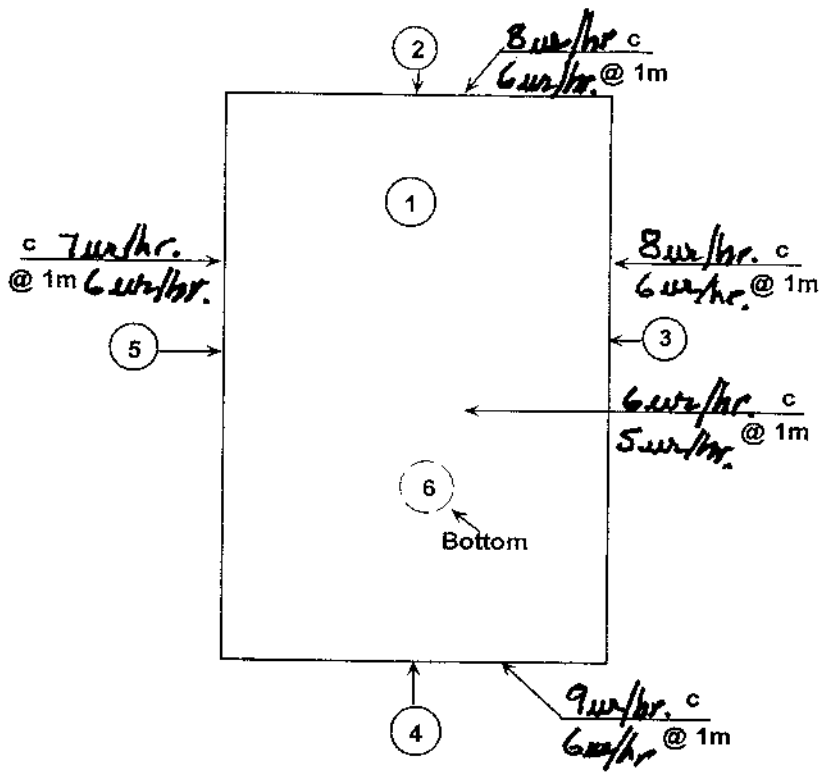
RADIOLOGICAL SURVEY REPORT

NWTS #: N/A

	INSTRUMENTATION USED				
DATE: 7 15 03					
TIME: 0800	MODEL	S/N	EFF.%	BKRD	CAL. DUE DATE
SURVEYOR: J. Ruppecht	Ludlum 19	138436	N/A	6 cpm	8 30-03
LOCATION: Bethesda MD.	Ludlum 2929	143876	a 4190 β 20%	a 0.4 β 95.4	11/6/03
REVIEWED BY: Dave Kay			N/A		

Smear Locations Circled; Dose Rates = μR/hr

PURPOSE OF SURVEY: Radiological Survey of B-25 Box 13-1513



SMEAR RESULTS
RESULTS = DPM/100cm^2
UNLESS NOTED

#	βγ	α
1	108	1
2	87	1
3	107	Ø
4	104	Ø
5	89	1
6	97	Ø

N/A

Remarks: C- Denotes Contact Dose Rate

@ 1 m Denotes 1 meter Dose Rate

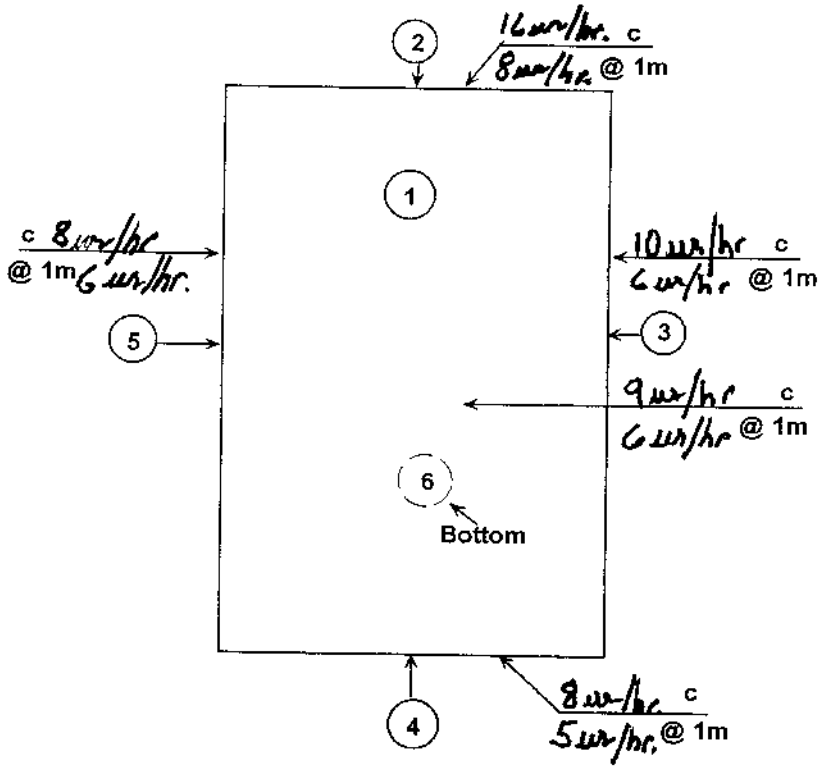
RADIOLOGICAL SURVEY REPORT

NWTS #: N/A

	INSTRUMENTATION USED				
DATE: 7-17-03	MODEL	S/N	EFF.%	BKRD	CAL. DUE DATE
TIME: 0730	LUDLUM 19	138436	NA	6 μr/hr.	8-30-03
SURVEYOR: Jn. Ruprecht	LUDLUM 2929	143876	α 41% β 20%	α 0.4 β 95.4	11/6/03
LOCATION: Bethesda MD.					
REVIEWED BY: [illegible]	←		N/A		→

Smear Locations Circled; Dose Rates = μR/hr

PURPOSE OF SURVEY: Radiological Survey of ~~B-25~~ Box 13-1438 12 RAP 7-15-03



SMEAR RESULTS
RESULTS = DPM/100cm^2
UNLESS NOTED

#	βγ	α
1	94	Ø
2	96	Ø
3	99	Ø
4	93	1
5	88	Ø
6	106	1

N/A

Remarks: C- Denotes Contact Dose Rate

@ 1 m Denotes 1 meter Dose Rate

APPENDIX Q

Building 150 Interior Trench Soil Sample Laboratory Data

Paragon Analytics, Inc.

Radiochemistry Case Narrative
Gamma Spectroscopy

New World Technology
Bethesda / GA00419

Paragon Work Order 0307081

1. This report consists of analysis results for thirteen soil samples received by Paragon on 7/15/03. The analysis results for these samples are reported on a 'dry weight' basis in units of pCi/gram.
2. These samples were prepared according to Paragon Analytics, Inc. procedure PAI SOP739R6.
3. The samples were analyzed for the presence of gamma emitting radionuclides according to Paragon Analytics, Inc. procedure PAI SOP713R8. The analyses were completed on 7/23/03.
4. Sample volumes were insufficient to allow preparation of duplicates. Duplicate analyses of samples Bldg 150 Room#1 Grid A-0, In Trench Grid B-11, and Inside Drain Pipe #1 (PAI ID 0307081-1, -11, and -12) were performed in lieu of a preparation duplicate.
5. Activity concentrations above the calculated MDC are reported in some instances where minimum nuclide identification criteria are not met. Such tentative identifications result when the software attempts to calculate net activity concentrations for analytes where either one or both of the following criteria are not satisfied: the 'diagnostic' peak for a nuclide must be identified above critical level (generally the most abundant, interference-free photopeak), or the minimum library peak tolerance of 75% must be attained. These data have been flagged with a "TI" qualifier.
6. In cases where Cd-109 is identified at a level greater than the MDC, it is assigned an "SI" flag denoting spectral interference at the 88 keV line. This interference occurs with the K_β x-ray of Pb, which occurs at an energy of 87 keV.
7. There are cases where the magnitude of the negative activity is greater than the 2-sigma TPU. The analyst's review of the data does not indicate a problem with the instrument data or the subsequent reporting systems. The data quality is believed to be unaffected and the results are submitted without qualification. Under typical conditions, where background level sample data is normally distributed and analyzed by paired observations, this event is likely to occur at least 2.5% of the time.
8. No problems were encountered with either the client samples or the associated quality control samples. All quality control criteria were met.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, Paragon Analytics, Inc. certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Radiochemistry Instrument Technician — Date: 7-25-03

Radiochemistry Final Data Review — Date

1

PARAGON ANALYTICS, INC.
Radiochemistry Data Package

Section 1

SAMPLE RESULTS SUMMARY

A summary report is not provided.

Please refer to the individual sample results data in Section 3.

2

PARAGON ANALYTICS, INC.

Radiochemistry Data Package

Section 2

QC RESULTS SUMMARY

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Reported on: Friday, July 25, 2003 15:56:00
Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID:
Lab ID: GS02158BLK1

Sample Matrix: Soil
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02158

Date Collected: 22-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030958D07A

Final Aliquot: 390.7
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	0.01 +/- 0.24	0.46	pCi/g	U
Ag-110m	0.030 +/- 0.046	0.078	pCi/g	U
Al-26	0.008 +/- 0.060	0.13	pCi/g	U
Am-241	0.030 +/- 0.056	0.097	pCi/g	U
Be-7	-0.08 +/- 0.34	0.69	pCi/g	U
Bi-212	-0.27 +/- 0.69	1.5	pCi/g	U
Bi-214	-0.03 +/- 0.13	0.25	pCi/g	U
Cd-109	-0.21 +/- 0.51	1.0	pCi/g	U
Ce-139	-0.027 +/- 0.027	0.057	pCi/g	U
Ce-144	0.18 +/- 0.18	0.27	pCi/g	U
Co-56	-0.040 +/- 0.089	0.20	pCi/g	U
Co-57	0.006 +/- 0.021	0.037	pCi/g	U
Co-58	-0.057 +/- 0.047	0.11	pCi/g	U
Co-60	0.019 +/- 0.038	0.071	pCi/g	U
Cr-51	0.20 +/- 0.29	0.48	pCi/g	U
Cs-134	-0.013 +/- 0.053	0.10	pCi/g	U
Cs-137	-0.019 +/- 0.053	0.11	pCi/g	U
Eu-152	0.05 +/- 0.29	0.57	pCi/g	U
Eu-154	0.00 +/- 0.26	0.55	pCi/g	U
Eu-155	0.022 +/- 0.079	0.14	pCi/g	U
Fe-59	-0.034 +/- 0.063	0.17	pCi/g	U
I-131	0.005 +/- 0.034	0.065	pCi/g	U
K-40	-0.51 +/- 0.56	1.4	pCi/g	U
Mn-54	0.032 +/- 0.039	0.059	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Friday, July 25, 2003 15:56:01

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID:
Lab ID: GS02158BLK1

Sample Matrix: Soil
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02158

Date Collected: 22-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030958D07A

Final Aliquot: 390.7
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier
Na-22	0.009 +/- 0.041	0.086	pCi/g	U
Nb-94	-0.049 +/- 0.056	0.12	pCi/g	U
Nb-95	0.011 +/- 0.047	0.089	pCi/g	U
Pa-234m	3.8 +/- 7.6	14	pCi/g	U
Pb-212	0.008 +/- 0.067	0.12	pCi/g	U
Pb-214	0.039 +/- 0.093	0.16	pCi/g	U
Ru-106	0.23 +/- 0.58	1.0	pCi/g	U
Sb-124	-0.007 +/- 0.050	0.097	pCi/g	U
Sb-125	-0.08 +/- 0.12	0.25	pCi/g	U
Sc-46	-0.027 +/- 0.051	0.11	pCi/g	U
Th-227	-0.07 +/- 0.22	0.43	pCi/g	U
Th-234	-0.25 +/- 0.39	0.77	pCi/g	U
Tl-208	0.017 +/- 0.048	0.087	pCi/g	U
U-235	0.18 +/- 0.20	0.32	pCi/g	U
Zn-65	-0.04 +/- 0.11	0.24	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Reported on: Friday, July 25, 2003 15:56:01
Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID:
Lab ID: GS02158BLK1

Sample Matrix: Soil
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02158

Date Collected: 22-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030958D07A

Final Aliquot: 390.7
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
B3 - Analyte concentration greater than MDC but less than Requested MDC.
B - Analyte concentration greater than MDC.

SQ - Spectral iquality prevents accurate quantitation.
SI - Nuclide identification and/or quantitation is tentative.
TI - Nuclide identification is tentative.
R - Nuclide has exceeded 8 halflives.

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

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Friday, July 25, 2003 15:56:02

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID:
Lab ID: GS02159BLK1

Sample Matrix: Solid
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02159

Date Collected: 22-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030599D04A

Final Aliquot: 339.0
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	0.03 +/- 0.18	0.35	pCi/g	U
Ag-110m	-0.005 +/- 0.038	0.077	pCi/g	U
Al-26	0.024 +/- 0.055	0.10	pCi/g	U
Am-241	-0.01 +/- 0.20	0.38	pCi/g	U
Be-7	-0.13 +/- 0.25	0.56	pCi/g	U
Bi-212	0.15 +/- 0.58	1.1	pCi/g	U
Bi-214	-0.029 +/- 0.100	0.20	pCi/g	U
Cd-109	0.20 +/- 0.83	1.5	pCi/g	U
Ce-139	0.010 +/- 0.025	0.045	pCi/g	U
Ce-144	-0.04 +/- 0.18	0.34	pCi/g	U
Co-56	-0.043 +/- 0.068	0.16	pCi/g	U
Co-57	0.002 +/- 0.020	0.037	pCi/g	U
Co-58	0.011 +/- 0.033	0.063	pCi/g	U
Co-60	0.013 +/- 0.045	0.086	pCi/g	U
Cr-51	-0.08 +/- 0.30	0.59	pCi/g	U
Cs-134	0.016 +/- 0.045	0.080	pCi/g	U
Cs-137	0.004 +/- 0.040	0.078	pCi/g	U
Eu-152	-0.13 +/- 0.21	0.52	pCi/g	U
Eu-154	-0.01 +/- 0.20	0.43	pCi/g	U
Eu-155	0.03 +/- 0.10	0.19	pCi/g	U
Fe-59	0.027 +/- 0.065	0.12	pCi/g	U
I-131	-0.004 +/- 0.043	0.082	pCi/g	U
K-40	-0.03 +/- 0.49	1.0	pCi/g	U
Mn-54	0.005 +/- 0.035	0.070	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Reported on: Friday, July 25, 2003 15:56:02
Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID:
Lab ID: GS02159BLK1

Sample Matrix: Solid
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02159

Date Collected: 22-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030599D04A

Final Aliquot: 339.0
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier
Na-22	-0.037 +/- 0.040	0.10	pCi/g	U
Nb-94	-0.014 +/- 0.050	0.099	pCi/g	U
Nb-95	-0.005 +/- 0.039	0.080	pCi/g	U
Pa-234m	1.9 +/- 5.3	10	pCi/g	U
Pb-212	0.065 +/- 0.066	0.10	pCi/g	U
Pb-214	0.111 +/- 0.091	0.13	pCi/g	U
Ru-106	-0.23 +/- 0.38	0.81	pCi/g	U
Sb-124	0.003 +/- 0.044	0.083	pCi/g	U
Sb-125	0.00 +/- 0.11	0.21	pCi/g	U
Sc-46	0.039 +/- 0.034	0.041	pCi/g	U
Th-227	-0.19 +/- 0.25	0.49	pCi/g	U
Th-234	-0.02 +/- 0.54	0.99	pCi/g	U
Tl-208	-0.015 +/- 0.046	0.093	pCi/g	U
U-235	-0.03 +/- 0.19	0.36	pCi/g	U
Zn-65	-0.040 +/- 0.070	0.17	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Friday, July 25, 2003 15:56:02

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID:
Lab ID: GS02159BLK1

Sample Matrix: Solid
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02159

Date Collected: 22-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030599D04A

Final Aliquot: 339.0
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
B3 - Analyte concentration greater than MDC but less than Requested MDC.
B - Analyte concentration greater than MDC.

SQ - Spectral iquality prevents accurate quantitation.
SI - Nuclide identification and/or quantitation is tentative.
TI - Nuclide identification is tentative.
R - Nuclide has exceeded 8 halflives.

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

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

LCS Results

Reported on: Friday, July 25, 2003 15:56:01

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID:
Lab ID: GS02158LCS1

Sample Matrix: Soil
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02158

Date Collected: 22-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 031029D08A

Final Aliquot: 500.0
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	LCS Results +/- 2s TPU	MDC	Spike Added	Reporting Units	LCS Recovery	Control Limits	Lab Qualifier
Am-241	209 +/- 34	1.3	196	pCi/g	106%	85-115%	P
Cd-109	830 +/- 140	7.3	775	pCi/g	107%	85-115%	P
Co-60	95 +/- 16	0.31	92.4	pCi/g	103%	85-115%	P
Cs-137	86 +/- 14	0.53	80.3	pCi/g	107%	85-115%	P

Comments:

Data Package ID: *GSS0307081-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
* - Duplicate DER not within control limits.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS Recovery within control limits.

Abbreviations:

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

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.

Gamma Spectroscopy Results

Method PAI 713R8

LCS Results

Reported on: Friday, July 25, 2003 15:56:02

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID:
Lab ID: GS02159LCS1

Sample Matrix: Solid
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02159

Date Collected: 22-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030956D07A

Final Aliquot: 500.0
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	LCS Results +/- 2s TPU	MDC	Spike Added	Reporting Units	LCS Recovery	Control Limits	Lab Qualifier
Am-241	204 +/- 34	1.3	196	pCi/g	104%	85-115%	P
Cd-109	800 +/- 130	7.2	775	pCi/g	103%	85-115%	P
Co-60	97 +/- 16	0.35	92.4	pCi/g	105%	85-115%	P
Cs-137	84 +/- 14	0.64	80.3	pCi/g	104%	85-115%	P

Comments:

Data Package ID: *GSS0307081-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
* - Duplicate DER not within control limits.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS Recovery within control limits.

Abbreviations:

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

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.

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Friday, July 25, 2003 15:55:56

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID:	Bldg 150 Room#1 Grid A-0	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID:	0307081-1	7/22/03	7/23/03	GS02158	430.7
DUP ID:	0307081-1-D1	7/22/03	7/23/03	GS02158	430.7

Sample Matrix: Soil
Date Collected: 08-Jul-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Ac-228	1.36 +/- 0.35	1.40 +/- 0.31	pCi/g	0.09	< 1.42	
Ag-110m	-0.012 +/- 0.061	-0.020 +/- 0.041	pCi/g	0.11	< 1.42	
Al-26	0.013 +/- 0.054	-0.015 +/- 0.039	pCi/g	0.43	< 1.42	
Am-241	0.06 +/- 0.11	-0.07 +/- 0.21	pCi/g	0.52	< 1.42	
Be-7	-0.24 +/- 0.46	-0.11 +/- 0.39	pCi/g	0.22	< 1.42	
Bi-212	1.28 +/- 0.94	1.14 +/- 0.91	pCi/g	0.1	< 1.42	
Bi-214	0.77 +/- 0.23	0.57 +/- 0.17	pCi/g	0.71	< 1.42	
Cd-109	2.1 +/- 1.2	1.0 +/- 1.4	pCi/g	0.57	< 1.42	
Ce-139	-0.010 +/- 0.044	0.014 +/- 0.038	pCi/g	0.41	< 1.42	
Ce-144	0.11 +/- 0.29	0.13 +/- 0.25	pCi/g	0.05	< 1.42	
Co-56	-0.01 +/- 0.13	0.070 +/- 0.097	pCi/g	0.53	< 1.42	
Co-57	-0.012 +/- 0.038	-0.018 +/- 0.033	pCi/g	0.11	< 1.42	
Co-58	-0.023 +/- 0.054	-0.074 +/- 0.045	pCi/g	0.72	< 1.42	
Co-60	0.028 +/- 0.065	0.009 +/- 0.046	pCi/g	0.24	< 1.42	
Cr-51	-0.02 +/- 0.59	0.05 +/- 0.38	pCi/g	0.1	< 1.42	
Cs-134	0.011 +/- 0.055	0.049 +/- 0.044	pCi/g	0.53	< 1.42	
Cs-137	0.013 +/- 0.062	-0.013 +/- 0.045	pCi/g	0.33	< 1.42	
Eu-152	0.10 +/- 0.27	0.00 +/- 0.23	pCi/g	0.28	< 1.42	
Eu-154	-0.09 +/- 0.34	-0.11 +/- 0.26	pCi/g	0.05	< 1.42	
Eu-155	0.03 +/- 0.16	0.11 +/- 0.15	pCi/g	0.36	< 1.42	
Fe-59	0.00 +/- 0.13	-0.10 +/- 0.11	pCi/g	0.59	< 1.42	
I-131	0.03 +/- 0.16	0.02 +/- 0.13	pCi/g	0.04	< 1.42	
K-40	15.1 +/- 3.3	14.6 +/- 2.8	pCi/g	0.12	< 1.42	
Mn-54	0.002 +/- 0.048	-0.003 +/- 0.049	pCi/g	0.07	< 1.42	
Na-22	0.020 +/- 0.064	-0.043 +/- 0.056	pCi/g	0.74	< 1.42	
Nb-94	0.013 +/- 0.065	0.033 +/- 0.041	pCi/g	0.27	< 1.42	
Nb-95	0.061 +/- 0.077	0.010 +/- 0.050	pCi/g	0.55	< 1.42	
Pa-234m	9.3 +/- 9.6	7.9 +/- 7.1	pCi/g	0.11	< 1.42	

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Friday, July 25, 2003 15:55:57

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

		Prep Date	Analysis Date	Prep Batch	Final Aliquot
Field ID:	Bldg 150 Room#1 Grid A-0				
Lab ID:	0307081-1	7/22/03	7/23/03	GS02158	430.7
DUP ID:	0307081-1-D1	7/22/03	7/23/03	GS02158	430.7

Sample Matrix: Soil
Date Collected: 08-Jul-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Pb-212	1.42 +/- 0.29	1.37 +/- 0.26	pCi/g	0.14	< 1.42	
Pb-214	0.63 +/- 0.17	0.68 +/- 0.15	pCi/g	0.2	< 1.42	
Ru-106	-0.12 +/- 0.50	0.00 +/- 0.41	pCi/g	0.18	< 1.42	
Sb-124	-0.048 +/- 0.064	0.025 +/- 0.050	pCi/g	0.9	< 1.42	
Sb-125	0.10 +/- 0.12	-0.01 +/- 0.11	pCi/g	0.68	< 1.42	
Sc-46	-0.112 +/- 0.068	-0.038 +/- 0.046	pCi/g	0.91	< 1.42	
Th-227	-0.23 +/- 0.32	0.8 +/- 6.6	pCi/g	0.15	< 1.42	
Th-234	1.42 +/- 0.68	0.66 +/- 0.76	pCi/g	0.74	< 1.42	
Tl-208	0.45 +/- 0.13	0.43 +/- 0.10	pCi/g	0.12	< 1.42	
U-235	-0.22 +/- 0.32	0.08 +/- 0.26	pCi/g	0.76	< 1.42	
Zn-65	0.05 +/- 0.14	-0.07 +/- 0.13	pCi/g	0.59	< 1.42	

Comments:

Qualifiers/Flags:

W - DER is greater than Warning Limit of 1.42

H - DER is Higher han Control Limit of 2.13

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

DER - Duplicate Error Ratio

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Friday, July 25, 2003 15:55:57

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

		Prep Date	Analysis Date	Prep Batch	Final Aliquot
Field ID:	In Trench Grid B-11				
Lab ID:	0307081-11	7/22/03	7/23/03	GS02158	401.6
DUP ID:	0307081-11-D1	7/22/03	7/23/03	GS02158	401.6

Sample Matrix: Soil
Date Collected: 14-Jul-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Ac-228	1.20 +/- 0.29	1.20 +/- 0.32	pCi/g	0	< 1.42	
Ag-110m	-0.019 +/- 0.044	0.013 +/- 0.051	pCi/g	0.48	< 1.42	
Al-26	0.016 +/- 0.037	-0.006 +/- 0.045	pCi/g	0.37	< 1.42	
Am-241	0.13 +/- 0.19	-0.19 +/- 0.35	pCi/g	0.81	< 1.42	
Be-7	-0.06 +/- 0.37	0.09 +/- 0.51	pCi/g	0.25	< 1.42	
Bi-212	0.67 +/- 0.58	0.8 +/- 1.1	pCi/g	0.1	< 1.42	
Bi-214	0.82 +/- 0.21	0.85 +/- 0.25	pCi/g	0.08	< 1.42	
Cd-109	1.2 +/- 1.0	1.0 +/- 1.7	pCi/g	0.09	< 1.42	
Ce-139	-0.002 +/- 0.036	0.018 +/- 0.045	pCi/g	0.35	< 1.42	
Ce-144	-0.11 +/- 0.26	-0.06 +/- 0.30	pCi/g	0.13	< 1.42	
Co-56	0.11 +/- 0.11	0.03 +/- 0.14	pCi/g	0.47	< 1.42	
Co-57	0.013 +/- 0.034	0.002 +/- 0.039	pCi/g	0.23	< 1.42	
Co-58	-0.036 +/- 0.049	0.000 +/- 0.060	pCi/g	0.47	< 1.42	
Co-60	0.085 +/- 0.057	0.100 +/- 0.072	pCi/g	0.16	< 1.42	
Cr-51	0.07 +/- 0.38	-0.03 +/- 0.49	pCi/g	0.15	< 1.42	
Cs-134	0.29 +/- 0.57	0.041 +/- 0.057	pCi/g	0.44	< 1.42	
Cs-137	0.028 +/- 0.048	-0.028 +/- 0.056	pCi/g	0.76	< 1.42	
Eu-152	0.08 +/- 0.21	-0.12 +/- 0.28	pCi/g	0.58	< 1.42	
Eu-154	-0.13 +/- 0.27	0.22 +/- 0.36	pCi/g	0.8	< 1.42	
Eu-155	0.04 +/- 0.13	0.03 +/- 0.19	pCi/g	0.04	< 1.42	
Fe-59	-0.01 +/- 0.11	-0.02 +/- 0.12	pCi/g	0.07	< 1.42	
I-131	0.006 +/- 0.084	0.01 +/- 0.10	pCi/g	0	< 1.42	
K-40	16.0 +/- 3.0	14.7 +/- 3.1	pCi/g	0.31	< 1.42	
Mn-54	0.006 +/- 0.053	-0.028 +/- 0.064	pCi/g	0.41	< 1.42	
Na-22	-0.004 +/- 0.056	-0.006 +/- 0.055	pCi/g	0.03	< 1.42	
Nb-94	-0.025 +/- 0.048	-0.044 +/- 0.062	pCi/g	0.24	< 1.42	
Nb-95	0.002 +/- 0.050	0.023 +/- 0.065	pCi/g	0.25	< 1.42	
Pa-234m	-3.4 +/- 7.5	5 +/- 10	pCi/g	0.67	< 1.42	

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Friday, July 25, 2003 15:55:57

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307081

Field ID:	In Trench Grid B-11	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID:	0307081-11	7/22/03	7/23/03	GS02158	401.6
DUP ID:	0307081-11-D1	7/22/03	7/23/03	GS02158	401.6

Sample Matrix: Soil
Date Collected: 14-Jul-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Pb-212	1.45 +/- 0.27	1.54 +/- 0.31	pCi/g	0.21	< 1.42	
Pb-214	0.63 +/- 0.16	0.65 +/- 0.18	pCi/g	0.08	< 1.42	
Ru-106	0.17 +/- 0.44	0.16 +/- 0.44	pCi/g	0.01	< 1.42	
Sb-124	0.027 +/- 0.045	0.045 +/- 0.062	pCi/g	0.24	< 1.42	
Sb-125	0.011 +/- 0.100	0.06 +/- 0.14	pCi/g	0.31	< 1.42	
Sc-46	-0.008 +/- 0.050	-0.056 +/- 0.061	pCi/g	0.61	< 1.42	
Th-227	-1.02 +/- 0.47	-0.22 +/- 0.54	pCi/g	1.12	< 1.42	
Th-234	1.37 +/- 0.80	1.0 +/- 1.1	pCi/g	0.28	< 1.42	
Tl-208	0.43 +/- 0.10	0.49 +/- 0.13	pCi/g	0.39	< 1.42	
U-235	-0.09 +/- 0.26	0.22 +/- 0.31	pCi/g	0.76	< 1.42	
Zn-65	0.26 +/- 0.22	-0.06 +/- 0.14	pCi/g	1.23	< 1.42	

Comments:

Qualifiers/Flags:

W - DER is greater than Warning Limit of 1.42

H - DER is Higher han Control Limit of 2.13

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

DER - Duplicate Error Ratio

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Friday, July 25, 2003 15:56:01

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID:	Inside Drain Pipe #1	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID:	0307081-12	7/22/03	7/23/03	GS02159	348.2
DUP ID:	0307081-12-D1	7/22/03	7/23/03	GS02159	348.2

Sample Matrix: Solid
Date Collected: 14-Jul-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Ac-228	0.23 +/- 0.77	0.3 +/- 1.0	pCi/g	0.05	< 1.42	
Ag-110m	0.10 +/- 0.18	0.03 +/- 0.17	pCi/g	0.29	< 1.42	
Al-26	0.038 +/- 0.078	-0.038 +/- 0.093	pCi/g	0.62	< 1.42	
Am-241	0.34 +/- 0.39	-0.1 +/- 1.0	pCi/g	0.4	< 1.42	
Be-7	-0.34 +/- 0.96	0.3 +/- 1.3	pCi/g	0.37	< 1.42	
Bi-212	-0.5 +/- 2.0	-0.9 +/- 2.8	pCi/g	0.11	< 1.42	
Bi-214	0.06 +/- 0.23	0.19 +/- 0.36	pCi/g	0.31	< 1.42	
Cd-109	-0.8 +/- 2.1	1.9 +/- 3.1	pCi/g	0.71	< 1.42	
Ce-139	-0.022 +/- 0.071	-0.006 +/- 0.090	pCi/g	0.13	< 1.42	
Ce-144	0.36 +/- 0.47	-0.13 +/- 0.64	pCi/g	0.62	< 1.42	
Co-56	0.01 +/- 0.18	0.16 +/- 0.23	pCi/g	0.48	< 1.42	
Co-57	0.008 +/- 0.063	-0.026 +/- 0.081	pCi/g	0.33	< 1.42	
Co-58	0.03 +/- 0.17	-0.21 +/- 0.25	pCi/g	0.8	< 1.42	
Co-60	34.3 +/- 5.7	33.8 +/- 5.6	pCi/g	0.06	< 1.42	
Cr-51	-0.07 +/- 0.88	0.5 +/- 1.3	pCi/g	0.36	< 1.42	
Cs-134	0.01 +/- 0.16	-0.01 +/- 0.17	pCi/g	0.1	< 1.42	
Cs-137	2.02 +/- 0.39	2.38 +/- 0.49	pCi/g	0.58	< 1.42	
Eu-152	0.24 +/- 0.38	-0.09 +/- 0.39	pCi/g	0.6	< 1.42	
Eu-154	0.2 +/- 1.1	-0.3 +/- 1.4	pCi/g	0.29	< 1.42	
Eu-155	0.03 +/- 0.27	-0.15 +/- 0.36	pCi/g	0.41	< 1.42	
Fe-59	-0.08 +/- 0.42	-0.03 +/- 0.55	pCi/g	0.08	< 1.42	
I-131	0.02 +/- 0.20	0.19 +/- 0.30	pCi/g	0.47	< 1.42	
K-40	4.5 +/- 1.3	2.9 +/- 1.5	pCi/g	0.8	< 1.42	
Mn-54	-0.17 +/- 0.17	0.11 +/- 0.23	pCi/g	0.99	< 1.42	
Na-22	0.06 +/- 0.10	0.01 +/- 0.12	pCi/g	0.28	< 1.42	
Nb-94	-0.02 +/- 0.12	-0.08 +/- 0.17	pCi/g	0.27	< 1.42	
Nb-95	0.01 +/- 0.15	-0.05 +/- 0.22	pCi/g	0.21	< 1.42	
Pa-234m	-13 +/- 33	-47 +/- 46	pCi/g	0.6	< 1.42	

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Friday, July 25, 2003 15:56:01

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID:	Inside Drain Pipe #1	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID:	0307081-12	7/22/03	7/23/03	GS02159	348.2
DUP ID:	0307081-12-D1	7/22/03	7/23/03	GS02159	348.2

Sample Matrix: Solid
Date Collected: 14-Jul-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Pb-212	0.30 +/- 0.21	0.25 +/- 0.17	pCi/g	0.18	< 1.42	
Pb-214	0.14 +/- 0.14	0.44 +/- 0.34	pCi/g	0.8	< 1.42	
Ru-106	0.0 +/- 1.2	0.5 +/- 1.6	pCi/g	0.23	< 1.42	
Sb-124	0.08 +/- 0.12	0.01 +/- 0.19	pCi/g	0.32	< 1.42	
Sb-125	0.09 +/- 0.30	-0.04 +/- 0.41	pCi/g	0.26	< 1.42	
Sc-46	-0.03 +/- 0.20	-0.18 +/- 0.29	pCi/g	0.44	< 1.42	
Th-227	-0.21 +/- 0.98	0.36 +/- 0.79	pCi/g	0.45	< 1.42	
Th-234	0.5 +/- 1.2	-0.2 +/- 1.8	pCi/g	0.33	< 1.42	
Tl-208	0.11 +/- 0.10	-0.04 +/- 0.18	pCi/g	0.75	< 1.42	
U-235	-0.32 +/- 0.46	0.18 +/- 0.59	pCi/g	0.67	< 1.42	
Zn-65	0.02 +/- 0.41	0.51 +/- 0.54	pCi/g	0.73	< 1.42	

Comments:

Qualifiers/Flags:

W - DER is greater than Warning Limit of 1.42

H - DER is Higher han Control Limit of 2.13

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

DER - Duplicate Error Ratio

Data Package ID: *GSS0307081-1*

PARAGON ANALYTICS, INC.
Radiochemistry Data Package

3

Section 3

INDIVIDUAL SAMPLE RESULTS

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:55:56

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307081

Field ID: Bldg 150 Room#1 Grid A-0

Lab ID: 0307081-1

Sample Matrix: Soil
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02158

Date Collected: 08-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 031027D08A

Final Aliquot: 430.7 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.36 +/- 0.35	0.38	pCi/g	
Ag-110m	-0.012 +/- 0.061	0.11	pCi/g	U
Al-26	0.013 +/- 0.054	0.10	pCi/g	U
Am-241	0.06 +/- 0.11	0.18	pCi/g	U
Be-7	-0.24 +/- 0.46	0.90	pCi/g	U
Bi-212	1.28 +/- 0.94	1.4	pCi/g	U
Bi-214	0.77 +/- 0.23	0.24	pCi/g	
Cd-109	2.1 +/- 1.2	1.8	pCi/g	SI
Ce-139	-0.010 +/- 0.044	0.079	pCi/g	U
Ce-144	0.11 +/- 0.29	0.50	pCi/g	U
Co-56	-0.01 +/- 0.13	0.24	pCi/g	U
Co-57	-0.012 +/- 0.038	0.068	pCi/g	U
Co-58	-0.023 +/- 0.054	0.11	pCi/g	U
Co-60	0.028 +/- 0.065	0.12	pCi/g	U
Cr-51	-0.02 +/- 0.59	1.1	pCi/g	U
Cs-134	0.011 +/- 0.055	0.098	pCi/g	U
Cs-137	0.013 +/- 0.062	0.11	pCi/g	U
Eu-152	0.10 +/- 0.27	0.49	pCi/g	U
Eu-154	-0.09 +/- 0.34	0.67	pCi/g	U
Eu-155	0.03 +/- 0.16	0.27	pCi/g	U
Fe-59	0.00 +/- 0.13	0.25	pCi/g	U
I-131	0.03 +/- 0.16	0.29	pCi/g	U
K-40	15.1 +/- 3.3	1.0	pCi/g	
Mn-54	0.002 +/- 0.048	0.092	pCi/g	U
Na-22	0.020 +/- 0.064	0.12	pCi/g	U
Nb-94	0.013 +/- 0.065	0.12	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:55:56

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307081

Field ID: Bldg 150 Room#1 Grid A-0

Lab ID: 0307081-1

Sample Matrix: Soil

Date Prepared: 22-Jul-03

Prep SOP: PAI 739R6

Prep Batch: GS02158

Date Collected: 08-Jul-03

Date Analyzed: 23-Jul-03

Analytical SOP: PAI 713R8

Spectrum Code: 031027D08A

Final Aliquot: 430.7 g

Report Basis: Dry Weight

Count Time (min.): 30

Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.061 +/- 0.077	0.13	pCi/g	U
Pa-234m	9.3 +/- 9.6	15	pCi/g	U
Pb-212	1.42 +/- 0.29	0.16	pCi/g	
Pb-214	0.63 +/- 0.17	0.20	pCi/g	
Ru-106	-0.12 +/- 0.50	0.96	pCi/g	U
Sb-124	-0.048 +/- 0.064	0.13	pCi/g	U
Sb-125	0.10 +/- 0.12	0.21	pCi/g	U
Sc-46	-0.112 +/- 0.068	0.15	pCi/g	U
Th-227	-0.23 +/- 0.32	0.60	pCi/g	U
Th-234	1.42 +/- 0.68	1.4	pCi/g	
Tl-208	0.45 +/- 0.13	0.11	pCi/g	
U-235	-0.22 +/- 0.32	0.58	pCi/g	U
Zn-65	0.05 +/- 0.14	0.26	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Friday, July 25, 2003 15:55:56

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307081

Field ID: Bldg 150 Room#1 Grid A-0

Lab ID: 0307081-1-D1

Sample Matrix: Soil

Date Prepared: 22-Jul-03

Prep SOP: PAI 739R6

Prep Batch: GS02158

Date Collected: 08-Jul-03

Date Analyzed: 23-Jul-03

Analytical SOP: PAI 713R8

Spectrum Code: 031096D01A

Final Aliquot: 430.7

Aliquot Units: g

Report Basis: Dry Weight

Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.40 +/- 0.31	0.28	pCi/g	
Ag-110m	-0.020 +/- 0.041	0.075	pCi/g	U
Al-26	-0.015 +/- 0.039	0.075	pCi/g	U
Am-241	-0.07 +/- 0.21	0.38	pCi/g	U
Be-7	-0.11 +/- 0.39	0.69	pCi/g	U
Bi-212	1.14 +/- 0.91	1.4	pCi/g	U
Bi-214	0.57 +/- 0.17	0.19	pCi/g	
Cd-109	1.0 +/- 1.4	2.2	pCi/g	U
Ce-139	0.014 +/- 0.038	0.065	pCi/g	U
Ce-144	0.13 +/- 0.25	0.42	pCi/g	U
Co-56	0.070 +/- 0.097	0.16	pCi/g	U
Co-57	-0.018 +/- 0.033	0.057	pCi/g	U
Co-58	-0.074 +/- 0.045	0.088	pCi/g	U
Co-60	0.009 +/- 0.046	0.080	pCi/g	U
Cr-51	0.05 +/- 0.38	0.67	pCi/g	U
Cs-134	0.049 +/- 0.044	0.091	pCi/g	U
Cs-137	-0.013 +/- 0.045	0.081	pCi/g	U
Eu-152	0.00 +/- 0.23	0.42	pCi/g	U
Eu-154	-0.11 +/- 0.26	0.47	pCi/g	U
Eu-155	0.11 +/- 0.15	0.25	pCi/g	U
Fe-59	-0.10 +/- 0.11	0.21	pCi/g	U
I-131	0.02 +/- 0.13	0.22	pCi/g	U
K-40	14.6 +/- 2.8	1.2	pCi/g	
Mn-54	-0.003 +/- 0.049	0.086	pCi/g	U
Na-22	-0.043 +/- 0.056	0.10	pCi/g	U
Nb-94	0.033 +/- 0.041	0.067	pCi/g	U
Nb-95	0.010 +/- 0.050	0.087	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Friday, July 25, 2003 15:55:57

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID: Bldg 150 Room#1 Grid A-0
Lab ID: 0307081-1-D1

Sample Matrix: Soil
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02158

Date Collected: 08-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 031096D01A

Final Aliquot: 430.7
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Pa-234m	7.9 +/- 7.1	11	pCi/g	U
Pb-212	1.37 +/- 0.26	0.15	pCi/g	
Pb-214	0.68 +/- 0.15	0.15	pCi/g	
Ru-106	0.00 +/- 0.41	0.71	pCi/g	U
Sb-124	0.025 +/- 0.050	0.083	pCi/g	U
Sb-125	-0.01 +/- 0.11	0.20	pCi/g	U
Sc-46	-0.038 +/- 0.046	0.086	pCi/g	U
Th-227	0.8 +/- 6.6	11	pCi/g	U
Th-234	0.66 +/- 0.76	1.2	pCi/g	U
Tl-208	0.43 +/- 0.10	0.085	pCi/g	
U-235	0.08 +/- 0.26	0.43	pCi/g	U
Zn-65	-0.07 +/- 0.13	0.24	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Friday, July 25, 2003 15:55:57

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307081

Field ID: Bldg 150 Room#1 Grid A-0

Lab ID: 0307081-1-D1

Sample Matrix: Soil

Date Prepared: 22-Jul-03

Prep SOP: PAI 739R6

Prep Batch: GS02158

Date Collected: 08-Jul-03

Date Analyzed: 23-Jul-03

Analytical SOP: PAI 713R8

Spectrum Code: 031096D01A

Final Aliquot: 430.7

Aliquot Units: g

Report Basis: Dry Weight

Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier

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.

* - Duplicate DER not within control limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:55:58

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307081

Field ID: Bldg 150 Room#1 Grid B-0

Lab ID: 0307081-2

Sample Matrix: Soil

Date Prepared: 22-Jul-03

Prep SOP: PAI 739R6

Prep Batch: GS02158

Date Collected: 08-Jul-03

Date Analyzed: 23-Jul-03

Analytical SOP: PAI 713R8

Spectrum Code: 030947D10A

Final Aliquot: 375.0 g

Report Basis: Dry Weight

Count Time (min.): 30

Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.16 +/- 0.29	0.38	pCi/g	
Ag-110m	-0.005 +/- 0.045	0.080	pCi/g	U
Al-26	0.016 +/- 0.047	0.083	pCi/g	U
Am-241	0.18 +/- 0.19	0.31	pCi/g	U
Be-7	0.08 +/- 0.40	0.70	pCi/g	U
Bi-212	0.80 +/- 0.72	1.1	pCi/g	U
Bi-214	0.68 +/- 0.19	0.22	pCi/g	
Cd-109	0.8 +/- 1.2	1.9	pCi/g	U
Ce-139	0.008 +/- 0.037	0.063	pCi/g	U
Ce-144	-0.07 +/- 0.26	0.46	pCi/g	U
Co-56	0.16 +/- 0.11	0.17	pCi/g	U
Co-57	-0.014 +/- 0.035	0.062	pCi/g	U
Co-58	0.002 +/- 0.054	0.096	pCi/g	U
Co-60	0.019 +/- 0.057	0.099	pCi/g	U
Cr-51	-0.18 +/- 0.45	0.80	pCi/g	U
Cs-134	0.14 +/- 0.51	0.84	pCi/g	U
Cs-137	-0.017 +/- 0.049	0.088	pCi/g	U
Eu-152	0.08 +/- 0.28	0.49	pCi/g	U
Eu-154	0.17 +/- 0.31	0.52	pCi/g	U
Eu-155	0.07 +/- 0.13	0.22	pCi/g	U
Fe-59	-0.07 +/- 0.13	0.23	pCi/g	U
I-131	0.05 +/- 0.12	0.21	pCi/g	U
K-40	13.3 +/- 2.6	1.4	pCi/g	
Mn-54	-0.001 +/- 0.051	0.090	pCi/g	U
Na-22	-0.003 +/- 0.058	0.10	pCi/g	U
Nb-94	0.012 +/- 0.044	0.076	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:55:58

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307081

Field ID: Bldg 150 Room#1 Grid B-0

Lab ID: 0307081-2

Sample Matrix: Soil

Date Prepared: 22-Jul-03

Prep SOP: PAI 739R6

Prep Batch: GS02158

Date Collected: 08-Jul-03

Date Analyzed: 23-Jul-03

Analytical SOP: PAI 713R8

Spectrum Code: 030947D10A

Final Aliquot: 375.0 g

Report Basis: Dry Weight

Count Time (min.): 30

Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.030 +/- 0.058	0.097	pCi/g	U
Pa-234m	1.1 +/- 8.9	16	pCi/g	U
Pb-212	1.18 +/- 0.24	0.15	pCi/g	
Pb-214	0.72 +/- 0.17	0.20	pCi/g	
Ru-106	0.01 +/- 0.48	0.84	pCi/g	U
Sb-124	-0.004 +/- 0.052	0.091	pCi/g	U
Sb-125	-0.09 +/- 0.12	0.22	pCi/g	U
Sc-46	-0.031 +/- 0.059	0.11	pCi/g	U
Th-227	-0.70 +/- 0.49	0.88	pCi/g	U
Th-234	1.25 +/- 0.91	1.4	pCi/g	U
Tl-208	0.358 +/- 0.096	0.097	pCi/g	
U-235	-0.17 +/- 0.28	0.50	pCi/g	U
Zn-65	0.11 +/- 0.22	0.37	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:55:58

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID: Bldg 150 Room#1 Grid B-1
Lab ID: 0307081-3

Sample Matrix: Soil
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02158

Date Collected: 08-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 031003D02A

Final Aliquot: 399.8 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.07 +/- 0.30	0.42	pCi/g	
Ag-110m	0.047 +/- 0.053	0.085	pCi/g	U
Al-26	-0.002 +/- 0.041	0.090	pCi/g	U
Am-241	0.32 +/- 0.53	0.88	pCi/g	U
Be-7	-0.24 +/- 0.41	0.83	pCi/g	U
Bi-212	1.33 +/- 0.80	1.0	pCi/g	TI
Bi-214	0.62 +/- 0.20	0.19	pCi/g	
Cd-109	2.4 +/- 1.9	2.9	pCi/g	U
Ce-139	-0.009 +/- 0.043	0.077	pCi/g	U
Ce-144	-0.06 +/- 0.30	0.54	pCi/g	U
Co-56	0.22 +/- 0.13	0.15	pCi/g	TI
Co-57	0.013 +/- 0.040	0.069	pCi/g	U
Co-58	-0.030 +/- 0.057	0.12	pCi/g	U
Co-60	0.072 +/- 0.071	0.11	pCi/g	U
Cr-51	0.00 +/- 0.53	0.97	pCi/g	U
Cs-134	-0.037 +/- 0.052	0.10	pCi/g	U
Cs-137	0.009 +/- 0.061	0.11	pCi/g	U
Eu-152	-0.14 +/- 0.20	0.48	pCi/g	U
Eu-154	-0.17 +/- 0.25	0.55	pCi/g	U
Eu-155	0.16 +/- 0.18	0.28	pCi/g	U
Fe-59	-0.07 +/- 0.12	0.25	pCi/g	U
I-131	0.08 +/- 0.16	0.27	pCi/g	U
K-40	16.5 +/- 3.4	0.82	pCi/g	
Mn-54	0.004 +/- 0.061	0.11	pCi/g	U
Na-22	0.027 +/- 0.057	0.100	pCi/g	U
Nb-94	0.037 +/- 0.055	0.092	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:55:58

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307081

Field ID: Bldg 150 Room#1 Grid B-1

Lab ID: 0307081-3

Sample Matrix: Soil

Date Prepared: 22-Jul-03

Prep SOP: PAI 739R6

Prep Batch: GS02158

Date Collected: 08-Jul-03

Date Analyzed: 23-Jul-03

Analytical SOP: PAI 713R8

Spectrum Code: 031003D02A

Final Aliquot: 399.8 g

Report Basis: Dry Weight

Count Time (min.): 30

Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.023 +/- 0.071	0.12	pCi/g	U
Pa-234m	3.5 +/- 7.9	14	pCi/g	U
Pb-212	1.38 +/- 0.29	0.18	pCi/g	
Pb-214	0.76 +/- 0.20	0.20	pCi/g	
Ru-106	0.12 +/- 0.55	0.98	pCi/g	U
Sb-124	0.000 +/- 0.060	0.11	pCi/g	U
Sb-125	0.06 +/- 0.14	0.26	pCi/g	U
Sc-46	-0.008 +/- 0.056	0.11	pCi/g	U
Th-227	0.06 +/- 0.30	0.53	pCi/g	U
Th-234	1.0 +/- 1.2	2.0	pCi/g	U
Tl-208	0.46 +/- 0.13	0.11	pCi/g	
U-235	-0.08 +/- 0.30	0.54	pCi/g	U
Zn-65	-0.15 +/- 0.14	0.30	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:55:58

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307081

Field ID: Bldg 150 Room#3 Grid C-0

Lab ID: 0307081-4

Sample Matrix: Soil

Date Prepared: 22-Jul-03

Prep SOP: PAI 739R6

Prep Batch: GS02158

Date Collected: 08-Jul-03

Date Analyzed: 23-Jul-03

Analytical SOP: PAI 713R8

Spectrum Code: 030805D03A

Final Aliquot: 376.7 g

Report Basis: Dry Weight

Count Time (min.): 30

Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.48 +/- 0.39	0.53	pCi/g	
Ag-110m	0.004 +/- 0.058	0.11	pCi/g	U
Al-26	0.003 +/- 0.050	0.11	pCi/g	U
Am-241	0.18 +/- 0.43	0.73	pCi/g	U
Be-7	0.08 +/- 0.59	1.1	pCi/g	U
Bi-212	1.7 +/- 1.1	1.6	pCi/g	TI
Bi-214	0.79 +/- 0.26	0.31	pCi/g	
Cd-109	1.9 +/- 2.2	3.5	pCi/g	U
Ce-139	0.005 +/- 0.052	0.091	pCi/g	U
Ce-144	0.09 +/- 0.38	0.65	pCi/g	U
Co-56	0.15 +/- 0.16	0.25	pCi/g	U
Co-57	-0.012 +/- 0.049	0.087	pCi/g	U
Co-58	0.043 +/- 0.069	0.12	pCi/g	U
Co-60	0.019 +/- 0.067	0.12	pCi/g	U
Cr-51	0.26 +/- 0.63	1.1	pCi/g	U
Cs-134	-0.13 +/- 0.56	0.93	pCi/g	U
Cs-137	-0.014 +/- 0.064	0.12	pCi/g	U
Eu-152	-0.01 +/- 0.35	0.68	pCi/g	U
Eu-154	-0.12 +/- 0.36	0.72	pCi/g	U
Eu-155	0.36 +/- 0.22	0.33	pCi/g	TI
Fe-59	-0.01 +/- 0.16	0.30	pCi/g	U
I-131	0.10 +/- 0.22	0.37	pCi/g	U
K-40	11.2 +/- 2.7	1.4	pCi/g	
Mn-54	-0.095 +/- 0.072	0.15	pCi/g	U
Na-22	-0.022 +/- 0.068	0.14	pCi/g	U
Nb-94	0.010 +/- 0.070	0.13	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:55:59

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307081

Field ID: Bldg 150 Room#3 Grid C-0

Lab ID: 0307081-4

Sample Matrix: Soil
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02158

Date Collected: 08-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030805D03A

Final Aliquot: 376.7 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.006 +/- 0.087	0.16	pCi/g	U
Pa-234m	-0.8 +/- 9.7	19	pCi/g	U
Pb-212	1.49 +/- 0.32	0.22	pCi/g	
Pb-214	0.82 +/- 0.21	0.22	pCi/g	
Ru-106	-0.22 +/- 0.63	1.2	pCi/g	U
Sb-124	-0.051 +/- 0.084	0.16	pCi/g	U
Sb-125	0.00 +/- 0.15	0.28	pCi/g	U
Sc-46	-0.045 +/- 0.081	0.16	pCi/g	U
Th-227	-0.9 +/- 9.9	16	pCi/g	U
Th-234	0.8 +/- 1.3	2.1	pCi/g	U
Tl-208	0.46 +/- 0.13	0.11	pCi/g	
U-235	-0.11 +/- 0.38	0.68	pCi/g	U
Zn-65	0.01 +/- 0.15	0.27	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:55:59

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307081

Field ID: Bldg 150 Room#3 Grid C-1

Lab ID: 0307081-5

Sample Matrix: Soil

Date Prepared: 22-Jul-03

Prep SOP: PAI 739R6

Prep Batch: GS02158

Date Collected: 08-Jul-03

Date Analyzed: 23-Jul-03

Analytical SOP: PAI 713R8

Spectrum Code: 030600D04A

Final Aliquot: 398.0 g

Report Basis: Dry Weight

Count Time (min.): 30

Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.16 +/- 0.32	0.44	pCi/g	
Ag-110m	-0.015 +/- 0.050	0.098	pCi/g	U
Al-26	-0.012 +/- 0.034	0.087	pCi/g	U
Am-241	-0.03 +/- 0.34	0.60	pCi/g	U
Be-7	-0.03 +/- 0.50	0.92	pCi/g	U
Bi-212	1.6 +/- 1.0	1.4	pCi/g	
Bi-214	0.59 +/- 0.22	0.25	pCi/g	
Cd-109	3.2 +/- 2.0	2.9	pCi/g	SI
Ce-139	0.011 +/- 0.044	0.075	pCi/g	U
Ce-144	-0.18 +/- 0.30	0.55	pCi/g	U
Co-56	0.08 +/- 0.11	0.18	pCi/g	U
Co-57	-0.012 +/- 0.036	0.066	pCi/g	U
Co-58	-0.026 +/- 0.061	0.12	pCi/g	U
Co-60	-0.047 +/- 0.065	0.14	pCi/g	U
Cr-51	-0.06 +/- 0.57	1.0	pCi/g	U
Cs-134	-0.007 +/- 0.054	0.100	pCi/g	U
Cs-137	0.013 +/- 0.054	0.098	pCi/g	U
Eu-152	0.22 +/- 0.24	0.36	pCi/g	U
Eu-154	-0.13 +/- 0.32	0.64	pCi/g	U
Eu-155	0.18 +/- 0.19	0.30	pCi/g	U
Fe-59	0.08 +/- 0.15	0.25	pCi/g	U
I-131	0.07 +/- 0.18	0.31	pCi/g	U
K-40	12.4 +/- 2.7	0.88	pCi/g	
Mn-54	0.028 +/- 0.064	0.11	pCi/g	U
Na-22	0.038 +/- 0.051	0.083	pCi/g	U
Nb-94	-0.020 +/- 0.059	0.11	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:55:59

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307081

Field ID: Bldg 150 Room#3 Grid C-1

Lab ID: 0307081-5

Sample Matrix: Soil

Date Prepared: 22-Jul-03

Prep SOP: PAI 739R6

Prep Batch: GS02158

Date Collected: 08-Jul-03

Date Analyzed: 23-Jul-03

Analytical SOP: PAI 713R8

Spectrum Code: 030600D04A

Final Aliquot: 398.0 g

Report Basis: Dry Weight

Count Time (min.): 30

Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.020 +/- 0.066	0.13	pCi/g	U
Pa-234m	0.8 +/- 9.1	17	pCi/g	U
Pb-212	1.23 +/- 0.27	0.19	pCi/g	
Pb-214	0.48 +/- 0.15	0.19	pCi/g	
Ru-106	0.18 +/- 0.51	0.90	pCi/g	U
Sb-124	0.010 +/- 0.062	0.11	pCi/g	U
Sb-125	-0.03 +/- 0.12	0.23	pCi/g	U
Sc-46	0.081 +/- 0.056	0.071	pCi/g	TI
Th-227	-1.0 +/- 8.5	14	pCi/g	U
Th-234	3.2 +/- 1.4	1.9	pCi/g	TI
Tl-208	0.44 +/- 0.13	0.11	pCi/g	
U-235	-0.25 +/- 0.32	0.58	pCi/g	U
Zn-65	-0.19 +/- 0.17	0.35	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:55:59

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307081

Field ID: Bldg 150 Room#2 Grid C-3

Lab ID: 0307081-6

Sample Matrix: Soil

Date Prepared: 22-Jul-03

Prep SOP: PAI 739R6

Prep Batch: GS02158

Date Collected: 09-Jul-03

Date Analyzed: 23-Jul-03

Analytical SOP: PAI 713R8

Spectrum Code: 030957D07A

Final Aliquot: 385.4 g

Report Basis: Dry Weight

Count Time (min.): 30

Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.24 +/- 0.37	0.47	pCi/g	
Ag-110m	-0.052 +/- 0.061	0.13	pCi/g	U
Al-26	0.023 +/- 0.053	0.10	pCi/g	U
Am-241	-0.06 +/- 0.11	0.20	pCi/g	U
Be-7	-0.50 +/- 0.46	1.0	pCi/g	U
Bi-212	1.2 +/- 1.2	1.9	pCi/g	U
Bi-214	0.76 +/- 0.26	0.26	pCi/g	
Cd-109	2.4 +/- 1.4	2.0	pCi/g	SI
Ce-139	-0.022 +/- 0.050	0.092	pCi/g	U
Ce-144	0.03 +/- 0.30	0.52	pCi/g	U
Co-56	-0.03 +/- 0.17	0.33	pCi/g	U
Co-57	-0.002 +/- 0.037	0.066	pCi/g	U
Co-58	0.022 +/- 0.078	0.14	pCi/g	U
Co-60	0.020 +/- 0.068	0.13	pCi/g	U
Cr-51	0.31 +/- 0.62	1.1	pCi/g	U
Cs-134	0.00 +/- 0.12	0.22	pCi/g	U
Cs-137	0.036 +/- 0.068	0.12	pCi/g	U
Eu-152	0.00 +/- 0.36	0.73	pCi/g	U
Eu-154	-0.25 +/- 0.38	0.82	pCi/g	U
Eu-155	0.01 +/- 0.15	0.26	pCi/g	U
Fe-59	0.11 +/- 0.20	0.35	pCi/g	U
I-131	0.09 +/- 0.17	0.30	pCi/g	U
K-40	9.1 +/- 2.5	1.5	pCi/g	
Mn-54	-0.040 +/- 0.073	0.15	pCi/g	U
Na-22	0.038 +/- 0.080	0.14	pCi/g	U
Nb-94	-0.009 +/- 0.062	0.12	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:55:59

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307081

Field ID: Bldg 150 Room#2 Grid C-3

Lab ID: 0307081-6

Sample Matrix: Soil

Date Prepared: 22-Jul-03

Prep SOP: PAI 739R6

Prep Batch: GS02158

Date Collected: 09-Jul-03

Date Analyzed: 23-Jul-03

Analytical SOP: PAI 713R8

Spectrum Code: 030957D07A

Final Aliquot: 385.4 g

Report Basis: Dry Weight

Count Time (min.): 30

Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.047 +/- 0.084	0.14	pCi/g	U
Pa-234m	1 +/- 12	22	pCi/g	U
Pb-212	1.18 +/- 0.29	0.24	pCi/g	
Pb-214	0.73 +/- 0.21	0.20	pCi/g	
Ru-106	-0.17 +/- 0.66	1.3	pCi/g	U
Sb-124	0.039 +/- 0.099	0.17	pCi/g	U
Sb-125	0.11 +/- 0.16	0.29	pCi/g	U
Sc-46	0.023 +/- 0.077	0.14	pCi/g	U
Th-227	0.22 +/- 0.35	0.58	pCi/g	U
Th-234	1.47 +/- 0.91	1.9	pCi/g	U
Tl-208	0.41 +/- 0.14	0.15	pCi/g	
U-235	-0.09 +/- 0.36	0.64	pCi/g	U
Zn-65	-0.22 +/- 0.21	0.44	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:55:59

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID: Bldg 150 Room#2 Grid B-3
Lab ID: 0307081-7

Sample Matrix: Soil
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02158

Date Collected: 09-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 031028D08A

Final Aliquot: 371.6 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.40 +/- 0.39	0.54	pCi/g	
Ag-110m	0.037 +/- 0.060	0.10	pCi/g	U
Al-26	-0.024 +/- 0.034	0.10	pCi/g	U
Am-241	0.04 +/- 0.12	0.20	pCi/g	U
Be-7	-0.08 +/- 0.54	1.0	pCi/g	U
Bi-212	1.3 +/- 1.0	1.5	pCi/g	U
Bi-214	0.84 +/- 0.26	0.25	pCi/g	
Cd-109	2.3 +/- 1.4	2.1	pCi/g	SI
Ce-139	0.027 +/- 0.052	0.087	pCi/g	U
Ce-144	0.23 +/- 0.31	0.50	pCi/g	U
Co-56	0.17 +/- 0.13	0.18	pCi/g	U
Co-57	0.002 +/- 0.043	0.075	pCi/g	U
Co-58	-0.037 +/- 0.042	0.10	pCi/g	U
Co-60	0.137 +/- 0.069	0.12	pCi/g	
Cr-51	-0.54 +/- 0.63	1.2	pCi/g	U
Cs-134	-0.009 +/- 0.055	0.11	pCi/g	U
Cs-137	-0.068 +/- 0.068	0.14	pCi/g	U
Eu-152	0.04 +/- 0.29	0.56	pCi/g	U
Eu-154	-0.11 +/- 0.42	0.81	pCi/g	U
Eu-155	0.17 +/- 0.17	0.26	pCi/g	U
Fe-59	0.09 +/- 0.17	0.30	pCi/g	U
I-131	0.13 +/- 0.18	0.29	pCi/g	U
K-40	14.3 +/- 3.2	1.2	pCi/g	
Mn-54	0.004 +/- 0.062	0.12	pCi/g	U
Na-22	0.009 +/- 0.079	0.15	pCi/g	U
Nb-94	-0.007 +/- 0.065	0.12	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:56:00

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307081

Field ID: Bldg 150 Room#2 Grid B-3

Lab ID: 0307081-7

Sample Matrix: Soil

Date Prepared: 22-Jul-03

Prep SOP: PAI 739R6

Prep Batch: GS02158

Date Collected: 09-Jul-03

Date Analyzed: 23-Jul-03

Analytical SOP: PAI 713R8

Spectrum Code: 031028D08A

Final Aliquot: 371.6 g

Report Basis: Dry Weight

Count Time (min.): 30

Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.016 +/- 0.082	0.15	pCi/g	U
Pa-234m	-3 +/- 13	25	pCi/g	U
Pb-212	1.13 +/- 0.26	0.19	pCi/g	
Pb-214	0.83 +/- 0.21	0.22	pCi/g	
Ru-106	-0.50 +/- 0.57	1.2	pCi/g	U
Sb-124	-0.070 +/- 0.065	0.14	pCi/g	U
Sb-125	0.07 +/- 0.16	0.27	pCi/g	U
Sc-46	-0.019 +/- 0.062	0.13	pCi/g	U
Th-227	-0.10 +/- 0.36	0.65	pCi/g	U
Th-234	1.7 +/- 1.0	1.5	pCi/g	TI
Tl-208	0.40 +/- 0.14	0.15	pCi/g	
U-235	-0.39 +/- 0.34	0.65	pCi/g	U
Zn-65	-0.16 +/- 0.19	0.38	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:56:00

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307081

Field ID: Bldg 150 Room#2 Grid B-5

Lab ID: 0307081-8

Sample Matrix: Soil

Date Prepared: 22-Jul-03

Prep SOP: PAI 739R6

Prep Batch: GS02158

Date Collected: 14-Jul-03

Date Analyzed: 23-Jul-03

Analytical SOP: PAI 713R8

Spectrum Code: 031097D01A

Final Aliquot: 324.3 g

Report Basis: Dry Weight

Count Time (min.): 30

Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.08 +/- 0.29	0.42	pCi/g	
Ag-110m	-0.039 +/- 0.051	0.095	pCi/g	U
Al-26	-0.005 +/- 0.051	0.095	pCi/g	U
Am-241	0.00 +/- 0.24	0.42	pCi/g	U
Be-7	-0.25 +/- 0.43	0.79	pCi/g	U
Bi-212	1.45 +/- 0.95	1.4	pCi/g	
Bi-214	0.48 +/- 0.18	0.25	pCi/g	
Cd-109	1.2 +/- 1.4	2.3	pCi/g	U
Ce-139	0.018 +/- 0.042	0.071	pCi/g	U
Ce-144	0.00 +/- 0.26	0.45	pCi/g	U
Co-56	0.13 +/- 0.12	0.20	pCi/g	U
Co-57	-0.016 +/- 0.036	0.065	pCi/g	U
Co-58	-0.032 +/- 0.056	0.10	pCi/g	U
Co-60	-0.019 +/- 0.068	0.12	pCi/g	U
Cr-51	-0.09 +/- 0.43	0.77	pCi/g	U
Cs-134	0.10 +/- 0.37	0.62	pCi/g	U
Cs-137	0.029 +/- 0.055	0.092	pCi/g	U
Eu-152	0.15 +/- 0.24	0.40	pCi/g	U
Eu-154	0.02 +/- 0.30	0.53	pCi/g	U
Eu-155	0.14 +/- 0.17	0.27	pCi/g	U
Fe-59	-0.09 +/- 0.12	0.23	pCi/g	U
I-131	-0.035 +/- 0.097	0.17	pCi/g	U
K-40	16.5 +/- 3.2	1.3	pCi/g	
Mn-54	0.004 +/- 0.058	0.10	pCi/g	U
Na-22	0.038 +/- 0.054	0.089	pCi/g	U
Nb-94	-0.043 +/- 0.055	0.10	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:56:00

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307081

Field ID: Bldg 150 Room#2 Grid B-5

Lab ID: 0307081-8

Sample Matrix: Soil

Date Prepared: 22-Jul-03

Prep SOP: PAI 739R6

Prep Batch: GS02158

Date Collected: 14-Jul-03

Date Analyzed: 23-Jul-03

Analytical SOP: PAI 713R8

Spectrum Code: 031097D01A

Final Aliquot: 324.3 g

Report Basis: Dry Weight

Count Time (min.): 30

Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.003 +/- 0.055	0.096	pCi/g	U
Pa-234m	6.5 +/- 8.9	15	pCi/g	U
Pb-212	1.10 +/- 0.24	0.19	pCi/g	
Pb-214	0.54 +/- 0.15	0.17	pCi/g	
Ru-106	-0.05 +/- 0.50	0.88	pCi/g	U
Sb-124	0.21 +/- 0.41	0.68	pCi/g	U
Sb-125	-0.09 +/- 0.14	0.25	pCi/g	U
Sc-46	-0.024 +/- 0.060	0.11	pCi/g	U
Th-227	-0.47 +/- 0.52	0.93	pCi/g	U
Th-234	0.7 +/- 1.1	1.8	pCi/g	U
Tl-208	0.41 +/- 0.11	0.10	pCi/g	
U-235	-0.15 +/- 0.29	0.51	pCi/g	U
Zn-65	0.10 +/- 0.19	0.32	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:56:00

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID: In Trench Grid B-7
Lab ID: 0307081-9

Sample Matrix: Soil
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02158

Date Collected: 14-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 031005D02A

Final Aliquot: 372.7 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.36 +/- 0.35	0.41	pCi/g	
Ag-110m	0.013 +/- 0.054	0.098	pCi/g	U
Al-26	-0.004 +/- 0.057	0.12	pCi/g	U
Am-241	-0.01 +/- 0.46	0.83	pCi/g	U
Be-7	0.11 +/- 0.40	0.71	pCi/g	U
Bi-212	1.30 +/- 0.90	1.2	pCi/g	
Bi-214	0.37 +/- 0.15	0.16	pCi/g	
Cd-109	0.9 +/- 1.8	3.0	pCi/g	U
Ce-139	-0.014 +/- 0.043	0.079	pCi/g	U
Ce-144	-0.12 +/- 0.27	0.51	pCi/g	U
Co-56	0.01 +/- 0.14	0.25	pCi/g	U
Co-57	-0.003 +/- 0.036	0.065	pCi/g	U
Co-58	-0.017 +/- 0.066	0.13	pCi/g	U
Co-60	0.008 +/- 0.061	0.12	pCi/g	U
Cr-51	0.00 +/- 0.39	0.72	pCi/g	U
Cs-134	-0.048 +/- 0.055	0.11	pCi/g	U
Cs-137	0.005 +/- 0.065	0.12	pCi/g	U
Eu-152	0.09 +/- 0.28	0.51	pCi/g	U
Eu-154	-0.19 +/- 0.34	0.70	pCi/g	U
Eu-155	0.06 +/- 0.18	0.30	pCi/g	U
Fe-59	0.11 +/- 0.12	0.19	pCi/g	U
I-131	-0.06 +/- 0.11	0.21	pCi/g	U
K-40	13.3 +/- 3.0	1.2	pCi/g	
Mn-54	0.024 +/- 0.051	0.089	pCi/g	U
Na-22	-0.014 +/- 0.065	0.13	pCi/g	U
Nb-94	0.013 +/- 0.058	0.10	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:56:00

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID: In Trench Grid B-7
Lab ID: 0307081-9

Sample Matrix: Soil
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02158

Date Collected: 14-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 031005D02A

Final Aliquot: 372.7 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.007 +/- 0.058	0.11	pCi/g	U
Pa-234m	2.8 +/- 9.5	17	pCi/g	U
Pb-212	1.20 +/- 0.27	0.20	pCi/g	
Pb-214	0.46 +/- 0.15	0.20	pCi/g	
Ru-106	0.12 +/- 0.55	0.98	pCi/g	U
Sb-124	0.017 +/- 0.059	0.10	pCi/g	U
Sb-125	-0.04 +/- 0.13	0.25	pCi/g	U
Sc-46	0.012 +/- 0.045	0.084	pCi/g	U
Th-227	0.10 +/- 0.33	0.56	pCi/g	U
Th-234	1.4 +/- 1.4	2.2	pCi/g	U
Tl-208	0.39 +/- 0.12	0.11	pCi/g	
U-235	0.04 +/- 0.29	0.50	pCi/g	U
Zn-65	-0.18 +/- 0.14	0.31	pCi/g	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.
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.

Abbreviations:

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

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:55:57

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID: In Trench Grid B-9
Lab ID: 0307081-10

Sample Matrix: Soil
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02158

Date Collected: 14-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030806D03A

Final Aliquot: 410.9 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.00 +/- 0.30	0.46	pCi/g	
Ag-110m	0.019 +/- 0.058	0.10	pCi/g	U
Al-26	-0.006 +/- 0.043	0.099	pCi/g	U
Am-241	-0.09 +/- 0.31	0.57	pCi/g	U
Be-7	0.00 +/- 0.41	0.77	pCi/g	U
Bi-212	1.3 +/- 1.0	1.5	pCi/g	U
Bi-214	0.71 +/- 0.25	0.28	pCi/g	
Cd-109	0.2 +/- 1.5	2.6	pCi/g	U
Ce-139	-0.035 +/- 0.043	0.081	pCi/g	U
Ce-144	0.10 +/- 0.30	0.51	pCi/g	U
Co-56	0.14 +/- 0.14	0.22	pCi/g	U
Co-57	-0.029 +/- 0.038	0.071	pCi/g	U
Co-58	-0.037 +/- 0.058	0.12	pCi/g	U
Co-60	0.031 +/- 0.068	0.12	pCi/g	U
Cr-51	-0.03 +/- 0.49	0.89	pCi/g	U
Cs-134	-0.051 +/- 0.082	0.16	pCi/g	U
Cs-137	-0.019 +/- 0.068	0.13	pCi/g	U
Eu-152	0.17 +/- 0.34	0.59	pCi/g	U
Eu-154	-0.30 +/- 0.32	0.69	pCi/g	U
Eu-155	0.00 +/- 0.18	0.32	pCi/g	U
Fe-59	-0.06 +/- 0.13	0.26	pCi/g	U
I-131	0.08 +/- 0.11	0.18	pCi/g	U
K-40	14.1 +/- 3.1	1.2	pCi/g	
Mn-54	-0.071 +/- 0.068	0.14	pCi/g	U
Na-22	-0.047 +/- 0.056	0.13	pCi/g	U
Nb-94	0.027 +/- 0.060	0.10	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:55:57

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307081

Field ID: In Trench Grid B-9

Lab ID: 0307081-10

Sample Matrix: Soil
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02158

Date Collected: 14-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030806D03A

Final Aliquot: 410.9 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.005 +/- 0.067	0.13	pCi/g	U
Pa-234m	0.4 +/- 9.8	19	pCi/g	U
Pb-212	0.99 +/- 0.24	0.20	pCi/g	
Pb-214	0.60 +/- 0.17	0.20	pCi/g	
Ru-106	0.00 +/- 0.49	0.92	pCi/g	U
Sb-124	-0.001 +/- 0.057	0.11	pCi/g	U
Sb-125	-0.13 +/- 0.14	0.28	pCi/g	U
Sc-46	-0.007 +/- 0.060	0.12	pCi/g	U
Th-227	-0.06 +/- 0.56	0.98	pCi/g	U
Th-234	0.9 +/- 1.0	1.6	pCi/g	U
Tl-208	0.30 +/- 0.11	0.13	pCi/g	
U-235	0.03 +/- 0.28	0.50	pCi/g	U
Zn-65	-0.15 +/- 0.15	0.32	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:55:57

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID: In Trench Grid B-11
Lab ID: 0307081-11

Sample Matrix: Soil
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02158

Date Collected: 14-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030948D10A

Final Aliquot: 401.6 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.20 +/- 0.29	0.41	pCi/g	
Ag-110m	-0.019 +/- 0.044	0.079	pCi/g	U
Al-26	0.016 +/- 0.037	0.065	pCi/g	U
Am-241	0.13 +/- 0.19	0.31	pCi/g	U
Be-7	-0.06 +/- 0.37	0.66	pCi/g	U
Bi-212	0.67 +/- 0.58	0.89	pCi/g	U
Bi-214	0.82 +/- 0.21	0.21	pCi/g	
Cd-109	1.2 +/- 1.0	1.7	pCi/g	U
Ce-139	-0.002 +/- 0.036	0.061	pCi/g	U
Ce-144	-0.11 +/- 0.26	0.45	pCi/g	U
Co-56	0.11 +/- 0.11	0.18	pCi/g	U
Co-57	0.013 +/- 0.034	0.057	pCi/g	U
Co-58	-0.036 +/- 0.049	0.090	pCi/g	U
Co-60	0.085 +/- 0.057	0.083	pCi/g	TI
Cr-51	0.07 +/- 0.38	0.66	pCi/g	U
Cs-134	0.29 +/- 0.57	0.93	pCi/g	U
Cs-137	0.028 +/- 0.048	0.079	pCi/g	U
Eu-152	0.08 +/- 0.21	0.37	pCi/g	U
Eu-154	-0.13 +/- 0.27	0.50	pCi/g	U
Eu-155	0.04 +/- 0.13	0.22	pCi/g	U
Fe-59	-0.01 +/- 0.11	0.20	pCi/g	U
I-131	0.006 +/- 0.084	0.15	pCi/g	U
K-40	16.0 +/- 3.0	1.2	pCi/g	
Mn-54	0.006 +/- 0.053	0.091	pCi/g	U
Na-22	-0.004 +/- 0.056	0.10	pCi/g	U
Nb-94	-0.025 +/- 0.048	0.087	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:55:57

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307081

Field ID: In Trench Grid B-11

Lab ID: 0307081-11

Sample Matrix: Soil
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02158

Date Collected: 14-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030948D10A

Final Aliquot: 401.6 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.002 +/- 0.050	0.088	pCi/g	U
Pa-234m	-3.4 +/- 7.5	14	pCi/g	U
Pb-212	1.45 +/- 0.27	0.14	pCi/g	
Pb-214	0.63 +/- 0.16	0.19	pCi/g	
Ru-106	0.17 +/- 0.44	0.74	pCi/g	U
Sb-124	0.027 +/- 0.045	0.075	pCi/g	U
Sb-125	0.011 +/- 0.100	0.20	pCi/g	U
Sc-46	-0.008 +/- 0.050	0.089	pCi/g	U
Th-227	-1.02 +/- 0.47	0.84	pCi/g	U
Th-234	1.37 +/- 0.80	1.2	pCi/g	TI
Tl-208	0.43 +/- 0.10	0.094	pCi/g	
U-235	-0.09 +/- 0.26	0.46	pCi/g	U
Zn-65	0.26 +/- 0.22	0.34	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Friday, July 25, 2003 15:55:57

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID: In Trench Grid B-11
Lab ID: 0307081-11-D1

Sample Matrix: Soil
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02158

Date Collected: 14-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030601D04A

Final Aliquot: 401.6
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.20 +/- 0.32	0.38	pCi/g	
Ag-110m	0.013 +/- 0.051	0.092	pCi/g	U
Al-26	-0.006 +/- 0.045	0.10	pCi/g	U
Am-241	-0.19 +/- 0.35	0.64	pCi/g	U
Be-7	0.09 +/- 0.51	0.91	pCi/g	U
Bi-212	0.8 +/- 1.1	1.9	pCi/g	U
Bi-214	0.85 +/- 0.25	0.23	pCi/g	
Cd-109	1.0 +/- 1.7	2.7	pCi/g	U
Ce-139	0.018 +/- 0.045	0.077	pCi/g	U
Ce-144	-0.06 +/- 0.30	0.54	pCi/g	U
Co-56	0.03 +/- 0.14	0.24	pCi/g	U
Co-57	0.002 +/- 0.039	0.068	pCi/g	U
Co-58	0.000 +/- 0.060	0.11	pCi/g	U
Co-60	0.100 +/- 0.072	0.096	pCi/g	TI
Cr-51	-0.03 +/- 0.49	0.89	pCi/g	U
Cs-134	0.041 +/- 0.057	0.094	pCi/g	U
Cs-137	-0.028 +/- 0.056	0.11	pCi/g	U
Eu-152	-0.12 +/- 0.28	0.59	pCi/g	U
Eu-154	0.22 +/- 0.36	0.60	pCi/g	U
Eu-155	0.03 +/- 0.19	0.33	pCi/g	U
Fe-59	-0.02 +/- 0.12	0.23	pCi/g	U
I-131	0.01 +/- 0.10	0.18	pCi/g	U
K-40	14.7 +/- 3.1	1.00	pCi/g	
Mn-54	-0.028 +/- 0.064	0.12	pCi/g	U
Na-22	-0.006 +/- 0.055	0.11	pCi/g	U
Nb-94	-0.044 +/- 0.062	0.12	pCi/g	U
Nb-95	0.023 +/- 0.065	0.11	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Friday, July 25, 2003 15:55:58

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID: In Trench Grid B-11
Lab ID: 0307081-11-D1

Sample Matrix: Soil
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02158

Date Collected: 14-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030601D04A

Final Aliquot: 401.6
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Pa-234m	5 +/- 10	18	pCi/g	U
Pb-212	1.54 +/- 0.31	0.17	pCi/g	
Pb-214	0.65 +/- 0.18	0.20	pCi/g	
Ru-106	0.16 +/- 0.44	0.78	pCi/g	U
Sb-124	0.045 +/- 0.062	0.10	pCi/g	U
Sb-125	0.06 +/- 0.14	0.23	pCi/g	U
Sc-46	-0.056 +/- 0.061	0.13	pCi/g	U
Th-227	-0.22 +/- 0.54	0.96	pCi/g	U
Th-234	1.0 +/- 1.1	1.8	pCi/g	U
Tl-208	0.49 +/- 0.13	0.11	pCi/g	
U-235	0.22 +/- 0.31	0.51	pCi/g	U
Zn-65	-0.06 +/- 0.14	0.28	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Friday, July 25, 2003 15:55:58

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307081

Field ID: In Trench Grid B-11

Lab ID: 0307081-11-D1

Sample Matrix: Soil

Date Prepared: 22-Jul-03

Prep SOP: PAI 739R6

Prep Batch: GS02158

Date Collected: 14-Jul-03

Date Analyzed: 23-Jul-03

Analytical SOP: PAI 713R8

Spectrum Code: 030601D04A

Final Aliquot: 401.6

Aliquot Units: g

Report Basis: Dry Weight

Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier

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.

* - Duplicate DER not within control limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0307081-1*

APPENDIX R

Building 150 Exterior Trench Soil Sample Laboratory Data

Paragon Analytics, Inc.

Radiochemistry Case Narrative
Gamma Spectroscopy

New World Technology
Bethesda / GA00419

Paragon Work Order 0307081

1. This report consists of analysis results for thirteen soil samples received by Paragon on 7/15/03. The analysis results for these samples are reported on a 'dry weight' basis in units of pCi/gram.
2. These samples were prepared according to Paragon Analytics, Inc. procedure PAI SOP739R6.
3. The samples were analyzed for the presence of gamma emitting radionuclides according to Paragon Analytics, Inc. procedure PAI SOP713R8. The analyses were completed on 7/23/03.
4. Sample volumes were insufficient to allow preparation of duplicates. Duplicate analyses of samples Bldg 150 Room#1 Grid A-0, In Trench Grid B-11, and Inside Drain Pipe #1 (PAI ID 0307081-1, -11, and -12) were performed in lieu of a preparation duplicate.
5. Activity concentrations above the calculated MDC are reported in some instances where minimum nuclide identification criteria are not met. Such tentative identifications result when the software attempts to calculate net activity concentrations for analytes where either one or both of the following criteria are not satisfied: the 'diagnostic' peak for a nuclide must be identified above critical level (generally the most abundant, interference-free photopeak), or the minimum library peak tolerance of 75% must be attained. These data have been flagged with a "TI" qualifier.
6. In cases where Cd-109 is identified at a level greater than the MDC, it is assigned an "SI" flag denoting spectral interference at the 88 keV line. This interference occurs with the K_β x-ray of Pb, which occurs at an energy of 87 keV.
7. There are cases where the magnitude of the negative activity is greater than the 2-sigma TPU. The analyst's review of the data does not indicate a problem with the instrument data or the subsequent reporting systems. The data quality is believed to be unaffected and the results are submitted without qualification. Under typical conditions, where background level sample data is normally distributed and analyzed by paired observations, this event is likely to occur at least 2.5% of the time.
8. No problems were encountered with either the client samples or the associated quality control samples. All quality control criteria were met.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, Paragon Analytics, Inc. certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Radiochemistry Instrument Technician — Date: 7-25-03

Radiochemistry Final Data Review — Date

1

PARAGON ANALYTICS, INC.
Radiochemistry Data Package

Section 1

SAMPLE RESULTS SUMMARY

A summary report is not provided.

Please refer to the individual sample results data in Section 3.

2

PARAGON ANALYTICS, INC.

Radiochemistry Data Package

Section 2

QC RESULTS SUMMARY

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Reported on: Friday, July 25, 2003 15:56:00
Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID:
Lab ID: GS02158BLK1

Sample Matrix: Soil
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02158

Date Collected: 22-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030958D07A

Final Aliquot: 390.7
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	0.01 +/- 0.24	0.46	pCi/g	U
Ag-110m	0.030 +/- 0.046	0.078	pCi/g	U
Al-26	0.008 +/- 0.060	0.13	pCi/g	U
Am-241	0.030 +/- 0.056	0.097	pCi/g	U
Be-7	-0.08 +/- 0.34	0.69	pCi/g	U
Bi-212	-0.27 +/- 0.69	1.5	pCi/g	U
Bi-214	-0.03 +/- 0.13	0.25	pCi/g	U
Cd-109	-0.21 +/- 0.51	1.0	pCi/g	U
Ce-139	-0.027 +/- 0.027	0.057	pCi/g	U
Ce-144	0.18 +/- 0.18	0.27	pCi/g	U
Co-56	-0.040 +/- 0.089	0.20	pCi/g	U
Co-57	0.006 +/- 0.021	0.037	pCi/g	U
Co-58	-0.057 +/- 0.047	0.11	pCi/g	U
Co-60	0.019 +/- 0.038	0.071	pCi/g	U
Cr-51	0.20 +/- 0.29	0.48	pCi/g	U
Cs-134	-0.013 +/- 0.053	0.10	pCi/g	U
Cs-137	-0.019 +/- 0.053	0.11	pCi/g	U
Eu-152	0.05 +/- 0.29	0.57	pCi/g	U
Eu-154	0.00 +/- 0.26	0.55	pCi/g	U
Eu-155	0.022 +/- 0.079	0.14	pCi/g	U
Fe-59	-0.034 +/- 0.063	0.17	pCi/g	U
I-131	0.005 +/- 0.034	0.065	pCi/g	U
K-40	-0.51 +/- 0.56	1.4	pCi/g	U
Mn-54	0.032 +/- 0.039	0.059	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Friday, July 25, 2003 15:56:01

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID:
Lab ID: GS02158BLK1

Sample Matrix: Soil
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02158

Date Collected: 22-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030958D07A

Final Aliquot: 390.7
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier
Na-22	0.009 +/- 0.041	0.086	pCi/g	U
Nb-94	-0.049 +/- 0.056	0.12	pCi/g	U
Nb-95	0.011 +/- 0.047	0.089	pCi/g	U
Pa-234m	3.8 +/- 7.6	14	pCi/g	U
Pb-212	0.008 +/- 0.067	0.12	pCi/g	U
Pb-214	0.039 +/- 0.093	0.16	pCi/g	U
Ru-106	0.23 +/- 0.58	1.0	pCi/g	U
Sb-124	-0.007 +/- 0.050	0.097	pCi/g	U
Sb-125	-0.08 +/- 0.12	0.25	pCi/g	U
Sc-46	-0.027 +/- 0.051	0.11	pCi/g	U
Th-227	-0.07 +/- 0.22	0.43	pCi/g	U
Th-234	-0.25 +/- 0.39	0.77	pCi/g	U
Tl-208	0.017 +/- 0.048	0.087	pCi/g	U
U-235	0.18 +/- 0.20	0.32	pCi/g	U
Zn-65	-0.04 +/- 0.11	0.24	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Reported on: Friday, July 25, 2003 15:56:01
Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID:
Lab ID: GS02158BLK1

Sample Matrix: Soil
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02158

Date Collected: 22-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030958D07A

Final Aliquot: 390.7
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
B3 - Analyte concentration greater than MDC but less than Requested MDC.
B - Analyte concentration greater than MDC.

SQ - Spectral iquality prevents accurate quantitation.
SI - Nuclide identification and/or quantitation is tentative.
TI - Nuclide identification is tentative.
R - Nuclide has exceeded 8 halflives.

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

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Friday, July 25, 2003 15:56:02

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID:
Lab ID: GS02159BLK1

Sample Matrix: Solid
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02159

Date Collected: 22-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030599D04A

Final Aliquot: 339.0
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	0.03 +/- 0.18	0.35	pCi/g	U
Ag-110m	-0.005 +/- 0.038	0.077	pCi/g	U
Al-26	0.024 +/- 0.055	0.10	pCi/g	U
Am-241	-0.01 +/- 0.20	0.38	pCi/g	U
Be-7	-0.13 +/- 0.25	0.56	pCi/g	U
Bi-212	0.15 +/- 0.58	1.1	pCi/g	U
Bi-214	-0.029 +/- 0.100	0.20	pCi/g	U
Cd-109	0.20 +/- 0.83	1.5	pCi/g	U
Ce-139	0.010 +/- 0.025	0.045	pCi/g	U
Ce-144	-0.04 +/- 0.18	0.34	pCi/g	U
Co-56	-0.043 +/- 0.068	0.16	pCi/g	U
Co-57	0.002 +/- 0.020	0.037	pCi/g	U
Co-58	0.011 +/- 0.033	0.063	pCi/g	U
Co-60	0.013 +/- 0.045	0.086	pCi/g	U
Cr-51	-0.08 +/- 0.30	0.59	pCi/g	U
Cs-134	0.016 +/- 0.045	0.080	pCi/g	U
Cs-137	0.004 +/- 0.040	0.078	pCi/g	U
Eu-152	-0.13 +/- 0.21	0.52	pCi/g	U
Eu-154	-0.01 +/- 0.20	0.43	pCi/g	U
Eu-155	0.03 +/- 0.10	0.19	pCi/g	U
Fe-59	0.027 +/- 0.065	0.12	pCi/g	U
I-131	-0.004 +/- 0.043	0.082	pCi/g	U
K-40	-0.03 +/- 0.49	1.0	pCi/g	U
Mn-54	0.005 +/- 0.035	0.070	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Reported on: Friday, July 25, 2003 15:56:02
Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID:
Lab ID: GS02159BLK1

Sample Matrix: Solid
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02159

Date Collected: 22-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030599D04A

Final Aliquot: 339.0
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier
Na-22	-0.037 +/- 0.040	0.10	pCi/g	U
Nb-94	-0.014 +/- 0.050	0.099	pCi/g	U
Nb-95	-0.005 +/- 0.039	0.080	pCi/g	U
Pa-234m	1.9 +/- 5.3	10	pCi/g	U
Pb-212	0.065 +/- 0.066	0.10	pCi/g	U
Pb-214	0.111 +/- 0.091	0.13	pCi/g	U
Ru-106	-0.23 +/- 0.38	0.81	pCi/g	U
Sb-124	0.003 +/- 0.044	0.083	pCi/g	U
Sb-125	0.00 +/- 0.11	0.21	pCi/g	U
Sc-46	0.039 +/- 0.034	0.041	pCi/g	U
Th-227	-0.19 +/- 0.25	0.49	pCi/g	U
Th-234	-0.02 +/- 0.54	0.99	pCi/g	U
Tl-208	-0.015 +/- 0.046	0.093	pCi/g	U
U-235	-0.03 +/- 0.19	0.36	pCi/g	U
Zn-65	-0.040 +/- 0.070	0.17	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Friday, July 25, 2003 15:56:02

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID:
Lab ID: GS02159BLK1

Sample Matrix: Solid
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02159

Date Collected: 22-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030599D04A

Final Aliquot: 339.0
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
B3 - Analyte concentration greater than MDC but less than Requested MDC.
B - Analyte concentration greater than MDC.

SQ - Spectral iquality prevents accurate quantitation.
SI - Nuclide identification and/or quantitation is tentative.
TI - Nuclide identification is tentative.
R - Nuclide has exceeded 8 halflives.

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

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

LCS Results

Reported on: Friday, July 25, 2003 15:56:01

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID:
Lab ID: GS02158LCS1

Sample Matrix: Soil
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02158

Date Collected: 22-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 031029D08A

Final Aliquot: 500.0
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	LCS Results +/- 2s TPU	MDC	Spike Added	Reporting Units	LCS Recovery	Control Limits	Lab Qualifier
Am-241	209 +/- 34	1.3	196	pCi/g	106%	85-115%	P
Cd-109	830 +/- 140	7.3	775	pCi/g	107%	85-115%	P
Co-60	95 +/- 16	0.31	92.4	pCi/g	103%	85-115%	P
Cs-137	86 +/- 14	0.53	80.3	pCi/g	107%	85-115%	P

Comments:

Data Package ID: *GSS0307081-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
* - Duplicate DER not within control limits.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS Recovery within control limits.

Abbreviations:

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

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.

Gamma Spectroscopy Results

Method PAI 713R8

LCS Results

Reported on: Friday, July 25, 2003 15:56:02

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID:
Lab ID: GS02159LCS1

Sample Matrix: Solid
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02159

Date Collected: 22-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030956D07A

Final Aliquot: 500.0
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	LCS Results +/- 2s TPU	MDC	Spike Added	Reporting Units	LCS Recovery	Control Limits	Lab Qualifier
Am-241	204 +/- 34	1.3	196	pCi/g	104%	85-115%	P
Cd-109	800 +/- 130	7.2	775	pCi/g	103%	85-115%	P
Co-60	97 +/- 16	0.35	92.4	pCi/g	105%	85-115%	P
Cs-137	84 +/- 14	0.64	80.3	pCi/g	104%	85-115%	P

Comments:

Data Package ID: *GSS0307081-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
* - Duplicate DER not within control limits.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS Recovery within control limits.

Abbreviations:

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

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.

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Friday, July 25, 2003 15:55:56

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID:	Bldg 150 Room#1 Grid A-0	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID:	0307081-1	7/22/03	7/23/03	GS02158	430.7
DUP ID:	0307081-1-D1	7/22/03	7/23/03	GS02158	430.7

Sample Matrix: Soil
Date Collected: 08-Jul-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Ac-228	1.36 +/- 0.35	1.40 +/- 0.31	pCi/g	0.09	< 1.42	
Ag-110m	-0.012 +/- 0.061	-0.020 +/- 0.041	pCi/g	0.11	< 1.42	
Al-26	0.013 +/- 0.054	-0.015 +/- 0.039	pCi/g	0.43	< 1.42	
Am-241	0.06 +/- 0.11	-0.07 +/- 0.21	pCi/g	0.52	< 1.42	
Be-7	-0.24 +/- 0.46	-0.11 +/- 0.39	pCi/g	0.22	< 1.42	
Bi-212	1.28 +/- 0.94	1.14 +/- 0.91	pCi/g	0.1	< 1.42	
Bi-214	0.77 +/- 0.23	0.57 +/- 0.17	pCi/g	0.71	< 1.42	
Cd-109	2.1 +/- 1.2	1.0 +/- 1.4	pCi/g	0.57	< 1.42	
Ce-139	-0.010 +/- 0.044	0.014 +/- 0.038	pCi/g	0.41	< 1.42	
Ce-144	0.11 +/- 0.29	0.13 +/- 0.25	pCi/g	0.05	< 1.42	
Co-56	-0.01 +/- 0.13	0.070 +/- 0.097	pCi/g	0.53	< 1.42	
Co-57	-0.012 +/- 0.038	-0.018 +/- 0.033	pCi/g	0.11	< 1.42	
Co-58	-0.023 +/- 0.054	-0.074 +/- 0.045	pCi/g	0.72	< 1.42	
Co-60	0.028 +/- 0.065	0.009 +/- 0.046	pCi/g	0.24	< 1.42	
Cr-51	-0.02 +/- 0.59	0.05 +/- 0.38	pCi/g	0.1	< 1.42	
Cs-134	0.011 +/- 0.055	0.049 +/- 0.044	pCi/g	0.53	< 1.42	
Cs-137	0.013 +/- 0.062	-0.013 +/- 0.045	pCi/g	0.33	< 1.42	
Eu-152	0.10 +/- 0.27	0.00 +/- 0.23	pCi/g	0.28	< 1.42	
Eu-154	-0.09 +/- 0.34	-0.11 +/- 0.26	pCi/g	0.05	< 1.42	
Eu-155	0.03 +/- 0.16	0.11 +/- 0.15	pCi/g	0.36	< 1.42	
Fe-59	0.00 +/- 0.13	-0.10 +/- 0.11	pCi/g	0.59	< 1.42	
I-131	0.03 +/- 0.16	0.02 +/- 0.13	pCi/g	0.04	< 1.42	
K-40	15.1 +/- 3.3	14.6 +/- 2.8	pCi/g	0.12	< 1.42	
Mn-54	0.002 +/- 0.048	-0.003 +/- 0.049	pCi/g	0.07	< 1.42	
Na-22	0.020 +/- 0.064	-0.043 +/- 0.056	pCi/g	0.74	< 1.42	
Nb-94	0.013 +/- 0.065	0.033 +/- 0.041	pCi/g	0.27	< 1.42	
Nb-95	0.061 +/- 0.077	0.010 +/- 0.050	pCi/g	0.55	< 1.42	
Pa-234m	9.3 +/- 9.6	7.9 +/- 7.1	pCi/g	0.11	< 1.42	

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Friday, July 25, 2003 15:55:57

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

		Prep Date	Analysis Date	Prep Batch	Final Aliquot
Field ID:	Bldg 150 Room#1 Grid A-0				
Lab ID:	0307081-1	7/22/03	7/23/03	GS02158	430.7
DUP ID:	0307081-1-D1	7/22/03	7/23/03	GS02158	430.7

Sample Matrix: Soil
Date Collected: 08-Jul-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Pb-212	1.42 +/- 0.29	1.37 +/- 0.26	pCi/g	0.14	< 1.42	
Pb-214	0.63 +/- 0.17	0.68 +/- 0.15	pCi/g	0.2	< 1.42	
Ru-106	-0.12 +/- 0.50	0.00 +/- 0.41	pCi/g	0.18	< 1.42	
Sb-124	-0.048 +/- 0.064	0.025 +/- 0.050	pCi/g	0.9	< 1.42	
Sb-125	0.10 +/- 0.12	-0.01 +/- 0.11	pCi/g	0.68	< 1.42	
Sc-46	-0.112 +/- 0.068	-0.038 +/- 0.046	pCi/g	0.91	< 1.42	
Th-227	-0.23 +/- 0.32	0.8 +/- 6.6	pCi/g	0.15	< 1.42	
Th-234	1.42 +/- 0.68	0.66 +/- 0.76	pCi/g	0.74	< 1.42	
Tl-208	0.45 +/- 0.13	0.43 +/- 0.10	pCi/g	0.12	< 1.42	
U-235	-0.22 +/- 0.32	0.08 +/- 0.26	pCi/g	0.76	< 1.42	
Zn-65	0.05 +/- 0.14	-0.07 +/- 0.13	pCi/g	0.59	< 1.42	

Comments:

Qualifiers/Flags:

W - DER is greater than Warning Limit of 1.42

H - DER is Higher han Control Limit of 2.13

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

DER - Duplicate Error Ratio

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Friday, July 25, 2003 15:55:57

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

		Prep Date	Analysis Date	Prep Batch	Final Aliquot
Field ID:	In Trench Grid B-11				
Lab ID:	0307081-11	7/22/03	7/23/03	GS02158	401.6
DUP ID:	0307081-11-D1	7/22/03	7/23/03	GS02158	401.6

Sample Matrix: Soil
Date Collected: 14-Jul-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Ac-228	1.20 +/- 0.29	1.20 +/- 0.32	pCi/g	0	< 1.42	
Ag-110m	-0.019 +/- 0.044	0.013 +/- 0.051	pCi/g	0.48	< 1.42	
Al-26	0.016 +/- 0.037	-0.006 +/- 0.045	pCi/g	0.37	< 1.42	
Am-241	0.13 +/- 0.19	-0.19 +/- 0.35	pCi/g	0.81	< 1.42	
Be-7	-0.06 +/- 0.37	0.09 +/- 0.51	pCi/g	0.25	< 1.42	
Bi-212	0.67 +/- 0.58	0.8 +/- 1.1	pCi/g	0.1	< 1.42	
Bi-214	0.82 +/- 0.21	0.85 +/- 0.25	pCi/g	0.08	< 1.42	
Cd-109	1.2 +/- 1.0	1.0 +/- 1.7	pCi/g	0.09	< 1.42	
Ce-139	-0.002 +/- 0.036	0.018 +/- 0.045	pCi/g	0.35	< 1.42	
Ce-144	-0.11 +/- 0.26	-0.06 +/- 0.30	pCi/g	0.13	< 1.42	
Co-56	0.11 +/- 0.11	0.03 +/- 0.14	pCi/g	0.47	< 1.42	
Co-57	0.013 +/- 0.034	0.002 +/- 0.039	pCi/g	0.23	< 1.42	
Co-58	-0.036 +/- 0.049	0.000 +/- 0.060	pCi/g	0.47	< 1.42	
Co-60	0.085 +/- 0.057	0.100 +/- 0.072	pCi/g	0.16	< 1.42	
Cr-51	0.07 +/- 0.38	-0.03 +/- 0.49	pCi/g	0.15	< 1.42	
Cs-134	0.29 +/- 0.57	0.041 +/- 0.057	pCi/g	0.44	< 1.42	
Cs-137	0.028 +/- 0.048	-0.028 +/- 0.056	pCi/g	0.76	< 1.42	
Eu-152	0.08 +/- 0.21	-0.12 +/- 0.28	pCi/g	0.58	< 1.42	
Eu-154	-0.13 +/- 0.27	0.22 +/- 0.36	pCi/g	0.8	< 1.42	
Eu-155	0.04 +/- 0.13	0.03 +/- 0.19	pCi/g	0.04	< 1.42	
Fe-59	-0.01 +/- 0.11	-0.02 +/- 0.12	pCi/g	0.07	< 1.42	
I-131	0.006 +/- 0.084	0.01 +/- 0.10	pCi/g	0	< 1.42	
K-40	16.0 +/- 3.0	14.7 +/- 3.1	pCi/g	0.31	< 1.42	
Mn-54	0.006 +/- 0.053	-0.028 +/- 0.064	pCi/g	0.41	< 1.42	
Na-22	-0.004 +/- 0.056	-0.006 +/- 0.055	pCi/g	0.03	< 1.42	
Nb-94	-0.025 +/- 0.048	-0.044 +/- 0.062	pCi/g	0.24	< 1.42	
Nb-95	0.002 +/- 0.050	0.023 +/- 0.065	pCi/g	0.25	< 1.42	
Pa-234m	-3.4 +/- 7.5	5 +/- 10	pCi/g	0.67	< 1.42	

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Friday, July 25, 2003 15:55:57

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307081

Field ID:	In Trench Grid B-11	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID:	0307081-11	7/22/03	7/23/03	GS02158	401.6
DUP ID:	0307081-11-D1	7/22/03	7/23/03	GS02158	401.6

Sample Matrix: Soil
Date Collected: 14-Jul-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Pb-212	1.45 +/- 0.27	1.54 +/- 0.31	pCi/g	0.21	< 1.42	
Pb-214	0.63 +/- 0.16	0.65 +/- 0.18	pCi/g	0.08	< 1.42	
Ru-106	0.17 +/- 0.44	0.16 +/- 0.44	pCi/g	0.01	< 1.42	
Sb-124	0.027 +/- 0.045	0.045 +/- 0.062	pCi/g	0.24	< 1.42	
Sb-125	0.011 +/- 0.100	0.06 +/- 0.14	pCi/g	0.31	< 1.42	
Sc-46	-0.008 +/- 0.050	-0.056 +/- 0.061	pCi/g	0.61	< 1.42	
Th-227	-1.02 +/- 0.47	-0.22 +/- 0.54	pCi/g	1.12	< 1.42	
Th-234	1.37 +/- 0.80	1.0 +/- 1.1	pCi/g	0.28	< 1.42	
Tl-208	0.43 +/- 0.10	0.49 +/- 0.13	pCi/g	0.39	< 1.42	
U-235	-0.09 +/- 0.26	0.22 +/- 0.31	pCi/g	0.76	< 1.42	
Zn-65	0.26 +/- 0.22	-0.06 +/- 0.14	pCi/g	1.23	< 1.42	

Comments:

Qualifiers/Flags:

W - DER is greater than Warning Limit of 1.42

H - DER is Higher han Control Limit of 2.13

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

DER - Duplicate Error Ratio

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Friday, July 25, 2003 15:56:01

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID:	Inside Drain Pipe #1	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID:	0307081-12	7/22/03	7/23/03	GS02159	348.2
DUP ID:	0307081-12-D1	7/22/03	7/23/03	GS02159	348.2

Sample Matrix: Solid
Date Collected: 14-Jul-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Ac-228	0.23 +/- 0.77	0.3 +/- 1.0	pCi/g	0.05	< 1.42	
Ag-110m	0.10 +/- 0.18	0.03 +/- 0.17	pCi/g	0.29	< 1.42	
Al-26	0.038 +/- 0.078	-0.038 +/- 0.093	pCi/g	0.62	< 1.42	
Am-241	0.34 +/- 0.39	-0.1 +/- 1.0	pCi/g	0.4	< 1.42	
Be-7	-0.34 +/- 0.96	0.3 +/- 1.3	pCi/g	0.37	< 1.42	
Bi-212	-0.5 +/- 2.0	-0.9 +/- 2.8	pCi/g	0.11	< 1.42	
Bi-214	0.06 +/- 0.23	0.19 +/- 0.36	pCi/g	0.31	< 1.42	
Cd-109	-0.8 +/- 2.1	1.9 +/- 3.1	pCi/g	0.71	< 1.42	
Ce-139	-0.022 +/- 0.071	-0.006 +/- 0.090	pCi/g	0.13	< 1.42	
Ce-144	0.36 +/- 0.47	-0.13 +/- 0.64	pCi/g	0.62	< 1.42	
Co-56	0.01 +/- 0.18	0.16 +/- 0.23	pCi/g	0.48	< 1.42	
Co-57	0.008 +/- 0.063	-0.026 +/- 0.081	pCi/g	0.33	< 1.42	
Co-58	0.03 +/- 0.17	-0.21 +/- 0.25	pCi/g	0.8	< 1.42	
Co-60	34.3 +/- 5.7	33.8 +/- 5.6	pCi/g	0.06	< 1.42	
Cr-51	-0.07 +/- 0.88	0.5 +/- 1.3	pCi/g	0.36	< 1.42	
Cs-134	0.01 +/- 0.16	-0.01 +/- 0.17	pCi/g	0.1	< 1.42	
Cs-137	2.02 +/- 0.39	2.38 +/- 0.49	pCi/g	0.58	< 1.42	
Eu-152	0.24 +/- 0.38	-0.09 +/- 0.39	pCi/g	0.6	< 1.42	
Eu-154	0.2 +/- 1.1	-0.3 +/- 1.4	pCi/g	0.29	< 1.42	
Eu-155	0.03 +/- 0.27	-0.15 +/- 0.36	pCi/g	0.41	< 1.42	
Fe-59	-0.08 +/- 0.42	-0.03 +/- 0.55	pCi/g	0.08	< 1.42	
I-131	0.02 +/- 0.20	0.19 +/- 0.30	pCi/g	0.47	< 1.42	
K-40	4.5 +/- 1.3	2.9 +/- 1.5	pCi/g	0.8	< 1.42	
Mn-54	-0.17 +/- 0.17	0.11 +/- 0.23	pCi/g	0.99	< 1.42	
Na-22	0.06 +/- 0.10	0.01 +/- 0.12	pCi/g	0.28	< 1.42	
Nb-94	-0.02 +/- 0.12	-0.08 +/- 0.17	pCi/g	0.27	< 1.42	
Nb-95	0.01 +/- 0.15	-0.05 +/- 0.22	pCi/g	0.21	< 1.42	
Pa-234m	-13 +/- 33	-47 +/- 46	pCi/g	0.6	< 1.42	

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Friday, July 25, 2003 15:56:01

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID:	Inside Drain Pipe #1	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID:	0307081-12	7/22/03	7/23/03	GS02159	348.2
DUP ID:	0307081-12-D1	7/22/03	7/23/03	GS02159	348.2

Sample Matrix: Solid
Date Collected: 14-Jul-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Pb-212	0.30 +/- 0.21	0.25 +/- 0.17	pCi/g	0.18	< 1.42	
Pb-214	0.14 +/- 0.14	0.44 +/- 0.34	pCi/g	0.8	< 1.42	
Ru-106	0.0 +/- 1.2	0.5 +/- 1.6	pCi/g	0.23	< 1.42	
Sb-124	0.08 +/- 0.12	0.01 +/- 0.19	pCi/g	0.32	< 1.42	
Sb-125	0.09 +/- 0.30	-0.04 +/- 0.41	pCi/g	0.26	< 1.42	
Sc-46	-0.03 +/- 0.20	-0.18 +/- 0.29	pCi/g	0.44	< 1.42	
Th-227	-0.21 +/- 0.98	0.36 +/- 0.79	pCi/g	0.45	< 1.42	
Th-234	0.5 +/- 1.2	-0.2 +/- 1.8	pCi/g	0.33	< 1.42	
Tl-208	0.11 +/- 0.10	-0.04 +/- 0.18	pCi/g	0.75	< 1.42	
U-235	-0.32 +/- 0.46	0.18 +/- 0.59	pCi/g	0.67	< 1.42	
Zn-65	0.02 +/- 0.41	0.51 +/- 0.54	pCi/g	0.73	< 1.42	

Comments:

Qualifiers/Flags:

W - DER is greater than Warning Limit of 1.42

H - DER is Higher han Control Limit of 2.13

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

DER - Duplicate Error Ratio

Data Package ID: *GSS0307081-1*

PARAGON ANALYTICS, INC.
Radiochemistry Data Package

3

Section 3

INDIVIDUAL SAMPLE RESULTS

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:55:56

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307081

Field ID: Bldg 150 Room#1 Grid A-0

Lab ID: 0307081-1

Sample Matrix: Soil
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02158

Date Collected: 08-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 031027D08A

Final Aliquot: 430.7 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.36 +/- 0.35	0.38	pCi/g	
Ag-110m	-0.012 +/- 0.061	0.11	pCi/g	U
Al-26	0.013 +/- 0.054	0.10	pCi/g	U
Am-241	0.06 +/- 0.11	0.18	pCi/g	U
Be-7	-0.24 +/- 0.46	0.90	pCi/g	U
Bi-212	1.28 +/- 0.94	1.4	pCi/g	U
Bi-214	0.77 +/- 0.23	0.24	pCi/g	
Cd-109	2.1 +/- 1.2	1.8	pCi/g	SI
Ce-139	-0.010 +/- 0.044	0.079	pCi/g	U
Ce-144	0.11 +/- 0.29	0.50	pCi/g	U
Co-56	-0.01 +/- 0.13	0.24	pCi/g	U
Co-57	-0.012 +/- 0.038	0.068	pCi/g	U
Co-58	-0.023 +/- 0.054	0.11	pCi/g	U
Co-60	0.028 +/- 0.065	0.12	pCi/g	U
Cr-51	-0.02 +/- 0.59	1.1	pCi/g	U
Cs-134	0.011 +/- 0.055	0.098	pCi/g	U
Cs-137	0.013 +/- 0.062	0.11	pCi/g	U
Eu-152	0.10 +/- 0.27	0.49	pCi/g	U
Eu-154	-0.09 +/- 0.34	0.67	pCi/g	U
Eu-155	0.03 +/- 0.16	0.27	pCi/g	U
Fe-59	0.00 +/- 0.13	0.25	pCi/g	U
I-131	0.03 +/- 0.16	0.29	pCi/g	U
K-40	15.1 +/- 3.3	1.0	pCi/g	
Mn-54	0.002 +/- 0.048	0.092	pCi/g	U
Na-22	0.020 +/- 0.064	0.12	pCi/g	U
Nb-94	0.013 +/- 0.065	0.12	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:55:56

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307081

Field ID: Bldg 150 Room#1 Grid A-0

Lab ID: 0307081-1

Sample Matrix: Soil

Date Prepared: 22-Jul-03

Prep SOP: PAI 739R6

Prep Batch: GS02158

Date Collected: 08-Jul-03

Date Analyzed: 23-Jul-03

Analytical SOP: PAI 713R8

Spectrum Code: 031027D08A

Final Aliquot: 430.7 g

Report Basis: Dry Weight

Count Time (min.): 30

Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.061 +/- 0.077	0.13	pCi/g	U
Pa-234m	9.3 +/- 9.6	15	pCi/g	U
Pb-212	1.42 +/- 0.29	0.16	pCi/g	
Pb-214	0.63 +/- 0.17	0.20	pCi/g	
Ru-106	-0.12 +/- 0.50	0.96	pCi/g	U
Sb-124	-0.048 +/- 0.064	0.13	pCi/g	U
Sb-125	0.10 +/- 0.12	0.21	pCi/g	U
Sc-46	-0.112 +/- 0.068	0.15	pCi/g	U
Th-227	-0.23 +/- 0.32	0.60	pCi/g	U
Th-234	1.42 +/- 0.68	1.4	pCi/g	
Tl-208	0.45 +/- 0.13	0.11	pCi/g	
U-235	-0.22 +/- 0.32	0.58	pCi/g	U
Zn-65	0.05 +/- 0.14	0.26	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Friday, July 25, 2003 15:55:56

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307081

Field ID: Bldg 150 Room#1 Grid A-0

Lab ID: 0307081-1-D1

Sample Matrix: Soil

Date Prepared: 22-Jul-03

Prep SOP: PAI 739R6

Prep Batch: GS02158

Date Collected: 08-Jul-03

Date Analyzed: 23-Jul-03

Analytical SOP: PAI 713R8

Spectrum Code: 031096D01A

Final Aliquot: 430.7

Aliquot Units: g

Report Basis: Dry Weight

Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.40 +/- 0.31	0.28	pCi/g	
Ag-110m	-0.020 +/- 0.041	0.075	pCi/g	U
Al-26	-0.015 +/- 0.039	0.075	pCi/g	U
Am-241	-0.07 +/- 0.21	0.38	pCi/g	U
Be-7	-0.11 +/- 0.39	0.69	pCi/g	U
Bi-212	1.14 +/- 0.91	1.4	pCi/g	U
Bi-214	0.57 +/- 0.17	0.19	pCi/g	
Cd-109	1.0 +/- 1.4	2.2	pCi/g	U
Ce-139	0.014 +/- 0.038	0.065	pCi/g	U
Ce-144	0.13 +/- 0.25	0.42	pCi/g	U
Co-56	0.070 +/- 0.097	0.16	pCi/g	U
Co-57	-0.018 +/- 0.033	0.057	pCi/g	U
Co-58	-0.074 +/- 0.045	0.088	pCi/g	U
Co-60	0.009 +/- 0.046	0.080	pCi/g	U
Cr-51	0.05 +/- 0.38	0.67	pCi/g	U
Cs-134	0.049 +/- 0.044	0.091	pCi/g	U
Cs-137	-0.013 +/- 0.045	0.081	pCi/g	U
Eu-152	0.00 +/- 0.23	0.42	pCi/g	U
Eu-154	-0.11 +/- 0.26	0.47	pCi/g	U
Eu-155	0.11 +/- 0.15	0.25	pCi/g	U
Fe-59	-0.10 +/- 0.11	0.21	pCi/g	U
I-131	0.02 +/- 0.13	0.22	pCi/g	U
K-40	14.6 +/- 2.8	1.2	pCi/g	
Mn-54	-0.003 +/- 0.049	0.086	pCi/g	U
Na-22	-0.043 +/- 0.056	0.10	pCi/g	U
Nb-94	0.033 +/- 0.041	0.067	pCi/g	U
Nb-95	0.010 +/- 0.050	0.087	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Friday, July 25, 2003 15:55:57

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID: Bldg 150 Room#1 Grid A-0
Lab ID: 0307081-1-D1

Sample Matrix: Soil
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02158

Date Collected: 08-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 031096D01A

Final Aliquot: 430.7
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Pa-234m	7.9 +/- 7.1	11	pCi/g	U
Pb-212	1.37 +/- 0.26	0.15	pCi/g	
Pb-214	0.68 +/- 0.15	0.15	pCi/g	
Ru-106	0.00 +/- 0.41	0.71	pCi/g	U
Sb-124	0.025 +/- 0.050	0.083	pCi/g	U
Sb-125	-0.01 +/- 0.11	0.20	pCi/g	U
Sc-46	-0.038 +/- 0.046	0.086	pCi/g	U
Th-227	0.8 +/- 6.6	11	pCi/g	U
Th-234	0.66 +/- 0.76	1.2	pCi/g	U
Tl-208	0.43 +/- 0.10	0.085	pCi/g	
U-235	0.08 +/- 0.26	0.43	pCi/g	U
Zn-65	-0.07 +/- 0.13	0.24	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Friday, July 25, 2003 15:55:57

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307081

Field ID: Bldg 150 Room#1 Grid A-0

Lab ID: 0307081-1-D1

Sample Matrix: Soil

Date Prepared: 22-Jul-03

Prep SOP: PAI 739R6

Prep Batch: GS02158

Date Collected: 08-Jul-03

Date Analyzed: 23-Jul-03

Analytical SOP: PAI 713R8

Spectrum Code: 031096D01A

Final Aliquot: 430.7

Aliquot Units: g

Report Basis: Dry Weight

Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier

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.

* - Duplicate DER not within control limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:55:58

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307081

Field ID: Bldg 150 Room#1 Grid B-0

Lab ID: 0307081-2

Sample Matrix: Soil

Date Prepared: 22-Jul-03

Prep SOP: PAI 739R6

Prep Batch: GS02158

Date Collected: 08-Jul-03

Date Analyzed: 23-Jul-03

Analytical SOP: PAI 713R8

Spectrum Code: 030947D10A

Final Aliquot: 375.0 g

Report Basis: Dry Weight

Count Time (min.): 30

Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.16 +/- 0.29	0.38	pCi/g	
Ag-110m	-0.005 +/- 0.045	0.080	pCi/g	U
Al-26	0.016 +/- 0.047	0.083	pCi/g	U
Am-241	0.18 +/- 0.19	0.31	pCi/g	U
Be-7	0.08 +/- 0.40	0.70	pCi/g	U
Bi-212	0.80 +/- 0.72	1.1	pCi/g	U
Bi-214	0.68 +/- 0.19	0.22	pCi/g	
Cd-109	0.8 +/- 1.2	1.9	pCi/g	U
Ce-139	0.008 +/- 0.037	0.063	pCi/g	U
Ce-144	-0.07 +/- 0.26	0.46	pCi/g	U
Co-56	0.16 +/- 0.11	0.17	pCi/g	U
Co-57	-0.014 +/- 0.035	0.062	pCi/g	U
Co-58	0.002 +/- 0.054	0.096	pCi/g	U
Co-60	0.019 +/- 0.057	0.099	pCi/g	U
Cr-51	-0.18 +/- 0.45	0.80	pCi/g	U
Cs-134	0.14 +/- 0.51	0.84	pCi/g	U
Cs-137	-0.017 +/- 0.049	0.088	pCi/g	U
Eu-152	0.08 +/- 0.28	0.49	pCi/g	U
Eu-154	0.17 +/- 0.31	0.52	pCi/g	U
Eu-155	0.07 +/- 0.13	0.22	pCi/g	U
Fe-59	-0.07 +/- 0.13	0.23	pCi/g	U
I-131	0.05 +/- 0.12	0.21	pCi/g	U
K-40	13.3 +/- 2.6	1.4	pCi/g	
Mn-54	-0.001 +/- 0.051	0.090	pCi/g	U
Na-22	-0.003 +/- 0.058	0.10	pCi/g	U
Nb-94	0.012 +/- 0.044	0.076	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:55:58

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307081

Field ID: Bldg 150 Room#1 Grid B-0

Lab ID: 0307081-2

Sample Matrix: Soil

Date Prepared: 22-Jul-03

Prep SOP: PAI 739R6

Prep Batch: GS02158

Date Collected: 08-Jul-03

Date Analyzed: 23-Jul-03

Analytical SOP: PAI 713R8

Spectrum Code: 030947D10A

Final Aliquot: 375.0 g

Report Basis: Dry Weight

Count Time (min.): 30

Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.030 +/- 0.058	0.097	pCi/g	U
Pa-234m	1.1 +/- 8.9	16	pCi/g	U
Pb-212	1.18 +/- 0.24	0.15	pCi/g	
Pb-214	0.72 +/- 0.17	0.20	pCi/g	
Ru-106	0.01 +/- 0.48	0.84	pCi/g	U
Sb-124	-0.004 +/- 0.052	0.091	pCi/g	U
Sb-125	-0.09 +/- 0.12	0.22	pCi/g	U
Sc-46	-0.031 +/- 0.059	0.11	pCi/g	U
Th-227	-0.70 +/- 0.49	0.88	pCi/g	U
Th-234	1.25 +/- 0.91	1.4	pCi/g	U
Tl-208	0.358 +/- 0.096	0.097	pCi/g	
U-235	-0.17 +/- 0.28	0.50	pCi/g	U
Zn-65	0.11 +/- 0.22	0.37	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:55:58

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID: Bldg 150 Room#1 Grid B-1
Lab ID: 0307081-3

Sample Matrix: Soil
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02158

Date Collected: 08-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 031003D02A

Final Aliquot: 399.8 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.07 +/- 0.30	0.42	pCi/g	
Ag-110m	0.047 +/- 0.053	0.085	pCi/g	U
Al-26	-0.002 +/- 0.041	0.090	pCi/g	U
Am-241	0.32 +/- 0.53	0.88	pCi/g	U
Be-7	-0.24 +/- 0.41	0.83	pCi/g	U
Bi-212	1.33 +/- 0.80	1.0	pCi/g	TI
Bi-214	0.62 +/- 0.20	0.19	pCi/g	
Cd-109	2.4 +/- 1.9	2.9	pCi/g	U
Ce-139	-0.009 +/- 0.043	0.077	pCi/g	U
Ce-144	-0.06 +/- 0.30	0.54	pCi/g	U
Co-56	0.22 +/- 0.13	0.15	pCi/g	TI
Co-57	0.013 +/- 0.040	0.069	pCi/g	U
Co-58	-0.030 +/- 0.057	0.12	pCi/g	U
Co-60	0.072 +/- 0.071	0.11	pCi/g	U
Cr-51	0.00 +/- 0.53	0.97	pCi/g	U
Cs-134	-0.037 +/- 0.052	0.10	pCi/g	U
Cs-137	0.009 +/- 0.061	0.11	pCi/g	U
Eu-152	-0.14 +/- 0.20	0.48	pCi/g	U
Eu-154	-0.17 +/- 0.25	0.55	pCi/g	U
Eu-155	0.16 +/- 0.18	0.28	pCi/g	U
Fe-59	-0.07 +/- 0.12	0.25	pCi/g	U
I-131	0.08 +/- 0.16	0.27	pCi/g	U
K-40	16.5 +/- 3.4	0.82	pCi/g	
Mn-54	0.004 +/- 0.061	0.11	pCi/g	U
Na-22	0.027 +/- 0.057	0.100	pCi/g	U
Nb-94	0.037 +/- 0.055	0.092	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:55:58

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307081

Field ID: Bldg 150 Room#1 Grid B-1

Lab ID: 0307081-3

Sample Matrix: Soil

Date Prepared: 22-Jul-03

Prep SOP: PAI 739R6

Prep Batch: GS02158

Date Collected: 08-Jul-03

Date Analyzed: 23-Jul-03

Analytical SOP: PAI 713R8

Spectrum Code: 031003D02A

Final Aliquot: 399.8 g

Report Basis: Dry Weight

Count Time (min.): 30

Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.023 +/- 0.071	0.12	pCi/g	U
Pa-234m	3.5 +/- 7.9	14	pCi/g	U
Pb-212	1.38 +/- 0.29	0.18	pCi/g	
Pb-214	0.76 +/- 0.20	0.20	pCi/g	
Ru-106	0.12 +/- 0.55	0.98	pCi/g	U
Sb-124	0.000 +/- 0.060	0.11	pCi/g	U
Sb-125	0.06 +/- 0.14	0.26	pCi/g	U
Sc-46	-0.008 +/- 0.056	0.11	pCi/g	U
Th-227	0.06 +/- 0.30	0.53	pCi/g	U
Th-234	1.0 +/- 1.2	2.0	pCi/g	U
Tl-208	0.46 +/- 0.13	0.11	pCi/g	
U-235	-0.08 +/- 0.30	0.54	pCi/g	U
Zn-65	-0.15 +/- 0.14	0.30	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:55:58

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307081

Field ID: Bldg 150 Room#3 Grid C-0

Lab ID: 0307081-4

Sample Matrix: Soil

Date Prepared: 22-Jul-03

Prep SOP: PAI 739R6

Prep Batch: GS02158

Date Collected: 08-Jul-03

Date Analyzed: 23-Jul-03

Analytical SOP: PAI 713R8

Spectrum Code: 030805D03A

Final Aliquot: 376.7 g

Report Basis: Dry Weight

Count Time (min.): 30

Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.48 +/- 0.39	0.53	pCi/g	
Ag-110m	0.004 +/- 0.058	0.11	pCi/g	U
Al-26	0.003 +/- 0.050	0.11	pCi/g	U
Am-241	0.18 +/- 0.43	0.73	pCi/g	U
Be-7	0.08 +/- 0.59	1.1	pCi/g	U
Bi-212	1.7 +/- 1.1	1.6	pCi/g	TI
Bi-214	0.79 +/- 0.26	0.31	pCi/g	
Cd-109	1.9 +/- 2.2	3.5	pCi/g	U
Ce-139	0.005 +/- 0.052	0.091	pCi/g	U
Ce-144	0.09 +/- 0.38	0.65	pCi/g	U
Co-56	0.15 +/- 0.16	0.25	pCi/g	U
Co-57	-0.012 +/- 0.049	0.087	pCi/g	U
Co-58	0.043 +/- 0.069	0.12	pCi/g	U
Co-60	0.019 +/- 0.067	0.12	pCi/g	U
Cr-51	0.26 +/- 0.63	1.1	pCi/g	U
Cs-134	-0.13 +/- 0.56	0.93	pCi/g	U
Cs-137	-0.014 +/- 0.064	0.12	pCi/g	U
Eu-152	-0.01 +/- 0.35	0.68	pCi/g	U
Eu-154	-0.12 +/- 0.36	0.72	pCi/g	U
Eu-155	0.36 +/- 0.22	0.33	pCi/g	TI
Fe-59	-0.01 +/- 0.16	0.30	pCi/g	U
I-131	0.10 +/- 0.22	0.37	pCi/g	U
K-40	11.2 +/- 2.7	1.4	pCi/g	
Mn-54	-0.095 +/- 0.072	0.15	pCi/g	U
Na-22	-0.022 +/- 0.068	0.14	pCi/g	U
Nb-94	0.010 +/- 0.070	0.13	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:55:59

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307081

Field ID: Bldg 150 Room#3 Grid C-0

Lab ID: 0307081-4

Sample Matrix: Soil
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02158

Date Collected: 08-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030805D03A

Final Aliquot: 376.7 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.006 +/- 0.087	0.16	pCi/g	U
Pa-234m	-0.8 +/- 9.7	19	pCi/g	U
Pb-212	1.49 +/- 0.32	0.22	pCi/g	
Pb-214	0.82 +/- 0.21	0.22	pCi/g	
Ru-106	-0.22 +/- 0.63	1.2	pCi/g	U
Sb-124	-0.051 +/- 0.084	0.16	pCi/g	U
Sb-125	0.00 +/- 0.15	0.28	pCi/g	U
Sc-46	-0.045 +/- 0.081	0.16	pCi/g	U
Th-227	-0.9 +/- 9.9	16	pCi/g	U
Th-234	0.8 +/- 1.3	2.1	pCi/g	U
Tl-208	0.46 +/- 0.13	0.11	pCi/g	
U-235	-0.11 +/- 0.38	0.68	pCi/g	U
Zn-65	0.01 +/- 0.15	0.27	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:55:59

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307081

Field ID: Bldg 150 Room#3 Grid C-1

Lab ID: 0307081-5

Sample Matrix: Soil

Date Prepared: 22-Jul-03

Prep SOP: PAI 739R6

Prep Batch: GS02158

Date Collected: 08-Jul-03

Date Analyzed: 23-Jul-03

Analytical SOP: PAI 713R8

Spectrum Code: 030600D04A

Final Aliquot: 398.0 g

Report Basis: Dry Weight

Count Time (min.): 30

Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.16 +/- 0.32	0.44	pCi/g	
Ag-110m	-0.015 +/- 0.050	0.098	pCi/g	U
Al-26	-0.012 +/- 0.034	0.087	pCi/g	U
Am-241	-0.03 +/- 0.34	0.60	pCi/g	U
Be-7	-0.03 +/- 0.50	0.92	pCi/g	U
Bi-212	1.6 +/- 1.0	1.4	pCi/g	
Bi-214	0.59 +/- 0.22	0.25	pCi/g	
Cd-109	3.2 +/- 2.0	2.9	pCi/g	SI
Ce-139	0.011 +/- 0.044	0.075	pCi/g	U
Ce-144	-0.18 +/- 0.30	0.55	pCi/g	U
Co-56	0.08 +/- 0.11	0.18	pCi/g	U
Co-57	-0.012 +/- 0.036	0.066	pCi/g	U
Co-58	-0.026 +/- 0.061	0.12	pCi/g	U
Co-60	-0.047 +/- 0.065	0.14	pCi/g	U
Cr-51	-0.06 +/- 0.57	1.0	pCi/g	U
Cs-134	-0.007 +/- 0.054	0.100	pCi/g	U
Cs-137	0.013 +/- 0.054	0.098	pCi/g	U
Eu-152	0.22 +/- 0.24	0.36	pCi/g	U
Eu-154	-0.13 +/- 0.32	0.64	pCi/g	U
Eu-155	0.18 +/- 0.19	0.30	pCi/g	U
Fe-59	0.08 +/- 0.15	0.25	pCi/g	U
I-131	0.07 +/- 0.18	0.31	pCi/g	U
K-40	12.4 +/- 2.7	0.88	pCi/g	
Mn-54	0.028 +/- 0.064	0.11	pCi/g	U
Na-22	0.038 +/- 0.051	0.083	pCi/g	U
Nb-94	-0.020 +/- 0.059	0.11	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:55:59

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307081

Field ID: Bldg 150 Room#3 Grid C-1

Lab ID: 0307081-5

Sample Matrix: Soil

Date Prepared: 22-Jul-03

Prep SOP: PAI 739R6

Prep Batch: GS02158

Date Collected: 08-Jul-03

Date Analyzed: 23-Jul-03

Analytical SOP: PAI 713R8

Spectrum Code: 030600D04A

Final Aliquot: 398.0 g

Report Basis: Dry Weight

Count Time (min.): 30

Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.020 +/- 0.066	0.13	pCi/g	U
Pa-234m	0.8 +/- 9.1	17	pCi/g	U
Pb-212	1.23 +/- 0.27	0.19	pCi/g	
Pb-214	0.48 +/- 0.15	0.19	pCi/g	
Ru-106	0.18 +/- 0.51	0.90	pCi/g	U
Sb-124	0.010 +/- 0.062	0.11	pCi/g	U
Sb-125	-0.03 +/- 0.12	0.23	pCi/g	U
Sc-46	0.081 +/- 0.056	0.071	pCi/g	TI
Th-227	-1.0 +/- 8.5	14	pCi/g	U
Th-234	3.2 +/- 1.4	1.9	pCi/g	TI
Tl-208	0.44 +/- 0.13	0.11	pCi/g	
U-235	-0.25 +/- 0.32	0.58	pCi/g	U
Zn-65	-0.19 +/- 0.17	0.35	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:55:59

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307081

Field ID: Bldg 150 Room#2 Grid C-3

Lab ID: 0307081-6

Sample Matrix: Soil

Date Prepared: 22-Jul-03

Prep SOP: PAI 739R6

Prep Batch: GS02158

Date Collected: 09-Jul-03

Date Analyzed: 23-Jul-03

Analytical SOP: PAI 713R8

Spectrum Code: 030957D07A

Final Aliquot: 385.4 g

Report Basis: Dry Weight

Count Time (min.): 30

Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.24 +/- 0.37	0.47	pCi/g	
Ag-110m	-0.052 +/- 0.061	0.13	pCi/g	U
Al-26	0.023 +/- 0.053	0.10	pCi/g	U
Am-241	-0.06 +/- 0.11	0.20	pCi/g	U
Be-7	-0.50 +/- 0.46	1.0	pCi/g	U
Bi-212	1.2 +/- 1.2	1.9	pCi/g	U
Bi-214	0.76 +/- 0.26	0.26	pCi/g	
Cd-109	2.4 +/- 1.4	2.0	pCi/g	SI
Ce-139	-0.022 +/- 0.050	0.092	pCi/g	U
Ce-144	0.03 +/- 0.30	0.52	pCi/g	U
Co-56	-0.03 +/- 0.17	0.33	pCi/g	U
Co-57	-0.002 +/- 0.037	0.066	pCi/g	U
Co-58	0.022 +/- 0.078	0.14	pCi/g	U
Co-60	0.020 +/- 0.068	0.13	pCi/g	U
Cr-51	0.31 +/- 0.62	1.1	pCi/g	U
Cs-134	0.00 +/- 0.12	0.22	pCi/g	U
Cs-137	0.036 +/- 0.068	0.12	pCi/g	U
Eu-152	0.00 +/- 0.36	0.73	pCi/g	U
Eu-154	-0.25 +/- 0.38	0.82	pCi/g	U
Eu-155	0.01 +/- 0.15	0.26	pCi/g	U
Fe-59	0.11 +/- 0.20	0.35	pCi/g	U
I-131	0.09 +/- 0.17	0.30	pCi/g	U
K-40	9.1 +/- 2.5	1.5	pCi/g	
Mn-54	-0.040 +/- 0.073	0.15	pCi/g	U
Na-22	0.038 +/- 0.080	0.14	pCi/g	U
Nb-94	-0.009 +/- 0.062	0.12	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:55:59

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307081

Field ID: Bldg 150 Room#2 Grid C-3

Lab ID: 0307081-6

Sample Matrix: Soil

Date Prepared: 22-Jul-03

Prep SOP: PAI 739R6

Prep Batch: GS02158

Date Collected: 09-Jul-03

Date Analyzed: 23-Jul-03

Analytical SOP: PAI 713R8

Spectrum Code: 030957D07A

Final Aliquot: 385.4 g

Report Basis: Dry Weight

Count Time (min.): 30

Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.047 +/- 0.084	0.14	pCi/g	U
Pa-234m	1 +/- 12	22	pCi/g	U
Pb-212	1.18 +/- 0.29	0.24	pCi/g	
Pb-214	0.73 +/- 0.21	0.20	pCi/g	
Ru-106	-0.17 +/- 0.66	1.3	pCi/g	U
Sb-124	0.039 +/- 0.099	0.17	pCi/g	U
Sb-125	0.11 +/- 0.16	0.29	pCi/g	U
Sc-46	0.023 +/- 0.077	0.14	pCi/g	U
Th-227	0.22 +/- 0.35	0.58	pCi/g	U
Th-234	1.47 +/- 0.91	1.9	pCi/g	U
Tl-208	0.41 +/- 0.14	0.15	pCi/g	
U-235	-0.09 +/- 0.36	0.64	pCi/g	U
Zn-65	-0.22 +/- 0.21	0.44	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:55:59

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID: Bldg 150 Room#2 Grid B-3
Lab ID: 0307081-7

Sample Matrix: Soil
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02158

Date Collected: 09-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 031028D08A

Final Aliquot: 371.6 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.40 +/- 0.39	0.54	pCi/g	
Ag-110m	0.037 +/- 0.060	0.10	pCi/g	U
Al-26	-0.024 +/- 0.034	0.10	pCi/g	U
Am-241	0.04 +/- 0.12	0.20	pCi/g	U
Be-7	-0.08 +/- 0.54	1.0	pCi/g	U
Bi-212	1.3 +/- 1.0	1.5	pCi/g	U
Bi-214	0.84 +/- 0.26	0.25	pCi/g	
Cd-109	2.3 +/- 1.4	2.1	pCi/g	SI
Ce-139	0.027 +/- 0.052	0.087	pCi/g	U
Ce-144	0.23 +/- 0.31	0.50	pCi/g	U
Co-56	0.17 +/- 0.13	0.18	pCi/g	U
Co-57	0.002 +/- 0.043	0.075	pCi/g	U
Co-58	-0.037 +/- 0.042	0.10	pCi/g	U
Co-60	0.137 +/- 0.069	0.12	pCi/g	
Cr-51	-0.54 +/- 0.63	1.2	pCi/g	U
Cs-134	-0.009 +/- 0.055	0.11	pCi/g	U
Cs-137	-0.068 +/- 0.068	0.14	pCi/g	U
Eu-152	0.04 +/- 0.29	0.56	pCi/g	U
Eu-154	-0.11 +/- 0.42	0.81	pCi/g	U
Eu-155	0.17 +/- 0.17	0.26	pCi/g	U
Fe-59	0.09 +/- 0.17	0.30	pCi/g	U
I-131	0.13 +/- 0.18	0.29	pCi/g	U
K-40	14.3 +/- 3.2	1.2	pCi/g	
Mn-54	0.004 +/- 0.062	0.12	pCi/g	U
Na-22	0.009 +/- 0.079	0.15	pCi/g	U
Nb-94	-0.007 +/- 0.065	0.12	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:56:00

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307081

Field ID: Bldg 150 Room#2 Grid B-3

Lab ID: 0307081-7

Sample Matrix: Soil

Date Prepared: 22-Jul-03

Prep SOP: PAI 739R6

Prep Batch: GS02158

Date Collected: 09-Jul-03

Date Analyzed: 23-Jul-03

Analytical SOP: PAI 713R8

Spectrum Code: 031028D08A

Final Aliquot: 371.6 g

Report Basis: Dry Weight

Count Time (min.): 30

Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.016 +/- 0.082	0.15	pCi/g	U
Pa-234m	-3 +/- 13	25	pCi/g	U
Pb-212	1.13 +/- 0.26	0.19	pCi/g	
Pb-214	0.83 +/- 0.21	0.22	pCi/g	
Ru-106	-0.50 +/- 0.57	1.2	pCi/g	U
Sb-124	-0.070 +/- 0.065	0.14	pCi/g	U
Sb-125	0.07 +/- 0.16	0.27	pCi/g	U
Sc-46	-0.019 +/- 0.062	0.13	pCi/g	U
Th-227	-0.10 +/- 0.36	0.65	pCi/g	U
Th-234	1.7 +/- 1.0	1.5	pCi/g	TI
Tl-208	0.40 +/- 0.14	0.15	pCi/g	
U-235	-0.39 +/- 0.34	0.65	pCi/g	U
Zn-65	-0.16 +/- 0.19	0.38	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:56:00

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307081

Field ID: Bldg 150 Room#2 Grid B-5

Lab ID: 0307081-8

Sample Matrix: Soil

Date Prepared: 22-Jul-03

Prep SOP: PAI 739R6

Prep Batch: GS02158

Date Collected: 14-Jul-03

Date Analyzed: 23-Jul-03

Analytical SOP: PAI 713R8

Spectrum Code: 031097D01A

Final Aliquot: 324.3 g

Report Basis: Dry Weight

Count Time (min.): 30

Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.08 +/- 0.29	0.42	pCi/g	
Ag-110m	-0.039 +/- 0.051	0.095	pCi/g	U
Al-26	-0.005 +/- 0.051	0.095	pCi/g	U
Am-241	0.00 +/- 0.24	0.42	pCi/g	U
Be-7	-0.25 +/- 0.43	0.79	pCi/g	U
Bi-212	1.45 +/- 0.95	1.4	pCi/g	
Bi-214	0.48 +/- 0.18	0.25	pCi/g	
Cd-109	1.2 +/- 1.4	2.3	pCi/g	U
Ce-139	0.018 +/- 0.042	0.071	pCi/g	U
Ce-144	0.00 +/- 0.26	0.45	pCi/g	U
Co-56	0.13 +/- 0.12	0.20	pCi/g	U
Co-57	-0.016 +/- 0.036	0.065	pCi/g	U
Co-58	-0.032 +/- 0.056	0.10	pCi/g	U
Co-60	-0.019 +/- 0.068	0.12	pCi/g	U
Cr-51	-0.09 +/- 0.43	0.77	pCi/g	U
Cs-134	0.10 +/- 0.37	0.62	pCi/g	U
Cs-137	0.029 +/- 0.055	0.092	pCi/g	U
Eu-152	0.15 +/- 0.24	0.40	pCi/g	U
Eu-154	0.02 +/- 0.30	0.53	pCi/g	U
Eu-155	0.14 +/- 0.17	0.27	pCi/g	U
Fe-59	-0.09 +/- 0.12	0.23	pCi/g	U
I-131	-0.035 +/- 0.097	0.17	pCi/g	U
K-40	16.5 +/- 3.2	1.3	pCi/g	
Mn-54	0.004 +/- 0.058	0.10	pCi/g	U
Na-22	0.038 +/- 0.054	0.089	pCi/g	U
Nb-94	-0.043 +/- 0.055	0.10	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:56:00

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307081

Field ID: Bldg 150 Room#2 Grid B-5

Lab ID: 0307081-8

Sample Matrix: Soil

Date Prepared: 22-Jul-03

Prep SOP: PAI 739R6

Prep Batch: GS02158

Date Collected: 14-Jul-03

Date Analyzed: 23-Jul-03

Analytical SOP: PAI 713R8

Spectrum Code: 031097D01A

Final Aliquot: 324.3 g

Report Basis: Dry Weight

Count Time (min.): 30

Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.003 +/- 0.055	0.096	pCi/g	U
Pa-234m	6.5 +/- 8.9	15	pCi/g	U
Pb-212	1.10 +/- 0.24	0.19	pCi/g	
Pb-214	0.54 +/- 0.15	0.17	pCi/g	
Ru-106	-0.05 +/- 0.50	0.88	pCi/g	U
Sb-124	0.21 +/- 0.41	0.68	pCi/g	U
Sb-125	-0.09 +/- 0.14	0.25	pCi/g	U
Sc-46	-0.024 +/- 0.060	0.11	pCi/g	U
Th-227	-0.47 +/- 0.52	0.93	pCi/g	U
Th-234	0.7 +/- 1.1	1.8	pCi/g	U
Tl-208	0.41 +/- 0.11	0.10	pCi/g	
U-235	-0.15 +/- 0.29	0.51	pCi/g	U
Zn-65	0.10 +/- 0.19	0.32	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:56:00

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID: In Trench Grid B-7
Lab ID: 0307081-9

Sample Matrix: Soil
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02158

Date Collected: 14-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 031005D02A

Final Aliquot: 372.7 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.36 +/- 0.35	0.41	pCi/g	
Ag-110m	0.013 +/- 0.054	0.098	pCi/g	U
Al-26	-0.004 +/- 0.057	0.12	pCi/g	U
Am-241	-0.01 +/- 0.46	0.83	pCi/g	U
Be-7	0.11 +/- 0.40	0.71	pCi/g	U
Bi-212	1.30 +/- 0.90	1.2	pCi/g	
Bi-214	0.37 +/- 0.15	0.16	pCi/g	
Cd-109	0.9 +/- 1.8	3.0	pCi/g	U
Ce-139	-0.014 +/- 0.043	0.079	pCi/g	U
Ce-144	-0.12 +/- 0.27	0.51	pCi/g	U
Co-56	0.01 +/- 0.14	0.25	pCi/g	U
Co-57	-0.003 +/- 0.036	0.065	pCi/g	U
Co-58	-0.017 +/- 0.066	0.13	pCi/g	U
Co-60	0.008 +/- 0.061	0.12	pCi/g	U
Cr-51	0.00 +/- 0.39	0.72	pCi/g	U
Cs-134	-0.048 +/- 0.055	0.11	pCi/g	U
Cs-137	0.005 +/- 0.065	0.12	pCi/g	U
Eu-152	0.09 +/- 0.28	0.51	pCi/g	U
Eu-154	-0.19 +/- 0.34	0.70	pCi/g	U
Eu-155	0.06 +/- 0.18	0.30	pCi/g	U
Fe-59	0.11 +/- 0.12	0.19	pCi/g	U
I-131	-0.06 +/- 0.11	0.21	pCi/g	U
K-40	13.3 +/- 3.0	1.2	pCi/g	
Mn-54	0.024 +/- 0.051	0.089	pCi/g	U
Na-22	-0.014 +/- 0.065	0.13	pCi/g	U
Nb-94	0.013 +/- 0.058	0.10	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:56:00

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID: In Trench Grid B-7
Lab ID: 0307081-9

Sample Matrix: Soil
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02158

Date Collected: 14-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 031005D02A

Final Aliquot: 372.7 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.007 +/- 0.058	0.11	pCi/g	U
Pa-234m	2.8 +/- 9.5	17	pCi/g	U
Pb-212	1.20 +/- 0.27	0.20	pCi/g	
Pb-214	0.46 +/- 0.15	0.20	pCi/g	
Ru-106	0.12 +/- 0.55	0.98	pCi/g	U
Sb-124	0.017 +/- 0.059	0.10	pCi/g	U
Sb-125	-0.04 +/- 0.13	0.25	pCi/g	U
Sc-46	0.012 +/- 0.045	0.084	pCi/g	U
Th-227	0.10 +/- 0.33	0.56	pCi/g	U
Th-234	1.4 +/- 1.4	2.2	pCi/g	U
Tl-208	0.39 +/- 0.12	0.11	pCi/g	
U-235	0.04 +/- 0.29	0.50	pCi/g	U
Zn-65	-0.18 +/- 0.14	0.31	pCi/g	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.
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.

Abbreviations:

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

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:55:57

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID: In Trench Grid B-9
Lab ID: 0307081-10

Sample Matrix: Soil
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02158

Date Collected: 14-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030806D03A

Final Aliquot: 410.9 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.00 +/- 0.30	0.46	pCi/g	
Ag-110m	0.019 +/- 0.058	0.10	pCi/g	U
Al-26	-0.006 +/- 0.043	0.099	pCi/g	U
Am-241	-0.09 +/- 0.31	0.57	pCi/g	U
Be-7	0.00 +/- 0.41	0.77	pCi/g	U
Bi-212	1.3 +/- 1.0	1.5	pCi/g	U
Bi-214	0.71 +/- 0.25	0.28	pCi/g	
Cd-109	0.2 +/- 1.5	2.6	pCi/g	U
Ce-139	-0.035 +/- 0.043	0.081	pCi/g	U
Ce-144	0.10 +/- 0.30	0.51	pCi/g	U
Co-56	0.14 +/- 0.14	0.22	pCi/g	U
Co-57	-0.029 +/- 0.038	0.071	pCi/g	U
Co-58	-0.037 +/- 0.058	0.12	pCi/g	U
Co-60	0.031 +/- 0.068	0.12	pCi/g	U
Cr-51	-0.03 +/- 0.49	0.89	pCi/g	U
Cs-134	-0.051 +/- 0.082	0.16	pCi/g	U
Cs-137	-0.019 +/- 0.068	0.13	pCi/g	U
Eu-152	0.17 +/- 0.34	0.59	pCi/g	U
Eu-154	-0.30 +/- 0.32	0.69	pCi/g	U
Eu-155	0.00 +/- 0.18	0.32	pCi/g	U
Fe-59	-0.06 +/- 0.13	0.26	pCi/g	U
I-131	0.08 +/- 0.11	0.18	pCi/g	U
K-40	14.1 +/- 3.1	1.2	pCi/g	
Mn-54	-0.071 +/- 0.068	0.14	pCi/g	U
Na-22	-0.047 +/- 0.056	0.13	pCi/g	U
Nb-94	0.027 +/- 0.060	0.10	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:55:57

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307081

Field ID: In Trench Grid B-9

Lab ID: 0307081-10

Sample Matrix: Soil
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02158

Date Collected: 14-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030806D03A

Final Aliquot: 410.9 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.005 +/- 0.067	0.13	pCi/g	U
Pa-234m	0.4 +/- 9.8	19	pCi/g	U
Pb-212	0.99 +/- 0.24	0.20	pCi/g	
Pb-214	0.60 +/- 0.17	0.20	pCi/g	
Ru-106	0.00 +/- 0.49	0.92	pCi/g	U
Sb-124	-0.001 +/- 0.057	0.11	pCi/g	U
Sb-125	-0.13 +/- 0.14	0.28	pCi/g	U
Sc-46	-0.007 +/- 0.060	0.12	pCi/g	U
Th-227	-0.06 +/- 0.56	0.98	pCi/g	U
Th-234	0.9 +/- 1.0	1.6	pCi/g	U
Tl-208	0.30 +/- 0.11	0.13	pCi/g	
U-235	0.03 +/- 0.28	0.50	pCi/g	U
Zn-65	-0.15 +/- 0.15	0.32	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:55:57

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID: In Trench Grid B-11
Lab ID: 0307081-11

Sample Matrix: Soil
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02158

Date Collected: 14-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030948D10A

Final Aliquot: 401.6 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.20 +/- 0.29	0.41	pCi/g	
Ag-110m	-0.019 +/- 0.044	0.079	pCi/g	U
Al-26	0.016 +/- 0.037	0.065	pCi/g	U
Am-241	0.13 +/- 0.19	0.31	pCi/g	U
Be-7	-0.06 +/- 0.37	0.66	pCi/g	U
Bi-212	0.67 +/- 0.58	0.89	pCi/g	U
Bi-214	0.82 +/- 0.21	0.21	pCi/g	
Cd-109	1.2 +/- 1.0	1.7	pCi/g	U
Ce-139	-0.002 +/- 0.036	0.061	pCi/g	U
Ce-144	-0.11 +/- 0.26	0.45	pCi/g	U
Co-56	0.11 +/- 0.11	0.18	pCi/g	U
Co-57	0.013 +/- 0.034	0.057	pCi/g	U
Co-58	-0.036 +/- 0.049	0.090	pCi/g	U
Co-60	0.085 +/- 0.057	0.083	pCi/g	TI
Cr-51	0.07 +/- 0.38	0.66	pCi/g	U
Cs-134	0.29 +/- 0.57	0.93	pCi/g	U
Cs-137	0.028 +/- 0.048	0.079	pCi/g	U
Eu-152	0.08 +/- 0.21	0.37	pCi/g	U
Eu-154	-0.13 +/- 0.27	0.50	pCi/g	U
Eu-155	0.04 +/- 0.13	0.22	pCi/g	U
Fe-59	-0.01 +/- 0.11	0.20	pCi/g	U
I-131	0.006 +/- 0.084	0.15	pCi/g	U
K-40	16.0 +/- 3.0	1.2	pCi/g	
Mn-54	0.006 +/- 0.053	0.091	pCi/g	U
Na-22	-0.004 +/- 0.056	0.10	pCi/g	U
Nb-94	-0.025 +/- 0.048	0.087	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 25, 2003 15:55:57

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307081

Field ID: In Trench Grid B-11

Lab ID: 0307081-11

Sample Matrix: Soil
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02158

Date Collected: 14-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030948D10A

Final Aliquot: 401.6 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.002 +/- 0.050	0.088	pCi/g	U
Pa-234m	-3.4 +/- 7.5	14	pCi/g	U
Pb-212	1.45 +/- 0.27	0.14	pCi/g	
Pb-214	0.63 +/- 0.16	0.19	pCi/g	
Ru-106	0.17 +/- 0.44	0.74	pCi/g	U
Sb-124	0.027 +/- 0.045	0.075	pCi/g	U
Sb-125	0.011 +/- 0.100	0.20	pCi/g	U
Sc-46	-0.008 +/- 0.050	0.089	pCi/g	U
Th-227	-1.02 +/- 0.47	0.84	pCi/g	U
Th-234	1.37 +/- 0.80	1.2	pCi/g	TI
Tl-208	0.43 +/- 0.10	0.094	pCi/g	
U-235	-0.09 +/- 0.26	0.46	pCi/g	U
Zn-65	0.26 +/- 0.22	0.34	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Friday, July 25, 2003 15:55:57

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID: In Trench Grid B-11
Lab ID: 0307081-11-D1

Sample Matrix: Soil
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02158

Date Collected: 14-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030601D04A

Final Aliquot: 401.6
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.20 +/- 0.32	0.38	pCi/g	
Ag-110m	0.013 +/- 0.051	0.092	pCi/g	U
Al-26	-0.006 +/- 0.045	0.10	pCi/g	U
Am-241	-0.19 +/- 0.35	0.64	pCi/g	U
Be-7	0.09 +/- 0.51	0.91	pCi/g	U
Bi-212	0.8 +/- 1.1	1.9	pCi/g	U
Bi-214	0.85 +/- 0.25	0.23	pCi/g	
Cd-109	1.0 +/- 1.7	2.7	pCi/g	U
Ce-139	0.018 +/- 0.045	0.077	pCi/g	U
Ce-144	-0.06 +/- 0.30	0.54	pCi/g	U
Co-56	0.03 +/- 0.14	0.24	pCi/g	U
Co-57	0.002 +/- 0.039	0.068	pCi/g	U
Co-58	0.000 +/- 0.060	0.11	pCi/g	U
Co-60	0.100 +/- 0.072	0.096	pCi/g	TI
Cr-51	-0.03 +/- 0.49	0.89	pCi/g	U
Cs-134	0.041 +/- 0.057	0.094	pCi/g	U
Cs-137	-0.028 +/- 0.056	0.11	pCi/g	U
Eu-152	-0.12 +/- 0.28	0.59	pCi/g	U
Eu-154	0.22 +/- 0.36	0.60	pCi/g	U
Eu-155	0.03 +/- 0.19	0.33	pCi/g	U
Fe-59	-0.02 +/- 0.12	0.23	pCi/g	U
I-131	0.01 +/- 0.10	0.18	pCi/g	U
K-40	14.7 +/- 3.1	1.00	pCi/g	
Mn-54	-0.028 +/- 0.064	0.12	pCi/g	U
Na-22	-0.006 +/- 0.055	0.11	pCi/g	U
Nb-94	-0.044 +/- 0.062	0.12	pCi/g	U
Nb-95	0.023 +/- 0.065	0.11	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Friday, July 25, 2003 15:55:58

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307081

Field ID: In Trench Grid B-11
Lab ID: 0307081-11-D1

Sample Matrix: Soil
Date Prepared: 22-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02158

Date Collected: 14-Jul-03
Date Analyzed: 23-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030601D04A

Final Aliquot: 401.6
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Pa-234m	5 +/- 10	18	pCi/g	U
Pb-212	1.54 +/- 0.31	0.17	pCi/g	
Pb-214	0.65 +/- 0.18	0.20	pCi/g	
Ru-106	0.16 +/- 0.44	0.78	pCi/g	U
Sb-124	0.045 +/- 0.062	0.10	pCi/g	U
Sb-125	0.06 +/- 0.14	0.23	pCi/g	U
Sc-46	-0.056 +/- 0.061	0.13	pCi/g	U
Th-227	-0.22 +/- 0.54	0.96	pCi/g	U
Th-234	1.0 +/- 1.1	1.8	pCi/g	U
Tl-208	0.49 +/- 0.13	0.11	pCi/g	
U-235	0.22 +/- 0.31	0.51	pCi/g	U
Zn-65	-0.06 +/- 0.14	0.28	pCi/g	U

Data Package ID: *GSS0307081-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Friday, July 25, 2003 15:55:58

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307081

Field ID: In Trench Grid B-11

Lab ID: 0307081-11-D1

Sample Matrix: Soil

Date Prepared: 22-Jul-03

Prep SOP: PAI 739R6

Prep Batch: GS02158

Date Collected: 14-Jul-03

Date Analyzed: 23-Jul-03

Analytical SOP: PAI 713R8

Spectrum Code: 030601D04A

Final Aliquot: 401.6

Aliquot Units: g

Report Basis: Dry Weight

Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier

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.

* - Duplicate DER not within control limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0307081-1*

APPENDIX S

Manhole Investigation Soil Sample Laboratory Data

Paragon Analytics, Inc.

Radiochemistry Case Narrative
Gamma Spectroscopy

New World Technology

Bethesda / GA00419

Paragon Work Order 0307113

1. This report consists of analysis results for two soil samples received by Paragon Analytics, Inc. on 7/18/03. The analysis results for these samples are reported on a 'dry weight' basis in units of pCi/gram.
2. These samples were prepared according to Paragon Analytics, Inc. procedure PAI SOP739R6.
3. The samples were analyzed for the presence of gamma emitting radionuclides according to Paragon Analytics, Inc. procedure PAI SOP713R8. The analyses were completed on 7/28/03.
4. Sample volumes were insufficient to allow preparation of a duplicate. A duplicate analysis of sample L #1 (PAI ID 0307113-1) was performed in lieu of a preparation duplicate.
5. Activity concentrations above the calculated MDC are reported in some instances where minimum nuclide identification criteria are not met. Such tentative identifications result when the software attempts to calculate net activity concentrations for analytes where either one or both of the following criteria are not satisfied: the 'diagnostic' peak for a nuclide must be identified above the critical level, or the minimum library peak tolerance must be attained. Nuclides not meeting these requirements have been flagged with a "TI" qualifier.
6. In cases where Cd-109 is identified at a level greater than the MDC, an "SI" flag is assigned denoting spectral interference. This interference occurs with the K_β x-rays of Pb, which occur at an energy of 87 keV.
7. There are cases where the magnitude of negative activity is greater than the 2-sigma TPU. Under typical conditions, where background data is normally distributed and analyzed by paired observations, this event is likely to occur at least 2.5% of the time. Review of the data does not indicate a problem with the instrument or reporting systems and results are reported without further qualification.
8. No problems were encountered with either the client samples or the associated quality control samples. All quality control criteria were met.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, Paragon Analytics, Inc. certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Radiochemistry Instrument Technician	7-31-03 Date
Radiochemistry Final Data Review	7-31-03 Date

1

PARAGON ANALYTICS, INC.
Radiochemistry Data Package

Section 1

SAMPLE RESULTS SUMMARY

A summary report is not provided.

Please refer to the individual sample results data in Section 3.

2

PARAGON ANALYTICS, INC.

Radiochemistry Data Package

Section 2

QC RESULTS SUMMARY

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Thursday, July 31, 2003 10:57:35

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307113

Field ID:
Lab ID: GS02172BLK1

Sample Matrix: Soil
Date Prepared: 25-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02172

Date Collected: 25-Jul-03
Date Analyzed: 28-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030969D07A

Final Aliquot: 331.5
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	0.05 +/- 0.18	0.35	pCi/g	U
Ag-110m	-0.067 +/- 0.050	0.12	pCi/g	U
Al-26	-0.052 +/- 0.060	0.17	pCi/g	U
Am-241	0.048 +/- 0.072	0.12	pCi/g	U
Be-7	0.18 +/- 0.39	0.69	pCi/g	U
Bi-212	0.23 +/- 0.83	1.5	pCi/g	U
Bi-214	-0.02 +/- 0.14	0.28	pCi/g	U
Cd-109	-0.27 +/- 0.62	1.2	pCi/g	U
Ce-139	0.000 +/- 0.028	0.053	pCi/g	U
Ce-144	-0.01 +/- 0.19	0.36	pCi/g	U
Co-56	-0.032 +/- 0.091	0.21	pCi/g	U
Co-57	0.003 +/- 0.024	0.044	pCi/g	U
Co-58	0.000 +/- 0.048	0.100	pCi/g	U
Co-60	0.023 +/- 0.056	0.10	pCi/g	U
Cr-51	-0.22 +/- 0.37	0.77	pCi/g	U
Cs-134	0.050 +/- 0.050	0.075	pCi/g	U
Cs-137	-0.005 +/- 0.053	0.11	pCi/g	U
Eu-152	0.11 +/- 0.28	0.52	pCi/g	U
Eu-154	-0.15 +/- 0.22	0.59	pCi/g	U
Eu-155	-0.008 +/- 0.087	0.17	pCi/g	U
Fe-59	0.10 +/- 0.14	0.22	pCi/g	U
I-131	-0.018 +/- 0.054	0.11	pCi/g	U
K-40	-0.40 +/- 0.65	1.6	pCi/g	U
Mn-54	-0.015 +/- 0.048	0.11	pCi/g	U

Data Package ID: *GSS0307113-1*

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Thursday, July 31, 2003 10:57:35

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0307113

Field ID:
Lab ID: GS02172BLK1

Sample Matrix: Soil
Date Prepared: 25-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02172

Date Collected: 25-Jul-03
Date Analyzed: 28-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030969D07A

Final Aliquot: 331.5
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier
Na-22	0.022 +/- 0.044	0.080	pCi/g	U
Nb-94	-0.013 +/- 0.055	0.11	pCi/g	U
Nb-95	-0.008 +/- 0.055	0.11	pCi/g	U
Pa-234m	0.0 +/- 4.2	11	pCi/g	U
Pb-212	-0.035 +/- 0.074	0.15	pCi/g	U
Pb-214	-0.046 +/- 0.096	0.20	pCi/g	U
Ru-106	0.05 +/- 0.57	1.1	pCi/g	U
Sb-124	-0.034 +/- 0.061	0.13	pCi/g	U
Sb-125	-0.04 +/- 0.14	0.29	pCi/g	U
Sc-46	-0.008 +/- 0.059	0.12	pCi/g	U
Th-227	0.02 +/- 0.21	0.39	pCi/g	U
Th-234	0.16 +/- 0.52	0.92	pCi/g	U
Tl-208	0.000 +/- 0.060	0.12	pCi/g	U
U-235	-0.07 +/- 0.25	0.47	pCi/g	U
Zn-65	-0.07 +/- 0.11	0.27	pCi/g	U

Data Package ID: *GSS0307113-1*

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Thursday, July 31, 2003 10:57:35

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307113

Field ID:

Lab ID: GS02172BLK1

Sample Matrix: Soil
Date Prepared: 25-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02172

Date Collected: 25-Jul-03
Date Analyzed: 28-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030969D07A

Final Aliquot: 331.5
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield in control at 100-110%. Quantitative yield is assumed.

Y2 - Chemical Yield outside default limits.

B3 - Analyte concentration greater than MDC but less than Requested MDC.

B - Analyte concentration greater than MDC.

SQ - Spectral iquality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0307113-1*

Gamma Spectroscopy Results

Method PAI 713R8

LCS Results

Reported on: Thursday, July 31, 2003 10:57:35

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307113

Field ID:

Lab ID: GS02172LCS1

Sample Matrix: Soil
Date Prepared: 25-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02172

Date Collected: 25-Jul-03
Date Analyzed: 28-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030962D10A

Final Aliquot: 500.0
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	LCS Results +/- 2s TPU	MDC	Spike Added	Reporting Units	LCS Recovery	Control Limits	Lab Qualifier
Am-241	216 +/- 36	1.8	196	pCi/g	110%	85-115%	P
Cd-109	850 +/- 140	7.6	772	pCi/g	110%	85-115%	P
Co-60	90 +/- 15	0.36	92.3	pCi/g	98%	85-115%	P
Cs-137	87 +/- 14	0.38	80.3	pCi/g	108%	85-115%	P

Comments:

Data Package ID: *GSS0307113-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
* - Duplicate DER not within control limits.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS Recovery within control limits.

Abbreviations:

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

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.

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Thursday, July 31, 2003 10:57:34

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307113

Field ID: L #1	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID: 0307113-1	7/25/03	7/28/03	GS02172	327.7
DUP ID: 0307113-1-D1	7/25/03	7/30/03	GS02172	327.7

Sample Matrix: Soil
Date Collected: 16-Jul-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Ac-228	1.48 +/- 0.42	1.83 +/- 0.48	pCi/g	0.54	< 1.42	
Ag-110m	0.015 +/- 0.078	-0.088 +/- 0.090	pCi/g	0.86	< 1.42	
Al-26	0.026 +/- 0.066	-0.007 +/- 0.080	pCi/g	0.33	< 1.42	
Am-241	-0.15 +/- 0.45	0.11 +/- 0.13	pCi/g	0.57	< 1.42	
Be-7	0.63 +/- 0.64	0.05 +/- 0.70	pCi/g	0.6	< 1.42	
Bi-212	1.8 +/- 1.2	1.1 +/- 1.3	pCi/g	0.4	< 1.42	
Bi-214	0.57 +/- 0.24	0.74 +/- 0.27	pCi/g	0.47	< 1.42	
Cd-109	3.9 +/- 2.9	2.0 +/- 1.9	pCi/g	0.53	< 1.42	
Ce-139	-0.013 +/- 0.058	-0.003 +/- 0.058	pCi/g	0.12	< 1.42	
Ce-144	0.24 +/- 0.40	-0.31 +/- 0.35	pCi/g	1.05	< 1.42	
Co-56	0.10 +/- 0.20	-0.02 +/- 0.22	pCi/g	0.4	< 1.42	
Co-57	0.021 +/- 0.051	0.024 +/- 0.045	pCi/g	0.04	< 1.42	
Co-58	-0.028 +/- 0.080	-0.017 +/- 0.091	pCi/g	0.09	< 1.42	
Co-60	-0.026 +/- 0.084	0.01 +/- 0.11	pCi/g	0.28	< 1.42	
Cr-51	-0.09 +/- 0.75	-0.19 +/- 0.81	pCi/g	0.09	< 1.42	
Cs-134	0.054 +/- 0.074	-0.007 +/- 0.093	pCi/g	0.52	< 1.42	
Cs-137	0.056 +/- 0.084	-0.03 +/- 0.10	pCi/g	0.63	< 1.42	
Eu-152	0.04 +/- 0.36	0.17 +/- 0.38	pCi/g	0.24	< 1.42	
Eu-154	-0.11 +/- 0.39	-0.25 +/- 0.46	pCi/g	0.23	< 1.42	
Eu-155	0.20 +/- 0.26	0.08 +/- 0.18	pCi/g	0.39	< 1.42	
Fe-59	-0.10 +/- 0.19	-0.06 +/- 0.17	pCi/g	0.16	< 1.42	
I-131	-0.08 +/- 0.19	0.09 +/- 0.25	pCi/g	0.52	< 1.42	
K-40	18.4 +/- 4.1	19.0 +/- 4.4	pCi/g	0.1	< 1.42	
Mn-54	-0.006 +/- 0.080	0.086 +/- 0.094	pCi/g	0.75	< 1.42	
Na-22	-0.044 +/- 0.086	-0.01 +/- 0.12	pCi/g	0.23	< 1.42	
Nb-94	0.056 +/- 0.074	-0.017 +/- 0.090	pCi/g	0.62	< 1.42	
Nb-95	-0.033 +/- 0.069	-0.040 +/- 0.092	pCi/g	0.06	< 1.42	
Pa-234m	-3 +/- 14	2 +/- 12	pCi/g	0.24	< 1.42	

Data Package ID: *GSS0307113-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Thursday, July 31, 2003 10:57:34

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307113

Field ID:	L #1	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID:	0307113-1	7/25/03	7/28/03	GS02172	327.7
DUP ID:	0307113-1-D1	7/25/03	7/30/03	GS02172	327.7

Sample Matrix: Soil
Date Collected: 16-Jul-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Pb-212	1.54 +/- 0.35	1.72 +/- 0.37	pCi/g	0.35	< 1.42	
Pb-214	0.70 +/- 0.22	0.80 +/- 0.23	pCi/g	0.3	< 1.42	
Ru-106	1.02 +/- 0.74	-0.09 +/- 0.64	pCi/g	1.13	< 1.42	
Sb-124	0.037 +/- 0.084	-0.04 +/- 0.11	pCi/g	0.55	< 1.42	
Sb-125	-0.15 +/- 0.17	-0.10 +/- 0.20	pCi/g	0.18	< 1.42	
Sc-46	0.010 +/- 0.089	0.027 +/- 0.090	pCi/g	0.13	< 1.42	
Th-227	-0.23 +/- 0.65	0.22 +/- 0.41	pCi/g	0.59	< 1.42	
Th-234	0.7 +/- 1.5	1.8 +/- 1.1	pCi/g	0.63	< 1.42	
Tl-208	0.59 +/- 0.17	0.44 +/- 0.16	pCi/g	0.65	< 1.42	
U-235	0.21 +/- 0.40	-0.29 +/- 0.45	pCi/g	0.83	< 1.42	
Zn-65	-0.05 +/- 0.22	0.00 +/- 0.17	pCi/g	0.19	< 1.42	

Comments:

Qualifiers/Flags:

W - DER is greater than Warning Limit of 1.42

H - DER is Higher han Control Limit of 2.13

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

DER - Duplicate Error Ratio

Data Package ID: *GSS0307113-1*

PARAGON ANALYTICS, INC.
Radiochemistry Data Package

3

Section 3

INDIVIDUAL SAMPLE RESULTS

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Thursday, July 31, 2003 10:57:33

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307113

Field ID: L #1

Lab ID: 0307113-1

Sample Matrix: Soil
Date Prepared: 25-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02172

Date Collected: 16-Jul-03
Date Analyzed: 28-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030820D03A

Final Aliquot: 327.7 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.48 +/- 0.42	0.55	pCi/g	
Ag-110m	0.015 +/- 0.078	0.14	pCi/g	U
Al-26	0.026 +/- 0.066	0.12	pCi/g	U
Am-241	-0.15 +/- 0.45	0.81	pCi/g	U
Be-7	0.63 +/- 0.64	1.0	pCi/g	U
Bi-212	1.8 +/- 1.2	1.7	pCi/g	TI
Bi-214	0.57 +/- 0.24	0.29	pCi/g	
Cd-109	3.9 +/- 2.9	4.5	pCi/g	U
Ce-139	-0.013 +/- 0.058	0.10	pCi/g	U
Ce-144	0.24 +/- 0.40	0.66	pCi/g	U
Co-56	0.10 +/- 0.20	0.34	pCi/g	U
Co-57	0.021 +/- 0.051	0.087	pCi/g	U
Co-58	-0.028 +/- 0.080	0.16	pCi/g	U
Co-60	-0.026 +/- 0.084	0.17	pCi/g	U
Cr-51	-0.09 +/- 0.75	1.4	pCi/g	U
Cs-134	0.054 +/- 0.074	0.12	pCi/g	U
Cs-137	0.056 +/- 0.084	0.14	pCi/g	U
Eu-152	0.04 +/- 0.36	0.69	pCi/g	U
Eu-154	-0.11 +/- 0.39	0.78	pCi/g	U
Eu-155	0.20 +/- 0.26	0.42	pCi/g	U
Fe-59	-0.10 +/- 0.19	0.38	pCi/g	U
I-131	-0.08 +/- 0.19	0.36	pCi/g	U
K-40	18.4 +/- 4.1	1.8	pCi/g	
Mn-54	-0.006 +/- 0.080	0.15	pCi/g	U
Na-22	-0.044 +/- 0.086	0.18	pCi/g	U
Nb-94	0.056 +/- 0.074	0.12	pCi/g	U

Data Package ID: *GSS0307113-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Thursday, July 31, 2003 10:57:34

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307113

Field ID: L #1

Lab ID: 0307113-1

Sample Matrix: Soil
Date Prepared: 25-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02172

Date Collected: 16-Jul-03
Date Analyzed: 28-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030820D03A

Final Aliquot: 327.7 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.033 +/- 0.069	0.14	pCi/g	U
Pa-234m	-3 +/- 14	26	pCi/g	U
Pb-212	1.54 +/- 0.35	0.25	pCi/g	
Pb-214	0.70 +/- 0.22	0.29	pCi/g	
Ru-106	1.02 +/- 0.74	1.1	pCi/g	U
Sb-124	0.037 +/- 0.084	0.14	pCi/g	U
Sb-125	-0.15 +/- 0.17	0.35	pCi/g	U
Sc-46	0.010 +/- 0.089	0.16	pCi/g	U
Th-227	-0.23 +/- 0.65	1.2	pCi/g	U
Th-234	0.7 +/- 1.5	2.4	pCi/g	U
Tl-208	0.59 +/- 0.17	0.14	pCi/g	
U-235	0.21 +/- 0.40	0.67	pCi/g	U
Zn-65	-0.05 +/- 0.22	0.41	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0307113-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Thursday, July 31, 2003 10:57:34

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307113

Field ID: L #1

Lab ID: 0307113-1-D1

Sample Matrix: Soil
Date Prepared: 25-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02172

Date Collected: 16-Jul-03
Date Analyzed: 30-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030982D07A

Final Aliquot: 327.7
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.83 +/- 0.48	0.52	pCi/g	
Ag-110m	-0.088 +/- 0.090	0.19	pCi/g	U
Al-26	-0.007 +/- 0.080	0.18	pCi/g	U
Am-241	0.11 +/- 0.13	0.20	pCi/g	U
Be-7	0.05 +/- 0.70	1.3	pCi/g	U
Bi-212	1.1 +/- 1.3	2.0	pCi/g	U
Bi-214	0.74 +/- 0.27	0.34	pCi/g	
Cd-109	2.0 +/- 1.9	3.0	pCi/g	U
Ce-139	-0.003 +/- 0.058	0.10	pCi/g	U
Ce-144	-0.31 +/- 0.35	0.67	pCi/g	U
Co-56	-0.02 +/- 0.22	0.41	pCi/g	U
Co-57	0.024 +/- 0.045	0.075	pCi/g	U
Co-58	-0.017 +/- 0.091	0.18	pCi/g	U
Co-60	0.01 +/- 0.11	0.20	pCi/g	U
Cr-51	-0.19 +/- 0.81	1.5	pCi/g	U
Cs-134	-0.007 +/- 0.093	0.17	pCi/g	U
Cs-137	-0.03 +/- 0.10	0.19	pCi/g	U
Eu-152	0.17 +/- 0.38	0.69	pCi/g	U
Eu-154	-0.25 +/- 0.46	0.97	pCi/g	U
Eu-155	0.08 +/- 0.18	0.31	pCi/g	U
Fe-59	-0.06 +/- 0.17	0.36	pCi/g	U
I-131	0.09 +/- 0.25	0.43	pCi/g	U
K-40	19.0 +/- 4.4	2.1	pCi/g	
Mn-54	0.086 +/- 0.094	0.15	pCi/g	U
Na-22	-0.01 +/- 0.12	0.22	pCi/g	U
Nb-94	-0.017 +/- 0.090	0.17	pCi/g	U
Nb-95	-0.040 +/- 0.092	0.18	pCi/g	U

Data Package ID: *GSS0307113-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Thursday, July 31, 2003 10:57:34

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307113

Field ID: L #1

Lab ID: 0307113-1-D1

Sample Matrix: Soil

Date Prepared: 25-Jul-03

Prep SOP: PAI 739R6

Prep Batch: GS02172

Date Collected: 16-Jul-03

Date Analyzed: 30-Jul-03

Analytical SOP: PAI 713R8

Spectrum Code: 030982D07A

Final Aliquot: 327.7

Aliquot Units: g

Report Basis: Dry Weight

Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Pa-234m	2 +/- 12	24	pCi/g	U
Pb-212	1.72 +/- 0.37	0.22	pCi/g	
Pb-214	0.80 +/- 0.23	0.27	pCi/g	
Ru-106	-0.09 +/- 0.64	1.3	pCi/g	U
Sb-124	-0.04 +/- 0.11	0.20	pCi/g	U
Sb-125	-0.10 +/- 0.20	0.39	pCi/g	U
Sc-46	0.027 +/- 0.090	0.16	pCi/g	U
Th-227	0.22 +/- 0.41	0.70	pCi/g	U
Th-234	1.8 +/- 1.1	2.1	pCi/g	U
Tl-208	0.44 +/- 0.16	0.18	pCi/g	
U-235	-0.29 +/- 0.45	0.82	pCi/g	U
Zn-65	0.00 +/- 0.17	0.34	pCi/g	U

Data Package ID: *GSS0307113-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Thursday, July 31, 2003 10:57:34

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307113

Field ID: L #1

Lab ID: 0307113-1-D1

Sample Matrix: Soil

Date Prepared: 25-Jul-03

Prep SOP: PAI 739R6

Prep Batch: GS02172

Date Collected: 16-Jul-03

Date Analyzed: 30-Jul-03

Analytical SOP: PAI 713R8

Spectrum Code: 030982D07A

Final Aliquot: 327.7

Aliquot Units: g

Report Basis: Dry Weight

Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier

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.

* - Duplicate DER not within control limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0307113-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Thursday, July 31, 2003 10:57:34

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307113

Field ID: L #2

Lab ID: 0307113-2

Sample Matrix: Soil
Date Prepared: 25-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02172

Date Collected: 16-Jul-03
Date Analyzed: 30-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030983D07A

Final Aliquot: 339.1 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.11 +/- 0.36	0.47	pCi/g	
Ag-110m	0.023 +/- 0.075	0.13	pCi/g	U
Al-26	0.00 +/- 0.10	0.21	pCi/g	U
Am-241	-0.08 +/- 0.12	0.23	pCi/g	U
Be-7	0.16 +/- 0.68	1.2	pCi/g	U
Bi-212	0.6 +/- 1.4	2.4	pCi/g	U
Bi-214	0.71 +/- 0.27	0.28	pCi/g	
Cd-109	3.2 +/- 1.5	2.0	pCi/g	SI
Ce-139	0.016 +/- 0.062	0.11	pCi/g	U
Ce-144	-0.27 +/- 0.32	0.62	pCi/g	U
Co-56	0.14 +/- 0.19	0.30	pCi/g	U
Co-57	0.009 +/- 0.043	0.074	pCi/g	U
Co-58	0.033 +/- 0.062	0.11	pCi/g	U
Co-60	0.000 +/- 0.099	0.19	pCi/g	U
Cr-51	0.05 +/- 0.80	1.4	pCi/g	U
Cs-134	-0.027 +/- 0.078	0.15	pCi/g	U
Cs-137	-0.022 +/- 0.087	0.17	pCi/g	U
Eu-152	0.06 +/- 0.29	0.59	pCi/g	U
Eu-154	0.10 +/- 0.36	0.68	pCi/g	U
Eu-155	0.16 +/- 0.19	0.30	pCi/g	U
Fe-59	-0.16 +/- 0.22	0.47	pCi/g	U
I-131	0.02 +/- 0.18	0.33	pCi/g	U
K-40	21.2 +/- 4.7	1.7	pCi/g	
Mn-54	-0.076 +/- 0.087	0.18	pCi/g	U
Na-22	0.011 +/- 0.098	0.19	pCi/g	U
Nb-94	-0.011 +/- 0.090	0.17	pCi/g	U

Data Package ID: *GSS0307113-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Thursday, July 31, 2003 10:57:34

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0307113

Field ID: L #2

Lab ID: 0307113-2

Sample Matrix: Soil
Date Prepared: 25-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02172

Date Collected: 16-Jul-03
Date Analyzed: 30-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030983D07A

Final Aliquot: 339.1 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.002 +/- 0.098	0.18	pCi/g	U
Pa-234m	-6 +/- 12	25	pCi/g	U
Pb-212	1.60 +/- 0.35	0.24	pCi/g	
Pb-214	0.74 +/- 0.21	0.22	pCi/g	
Ru-106	-0.18 +/- 0.71	1.4	pCi/g	U
Sb-124	-0.002 +/- 0.089	0.17	pCi/g	U
Sb-125	0.13 +/- 0.19	0.37	pCi/g	U
Sc-46	-0.044 +/- 0.076	0.16	pCi/g	U
Th-227	-0.13 +/- 0.41	0.75	pCi/g	U
Th-234	2.4 +/- 1.3	1.8	pCi/g	TI
Tl-208	0.42 +/- 0.15	0.16	pCi/g	
U-235	0.42 +/- 0.42	0.67	pCi/g	U
Zn-65	-0.01 +/- 0.24	0.45	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0307113-1*

APPENDIX T

Waste Manifests

UST's

USEcology Texas
P.O. Box 307
Robstown, Texas 78380

361-387-3518
Fax: 361-387-0794

USEcology Texas
an American Ecology company

June 10, 2003

Mr. Willie Bremer
New World Technology
448 Commerce Way
Livermore, CA 94551

RE: TECO W/S# 09-004-8047
Waste Stream Name: Monozite Sand
Generator: US Navy, National Naval MED Center
Expiration 5/28/04

Dear Mr. Bremer:

Your Waste Stream Disposal Information form for the above waste stream has been approved.

Under conditions of our operating permit, Texas Ecologists is required to inform you that we have all the appropriate permits in order to manage your waste stream. We have received the requisite permits to operate a TSD facility. Our TNRCC permit was renewed on December 2, 1999 and our permit number is HW-50052.

The Texas Uniform Hazardous Waste Manifest (TNRCC Form 0311), appropriate LDR form/certification and Truck Inventory Sheet (if shipping in drums) must accompany each shipment. To obtain a supply of manifests, you may write:

Texas Natural Resource Conservation Commission (TNRCC)
P.O. Box 13087 - Capitol Station
Austin, Texas 78711

Please notify the Texas facility at 800-242-3209 at least 48 hours prior to shipment and provide the facility with the following information:

- Date of Shipment
- Approximate Date of Delivery
- U.S. EPA Generator ID Number
- Waste Stream Number(s)
- Total quantity of each waste stream number being shipped

Any shipment arriving at the facility without prior scheduling and all the appropriate paperwork will be subject to rejection.

Should you have any questions, please contact your Texas Ecologists Technical Sales Representative at (800) 242-3209. Please refer to the Texas Ecologists waste stream number above when making inquiries.

Sincerely,

Donna Howard /tc

Donna Howard
Customer Service Manager

WASTE TRANSPORTATION AND DISPOSAL AGREEMENT

Contract No.: 03002

This Waste Transportation and Disposal Agreement (this "Agreement") is entered into as of this 20 day of Jan, 2003 by and between US ECOLOGY TEXAS a(n) TEXAS Corporation and, an American Ecology Corporation subsidiary having offices at 300 E. Mallard, Suite 300, Boise Idaho 83706, ("Company") and NEW WORLD TECHNOLOGY a(n) CALIFORNIA Corporation having offices at 448 COMMERCE WAY, LIVERMORE CA 94551 (Customer)

Customer, in the course of its business, generates or manages certain waste material, hereinafter referred to as "Waste", which requires treatment, storage and/or disposal services. Company has facilities and the ability to transport, treat, store, and dispose of Waste in a lawful manner. In consideration of the agreements set forth here, the parties agree as follows:

I. CONTRACTING PROCEDURE - Customer shall submit to Company a completed Waste Product Questionnaire ("WPQ") describing Waste to be managed, and provide a representative sample (if requested by Company). Submission of a completed WPQ shall constitute Customer's request that Company accept for treatment, storage and/or disposal the Waste described therein. Company shall indicate its approval of the WPQ by sending customer a written Waste approval letter and Pricing Addendum that sets forth pricing and specific terms and conditions for Waste receipt. Nothing herein shall require Company to perform an exhaustive analysis of the Waste in order to identify each and every constituent or contaminant contained in the Waste, nor shall any such sampling, analysis, or measurement relieve Customer of its responsibility for the conformance of the Waste with the specifications set forth in the subject WPQ. Company offers no guarantee or commitment that it will accept any particular type of Waste upon receipt of a WPQ submitted by Customer.

II. NONCONFORMING WASTE - Company shall have the right to reject and return to Customer any Waste which deviates from the specifications set forth in the WPQ or contained in any representative sample or supporting information (including analyses), or Waste that contains constituents or physical characteristics not permitted by the terms of the WPQ or contained in any representative sample or supporting information (including analyses) which would alter the hazard, risk, or costs assumed by Company in conjunction with its performance hereunder, or cause Company to be in non- compliance with any permit (such Waste referred to as "Nonconforming"). Company shall have the right to reject Waste which in Company's reasonable sole opinion and judgment is Nonconforming. In the event Company rejects Nonconforming Waste, Customer shall pay Company's reasonable charges for the handling, analysis, transportation, any necessary repackaging, and time involved in return of such Nonconforming Waste to Customer.

III. TITLE AND LIABILITY- Title to the Waste together with all responsibility and liability in connection therewith, shall pass to Company upon Company's acceptance of the Waste at Company's facility, unless under the provisions of this Agreement shipment of the Waste is the responsibility of Company, in which event title, responsibility and liability shall pass upon delivery to and acceptance by Company at the commencement of shipment. Title and liability for Nonconforming Waste shall at all times remain with Customer, notwithstanding the fact that physical possession of Nonconforming Waste may have passed to Company. Company may revoke acceptance of Waste at any time, even following disposal, if Waste is determined to be Nonconforming. If title to Waste is revoked at any time by Company, Customer shall pay all costs associated with removal, repackaging, and transportation of the Waste to Customer.

IV. LOADING AND TRANSPORTATION- Shipment of the Waste shall be the responsibility of Customer under provisions specified in the attached Technical and Transportation Requirements Addendum unless Customer arranges with Company to provide transportation. Company shall comply with all applicable statutes, rules, regulations and ordinances of the United States and all applicable state and local regulations in moving, handling, transporting and disposing of the Waste. Customer shall be responsible for proper, legal loading of the Waste on vehicles provided or arranged for by Company. The parties agree and understand that reasonable, justified refusal by drivers or other employees of Company or its subcontractors to load handle, transport or dispose of Nonconforming Waste will not be considered a breach of this Agreement.

V. COMPANY WARRANTIES-COMPANY WARRANTS AND REPRESENTS TO CUSTOMER:

A. Company has appropriate expertise and is engaged in the business of loading, transporting, storing, treating, recycling, and disposing of Waste.

B. Company will load, transport, store, treat, recycle and/or dispose of the Waste in compliance with all valid and applicable statutes, ordinances, orders, rules and regulations of the federal, state and local governments in whose jurisdiction such activities are performed under this Agreement.

VI. CUSTOMER WARRANTIES-CUSTOMER WARRANTS AND REPRESENTS TO COMPANY:

A. The data and information set forth herein including the WPQ(s) are correct and in accordance with all applicable waste regulations.

B. The Waste to be delivered to Company will conform to the description provided in the WPQ(s) and any representative samples or supporting information (including analyses).

C. Customer warrants that it has advised Company of all known potential health and/or environmental problems associated with the Waste.

VII. INDEMNIFICATION

A. COMPANY INDEMNIFICATION- Company shall indemnify and hold harmless Customer, its officers, directors, employees and agents, from such civil penalties, claims and causes of action (including court costs and reasonable attorneys' fees) as may be brought on account of death or bodily injury to any person; destruction or damage to any property; injury to, destruction of, or loss of natural resources; or any violation of any federal or state law, regulation or municipal ordinance, and which result from or arise out of Company's negligence, willful misconduct, breach of warranty or failure to perform services in accordance with this Agreement. Company's duty to indemnify is inapplicable to the extent that such penalties, claims, or causes of action result from Customer's delivery to Company of Nonconforming Waste.

B. CUSTOMER INDEMNIFICATION-Customer shall indemnify and hold harmless Company, its officers, directors, employees and agents, from such civil penalties, claims and causes of action (including court costs and reasonable attorneys fees) as may be brought on account of death or bodily injury to any person; destruction or damage to any property; injury to, destruction of, or loss of natural resources; or any violation of any federal or state law, regulation or municipal ordinance, and which result from or arise out of Customer's negligence.

willful misconduct, breach of warranty, delivery to Company of Nonconforming Waste, or failure of Customer to perform its responsibilities under this Agreement.

C. Notwithstanding the foregoing, neither party will be liable for, and each party waives and releases any claims against the other party for any consequential damages, including lost revenues, lost profit, or loss of prospective economic advantage resulting from performance or failure to perform under this Agreement, whether or not the party was advised of the possibility of such damages.

VIII. INDEPENDENT CONTRACTOR- Company is and shall be an independent contractor in the performance of all services under this Agreement. Company shall exercise exclusive control of the operation and activities of all employees, agents and subcontractors of Company at all times. Neither Company nor Customer shall have any authority to employ any person as an employee, agent or subcontractor for or on behalf of the other.

IX. CONFIDENTIALITY- Company and Customer shall treat as confidential and not disclose to others during or subsequent to the term of this Agreement, except as is necessary to perform this Agreement, any information regarding either party's plans, programs, plants, processes, products, costs, equipment, operations or customers which may come within the knowledge of the parties in the performance of this Agreement. This clause does not prevent disclosures required by law. The foregoing obligations shall survive the termination of this Agreement.

X. FORCE MAJEURE- The parties agree that any delay or failure of either party to perform its obligations under this Agreement, except for the payment of money for services already rendered, shall be excused if and to the extent caused by acts of God, strikes, action of regulatory agencies, fire, flood, windstorm, explosion, riot, war, sabotage or other cause or causes beyond the reasonable control of the party affected. Company also shall be excused from performance of this Agreement, if Company loses or has suspended any license, permit, or other authorization necessary for fulfilling its obligations. Both parties shall provide prompt notice of such delay and to work diligently in attempting to remove such cause or causes.

XI. SAVINGS CLAUSE- If any part of this Agreement becomes invalid for whatever reasons, the validity of the Agreement as a whole or of any other part will not be affected.

XII. PAYMENT- Company will submit the original of each invoice to the following Customer address:

NEW WORLD TECHNOLOGY

448 COMMERCE WAY

LIVERMORE, CA 94551

Payments shall be made in cash at the time Waste is accepted for disposal by Company unless credit has been approved by Company, in which event, payment shall be made within 30 days of invoice date at the following address, P.O. Box 25273, Salt Lake City, UT 84126-0273. All amounts due and payable for more than thirty (30) days after invoice date shall bear interest at the rate of one and one-half percent (1 1/2%) per month. Customer will notify Company of any disputed amounts within thirty (30) days of receiving the invoice. The portion of any invoice that is not disputed within such period shall be deemed accepted by Customer. During the ten (10) business days following notification of a disputed amount, the Parties will attempt to resolve any disputed portions of such invoice and, if resolved, an adjusted payment will be submitted to Company for the agreed to amount.

XIII. ASSIGNMENT- Neither party shall assign any of its rights or obligations under this Agreement without the prior written consent of the other party, provided that Company may sub-contract parts of its obligations to qualified parties.

XIV. ENTIRE AGREEMENT- This Agreement, including the Pricing Addendum, Technical and Transportation Requirements Addendum, and any WPQ approved by the parties, contains the entire agreement between the parties with regard to the matters dealt with in this Agreement. No modifications or amendments shall be of any force or effect unless they are in writing and signed by the parties to be bound. This Agreement supersedes and takes precedence over any prior agreement between the parties.

XV. GOVERNING LAW- This Agreement shall be construed and interpreted in accordance with federal laws and the laws of the state in which Company's facility is located.

XVI. ASSIGNS AND SUCCESSORS- The covenants and agreements contained in the Agreement shall apply to the parties hereto and their permitted respective heirs, executors, administrators, assigns and successors in interest.

XVII. NOTICE- Any notice, communication or statement required or permitted to be given hereunder shall be in writing and shall be deemed to have been sufficiently given when delivered either in person or by registered or certified mail, postage prepaid, return receipt requested, to the appropriate address listed in the signature section of this Agreement.

XVIII. TERM OF AGREEMENT- The term of this Agreement shall be for a period of three (3) years from the date hereof and shall be automatically renewed on the anniversary date thereof for a like period until such time as either party terminates the Agreement in accordance with the provisions contained herein. Prices stated in the Pricing Addendum may be changed by Company by giving Customer notice in writing of such change at least seven (7) days before the effective date thereof. If any change in price is refused by Customer, Company may terminate this Agreement upon immediate written notice to Customer.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed by their duly authorized representatives.

THE COMPANY

BY: _____

Name: SIMON BELL

TITLE: FACILITY MGR. (GRAND VIEW)

Date: 01/20/2003

THE CUSTOMER

BY: _____

Name: Michael Wilson

TITLE: Chief Executive Officer

Date: June 16, 2003

PRICING ADDENDUM TO WASTE TRANSPORTATION AND DISPOSAL AGREEMENT

☐ US Ecology Idaho, Inc
P.O. Box 400
10.5 miles NW on Hwy 78, Lemley Road
Grand View, ID 83624
(800) 274-1516, (208) 834-2275
Fax (208) 834-2919
EPA ID #: IDD073114654

☐ US Ecology (Beatty, NV)
P.O. Box 578
Highway 95, 11 miles South of Beatty
Beatty, NV 89003
(800) 239-3943, (775) 553-2203
Fax (775) 553-2125
EPA ID #: NVT330010000

☑ Texas Ecologists
P.O. Box 307
3.5 Miles on Petronila Road
Robstown, TX 78380
(800) 242-3209, (361) 387-3518
Fax (361) 387-0577
EPA ID #: TXD069452340

Date: 06/04/2003 Addendum #: 1
Contract #: 03002 Contract Date: 01/20/2003
WPQ REFERENCE: 090048047 - 0
Waste Description: MONOZITE SAND
EPA Waste Codes

Customer: NEW WORLD TECHNOLOGY
Address: 448 COMMERCE WAY
LIVERMORE CA 94550
Contact: WILLIE BREMER
Phone: (925) 443 7967 Fax: (925) 443 011

Generator US NAVY, NATIONAL NAVAL MED CENTER
8901 WISCONSIN AVE.
BETHESDA MD 20889561
EPA #

Invoice Address
448 COMMERCE WAY
LIVERMORE CA 94550
Contact: WILLIE BREMER
Phone: (925) 443 7967 Fax: (925) 443 0119

PRICING

Group #		Unit Price	Units
1	DIRECT LANDFILL	$4,400.00	TANK
1	FEE	$7.50	TONS(2000 LBS)

TERMS OF AGREEMENT (IF ANY):

PRICING ABOVE INCLUDES DISPOSAL AT US ECOLOGY TEXAS AND APPLICABLE STATE OF TEXAS DISPOSAL FEES/TAXES.
PAYMENT SHALL BE MADE IN CASH AT THE TIME WASTE IS ACCEPTED FOR DISPOSAL UNLESS CREDIT HAS BEEN APPROVED.

THIS ADDENDUM IS INCORPORATED INTO AND IS A PART OF THE WASTE TRANSPORTATION AND DISPOSAL AGREEMENT BETWEEN CUSTOMER AND COMPANY REFERRED TO ABOVE. THIS ADDENDUM IS NOT A BINDING AGREEMENT UNLESS AND UNTIL SIGNED BY AN AUTHORIZED REPRESENTATIVE OF COMPANY. PRICES IN THIS ADDENDUM ARE VALID ONLY AT FACILITY INDICATED BELOW

CUSTOMER:
Signature: Michael Wilson
Printed Name and Title: Michael Wilson
Chief Executive Officer
Date: June 16, 2003

FACILITY:
Signature:
Printed Name and Title:
Date:

CONSERVATION COMMISSION
P.O. Box 13087
Austin, Texas 78711-3087

WO#2366

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form approved. OMB No. 2050-0039.

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. MD 4 1 7 0 0 2 4 6 8 7 Manifest Document No. 0000
2. Page 1 of 1

Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
US NAVY, NATIONAL NAVAL MED CENTER
8901 WISCONSIN AVE CODE 5400
Bethesda, MD 20889-5600
4. Generator's Phone (301) 295-2527

A. State Manifest Document Number 02063209
B. State Generator's ID 9924

5. Transporter 1 Company Name
R&R TRUCKING INC.
6. US EPA ID Number MOR000501973

C. State Transporter's ID HW 85493
D. Transporter's Phone 800-625-6885

7. Transporter 2 Company Name
8. US EPA ID Number

E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address
TEXAS ECOLOGISTS
3.5 MILES S ON PETRONILA ROAD
ROBSTOWN, TX 78380
10. US EPA ID Number TXD069452340

G. State Facility's ID 50052
H. Facility's Phone 800-242-3209

11A. HM	11. US DOT Description (including Proper Shipping Name, Hazard Class, ID Number and Packing Group)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	Waste No.
	a. NON-RCRA; US DOT EXEMPT MATERIAL - metal tanks	002	TP	2600	P	OUT5319
	b.					
	c.					
	d.					

J. Additional Descriptions for Materials Listed Above
SHIPMENT No. USN-2000-035-TS
APPROVAL Number 090048047 TW 2400 #

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
EMERGENCY RESPONSE No. NEW WORLD TECHNOLOGY 925-443-7967

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packaged, marked, and labelled/placarded, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, including applicable state regulations.
If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

GENERATOR

Printed/Typed Name: Clarence S. Brandt
Signature: Clarence S. Brandt
Month Day Year: 6 27 03

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: John Slayton
Signature: John Slayton
Date: Month 6 Day 27 Year 03

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Date: Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.
Printed/Typed Name: JILL ALBERT
Signature: Jill Albert
Date: Month 06 Day 30 Year 03

TNRCC-0311 (Rev. 07/01/97) White - original Pink-TSD Facility Yellow-Transporter Green-Generator's first copy

Building 150

NWT
SHIPMENT ACKNOWLEDGMENT

Consignee: Please sign below after receiving and accepting this shipment. If a NRC form 540 or a Hazardous Waste manifest is included with this shipment, please sign Block 9, "Authorized consignee acknowledging waste receipt", or consignee block.

Please fax to: **New World Technology**

FAX No. 925-443-0119

Shipment No. :	USN 2000-035-DCSF

Manifest No. :	USN 2000-035-DCSF
Consignor:	NWT for US Navy, National Naval Medical Ctr
Consignee:	Duratek Consolidation Services Facility
Date of Shipment:	7/17/03

Signature of Consignee:	[illegible]
Date of Receipt:	7/21/03

This above information is intended to satisfy the requirements of 10 CFR 20, appendix F.

FARRELL
5926
w/o 110795

SCD-0092-03

FORM 540

CHEM-NUCLEAR CONSOLIDATION FACILITY

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

SHIPPING PAPER

1. EMERGENCY TELEPHONE NUMBER (Include Area Code): 925-443-7967

ORGANIZATION: New World Technology

2. IS THIS AN "EXCLUSIVE USE" SHIPMENT? YES [ ] NO [X]

3. TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST ====> 2

4. DOES EPA REGULATED WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT? YES [ ] NO [X]
If "Yes," provide Manifest Number ====> EPA MANIFEST NUMBER: NA

5. SHIPPER – NAME AND FACILITY
NWT for US Navy, National Naval Medical Ctr
8901 Wisconsin Ave
Bethesda, MD 20889-5600

S.C. TRANSPORT PERMIT NUMBER: 0138-00-03-E
SHIPMENT NUMBER: USN 2000-035-DCSF

CONTACT: Willie Bremer

6. CARRIER – Name and Address
R & R Trucking
P.O. Box 545
Duenweg, MO 64841

CONTACT: Don Ritchie

SIGNATURE – Authorized carrier acknowledging waste receipt: James Ray Farrell

DATE: 7/17/03

SHIPMENT I.D. NUMBER: USN 2000-035-DCSF

[ ] COLLECTOR
[ ] PROCESSOR
[X] GENERATOR TYPE (Specify) G

TELEPHONE NUMBER (Include Area Code): 925-443-7967

EPA I.D. NUMBER: MOR-00-050-1973

SHIPPING DATE: ~~NA~~ 7/17/03

TELEPHONE NUMBER (Include Area Code): 800-625-8885

7. FORM 540 AND 540A — PAGE 1 OF 1 PAGE(S)
FORM 541 AND 541A — 1 PAGE(S)
FORM 542 AND 542A — None PAGE(S)
ADDITIONAL INFORMATION — None PAGE(S)

8. MANIFEST NUMBER (Use this number on all continuation pages): USN 2000-035-DCSF

9. CONSIGNEE - Name and Facility Address
DURATEK (DPSOLIDATION) SERVICES INC
~~Chem Nuclear Systems, LLC~~
~~Chem Nuclear Consolidati~~
Hwy 64 (1 mile west of Snelling)
Barnwell, SC 29812

CONTACT: ~~John Lesko~~ Ron BLACK

TELEPHONE NUMBER (Include Area Code): 803-259-1119

SIGNATURE - Authorized consignee acknowledging waste receipt: John W. [illegible]

DATE: 7/18/03

10. CERTIFICATION

This is to certify that the herein-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. This also certifies that the materials are classified, packaged, marked, and labeled and are in proper condition for transportation and disposal as described in accordance with the requirements of 10 CFR Parts 20 and 61, or equivalent state regulations.

AUTHORIZED SIGNATURE: Richard [illegible] TITLE: NWT, BROKER DATE: 7/17/03

11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name, hazard class, UN ID number, and any additional information	12. DOT LABEL "RADIOACTIVE"	13. TRANSPORT INDEX	14. PHYSICAL AND CHEMICAL FORM	15. INDIVIDUAL RADIONUCLIDES	16. TOTAL PACKAGE ACTIVITY MBq	mCi	17. LSA/SCO CLASS	18. TOTAL WEIGHT OR VOLUME (Use appropriate units)	19. IDENTIFICATION NUMBER OF PACKAGE
U.S. D.O.T. Exempt Material-Debris	NA	NA	Solid oxides	Co-60 H-3	1.2802E+00	3.4600E-02	NA	3500. LBS; 44. FT3	NNMC-1
U.S. D.O.T. Exempt Material-Debris	NA	NA	Solid oxides	Co-60	1.0730E+00	2.9000E-02	NA	4000. LBS; 96. FT3	NNMC-2

FOR CONSIGNEE USE ONLY

20. "Certification is hereby made to the South Carolina Department of Health and Environmental Control that this shipment of low-level radioactive waste has been inspected in accordance with the requirements of South Carolina Radioactive Material License 287-04 as amended, and the effective consolidation facility acceptance criteria, within 48 hours prior to shipment, and further certification is made that the inspection revealed no items of non-compliance with all applicable laws, rules, and regulations."

Date 7/17/03 Signature Richard [illegible]
Title and Organization NWT, BROKER
Telephone No. (~~803~~) 803-507-1529 / 925-443-7967

FORM 540 (10-96)

FORM 541 CHEM-NUCLEAR CONSOLIDATION FACILITY

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

CONTAINER AND WASTE DESCRIPTION

Additional Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer and Disposal of Radioactive Waste

1. MANIFEST TOTALS

NUMBER OF PACKAGES/ DISPOSAL CONTAINERS	NET WASTE VOLUME	NET WASTE WEIGHT	SPECIAL NUCLEAR MATERIAL (grams) U-233	U-235	Pu	TOTAL
2	m3 3.9643 ft3 140.0000	kg 3401.9430 lb 7500.0000	NP	NP	NP	NP

ACTIVITY	ALL NUCLIDES	TRITIUM	C-14	Tc-99	I-129	SOURCE	
MBq	2.3532E+00	3.1820E-01	NP	NP	NP	(kgs)	NA
mCi	6.3600E-02	8.6000E-03	NP	NP	NP	(lbs)	NA

2. MANIFEST NUMBER
USN 2000-035-DCSF

3. PAGE 1 OF 1 PAGE(S)

4. SHIPPER NAME
NWT for US Navy, National Nava
SCN-0097-03

SHIPMENT ID NUMBER
USN 2000-035-DCSF

DISPOSAL CONTAINER DESCRIPTION							WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER								
							PHYSICAL DESCRIPTION			14. CHEMICAL DESCRIPTION		15. RADIOLOGICAL DESCRIPTION			16. WASTE CLASSIFICATION AS-Class A Stable AU-Class A Unstable B-Class B C-Class C
5. CONTAINER IDENTIFICATION NUMBER / S.C. TRANSPORT PERMIT NUMBER	6. CONTAINER DESCRIPTION (See Note 1 & Note 1A)	7. VOLUME (m3) / (ft3)	8. WASTE AND CONTAINER WEIGHT (kg) / (lb)	9. SURFACE RADIATION LEVEL mSv/hr / mrem/hr	10. SURFACE CONTAMINATION MBq/100 cm2 / dpm/100 cm2 ALPHA	BETA-GAMMA	11. WASTE DESCRIPTOR (See Note 2 & Note 2A)	12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER (m3) / (FT3)	13. SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3 & Note 3A)	CHEMICAL FORM/ CHELATING AGENT	WEIGHT % CHELATING AGENT IF>0.1%	INDIVIDUAL RADIONUCLIDES AND ACTIVITY (MBq) AND CONTAINER TOTAL, OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT: RADIONUCLIDES	MBq	mCi	
NNMC-1/0138-00-03-E	2	1.2459 44.0000	1587.5734 3500.0000	<1.0000E-03 <1.000E-01	<1.6700E-08 <1.000E+02	<1.6700E-05 <1.000E+03	69-DEBRIS (CONCRETE, METAL, SOIL, PLASTIC)-H	1.2459 44.0000	100 100	oxides/None	0.00	Co-60 H-3 -------- Subtotal ======== Total	9.6200E-01 3.1820E-01 -------- 1.2802E+00 ======== 1.2802E+00	2.6000E-02 8.6000E-03 -------- 3.4600E-02 ======== 3.4600E-02	AU
NNMC-2/0138-00-03-E	~~NA~~ rev 2	2.7184 96.0000	1814.3696 4000.0000	<1.0000E-03 <1.000E-01	<1.6700E-08 <1.000E+02	<1.6700E-05 <1.000E+03	69-DEBRIS (CONCRETE, METAL, SOIL, PLASTIC)-H	2.7184 96.0000	100 100	oxides/None	0.00	Co-60 -------- Subtotal ======== Total	1.0730E+00 -------- 1.0730E+00 ======== 1.0730E+00	2.9000E-02 -------- 2.9000E-02 ======== 2.9000E-02	AU
Shipment Totals		3.9643 140.0000	3401.9430 7500.0000										2.3532E+00	6.3600E-02	

NOTE 1: Container Description Codes. For containers/ waste requiring disposal in approved structural over-packs the numerical code must be followed by "-OP."

1. Wooden Box or Crate
2. Metal Box
3. Plastic Drum or Pail
4. Metal Drum or Pail
5. Metal Tank or Liner
6. Concrete Tank or Liner
7. Polyethlene Tank or Liner
8. Fiberglass Tank or Liner
9. Demineralizer
10. Gas Cylinder
11. Bulk, Unpackaged Waste
12. Unpackaged Components
13. High Integrity Container
19. Other Describe in Item 6, or additional page.

Note 1A: Barnwell Specific Container Description Codes. (Choose one code as may be applicable.)

A High Integrity Container - Poly
B High Integrity Container - Poly with Steel Shell
C High Integrity Drum Overpack - Poly
D High Integrity Container - Stainless Steel
E High Integrity Container - Fiberglass
F Liner - Steel

NOTE 2: Waste Descriptor Codes. (Choose up to three which predominate by volume.)

20. Charcoal
21. Incinerator Ash
22. Soil
23. Gas
24. Oil
25. Aqueous Liquid
26. Filter Media
27. Mechanical Filter
28. EPA or State Hazardous
29. Demolition Rubble
30. Cation Ion-exchange Media
31. Anion Ion-exchange Media
32. Mixed Bed Ion-exchange Media
33. Contaminated Equipment
34. Organic Liquid (except oil)
35. Glassware or Labware
36. Sealed Source/Device
37. Paint or Plating
38. Evaporator Bottoms/Sludges/ Concentrates
39. Compactible Trash
40. Noncompactible Trash
41. Animal Carcass
42. Biological Material (except animal carcass)
43. Activated Material
59. Other Describe in item 11, or additional page

Note 2A: Barnwell Specific Waste Descriptor Codes (Choose all applicable codes.)

G Dewatered
H Solid
I Combustible
J Non-combustible
K Air Filtration Filters
L Asbestos

Note 3: Solidification and Stabilization Media Codes. (Choose up to three which predominate by volume.) For media meeting disposal site structural stability requirements, the numerical code must be followed by "-S" and the media vendor and brand name must also be identified in Item 13. Code 100=NONE REQUIRED.

Solidification

90. Cement
91. Concrete (encapsulation)
92. Bitumen
93. Vinyl Chloride
94. Vinyl Ester Styrene
99. Other Describe in item 13, or additional page
100. None Required.

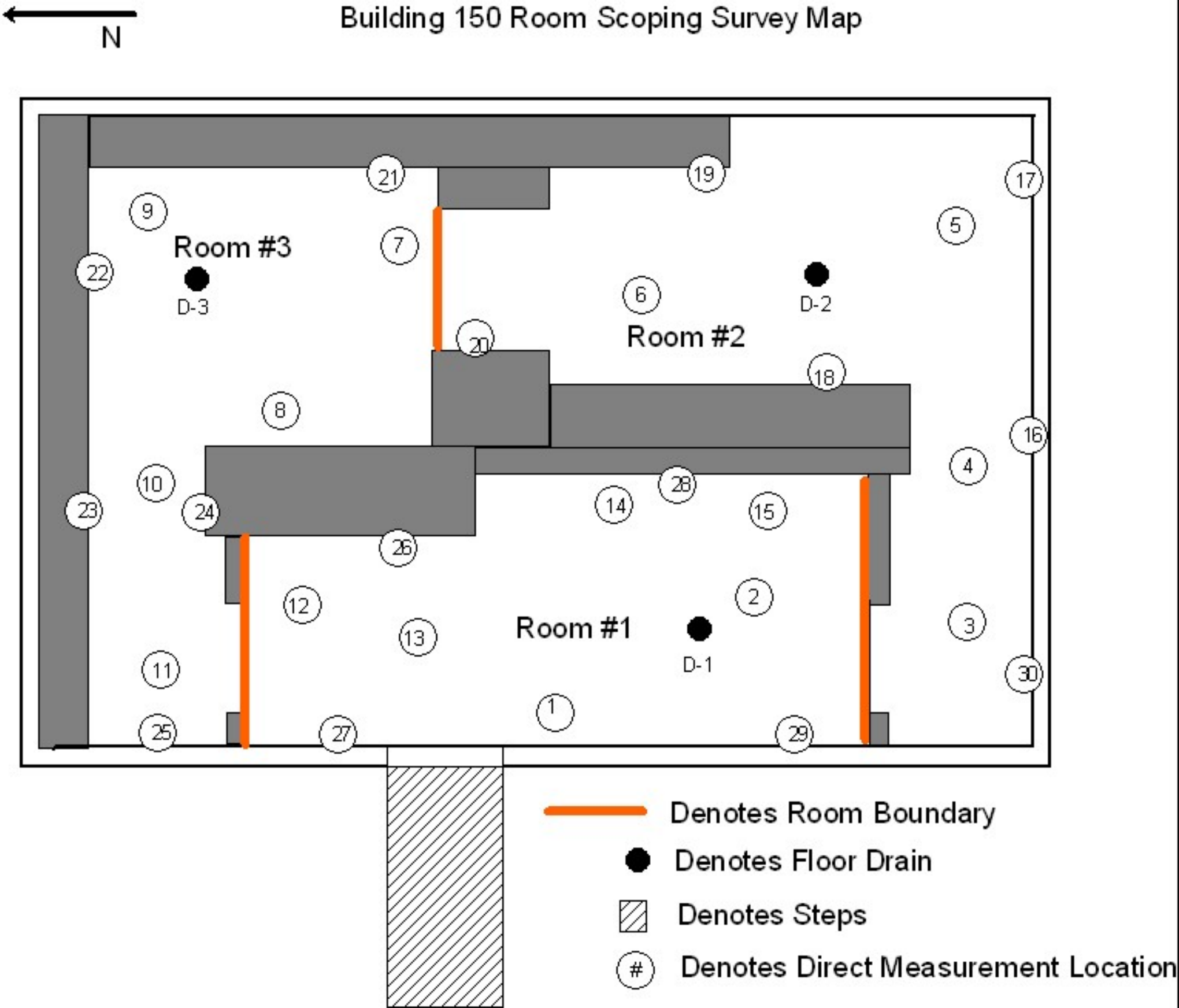
Note 3A: Barnwell Specific Solidification and Stabilization Media Codes (Choose this code if applicable)

M Wax Binder

APPENDIX U

Building 150 Scoping Survey Data

Building 150 Room Scoping Survey Map



New World Technology, Inc.
Scoping Survey Data Sheet

Project/Location:	Bethesda NNMC Building 150				
Instrument Model:	2224		Instrument Serial No.	118242	
			Instrument Efficiency:	0.34	
Last Calibration Date:	05/30/2003		Surface Efficiency Factor:	0.25	
Detector Model:	43-68		Detector Serial No.:	147403	
			Detector Size:	126	cm^2
Today's Date:	06/05/2003		Data Collected by:	Richard Kountz	
	Alpha	X	Beta-Gamma		Other
Remarks:	Scoping Survey		Count Time:	1 Minutes	

Count Number		Count (x)	$(x - \overline{x})$		$(x - \overline{x})^2$
1	Walls	172	2.466666667		6.084444444
2	Walls	168	-1.533333333		2.351111111
3	Walls	194	24.46666667		598.6177778
4	Walls	187	17.46666667		305.0844444
5	Walls	167	-2.533333333		6.417777778
6	Walls	150	-19.53333333		381.5511111
7	Walls	168	-1.533333333		2.351111111
8	Walls	156	-13.53333333		183.1511111
9	Walls	144	-25.53333333		651.9511111
10	Walls	144	-25.53333333		651.9511111
11	Walls	179	9.466666667		89.61777778
12	Walls	146	-23.53333333		553.8177778
13	Walls	228	58.46666667		3418.351111
14	Walls	175	5.466666667		29.88444444
15	Walls	173	3.466666667		12.01777778
16	Floor	176	6.466666667		41.81777778
17	Floor	145	-24.53333333		601.8844444
18	Floor	153	-16.53333333		273.3511111
19	Floor	139	-30.53333333		932.2844444
20	Floor	175	5.466666667		29.88444444
21	Floor	162	-7.533333333		56.75111111
22	Floor	198	28.46666667		810.3511111
23	Floor	222	52.46666667		2752.751111
24	Floor	221	51.46666667		2648.817778
25	Floor	163	-6.533333333		42.68444444
26	Floor	152	-17.53333333		307.4177778
27	Floor	146	-23.53333333		553.8177778
28	Floor	157	-12.53333333		157.0844444
29	Floor	146	-23.53333333		553.8177778
30	Floor	180	10.46666667		109.5511111
Mean Count: $\overline{x}$		169.53		SUM	16765.46667
Standard Deviation (σ)		24.04		Variance:	578.12
Average Count Rate:			169.53	CPM + -	48.09 CPM
Average Activity Level:			1582.94	$dpm/100cm^2$	Activity Level Standard Deviation: 224.50
Calculations Completed by:			Dan Spicuzza		

NEW WORLD TECHNOLOGY, INC.

New World Technology, Inc.
Scoping Survey Data Sheet

Project/Location:	Bethesda NNMC Building 150				
Instrument Model:	2224		Instrument Serial No.	118242	
			Instrument Efficiency:	0.29	
Last Calibration Date:	05/30/2003		Surface Efficiency Factor:	0.25	
Detector Model:	43-68		Detector Serial No.:	147403	
			Detector Size:	126	cm^2
Today's Date:	06/05/2003		Data Collected by:	Richard Kountz	

X	Alpha		Beta-Gamma		Other	
Remarks:	Scoping Survey		Count Time:	1 Minutes		

Count Number		Count (x)	$(x - \overline{x})$		$(x - \overline{x})^2$
1	Walls	2	0.9		0.81
2	Walls	1	-0.1		0.01
3	Walls	1	-0.1		0.01
4	Walls	3	1.9		3.61
5	Walls	0	-1.1		1.21
6	Walls	1	-0.1		0.01
7	Walls	2	0.9		0.81
8	Walls	1	-0.1		0.01
9	Walls	0	-1.1		1.21
10	Walls	2	0.9		0.81
11	Walls	1	-0.1		0.01
12	Walls	0	-1.1		1.21
13	Walls	0	-1.1		1.21
14	Walls	0	-1.1		1.21
15	Walls	1	-0.1		0.01
16	Floor	2	0.9		0.81
17	Floor	3	1.9		3.61
18	Floor	0	-1.1		1.21
19	Floor	2	0.9		0.81
20	Floor	0	-1.1		1.21
21	Floor	1	-0.1		0.01
22	Floor	1	-0.1		0.01
23	Floor	2	0.9		0.81
24	Floor	0	-1.1		1.21
25	Floor	2	0.9		0.81
26	Floor	1	-0.1		0.01
27	Floor	2	0.9		0.81
28	Floor	0	-1.1		1.21
29	Floor	1	-0.1		0.01
30	Floor	1	-0.1		0.01
Mean Count: $\overline{x}$		1.10		SUM	24.7
Standard Deviation (σ)		0.92		Variance:	0.85
Average Count Rate:			1.10	CPM + -	1.85 CPM
Average Activity Level:			12.04	$dpm/100cm^2$	Activity Level Standard Deviation: 10.10
Calculations Completed by:			Dan Spicuzza		

NEW WORLD TECHNOLOGY, INC.

APPENDIX V

Building Surface Background Reference Area Survey Data

New World Technology
Background Determination Data Sheet

Project/Location:	Bethesda NNMC	Building 176			
Instrument Model:	2224		Instrument Serial No.	146713	
Last Calibration Date:	05/30/2003				
Detector Model:	43-68		Detector Serial No.:	160688	
Today's Date:	06/12/2003		Data Collected by:	Roger Freeman	
	Alpha	X	Beta-Gamma		Other
Remarks:	Background Determination				
Type of Surface:	Concrete		Count Time:	1 Minutes	

Count Number	Count (x)	$(x - \overline{x})$		$(x - \overline{x})^2$
1	273	-1.17		1.36
2	248	-26.17		684.69
3	272	-2.17		4.69
4	233	-41.17		1694.69
5	294	19.83		393.36
6	258	-16.17		261.36
7	304	29.83		890.03
8	260	-14.17		200.69
9	289	14.83		220.03
10	273	-1.17		1.36
11	288	13.83		191.36
12	296	21.83		476.69
13	288	13.83		191.36
14	262	-12.17		148.03
15	306	31.83		1013.36
16	247	-27.17		738.03
17	293	18.83		354.69
18	287	12.83		164.69
19	235	-39.17		1534.03
20	275	0.83		0.69
21	257	-17.17		294.69
22	284	9.83		96.69
23	283	8.83		78.03
24	280	5.83		34.03
25	264	-10.17		103.36
26	285	10.83		117.36
27	266	-8.17		66.69
28	284	9.83		96.69
29	263	-11.17		124.69
30	278	3.83		14.69
Mean Count: $\overline{x}$	274.17		SUM	9165.22
Standard Deviation (σ)	18.75		Variance:	316.04
Background Count Rate:		274.17	CPM + -	37.49 CPM
Calculations Completed by:		Dan Spicuzza		

New World Technology
Background Determination Data Sheet

Project/Location:	Bethesda NNMC	Building 174 Floor			
Instrument Model:	2224		Instrument Serial No.	146713	
Last Calibration Date:	05/30/2003				
Detector Model:	43-68		Detector Serial No.:	160688	
Today's Date:	06/12/2003		Data Collected by:	Roger Freeman	
	Alpha	X	Beta-Gamma		Other
Remarks:	Background Determination				
Type of Surface:	Concrete		Count Time:	1 Minutes	

Count Number	Count (x)	$(x - \overline{x})$		$(x - \overline{x})^2$
1	281	22.67		513.78
2	265	6.67		44.44
3	286	27.67		765.44
4	263	4.67		21.78
5	254	-4.33		18.78
6	236	-22.33		498.78
7	289	30.67		940.44
8	265	6.67		44.44
9	240	-18.33		336.11
10	279	20.67		427.11
11	257	-1.33		1.78
12	259	0.67		0.44
13	256	-2.33		5.44
14	251	-7.33		53.78
15	234	-24.33		592.11
16	231	-27.33		747.11
17	265	6.67		44.44
18	236	-22.33		498.78
19	254	-4.33		18.78
20	256	-2.33		5.44
21	243	-15.33		235.11
22	256	-2.33		5.44
23	272	13.67		186.78
24	268	9.67		93.44
25	269	10.67		113.78
26	259	0.67		0.44
27	272	13.67		186.78
28	272	13.67		186.78
29	232	-26.33		693.44
30	250	-8.33		69.44
Mean Count: $\overline{x}$	258.33		SUM	5579.22
Standard Deviation (σ)	15.92		Variance:	192.39
Background Count Rate:		258.33	CPM + -	31.84 CPM
Calculations Completed by:		Dan Spicuzza		

New World Technology
Background Determination Data Sheet

Project/Location:	Bethesda NNMC	Concrete Pad Behind Building 21			
Instrument Model:	2224		Instrument Serial No.	146713	
Last Calibration Date:	05/30/2003				
Detector Model:	43-37		Detector Serial No.:	147964	
Today's Date:	06/23/2003		Data Collected by:	Roger Freeman	
	Alpha	X	Beta-Gamma		Other
Remarks:	Background Determination				
Type of Surface:	Concrete		Count Time:	1 Minutes	

Count Number	Count (x)	$(x - \overline{x})$		$(x - \overline{x})^2$
1	516	-6.33		40.11
2	542	19.67		386.78
3	517	-5.33		28.44
4	550	27.67		765.44
5	522	-0.33		0.11
6	535	12.67		160.44
7	549	26.67		711.11
8	512	-10.33		106.78
9	532	9.67		93.44
10	579	56.67		3211.11
11	553	30.67		940.44
12	532	9.67		93.44
13	521	-1.33		1.78
14	547	24.67		608.44
15	555	32.67		1067.11
16	535	12.67		160.44
17	508	-14.33		205.44
18	474	-48.33		2336.11
19	489	-33.33		1111.11
20	557	34.67		1201.78
21	519	-3.33		11.11
22	560	37.67		1418.78
23	504	-18.33		336.11
24	534	11.67		136.11
25	493	-29.33		860.44
26	492	-30.33		920.11
27	478	-44.33		1965.44
28	466	-56.33		3173.44
29	499	-23.33		544.44
30	500	-22.33		498.78
Mean Count: $\overline{x}$	522.33		SUM	13229.89
Standard Deviation (σ)	28.22		Variance:	456.20
Background Count Rate:		522.33	CPM + -	56.44 CPM
Calculations Completed by:		Dan Spicuzza		

New World Technology
Background Determination Data Sheet

Project/Location:	Bethesda NNMC	Building 176			
Instrument Model:	2224		Instrument Serial No.	146713	
Last Calibration Date:	05/30/2003				
Detector Model:	43-37		Detector Serial No.:	148504	
Today's Date:	06/11/2003		Data Collected by:	Alan Campellone	
	Alpha	X	Beta-Gamma		Other
Remarks:	Background Determination				
Type of Surface:	Concrete		Count Time:	1 Minutes	

Count Number	Count (x)	$(x - \overline{x})$		$(x - \overline{x})^2$
1	422	-58.33		3402.78
2	511	30.67		940.44
3	551	70.67		4993.78
4	430	-50.33		2533.44
5	497	16.67		277.78
6	434	-46.33		2146.78
7	549	68.67		4715.11
8	437	-43.33		1877.78
9	466	-14.33		205.44
10	464	-16.33		266.78
11	495	14.67		215.11
12	442	-38.33		1469.44
13	546	65.67		4312.11
14	487	6.67		44.44
15	452	-28.33		802.78
16	427	-53.33		2844.44
17	462	-18.33		336.11
18	421	-59.33		3520.44
19	518	37.67		1418.78
20	519	38.67		1495.11
21	456	-24.33		592.11
22	450	-30.33		920.11
23	565	84.67		7168.44
24	552	71.67		5136.11
25	439	-41.33		1708.44
26	425	-55.33		3061.78
27	526	45.67		2085.44
28	516	35.67		1272.11
29	484	3.67		13.44
30	467	-13.33		177.78
Mean Count: $\overline{x}$	480.33		SUM	37818.89
Standard Deviation (σ)	45.47		Variance:	1304.10
Background Count Rate:		480.33	CPM + -	90.94 CPM
Calculations Completed by:		Dan Spicuzza		

New World Technology
Background Determination Data Sheet

Project/Location:	Bethesda NNMC	Building 174 Floor			
Instrument Model:	2224		Instrument Serial No.	146713	
Last Calibration Date:	05/30/2003				
Detector Model:	43-37		Detector Serial No.:	148504	
Today's Date:	06/11/2003		Data Collected by:	Roger Freeman	
	Alpha	X	Beta-Gamma		Other
Remarks:	Background Determination				
Type of Surface:	Concrete		Count Time:	1 Minutes	

Count Number	Count (x)	$(x - \overline{x})$		$(x - \overline{x})^2$
1	557	-55.03		3028.67
2	586	-26.03		677.73
3	587	-25.03		626.67
4	588	-24.03		577.60
5	608	-4.03		16.27
6	591	-21.03		442.40
7	601	-11.03		121.73
8	609	-3.03		9.20
9	600	-12.03		144.80
10	626	13.97		195.07
11	604	-8.03		64.53
12	621	8.97		80.40
13	634	21.97		482.53
14	626	13.97		195.07
15	641	28.97		839.07
16	598	-14.03		196.93
17	621	8.97		80.40
18	620	7.97		63.47
19	585	-27.03		730.80
20	637	24.97		623.33
21	619	6.97		48.53
22	626	13.97		195.07
23	647	34.97		1222.67
24	608	-4.03		16.27
25	632	19.97		398.67
26	604	-8.03		64.53
27	642	29.97		898.00
28	595	-17.03		290.13
29	625	12.97		168.13
30	623	10.97		120.27
Mean Count: $\overline{x}$	612.03		SUM	9196.69
Standard Deviation (σ)	20.86		Variance:	317.13
Background Count Rate:		612.03	CPM + -	41.72 CPM
Calculations Completed by:		Dan Spicuzza		

New World Technology
Background Determination Data Sheet

Project/Location:	Bethesda NNMC	Building 176			
Instrument Model:	2224		Instrument Serial No.	146713	
Last Calibration Date:	05/30/2003				
Detector Model:	43-68		Detector Serial No.:	160688	
Today's Date:	06/12/2003		Data Collected by:	Roger Freeman	
X	Alpha		Beta-Gamma		Other
Remarks:	Background Determination				
Type of Surface:	Concrete		Count Time:	1 Minutes	

Count Number	Count (x)	$(x - \overline{x})$		$(x - \overline{x})^2$
1	1	-0.67		0.44
2	0	-1.67		2.78
3	1	-0.67		0.44
4	2	0.33		0.11
5	0	-1.67		2.78
6	1	-0.67		0.44
7	3	1.33		1.78
8	0	-1.67		2.78
9	0	-1.67		2.78
10	2	0.33		0.11
11	3	1.33		1.78
12	0	-1.67		2.78
13	0	-1.67		2.78
14	2	0.33		0.11
15	4	2.33		5.44
16	0	-1.67		2.78
17	1	-0.67		0.44
18	2	0.33		0.11
19	4	2.33		5.44
20	1	-0.67		0.44
21	1	-0.67		0.44
22	2	0.33		0.11
23	3	1.33		1.78
24	3	1.33		1.78
25	3	1.33		1.78
26	6	4.33		18.78
27	0	-1.67		2.78
28	0	-1.67		2.78
29	3	1.33		1.78
30	2	0.33		0.11
Mean Count: $\overline{x}$	1.67		SUM	36.56
Standard Deviation (σ)	1.54		Variance:	1.26
Background Count Rate:		1.67	CPM + -	3.08 CPM
Calculations Completed by:		Dan Spicuzza		

New World Technology
Background Determination Data Sheet

Project/Location:	Bethesda NNMC	Concrete Pad Outside Building 21			
Instrument Model:	2224		Instrument Serial No.	146713	
Last Calibration Date:	05/30/2003				
Detector Model:	43-68		Detector Serial No.:	160688	
Today's Date:	06/12/2003		Data Collected by:	Roger Freeman	
X	Alpha		Beta-Gamma		Other
Remarks:	Background Determination				
Type of Surface:	Concrete		Count Time:	1 Minutes	

Count Number	Count (x)	$(x - \overline{x})$		$(x - \overline{x})^2$
1	5	-1.00		1.00
2	6	0.00		0.00
3	4	-2.00		4.00
4	8	2.00		4.00
5	5	-1.00		1.00
6	5	-1.00		1.00
7	9	3.00		9.00
8	5	-1.00		1.00
9	7	1.00		1.00
10	6	0.00		0.00
11	7	1.00		1.00
12	8	2.00		4.00
13	7	1.00		1.00
14	6	0.00		0.00
15	9	3.00		9.00
16	8	2.00		4.00
17	5	-1.00		1.00
18	6	0.00		0.00
19	6	0.00		0.00
20	5	-1.00		1.00
21	8	2.00		4.00
22	4	-2.00		4.00
23	4	-2.00		4.00
24	5	-1.00		1.00
25	6	0.00		0.00
26	4	-2.00		4.00
27	8	2.00		4.00
28	7	1.00		1.00
29	4	-2.00		4.00
30	3	-3.00		9.00
Mean Count: $\overline{x}$	6.00		SUM	43.00
Standard Deviation (σ)	1.64		Variance:	1.48
Background Count Rate:		6.00	CPM + -	3.28 CPM
Calculations Completed by:		Dan Spicuzza		

New World Technology
Background Determination Data Sheet

Project/Location:	Bethesda NNMC	Building 176			
Instrument Model:	2224		Instrument Serial No.	146713	
Last Calibration Date:	05/30/2003				
Detector Model:	43-37		Detector Serial No.:	148504	
Today's Date:	06/11/2003		Data Collected by:	Jerry Medley	
X	Alpha		Beta-Gamma		Other
Remarks:	Background Determination				
Type of Surface:	Concrete		Count Time:	1 Minutes	

Count Number	Count (x)	$(x - \overline{x})$		$(x - \overline{x})^2$
1	4	0.47		0.22
2	4	0.47		0.22
3	3	-0.53		0.28
4	3	-0.53		0.28
5	2	-1.53		2.35
6	4	0.47		0.22
7	2	-1.53		2.35
8	8	4.47		19.95
9	2	-1.53		2.35
10	5	1.47		2.15
11	7	3.47		12.02
12	5	1.47		2.15
13	2	-1.53		2.35
14	4	0.47		0.22
15	1	-2.53		6.42
16	1	-2.53		6.42
17	4	0.47		0.22
18	2	-1.53		2.35
19	1	-2.53		6.42
20	5	1.47		2.15
21	4	0.47		0.22
22	4	0.47		0.22
23	4	0.47		0.22
24	3	-0.53		0.28
25	1	-2.53		6.42
26	2	-1.53		2.35
27	5	1.47		2.15
28	3	-0.53		0.28
29	5	1.47		2.15
30	6	2.47		6.08
Mean Count: $\overline{x}$	3.53		SUM	71.09
Standard Deviation (σ)	1.78		Variance:	2.45
Background Count Rate:		3.53	CPM + -	3.55 CPM
Calculations Completed by:		Dan Spicuzza		

New World Technology
Background Determination Data Sheet

Project/Location:	Bethesda NNMC	Building 174 Floor			
Instrument Model:	2224		Instrument Serial No.	146713	
Last Calibration Date:	05/30/2003				
Detector Model:	43-37		Detector Serial No.:	148504	
Today's Date:	06/12/2003		Data Collected by:	Roger Freeman	
X	Alpha		Beta-Gamma		Other
Remarks:	Background Determination				
Type of Surface:	Concrete		Count Time:	1 Minutes	

Count Number	Count (x)	$(x - \overline{x})$		$(x - \overline{x})^2$
1	3	-1.73		3.00
2	4	-0.73		0.54
3	5	0.27		0.07
4	4	-0.73		0.54
5	4	-0.73		0.54
6	3	-1.73		3.00
7	5	0.27		0.07
8	5	0.27		0.07
9	6	1.27		1.60
10	7	2.27		5.14
11	4	-0.73		0.54
12	3	-1.73		3.00
13	5	0.27		0.07
14	4	-0.73		0.54
15	5	0.27		0.07
16	4	-0.73		0.54
17	3	-1.73		3.00
18	4	-0.73		0.54
19	2	-2.73		7.47
20	3	-1.73		3.00
21	6	1.27		1.60
22	5	0.27		0.07
23	5	0.27		0.07
24	6	1.27		1.60
25	7	2.27		5.14
26	6	1.27		1.60
27	8	3.27		10.67
28	7	2.27		5.14
29	4	-0.73		0.54
30	5	0.27		0.07
Mean Count: $\overline{x}$	4.73		SUM	33.36
Standard Deviation (σ)	1.44		Variance:	1.15
Background Count Rate:		4.73	CPM + -	2.87 CPM
Calculations Completed by:		Dan Spicuzza		

New World Technology
Background Determination Data Sheet

Project/Location:	Bethesda NNMC	Building 174 Floor			
Instrument Model:	2224		Instrument Serial No.	118242	
Last Calibration Date:	05/30/2003				
Detector Model:	43-68		Detector Serial No.:	147403	
Today's Date:	06/12/2003		Data Collected by:	Jerry Medley	
	Alpha	X	Beta-Gamma		Other
Remarks:	Background Determination				
Type of Surface:	Concrete		Count Time:	1 Minutes	

Count Number	Count (x)	$(x - \overline{x})$		$(x - \overline{x})^2$
1	228	-0.70		0.49
2	211	-17.70		313.29
3	218	-10.70		114.49
4	213	-15.70		246.49
5	213	-15.70		246.49
6	239	10.30		106.09
7	232	3.30		10.89
8	246	17.30		299.29
9	215	-13.70		187.69
10	233	4.30		18.49
11	237	8.30		68.89
12	260	31.30		979.69
13	225	-3.70		13.69
14	242	13.30		176.89
15	247	18.30		334.89
16	193	-35.70		1274.49
17	220	-8.70		75.69
18	214	-14.70		216.09
19	256	27.30		745.29
20	213	-15.70		246.49
21	229	0.30		0.09
22	250	21.30		453.69
23	232	3.30		10.89
24	216	-12.70		161.29
25	226	-2.70		7.29
26	238	9.30		86.49
27	221	-7.70		59.29
28	212	-16.70		278.89
29	244	15.30		234.09
30	238	9.30		86.49
Mean Count: $\overline{x}$	228.70		SUM	5675.8
Standard Deviation (σ)	15.60		Variance:	195.72
Background Count Rate:		228.70	CPM + -	31.19 CPM
Calculations Completed by:		Dan Spicuzza		

New World Technology
Background Determination Data Sheet

Project/Location:	Bethesda NNMC	Building 176			
Instrument Model:	2224		Instrument Serial No.	146713	
Last Calibration Date:	05/30/2003				
Detector Model:	43-37		Detector Serial No.:	147964	
Today's Date:	06/11/2003		Data Collected by:	Jerry Medley	
	Alpha	X	Beta-Gamma		Other
Remarks:	Background Determination				
Type of Surface:	Concrete		Count Time:	1 Minutes	

Count Number	Count (x)	$(x - \overline{x})$		$(x - \overline{x})^2$
1	397	-15.63		244.40
2	436	23.37		546.00
3	427	14.37		206.40
4	383	-29.63		878.13
5	384	-28.63		819.87
6	446	33.37		1113.33
7	382	-30.63		938.40
8	403	-9.63		92.80
9	444	31.37		983.87
10	437	24.37		593.73
11	419	6.37		40.53
12	402	-10.63		113.07
13	379	-33.63		1131.20
14	386	-26.63		709.33
15	401	-11.63		135.33
16	431	18.37		337.33
17	390	-22.63		512.27
18	416	3.37		11.33
19	440	27.37		748.93
20	426	13.37		178.67
21	441	28.37		804.67
22	429	16.37		267.87
23	439	26.37		695.20
24	422	9.37		87.73
25	380	-32.63		1064.93
26	404	-8.63		74.53
27	409	-3.63		13.20
28	420	7.37		54.27
29	417	4.37		19.07
30	389	-23.63		558.53
Mean Count: $\overline{x}$	412.63		SUM	10334.96
Standard Deviation (σ)	21.95		Variance:	356.38
Background Count Rate:		412.63	CPM + -	43.90 CPM
Calculations Completed by:		Dan Spicuzza		

New World Technology
Background Determination Data Sheet

Project/Location:	Bethesda NNMC	Building 174 Floor			
Instrument Model:	2224		Instrument Serial No.	118242	
Last Calibration Date:	05/30/2003				
Detector Model:	43-37		Detector Serial No.:	147964	
Today's Date:	06/11/2003		Data Collected by:	Roger Freeman	
	Alpha	X	Beta-Gamma		Other
Remarks:	Background Determination				
Type of Surface:	Concrete		Count Time:	1 Minutes	

Count Number	Count (x)	$(x - \overline{x})$		$(x - \overline{x})^2$
1	410	-62.03		3848.13
2	452	-20.03		401.33
3	481	8.97		80.40
4	447	-25.03		626.67
5	504	31.97		1021.87
6	465	-7.03		49.47
7	455	-17.03		290.13
8	436	-36.03		1298.40
9	453	-19.03		362.27
10	474	1.97		3.87
11	476	3.97		15.73
12	500	27.97		782.13
13	472	-0.03		0.00
14	477	4.97		24.67
15	460	-12.03		144.80
16	452	-20.03		401.33
17	469	-3.03		9.20
18	503	30.97		958.93
19	439	-33.03		1091.20
20	471	-1.03		1.07
21	487	14.97		224.00
22	465	-7.03		49.47
23	451	-21.03		442.40
24	475	2.97		8.80
25	523	50.97		2597.60
26	470	-2.03		4.13
27	495	22.97		527.47
28	511	38.97		1518.40
29	481	8.97		80.40
30	507	34.97		1222.67
Mean Count: $\overline{x}$	472.03		SUM	11411.62
Standard Deviation (σ)	24.97		Variance:	393.50
Background Count Rate:		472.03	CPM + -	49.95	CPM
Calculations Completed by:		Dan Spicuzza			

New World Technology
Background Determination Data Sheet

Project/Location:	Bethesda NNMC	Building 176			
Instrument Model:	2224		Instrument Serial No.	118242	
Last Calibration Date:	05/30/2003				
Detector Model:	43-68		Detector Serial No.:	147403	
Today's Date:	06/12/2003		Data Collected by:	Roger Freeman	
X	Alpha		Beta-Gamma		Other
Remarks:	Background Determination				
Type of Surface:	Concrete		Count Time:	1 Minutes	

Count Number	Count (x)	$(x - \overline{x})$		$(x - \overline{x})^2$
1	3	1.03		1.07
2	1	-0.97		0.93
3	1	-0.97		0.93
4	1	-0.97		0.93
5	0	-1.97		3.87
6	4	2.03		4.13
7	3	1.03		1.07
8	3	1.03		1.07
9	1	-0.97		0.93
10	0	-1.97		3.87
11	1	-0.97		0.93
12	1	-0.97		0.93
13	3	1.03		1.07
14	3	1.03		1.07
15	1	-0.97		0.93
16	5	3.03		9.20
17	2	0.03		0.00
18	3	1.03		1.07
19	1	-0.97		0.93
20	3	1.03		1.07
21	0	-1.97		3.87
22	1	-0.97		0.93
23	2	0.03		0.00
24	2	0.03		0.00
25	2	0.03		0.00
26	2	0.03		0.00
27	5	3.03		9.20
28	3	1.03		1.07
29	1	-0.97		0.93
30	1	-0.97		0.93
Mean Count: $\overline{x}$	1.97		SUM	36.02222222
Standard Deviation (σ)	1.35		Variance:	1.24
Background Count Rate:		1.97	CPM + -	2.70 CPM
Calculations Completed by:		Dan Spicuzza		

New World Technology
Background Determination Data Sheet

Project/Location:	Bethesda NNMC	Building 174 Floor			
Instrument Model:	2224		Instrument Serial No.	118242	
Last Calibration Date:	05/30/2003				
Detector Model:	43-68		Detector Serial No.:	147403	
Today's Date:	06/12/2003		Data Collected by:	Roger Freeman	
X	Alpha		Beta-Gamma		Other
Remarks:	Background Determination				
Type of Surface:	Concrete		Count Time:	1 Minutes	

Count Number	Count (x)	$(x - \overline{x})$		$(x - \overline{x})^2$
1	5	-1.17		1.36
2	6	-0.17		0.03
3	6	-0.17		0.03
4	5	-1.17		1.36
5	4	-2.17		4.69
6	6	-0.17		0.03
7	6	-0.17		0.03
8	6	-0.17		0.03
9	3	-3.17		10.03
10	8	1.83		3.36
11	5	-1.17		1.36
12	7	0.83		0.69
13	5	-1.17		1.36
14	8	1.83		3.36
15	4	-2.17		4.69
16	7	0.83		0.69
17	6	-0.17		0.03
18	4	-2.17		4.69
19	9	2.83		8.03
20	7	0.83		0.69
21	4	-2.17		4.69
22	8	1.83		3.36
23	5	-1.17		1.36
24	8	1.83		3.36
25	6	-0.17		0.03
26	9	2.83		8.03
27	8	1.83		3.36
28	9	2.83		8.03
29	5	-1.17		1.36
30	6	-0.17		0.03
Mean Count: $\overline{x}$	6.17		SUM	46.55555556
Standard Deviation (σ)	1.66		Variance:	1.61
Background Count Rate:		6.17	CPM + -	3.33 CPM
Calculations Completed by:		Dan Spicuzza		

New World Technology
Background Determination Data Sheet

Project/Location:	Bethesda NNMC	Building 176			
Instrument Model:	2224		Instrument Serial No.	118242	
Last Calibration Date:	05/30/2003				
Detector Model:	43-37		Detector Serial No.:	147964	
Today's Date:	06/11/2003		Data Collected by:	Alan Campellone	
X	Alpha		Beta-Gamma		Other
Remarks:	Background Determination				
Type of Surface:	Concrete		Count Time:	1 Minutes	

Count Number	Count (x)	$(x - \overline{x})$		$(x - \overline{x})^2$
1	3	-2.27		5.14
2	1	-4.27		18.20
3	2	-3.27		10.67
4	9	3.73		13.94
5	1	-4.27		18.20
6	9	3.73		13.94
7	1	-4.27		18.20
8	6	0.73		0.54
9	8	2.73		7.47
10	8	2.73		7.47
11	7	1.73		3.00
12	4	-1.27		1.60
13	8	2.73		7.47
14	2	-3.27		10.67
15	4	-1.27		1.60
16	2	-3.27		10.67
17	9	3.73		13.94
18	3	-2.27		5.14
19	3	-2.27		5.14
20	9	3.73		13.94
21	4	-1.27		1.60
22	8	2.73		7.47
23	4	-1.27		1.60
24	8	2.73		7.47
25	7	1.73		3.00
26	10	4.73		22.40
27	2	-3.27		10.67
28	7	1.73		3.00
29	6	0.73		0.54
30	3	-2.27		5.14
Mean Count: $\overline{x}$	5.27		SUM	186.96
Standard Deviation (σ)	2.94		Variance:	6.45
Background Count Rate:		5.27	CPM + -	5.87 CPM
Calculations Completed by:		Dan Spicuzza		

New World Technology
Background Determination Data Sheet

Project/Location:	Bethesda NNMC	Building 176			
Instrument Model:	2350-1		Instrument Serial No.	142489	
Last Calibration Date:	03/19/2003				
Detector Model:	44-10		Detector Serial No.:	168673	
Today's Date:	06/10/2003		Data Collected by:	Dan Spicuzza	
	Alpha	Beta-Gamma	X	Gamma	
Remarks:	Background Determination				
Type of Surface:	Drain Pipe		Count Time:	1 Minutes	

Count Number	Count (x)	$(x - \overline{x})$		$(x - \overline{x})^2$
1	222	3.07		9.40
2	229	10.07		101.34
3	202	-16.93		286.74
4	207	-11.93		142.40
5	226	7.07		49.94
6	222	3.07		9.40
7	224	5.07		25.67
8	202	-16.93		286.74
9	225	6.07		36.80
10	216	-2.93		8.60
11	201	-17.93		321.60
12	239	20.07		402.67
13	235	16.07		258.14
14	212	-6.93		48.07
15	212	-6.93		48.07
16	235	16.07		258.14
17	215	-3.93		15.47
18	243	24.07		579.20
19	198	-20.93		438.20
20	214	-4.93		24.34
21	216	-2.93		8.60
22	222	3.07		9.40
23	221	2.07		4.27
24	210	-8.93		79.80
25	223	4.07		16.54
26	202	-16.93		286.74
27	224	5.07		25.67
28	228	9.07		82.20
29	216	-2.93		8.60
30	227	8.07		65.07
Mean Count: $\overline{x}$	218.93		SUM	3350.96
Standard Deviation (σ)	11.65		Variance:	115.55
Background Count Rate:		218.93	CPM + -	23.31 CPM
Calculations Completed by:		Dan Spicuzza		

New World Technology
Background Determination Data Sheet

Project/Location:	Bethesda NNMC	Concrete Pad Outside Building 21			
Instrument Model:	2224		Instrument Serial No.	146713	
Last Calibration Date:	05/30/2003				
Detector Model:	43-37		Detector Serial No.:	147964	
Today's Date:	06/23/2003		Data Collected by:	Roger Freeman	
X	Alpha		Beta-Gamma		Other
Remarks:	Background Determination				
Type of Surface:	Concrete		Count Time:	1 Minutes	

Count Number	Count (x)	$(x - \overline{x})$		$(x - \overline{x})^2$
1	4	-0.53		0.28
2	6	1.47		2.15
3	4	-0.53		0.28
4	6	1.47		2.15
5	5	0.47		0.22
6	5	0.47		0.22
7	4	-0.53		0.28
8	6	1.47		2.15
9	3	-1.53		2.35
10	5	0.47		0.22
11	3	-1.53		2.35
12	5	0.47		0.22
13	6	1.47		2.15
14	5	0.47		0.22
15	4	-0.53		0.28
16	5	0.47		0.22
17	3	-1.53		2.35
18	4	-0.53		0.28
19	5	0.47		0.22
20	5	0.47		0.22
21	4	-0.53		0.28
22	5	0.47		0.22
23	5	0.47		0.22
24	3	-1.53		2.35
25	6	1.47		2.15
26	5	0.47		0.22
27	5	0.47		0.22
28	3	-1.53		2.35
29	4	-0.53		0.28
30	3	-1.53		2.35
Mean Count: $\overline{x}$	4.53		SUM	18.82
Standard Deviation (σ)	1.01		Variance:	0.65
Background Count Rate:		4.53	CPM + -	2.02 CPM
Calculations Completed by:		Dan Spicuzza		

APPENDIX W

Open Land Area Background Reference Area Survey Data

Bethesda NNMC Gamma Scan Background Data Sheet

Meter S/N:	142489	Location	Month	Day	Year	Gross CPM
	0	Background Soil	6	9	3	258.91
	1	Background Soil	6	9	3	261.25
	2	Background Soil	6	9	3	296.88
	3	Background Soil	6	9	3	255.00
	4	Background Soil	6	9	3	229.22
	5	Background Soil	6	9	3	234.38
	6	Background Soil	6	9	3	272.34
	7	Background Soil	6	9	3	260.63
	8	Background Soil	6	9	3	248.44
	9	Background Soil	6	9	3	260.86
	10	Background Soil	6	9	3	285.47
	11	Background Soil	6	9	3	270.47
	12	Background Soil	6	9	3	275.63
	13	Background Soil	6	9	3	271.64
	14	Background Soil	6	9	3	263.44
	15	Background Soil	6	9	3	240.47
	16	Background Soil	6	9	3	242.34
	17	Background Soil	6	9	3	240.70
	18	Background Soil	6	9	3	227.11
	19	Background Soil	6	9	3	254.30
	20	Background Soil	6	9	3	247.27
	21	Background Soil	6	9	3	267.66
	22	Background Soil	6	9	3	287.58
	23	Background Soil	6	9	3	288.98
	24	Background Soil	6	9	3	287.81
	25	Background Soil	6	9	3	255.23
	26	Background Soil	6	9	3	270.70
	27	Background Soil	6	9	3	320.16
	28	Background Soil	6	9	3	289.45
	29	Background Soil	6	9	3	301.41
	30	Background Soil	6	9	3	308.44
	31	Background Soil	6	9	3	288.75
	32	Background Soil	6	9	3	299.77
	33	Background Soil	6	9	3	317.34
	34	Background Soil	6	9	3	305.39
	35	Background Soil	6	9	3	303.05
	36	Background Soil	6	9	3	303.05
	37	Background Soil	6	9	3	298.13
	38	Background Soil	6	9	3	289.22
	39	Background Soil	6	9	3	266.48
	40	Background Soil	6	9	3	289.22
	41	Background Soil	6	9	3	321.33
	42	Background Soil	6	9	3	273.05
	43	Background Soil	6	9	3	296.72
	44	Background Soil	6	9	3	273.98
	45	Background Soil	6	9	3	254.30
	46	Background Soil	6	9	3	266.25
	47	Background Soil	6	9	3	268.59
	48	Background Soil	6	9	3	305.86
	49	Background Soil	6	9	3	267.19
	50	Background Soil	6	9	3	259.45
	51	Background Soil	6	9	3	311.02
	52	Background Soil	6	9	3	269.06

Bethesda NNMC Gamma Scan Background Data Sheet

Meter S/N:	142489	Location	Month	Day	Year	Gross CPM
	53	Background Soil	6	9	3	254.06
	54	Background Soil	6	9	3	237.19
	55	Background Soil	6	9	3	307.97
	56	Background Soil	6	9	3	253.59
	57	Background Soil	6	9	3	252.42
	58	Background Soil	6	9	3	236.95
	59	Background Soil	6	9	3	334.22
	60	Background Soil	6	9	3	281.72
	61	Background Soil	6	9	3	288.05
	62	Background Soil	6	9	3	294.84
	63	Background Soil	6	9	3	303.52
	64	Background Soil	6	9	3	288.98
	65	Background Soil	6	9	3	274.92
	66	Background Soil	6	9	3	283.59
	67	Background Soil	6	9	3	284.77
	68	Background Soil	6	9	3	261.09
	69	Background Soil	6	9	3	265.55
	70	Background Soil	6	9	3	233.20
	71	Background Soil	6	9	3	261.80
	72	Background Soil	6	9	3	223.13
	73	Background Soil	6	9	3	285.23
	74	Background Soil	6	9	3	277.97
	75	Background Soil	6	9	3	242.58
	76	Background Soil	6	9	3	251.02
	77	Background Soil	6	9	3	255.70
	78	Background Soil	6	9	3	263.44
	79	Background Soil	6	9	3	290.16
	80	Background Soil	6	9	3	289.69
	81	Background Soil	6	9	3	255.00
	82	Background Soil	6	9	3	281.48
	83	Background Soil	6	9	3	266.02
	84	Background Soil	6	9	3	252.89
	85	Background Soil	6	9	3	287.81
	86	Background Soil	6	9	3	263.91
	87	Background Soil	6	9	3	257.34
	88	Background Soil	6	9	3	258.28
	89	Background Soil	6	9	3	286.41
	90	Background Soil	6	9	3	312.19
	91	Background Soil	6	9	3	316.88
	92	Background Soil	6	9	3	264.38
	93	Background Soil	6	9	3	233.67
	94	Background Soil	6	9	3	258.75
	95	Background Soil	6	9	3	245.86
	96	Background Soil	6	9	3	228.05
	97	Background Soil	6	9	3	221.48
	98	Background Soil	6	9	3	266.48
	99	Background Soil	6	9	3	255.47
					Average CPM:	**271.91**
					Standard Deviation:	**24.86**

Bethesda NNMC Gamma Scan Background Data Sheet

Meter S/N:	142489	Location	Month	Day	Year	Gross CPM
	0	Concrete Background	6	9	3	271.25
	1	Concrete Background	6	9	3	232.05
	2	Concrete Background	6	9	3	257.03
	3	Concrete Background	6	9	3	183.98
	4	Concrete Background	6	9	3	203.91
	5	Concrete Background	6	9	3	231.09
	6	Concrete Background	6	9	3	283.59
	7	Concrete Background	6	9	3	270.94
	8	Concrete Background	6	9	3	264.61
	9	Concrete Background	6	9	3	269.77
	10	Concrete Background	6	9	3	292.50
	11	Concrete Background	6	9	3	247.50
	12	Concrete Background	6	9	3	253.36
	13	Concrete Background	6	9	3	230.86
	14	Concrete Background	6	9	3	240.94
	15	Concrete Background	6	9	3	287.81
	16	Concrete Background	6	9	3	247.50
	17	Concrete Background	6	9	3	239.77
	18	Concrete Background	6	9	3	211.41
	19	Concrete Background	6	9	3	206.95
	20	Concrete Background	6	9	3	198.28
	21	Concrete Background	6	9	3	221.02
	22	Concrete Background	6	9	3	255.70
	23	Concrete Background	6	9	3	237.42
	24	Concrete Background	6	9	3	245.16
	25	Concrete Background	6	9	3	253.83
	26	Concrete Background	6	9	3	281.25
	27	Concrete Background	6	9	3	279.14
	28	Concrete Background	6	9	3	264.14
	29	Concrete Background	6	9	3	271.64
					Average CPM:	**247.81**
					Standard Deviation:	**28.21**

Bethesda NNMC Gamma Scan Background Data Sheet

Meter S/N:	134735	Location	Month	Day	Year	Gross CPM
	0	Background Soil	6	9	3	306.88
	1	Background Soil	6	9	3	313.52
	2	Background Soil	6	9	3	267.89
	3	Background Soil	6	9	3	277.73
	4	Background Soil	6	9	3	274.22
	5	Background Soil	6	9	3	291.33
	6	Background Soil	6	9	3	313.36
	7	Background Soil	6	9	3	286.17
	8	Background Soil	6	9	3	285.47
	9	Background Soil	6	9	3	280.78
	10	Background Soil	6	9	3	296.72
	11	Background Soil	6	9	3	260.63
	12	Background Soil	6	9	3	288.05
	13	Background Soil	6	9	3	307.27
	14	Background Soil	6	9	3	288.98
	15	Background Soil	6	9	3	320.16
	16	Background Soil	6	9	3	321.09
	17	Background Soil	6	9	3	281.48
	18	Background Soil	6	9	3	268.83
	19	Background Soil	6	9	3	271.41
	20	Background Soil	6	9	3	246.33
	21	Background Soil	6	9	3	270.70
	22	Background Soil	6	9	3	246.80
	23	Background Soil	6	9	3	249.38
	24	Background Soil	6	9	3	251.02
	25	Background Soil	6	9	3	240.23
	26	Background Soil	6	9	3	285.47
	27	Background Soil	6	9	3	268.13
	28	Background Soil	6	9	3	270.23
	29	Background Soil	6	9	3	316.17
	30	Background Soil	6	9	3	329.77
	31	Background Soil	6	9	3	333.05
	32	Background Soil	6	9	3	323.44
	33	Background Soil	6	9	3	291.33
	34	Background Soil	6	9	3	247.50
	35	Background Soil	6	9	3	210.70
	36	Background Soil	6	9	3	233.67
	37	Background Soil	6	9	3	255.47
	38	Background Soil	6	9	3	275.39
	39	Background Soil	6	9	3	287.58
	40	Background Soil	6	9	3	300.00
	41	Background Soil	6	9	3	289.92
	42	Background Soil	6	9	3	294.61
	43	Background Soil	6	9	3	279.61
	44	Background Soil	6	9	3	285.94
	45	Background Soil	6	9	3	285.00
	46	Background Soil	6	9	3	260.86
	47	Background Soil	6	9	3	250.31
	48	Background Soil	6	9	3	235.31
	49	Background Soil	6	9	3	269.77
	50	Background Soil	6	9	3	315.94
	51	Background Soil	6	9	3	284.53
	52	Background Soil	6	9	3	266.48

Bethesda NNMC Gamma Scan Background Data Sheet

Meter S/N:	134735	Location	Month	Day	Year	Gross CPM
	53	Background Soil	6	9	3	248.91
	54	Background Soil	6	9	3	308.44
	55	Background Soil	6	9	3	326.72
	56	Background Soil	6	9	3	309.38
	57	Background Soil	6	9	3	306.33
	58	Background Soil	6	9	3	291.33
	59	Background Soil	6	9	3	267.66
	60	Background Soil	6	9	3	284.53
	61	Background Soil	6	9	3	291.56
	62	Background Soil	6	9	3	260.86
	63	Background Soil	6	9	3	293.67
	64	Background Soil	6	9	3	295.78
	65	Background Soil	6	9	3	258.52
	66	Background Soil	6	9	3	205.31
	67	Background Soil	6	9	3	270.00
	68	Background Soil	6	9	3	248.91
	69	Background Soil	6	9	3	305.16
	70	Background Soil	6	9	3	295.55
	71	Background Soil	6	9	3	247.03
	72	Background Soil	6	9	3	262.73
	73	Background Soil	6	9	3	276.33
	74	Background Soil	6	9	3	268.59
	75	Background Soil	6	9	3	298.13
	76	Background Soil	6	9	3	287.11
	77	Background Soil	6	9	3	272.11
	78	Background Soil	6	9	3	251.72
	79	Background Soil	6	9	3	306.80
	80	Background Soil	6	9	3	264.14
	81	Background Soil	6	9	3	300.23
	82	Background Soil	6	9	3	313.13
	83	Background Soil	6	9	3	303.05
	84	Background Soil	6	9	3	272.11
	85	Background Soil	6	9	3	238.13
	86	Background Soil	6	9	3	272.34
	87	Background Soil	6	9	3	248.20
	88	Background Soil	6	9	3	236.48
	89	Background Soil	6	9	3	236.25
	90	Background Soil	6	9	3	260.16
	91	Background Soil	6	9	3	276.09
	92	Background Soil	6	9	3	246.33
	93	Background Soil	6	9	3	240.47
	94	Background Soil	6	9	3	256.88
	95	Background Soil	6	9	3	319.92
	96	Background Soil	6	9	3	334.22
	97	Background Soil	6	9	3	295.78
	98	Background Soil	6	9	3	323.20
	99	Background Soil	6	9	3	369.61
					Average CPM:	**279.98**
					Standard Deviation:	**28.92**

Bethesda NNMC Gamma Scan Background Data Sheet

Meter S/N:	134735	Location	Month	Day	Year	Gross CPM
	0	Concrete Background	6	9	3	216.02
	1	Concrete Background	6	9	3	241.33
	2	Concrete Background	6	9	3	171.09
	3	Concrete Background	6	9	3	158.91
	4	Concrete Background	6	9	3	146.25
	5	Concrete Background	6	9	3	227.58
	6	Concrete Background	6	9	3	305.39
	7	Concrete Background	6	9	3	264.61
	8	Concrete Background	6	9	3	227.34
	9	Concrete Background	6	9	3	244.69
	10	Concrete Background	6	9	3	208.59
	11	Concrete Background	6	9	3	219.84
	12	Concrete Background	6	9	3	213.75
	13	Concrete Background	6	9	3	227.58
	14	Concrete Background	6	9	3	225.94
	15	Concrete Background	6	9	3	279.84
	16	Concrete Background	6	9	3	277.97
	17	Concrete Background	6	9	3	245.39
	18	Concrete Background	6	9	3	244.22
	19	Concrete Background	6	9	3	188.20
	20	Concrete Background	6	9	3	230.16
	21	Concrete Background	6	9	3	235.31
	22	Concrete Background	6	9	3	254.30
	23	Concrete Background	6	9	3	279.61
	24	Concrete Background	6	9	3	240.94
	25	Concrete Background	6	9	3	250.78
	26	Concrete Background	6	9	3	231.56
	27	Concrete Background	6	9	3	245.86
	28	Concrete Background	6	9	3	214.45
	29	Concrete Background	6	9	3	197.34
					Average CPM:	**230.49**
					Standard Deviation:	**35.22**

Bethesda NNMC Gamma Scan Background Data Sheet

Meter S/N:	95337	Location	Month	Day	Year	Gross CPM
	0	Background Soil	6	9	3	247.19
	1	Background Soil	6	9	3	212.34
	2	Background Soil	6	9	3	218.20
	3	Background Soil	6	9	3	251.48
	4	Background Soil	6	9	3	238.59
	5	Background Soil	6	9	3	258.28
	6	Background Soil	6	9	3	251.25
	7	Background Soil	6	9	3	222.19
	8	Background Soil	6	9	3	256.17
	9	Background Soil	6	9	3	251.02
	10	Background Soil	6	9	3	224.53
	11	Background Soil	6	9	3	205.08
	12	Background Soil	6	9	3	280.55
	13	Background Soil	6	9	3	270.94
	14	Background Soil	6	9	3	262.27
	15	Background Soil	6	9	3	246.80
	16	Background Soil	6	9	3	262.97
	17	Background Soil	6	9	3	231.56
	18	Background Soil	6	9	3	244.22
	19	Background Soil	6	9	3	255.47
	20	Background Soil	6	9	3	302.81
	21	Background Soil	6	9	3	283.83
	22	Background Soil	6	9	3	263.44
	23	Background Soil	6	9	3	273.05
	24	Background Soil	6	9	3	324.38
	25	Background Soil	6	9	3	266.72
	26	Background Soil	6	9	3	274.45
	27	Background Soil	6	9	3	270.70
	28	Background Soil	6	9	3	272.58
	29	Background Soil	6	9	3	311.25
	30	Background Soil	6	9	3	334.45
	31	Background Soil	6	9	3	296.02
	32	Background Soil	6	9	3	234.84
	33	Background Soil	6	9	3	263.91
	34	Background Soil	6	9	3	322.97
	35	Background Soil	6	9	3	284.30
	36	Background Soil	6	9	3	296.02
	37	Background Soil	6	9	3	275.63
	38	Background Soil	6	9	3	257.11
	39	Background Soil	6	9	3	283.83
	40	Background Soil	6	9	3	260.16
	41	Background Soil	6	9	3	253.59
	42	Background Soil	6	9	3	288.05
	43	Background Soil	6	9	3	271.17
	44	Background Soil	6	9	3	275.63
	45	Background Soil	6	9	3	254.06
	46	Background Soil	6	9	3	254.06
	47	Background Soil	6	9	3	263.91
	48	Background Soil	6	9	3	300.70
	49	Background Soil	6	9	3	274.69
	50	Background Soil	6	9	3	266.48
	51	Background Soil	6	9	3	279.61
	52	Background Soil	6	9	3	270.94

Bethesda NNMC Gamma Scan Background Data Sheet

Meter S/N:	95337	Location	Month	Day	Year	Gross CPM
	53	Background Soil	6	9	3	261.80
	54	Background Soil	6	9	3	267.42
	55	Background Soil	6	9	3	311.25
	56	Background Soil	6	9	3	287.11
	57	Background Soil	6	9	3	255.23
	58	Background Soil	6	9	3	232.97
	59	Background Soil	6	9	3	261.56
	60	Background Soil	6	9	3	224.30
	61	Background Soil	6	9	3	221.02
	62	Background Soil	6	9	3	259.45
	63	Background Soil	6	9	3	274.92
	64	Background Soil	6	9	3	271.41
	65	Background Soil	6	9	3	301.64
	66	Background Soil	6	9	3	310.08
	67	Background Soil	6	9	3	297.89
	68	Background Soil	6	9	3	278.91
	69	Background Soil	6	9	3	256.64
	70	Background Soil	6	9	3	259.22
	71	Background Soil	6	9	3	273.52
	72	Background Soil	6	9	3	259.45
	73	Background Soil	6	9	3	255.47
	74	Background Soil	6	9	3	248.20
	75	Background Soil	6	9	3	227.58
	76	Background Soil	6	9	3	225.47
	77	Background Soil	6	9	3	255.70
	78	Background Soil	6	9	3	283.83
	79	Background Soil	6	9	3	307.73
	80	Background Soil	6	9	3	314.30
	81	Background Soil	6	9	3	344.06
	82	Background Soil	6	9	3	270.70
	83	Background Soil	6	9	3	263.20
	84	Background Soil	6	9	3	263.44
	85	Background Soil	6	9	3	234.14
	86	Background Soil	6	9	3	233.91
	87	Background Soil	6	9	3	226.41
	88	Background Soil	6	9	3	238.59
	89	Background Soil	6	9	3	256.88
	90	Background Soil	6	9	3	247.97
	91	Background Soil	6	9	3	251.72
	92	Background Soil	6	9	3	254.77
	93	Background Soil	6	9	3	292.73
	94	Background Soil	6	9	3	284.30
	95	Background Soil	6	9	3	282.66
	96	Background Soil	6	9	3	293.91
	97	Background Soil	6	9	3	295.55
	98	Background Soil	6	9	3	282.19
	99	Background Soil	6	9	3	250.08
					Average CPM:	**266.48**
					Standard Deviation:	**27.21**

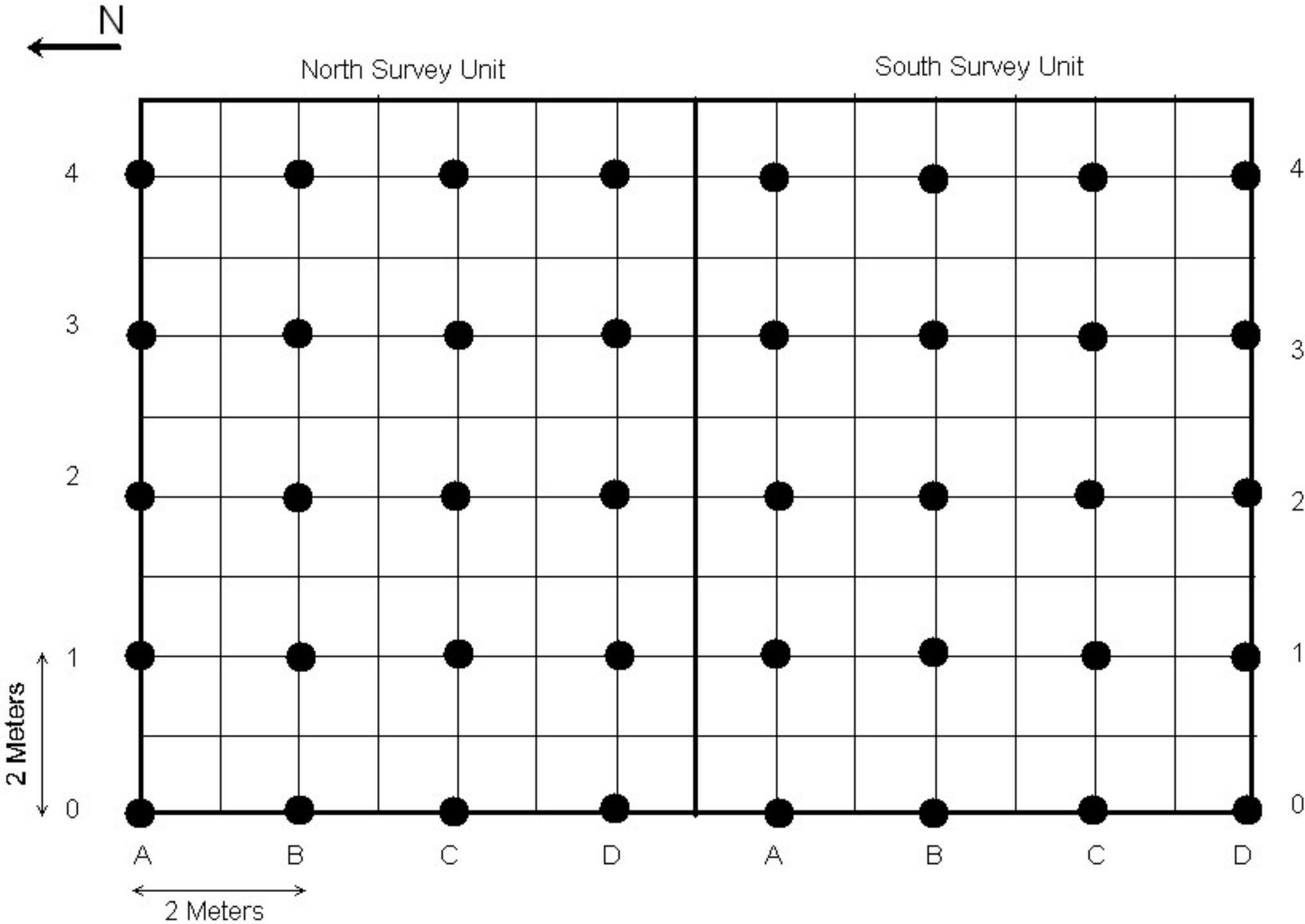
Bethesda NNMC Gamma Scan Background Data Sheet

Meter S/N:	95337	Location	Month	Day	Year	Gross CPM
	0	Concrete Background	6	9	3	215.08
	1	Concrete Background	6	9	3	174.84
	2	Concrete Background	6	9	3	208.13
	3	Concrete Background	6	9	3	199.69
	4	Concrete Background	6	9	3	219.38
	5	Concrete Background	6	9	3	197.81
	6	Concrete Background	6	9	3	214.69
	7	Concrete Background	6	9	3	173.20
	8	Concrete Background	6	9	3	184.22
	9	Concrete Background	6	9	3	197.34
	10	Concrete Background	6	9	3	195.00
	11	Concrete Background	6	9	3	225.70
	12	Concrete Background	6	9	3	244.69
	13	Concrete Background	6	9	3	251.48
	14	Concrete Background	6	9	3	268.36
	15	Concrete Background	6	9	3	220.55
	16	Concrete Background	6	9	3	212.34
	17	Concrete Background	6	9	3	233.67
	18	Concrete Background	6	9	3	259.22
	19	Concrete Background	6	9	3	226.17
	20	Concrete Background	6	9	3	224.30
	21	Concrete Background	6	9	3	189.14
	22	Concrete Background	6	9	3	253.13
	23	Concrete Background	6	9	3	247.50
	24	Concrete Background	6	9	3	211.17
	25	Concrete Background	6	9	3	211.17
	26	Concrete Background	6	9	3	197.11
	27	Concrete Background	6	9	3	202.03
	28	Concrete Background	6	9	3	223.13
	29	Concrete Background	6	9	3	269.53
					Average CPM:	**218.33**
					Standard Deviation:	**26.09**

APPENDIX X

Building 150 Survey Unit Diagrams

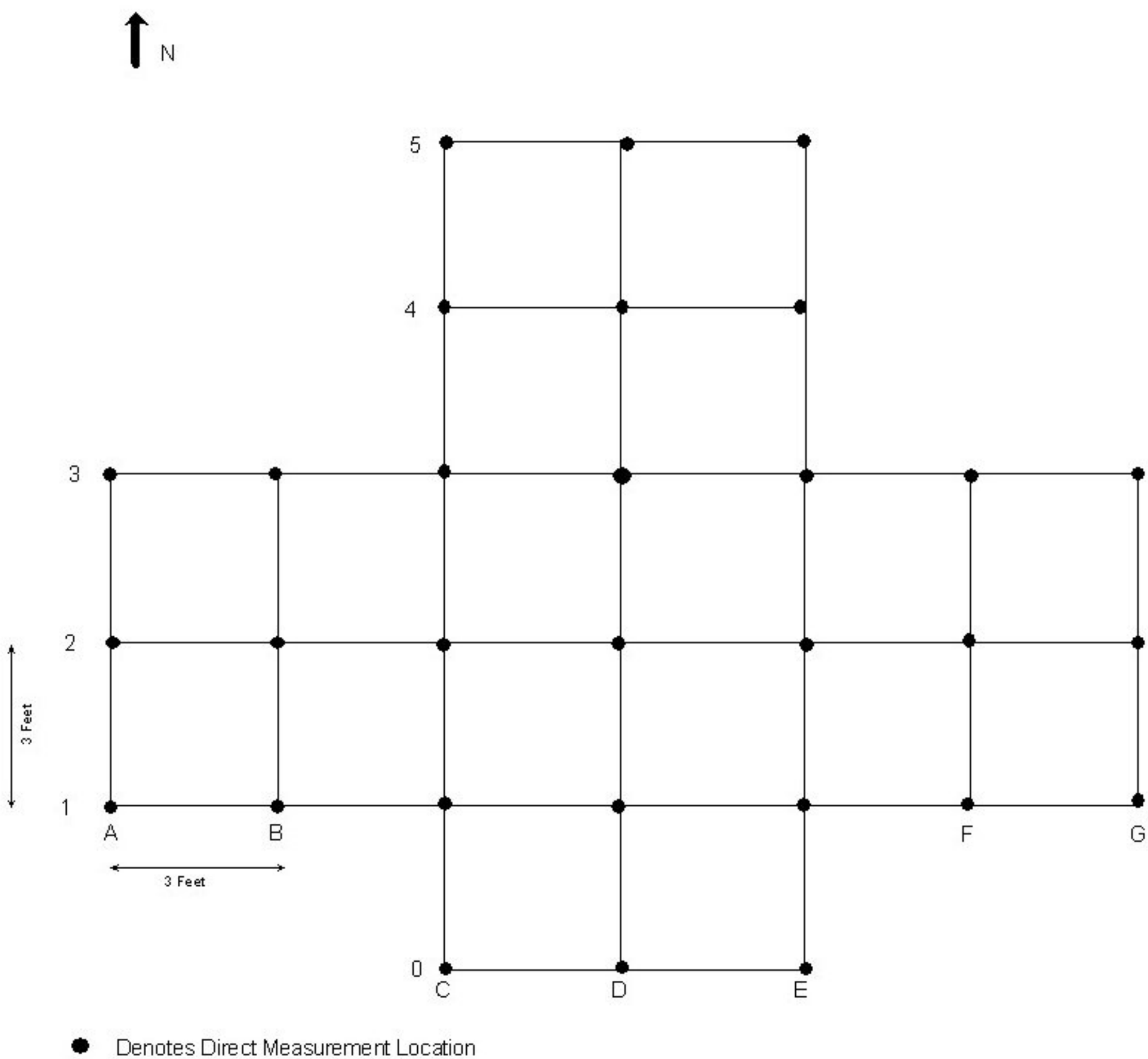
Building 150 Roof Survey Unit Diagram



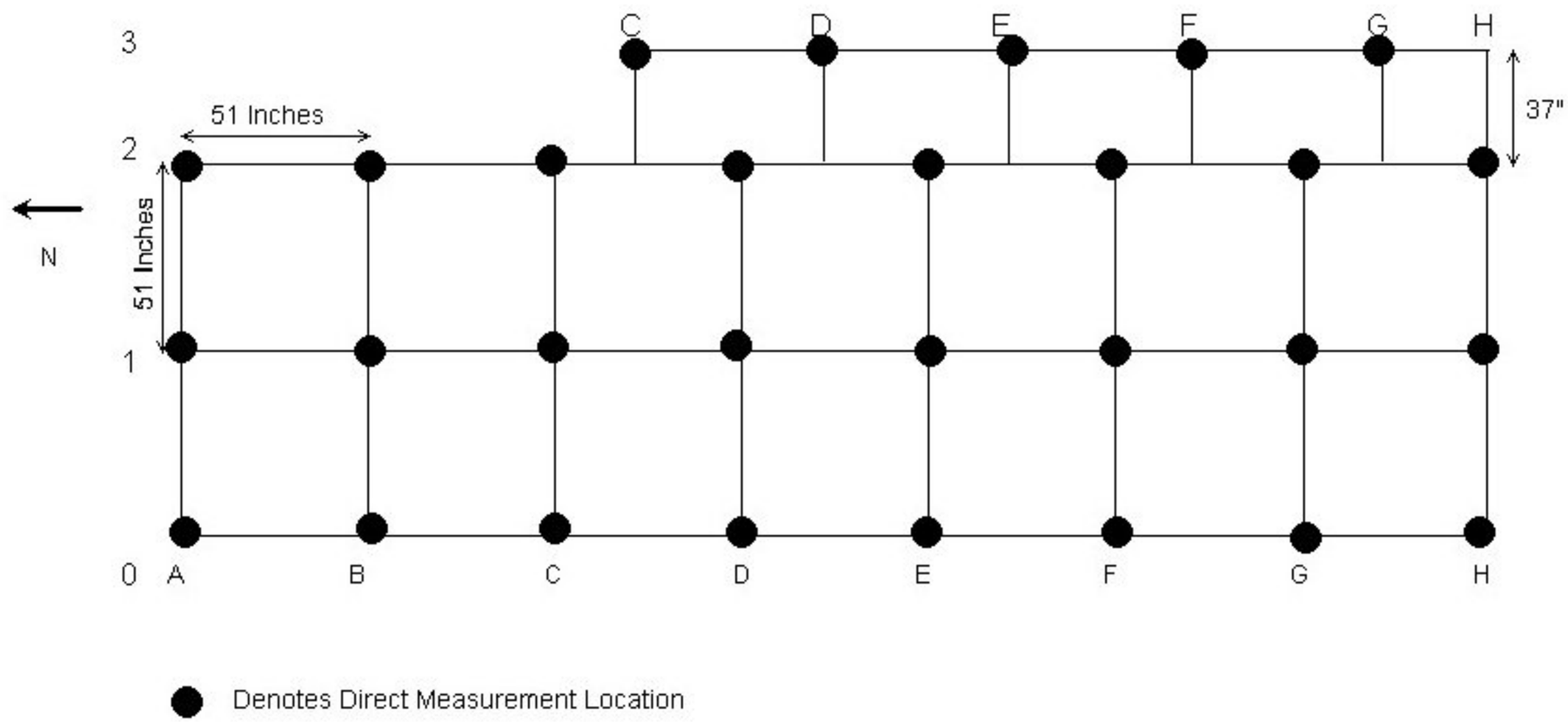
Denotes Direct Measurement Location

Denotes Survey Unit Boundary

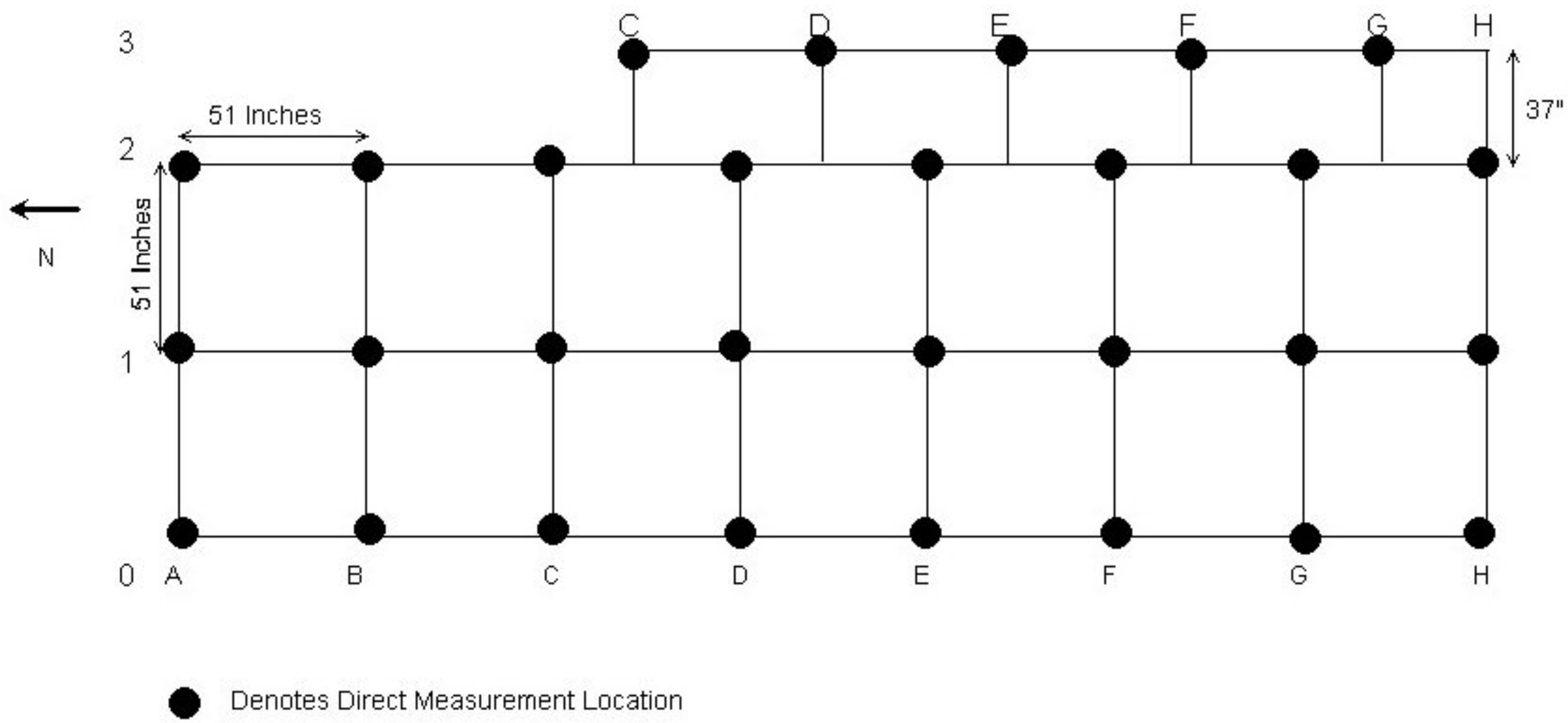
Elevator Room Grid Layout Map



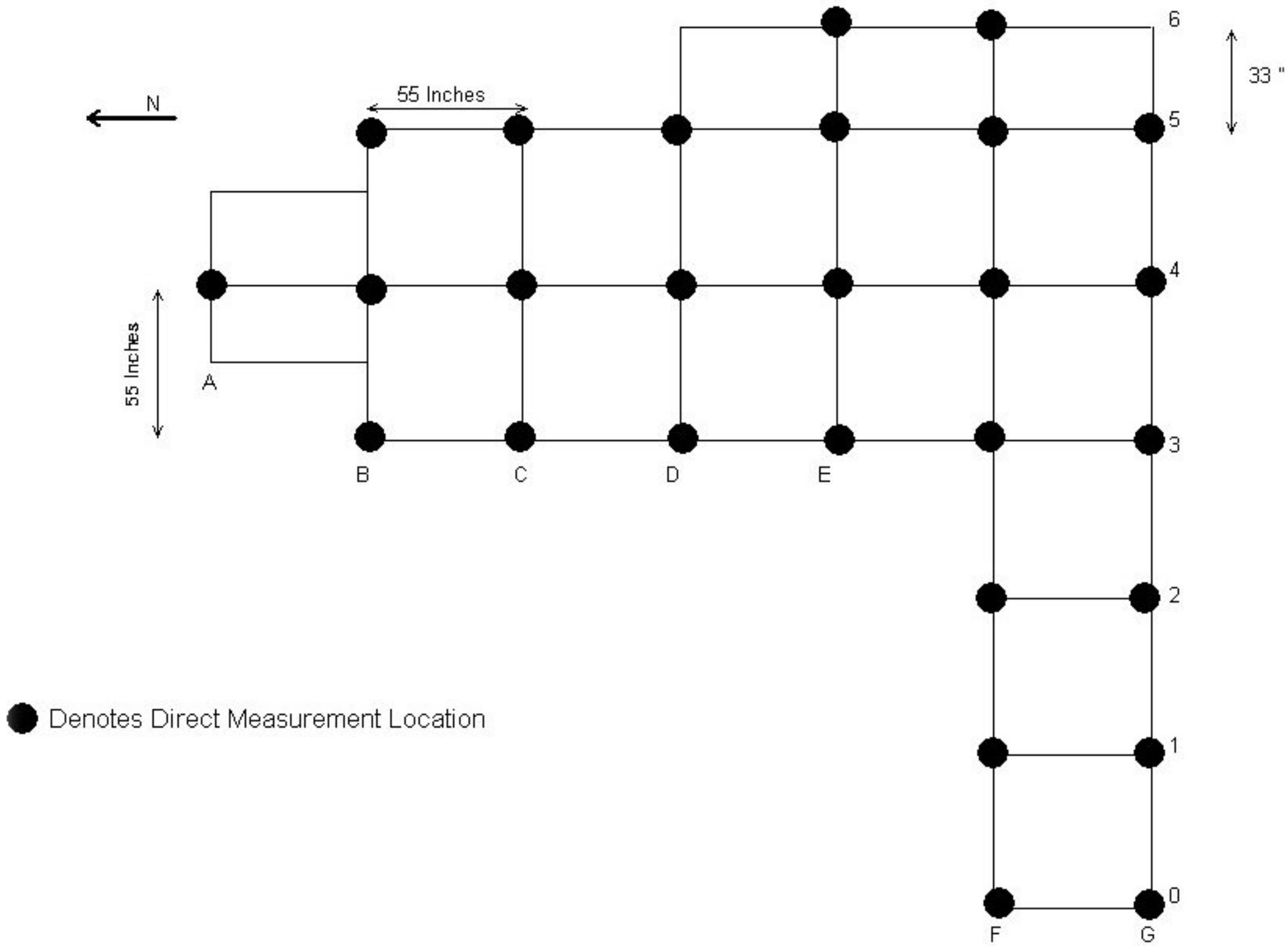
Building 150 Room #1 Ceiling Survey Unit Grid Layout Map



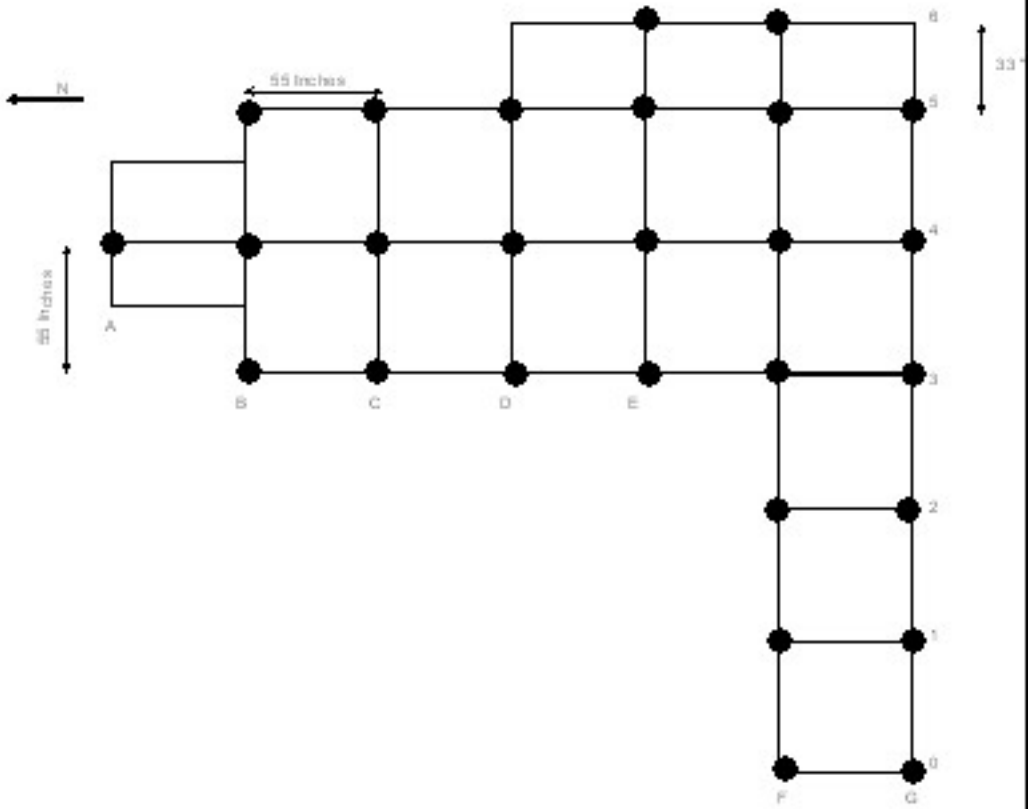
Building 150 Room #1 Floor Survey Unit Grid Layout Map



Building 150 Room #2 Ceiling Survey Unit Grid Layout Map

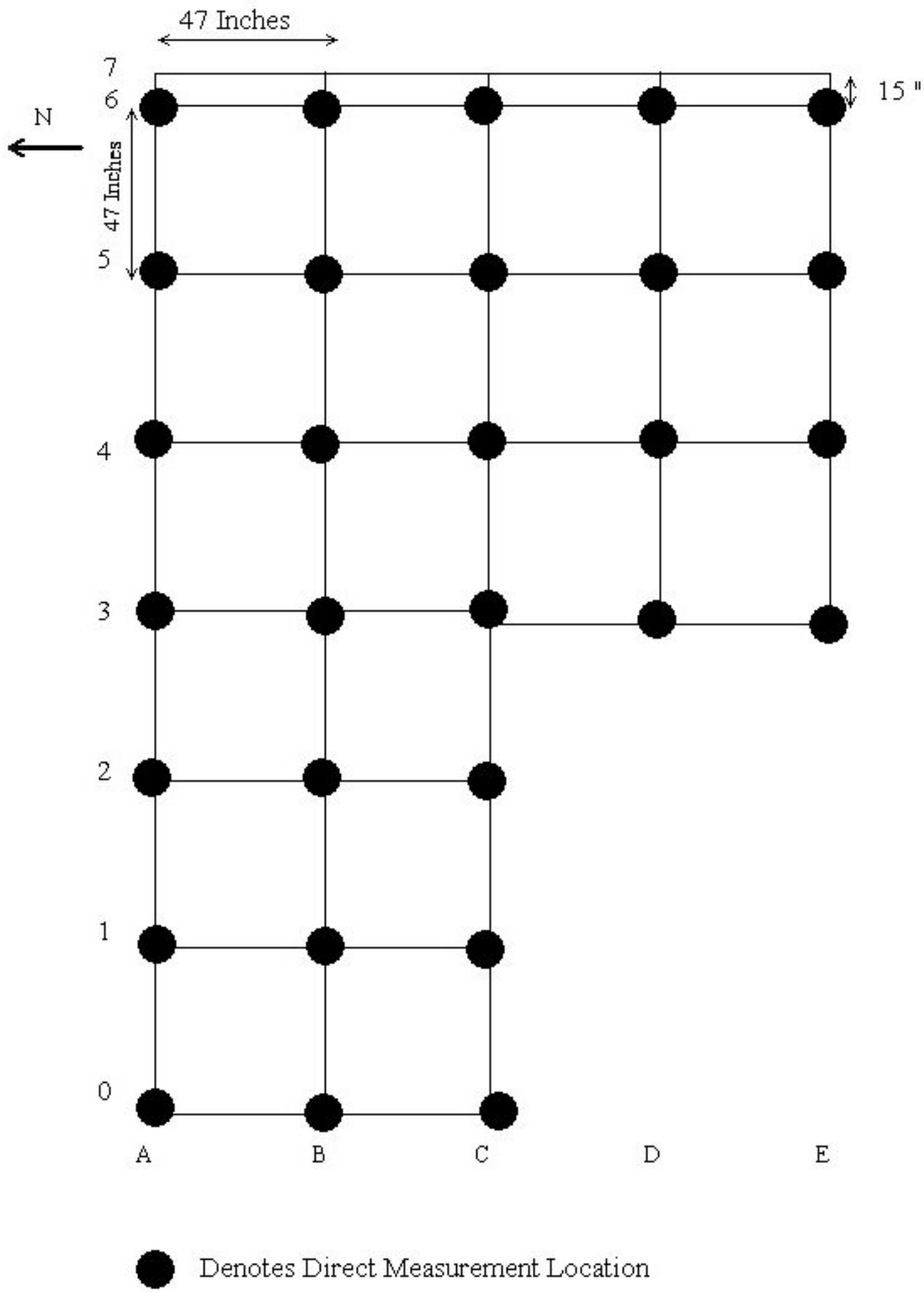


Building 150 Room #2 Floor Survey Unit Grid Layout Map

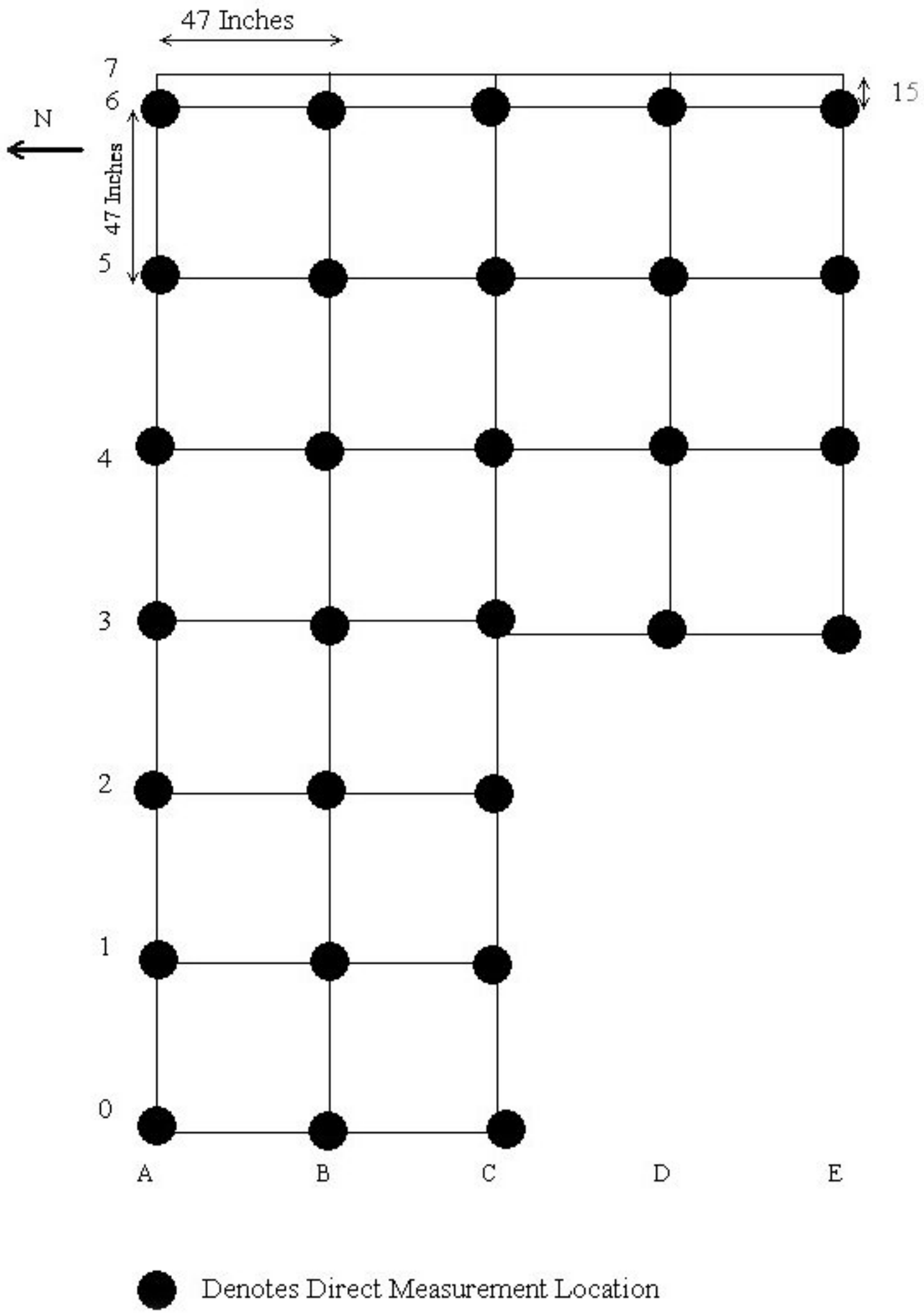


● Denotes Direct Measurement Location

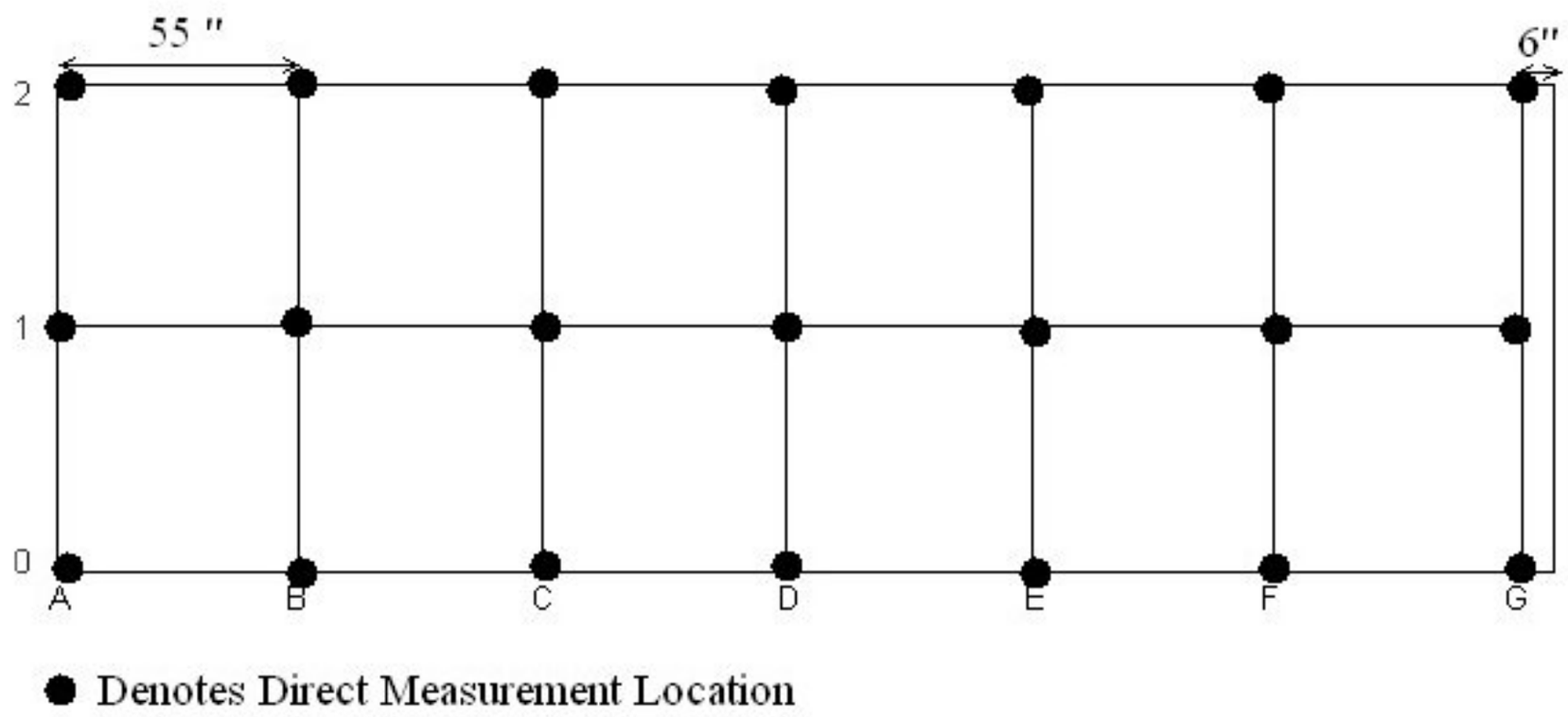
Building 150 Room #3 Ceiling Survey Unit Grid Layout Map



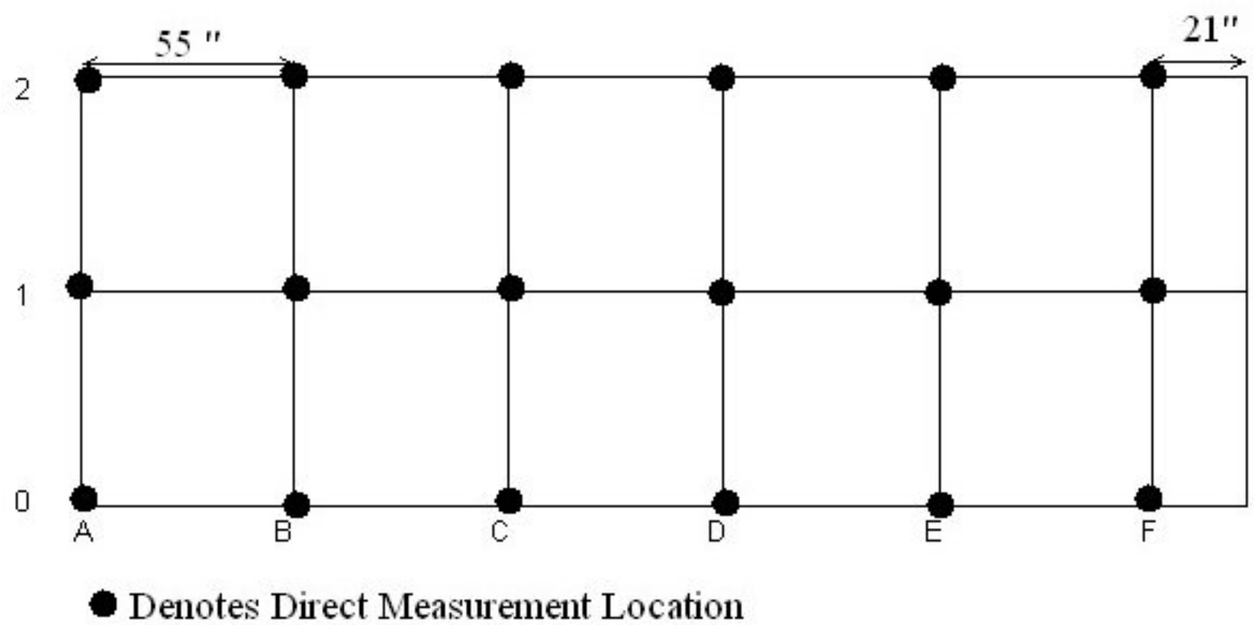
Building 150 Room #3 Floor Survey Unit Grid Layout Map



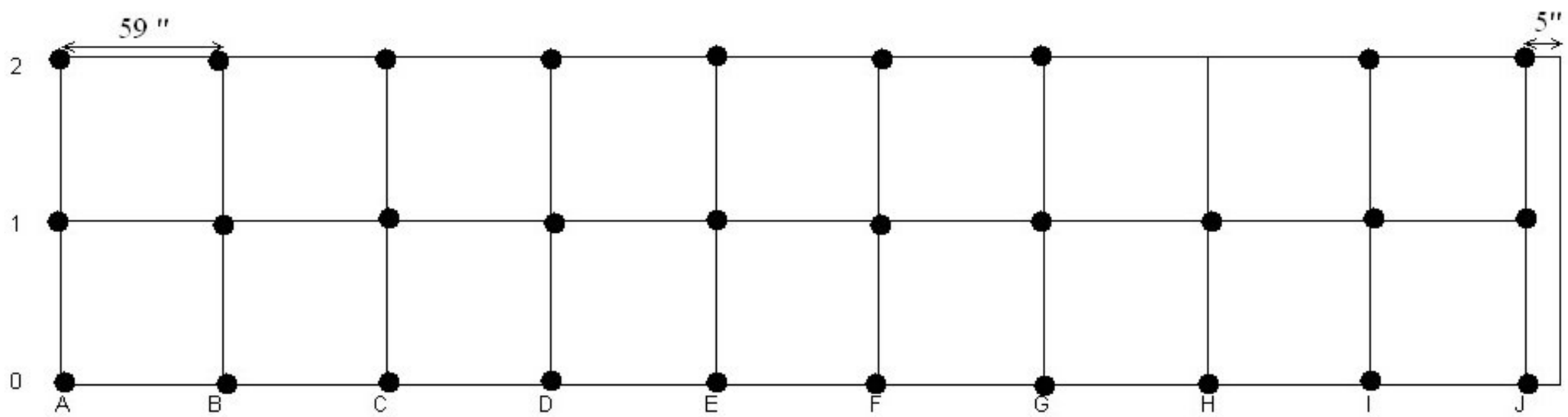
South Outer Wall Grid Layout Map



North Outer Wall Grid Layout Map

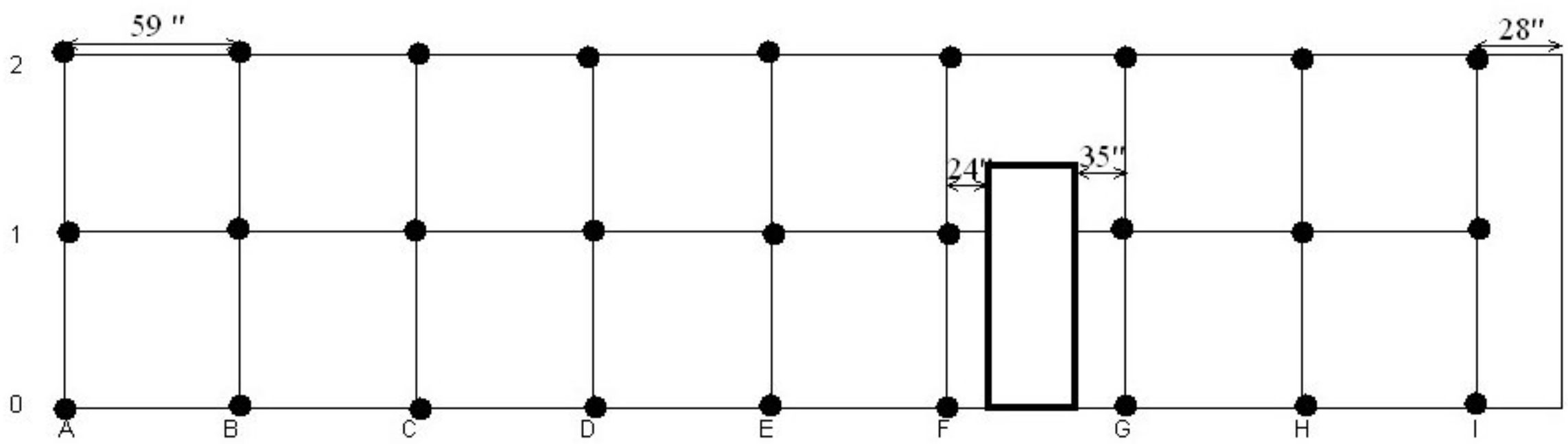


East Outer Wall Grid Layout Map



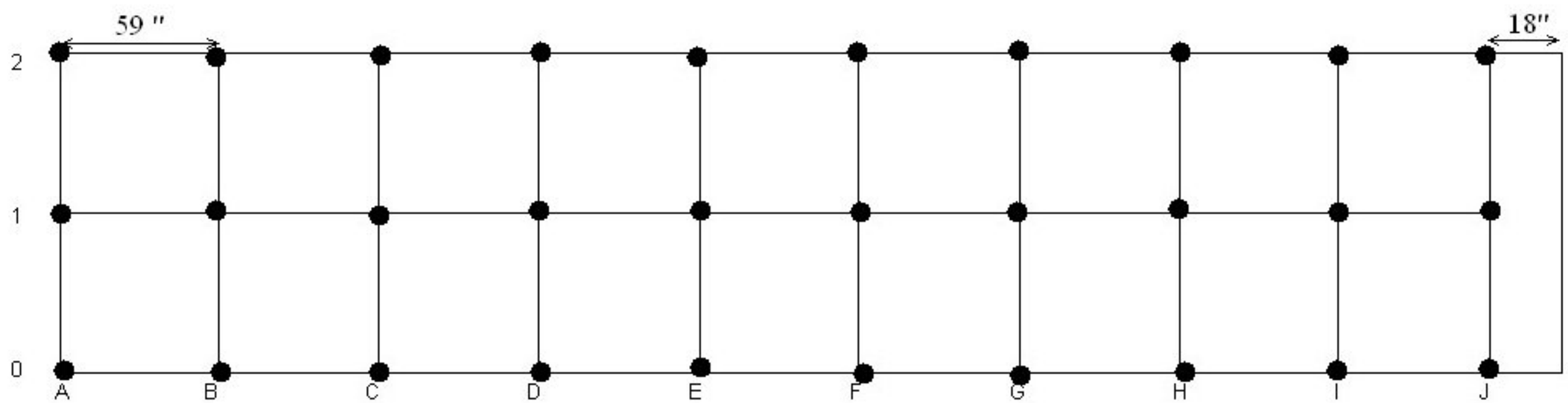
● Denotes Direct Measurement Location

West Outer Wall Grid Layout Map



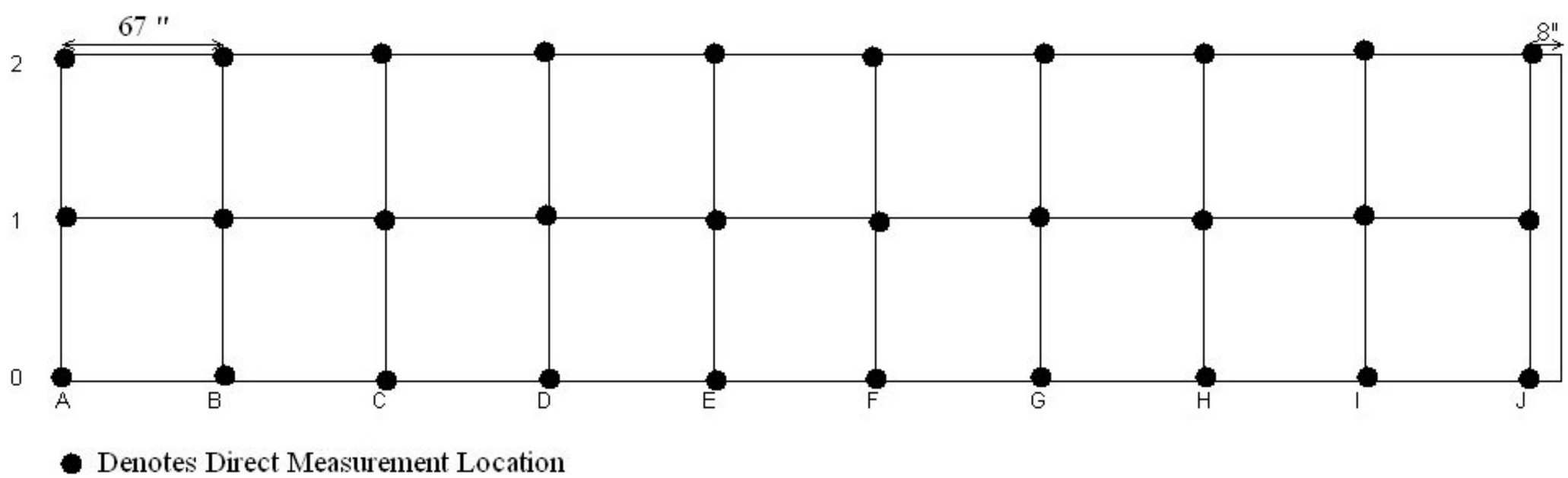
● Denotes Direct Measurement Location

North/East Inner Wall Grid Layout Map



● Denotes Direct Measurement Location

South/West Inner Wall Grid Layout Map



APPENDIX Y

Building 150 Open Land Area Soil Sample Laboratory Data

Survey Unit #1

Paragon Analytics, Inc.

Radiochemistry Case Narrative
Gamma Spectroscopy

New World Technology
Bethesda / GA00419

Paragon Work Order 0306174

1. This report consists of analysis results for twenty soil samples received by Paragon on 6/27/03. The analysis results for these samples are reported on a 'dry weight' basis in units of pCi/gram.
2. These samples were prepared according to Paragon Analytics, Inc. procedure PAI SOP739R6.
3. The samples were analyzed for the presence of gamma emitting radionuclides according to Paragon Analytics, Inc. procedure PAI SOP713R8. The analyses were completed on 7/14/03.
4. Sample volumes were insufficient to allow preparation of duplicates. Duplicate analyses of samples A-8 and D-7-D (PAI ID 0306174-1 and -12) were performed in lieu of preparation duplicates.
5. Activity concentrations above the calculated MDC are reported in some instances where minimum nuclide identification criteria are not met. Such tentative identifications result when the software attempts to calculate net activity concentrations for analytes where either one or both of the following criteria are not satisfied: the 'diagnostic' peak for a nuclide must be identified above critical level (generally the most abundant, interference-free photopeak), or the minimum library peak tolerance of 75% must be attained. These data have been flagged with a "TI" qualifier.
6. In cases where Cd-109 is identified at a level greater than the MDC, it is assigned an "SI" flag denoting spectral interference at the 88 keV line. This interference occurs with the K_β x-ray of Pb, which occurs at an energy of 87 keV.
7. Duplicate analysis results elevated above the DER limit of 2.13 have been flagged as "H" for high. For gamma spectroscopic analysis SOP 715R13 states that 75% of the nuclides must be within the 2-sigma control limit to meet DER or RPD requirements. Elevated DER may be attributable to sample non-homogeneity.
8. There are cases where the magnitude of the negative activity is greater than the 2-sigma TPU. The analyst's review of the data does not indicate a problem with the instrument data or the subsequent reporting systems. The data quality is believed to be unaffected and the results are submitted without qualification. Under typical conditions, where background level

sample data is normally distributed and analyzed by paired observations, this event is likely to occur at least 2.5% of the time.

9. No problems were encountered with either the client samples or the associated quality control samples. All quality control criteria were met.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, Paragon Analytics, Inc. certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Radiochemistry Instrument Technician — Date: 7-15-03

Radiochemistry Final Data Review — Date: 7-15-03

1

PARAGON ANALYTICS, INC.
Radiochemistry Data Package

Section 1

SAMPLE RESULTS SUMMARY

A summary report is not provided.

Please refer to the individual sample results data in Section 3.

2

PARAGON ANALYTICS, INC.

Radiochemistry Data Package

Section 2

QC RESULTS SUMMARY

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Monday, July 14, 2003 16:04:55

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306174

Field ID:
Lab ID: GS02138BLK1

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 10-Jul-03
Date Analyzed: 14-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 031045D01A

Final Aliquot: 339.0
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	-0.06 +/- 0.18	0.33	pCi/g	U
Ag-110m	0.013 +/- 0.038	0.066	pCi/g	U
Al-26	0.002 +/- 0.039	0.074	pCi/g	U
Am-241	-0.01 +/- 0.17	0.30	pCi/g	U
Be-7	0.00 +/- 0.30	0.54	pCi/g	U
Bi-212	-0.01 +/- 0.52	0.94	pCi/g	U
Bi-214	-0.03 +/- 0.10	0.18	pCi/g	U
Cd-109	-0.29 +/- 0.83	1.5	pCi/g	U
Ce-139	0.002 +/- 0.026	0.045	pCi/g	U
Ce-144	0.02 +/- 0.17	0.29	pCi/g	U
Co-56	0.011 +/- 0.064	0.11	pCi/g	U
Co-57	0.011 +/- 0.024	0.040	pCi/g	U
Co-58	-0.007 +/- 0.036	0.067	pCi/g	U
Co-60	0.014 +/- 0.039	0.069	pCi/g	U
Cr-51	-0.02 +/- 0.27	0.49	pCi/g	U
Cs-134	-0.014 +/- 0.044	0.079	pCi/g	U
Cs-137	-0.010 +/- 0.043	0.078	pCi/g	U
Eu-152	0.08 +/- 0.18	0.32	pCi/g	U
Eu-154	0.12 +/- 0.25	0.43	pCi/g	U
Eu-155	-0.02 +/- 0.11	0.20	pCi/g	U
Fe-59	0.055 +/- 0.069	0.11	pCi/g	U
I-131	-0.007 +/- 0.051	0.091	pCi/g	U
K-40	-0.51 +/- 0.58	1.1	pCi/g	U
Mn-54	0.021 +/- 0.040	0.067	pCi/g	U

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Monday, July 14, 2003 16:04:55

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306174

Field ID:
Lab ID: GS02138BLK1

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 10-Jul-03
Date Analyzed: 14-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 031045D01A

Final Aliquot: 339.0
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier
Na-22	-0.020 +/- 0.054	0.10	pCi/g	U
Nb-94	-0.001 +/- 0.042	0.075	pCi/g	U
Nb-95	0.012 +/- 0.036	0.063	pCi/g	U
Pa-234m	2.4 +/- 7.7	13	pCi/g	U
Pb-212	-0.053 +/- 0.066	0.12	pCi/g	U
Pb-214	0.049 +/- 0.089	0.15	pCi/g	U
Ru-106	0.12 +/- 0.42	0.73	pCi/g	U
Sb-124	-0.024 +/- 0.046	0.084	pCi/g	U
Sb-125	0.011 +/- 0.098	0.17	pCi/g	U
Sc-46	0.020 +/- 0.039	0.066	pCi/g	U
Th-227	-0.29 +/- 0.22	0.41	pCi/g	U
Th-234	0.15 +/- 0.59	1.0	pCi/g	U
Tl-208	0.018 +/- 0.044	0.075	pCi/g	U
U-235	0.10 +/- 0.19	0.32	pCi/g	U
Zn-65	0.001 +/- 0.093	0.17	pCi/g	U

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Monday, July 14, 2003 16:04:55

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID:

Lab ID: GS02138BLK1

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 10-Jul-03
Date Analyzed: 14-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 031045D01A

Final Aliquot: 339.0
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield in control at 100-110%. Quantitative yield is assumed.

Y2 - Chemical Yield outside default limits.

B3 - Analyte concentration greater than MDC but less than Requested MDC.

B - Analyte concentration greater than MDC.

SQ - Spectral iquality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

LCS Results

Reported on: Monday, July 14, 2003 16:04:55

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID:

Lab ID: GS02138LCS1

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 10-Jul-03
Date Analyzed: 11-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030978D08A

Final Aliquot: 500.0
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	LCS Results +/- 2s TPU	MDC	Spike Added	Reporting Units	LCS Recovery	Control Limits	Lab Qualifier
Am-241	209 +/- 35	1.3	196	pCi/g	107%	85-115%	P
Cd-109	860 +/- 140	7.2	790	pCi/g	109%	85-115%	P
Co-60	95 +/- 16	0.30	92.8	pCi/g	103%	85-115%	P
Cs-137	85 +/- 14	0.53	80.3	pCi/g	106%	85-115%	P

Comments:

Data Package ID: *GSS0306174-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
* - Duplicate DER not within control limits.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS Recovery within control limits.

Abbreviations:

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

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.

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Monday, July 14, 2003 16:04:49

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID:	A-8	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID:	0306174-1	7/10/03	7/11/03	GS02138	346.1
DUP ID:	0306174-1-D1	7/10/03	7/11/03	GS02138	346.1

Sample Matrix: Soil
Date Collected: 25-Jun-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Ac-228	1.31 +/- 0.36	1.36 +/- 0.31	pCi/g	0.1	< 1.42	
Ag-110m	0.029 +/- 0.076	-0.034 +/- 0.082	pCi/g	0.57	< 1.42	
Al-26	-0.022 +/- 0.048	0.007 +/- 0.055	pCi/g	0.39	< 1.42	
Am-241	-0.12 +/- 0.53	-0.16 +/- 0.24	pCi/g	0.06	< 1.42	
Be-7	-0.27 +/- 0.59	-0.15 +/- 0.43	pCi/g	0.17	< 1.42	
Bi-212	1.1 +/- 1.1	2.07 +/- 0.98	pCi/g	0.66	< 1.42	
Bi-214	0.54 +/- 0.21	0.63 +/- 0.18	pCi/g	0.32	< 1.42	
Cd-109	2.4 +/- 1.5	1.1 +/- 1.0	pCi/g	0.73	< 1.42	
Ce-139	-0.025 +/- 0.046	-0.001 +/- 0.041	pCi/g	0.38	< 1.42	
Ce-144	-0.01 +/- 0.34	-0.21 +/- 0.29	pCi/g	0.45	< 1.42	
Co-56	-0.10 +/- 0.15	0.18 +/- 0.12	pCi/g	1.39	< 1.42	
Co-57	0.041 +/- 0.042	-0.017 +/- 0.039	pCi/g	1.01	< 1.42	
Co-58	0.039 +/- 0.052	-0.019 +/- 0.052	pCi/g	0.77	< 1.42	
Co-60	0.017 +/- 0.064	0.038 +/- 0.060	pCi/g	0.24	< 1.42	
Cr-51	0.20 +/- 0.65	0.31 +/- 0.53	pCi/g	0.14	< 1.42	
Cs-134	-0.003 +/- 0.058	-0.023 +/- 0.074	pCi/g	0.22	< 1.42	
Cs-137	0.19 +/- 0.12	0.180 +/- 0.076	pCi/g	0.06	< 1.42	
Eu-152	0.20 +/- 0.26	0.05 +/- 0.25	pCi/g	0.4	< 1.42	
Eu-154	-0.10 +/- 0.34	-0.11 +/- 0.31	pCi/g	0.01	< 1.42	
Eu-155	0.20 +/- 0.21	0.01 +/- 0.18	pCi/g	0.7	< 1.42	
Fe-59	0.00 +/- 0.17	-0.01 +/- 0.13	pCi/g	0.04	< 1.42	
I-131	0.00 +/- 0.21	0.06 +/- 0.18	pCi/g	0.21	< 1.42	
K-40	19.6 +/- 4.1	19.7 +/- 3.6	pCi/g	0.02	< 1.42	
Mn-54	0.001 +/- 0.065	-0.005 +/- 0.056	pCi/g	0.07	< 1.42	
Na-22	0.017 +/- 0.059	0.000 +/- 0.060	pCi/g	0.21	< 1.42	
Nb-94	-0.009 +/- 0.055	-0.028 +/- 0.049	pCi/g	0.25	< 1.42	
Nb-95	-0.014 +/- 0.077	0.005 +/- 0.063	pCi/g	0.19	< 1.42	
Pa-234m	0 +/- 11	-2.8 +/- 8.9	pCi/g	0.2	< 1.42	

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Monday, July 14, 2003 16:04:49

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: A-8	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID: 0306174-1	7/10/03	7/11/03	GS02138	346.1
DUP ID: 0306174-1-D1	7/10/03	7/11/03	GS02138	346.1

Sample Matrix: Soil
Date Collected: 25-Jun-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Pb-212	1.50 +/- 0.33	1.54 +/- 0.30	pCi/g	0.09	< 1.42	
Pb-214	0.59 +/- 0.18	0.51 +/- 0.14	pCi/g	0.38	< 1.42	
Ru-106	-0.49 +/- 0.53	-0.41 +/- 0.51	pCi/g	0.11	< 1.42	
Sb-124	-0.036 +/- 0.067	-0.011 +/- 0.059	pCi/g	0.27	< 1.42	
Sb-125	-0.17 +/- 0.16	0.09 +/- 0.13	pCi/g	1.26	< 1.42	
Sc-46	-0.020 +/- 0.079	-0.020 +/- 0.053	pCi/g	0.01	< 1.42	
Th-227	0.24 +/- 0.35	-2.08 +/- 0.70	pCi/g	2.98	< 1.42	H
Th-234	0.5 +/- 1.2	1.4 +/- 1.0	pCi/g	0.61	< 1.42	
Tl-208	0.55 +/- 0.15	0.50 +/- 0.12	pCi/g	0.29	< 1.42	
U-235	-0.02 +/- 0.34	-0.22 +/- 0.28	pCi/g	0.45	< 1.42	
Zn-65	-0.17 +/- 0.15	-0.09 +/- 0.15	pCi/g	0.41	< 1.42	

Comments:

Qualifiers/Flags:

W - DER is greater than Warning Limit of 1.42

H - DER is Higher han Control Limit of 2.13

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

DER - Duplicate Error Ratio

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Monday, July 14, 2003 16:04:50

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID:	D-7-D	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID:	0306174-12	7/10/03	7/11/03	GS02138	380.4
DUP ID:	0306174-12-D1	7/10/03	7/11/03	GS02138	380.4

Sample Matrix: Soil
Date Collected: 25-Jun-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Ac-228	1.32 +/- 0.31	1.43 +/- 0.31	pCi/g	0.25	< 1.42	
Ag-110m	-0.051 +/- 0.055	-0.067 +/- 0.068	pCi/g	0.17	< 1.42	
Al-26	0.034 +/- 0.042	-0.008 +/- 0.040	pCi/g	0.72	< 1.42	
Am-241	-0.13 +/- 0.20	-0.06 +/- 0.24	pCi/g	0.25	< 1.42	
Be-7	-0.23 +/- 0.44	-0.10 +/- 0.42	pCi/g	0.22	< 1.42	
Bi-212	1.54 +/- 0.89	1.76 +/- 0.89	pCi/g	0.18	< 1.42	
Bi-214	0.45 +/- 0.17	0.55 +/- 0.16	pCi/g	0.44	< 1.42	
Cd-109	1.8 +/- 1.2	1.4 +/- 1.0	pCi/g	0.28	< 1.42	
Ce-139	-0.012 +/- 0.039	0.028 +/- 0.041	pCi/g	0.7	< 1.42	
Ce-144	-0.01 +/- 0.27	-0.09 +/- 0.26	pCi/g	0.2	< 1.42	
Co-56	0.06 +/- 0.12	0.14 +/- 0.13	pCi/g	0.45	< 1.42	
Co-57	-0.012 +/- 0.035	0.049 +/- 0.037	pCi/g	1.21	< 1.42	
Co-58	-0.070 +/- 0.058	-0.048 +/- 0.058	pCi/g	0.27	< 1.42	
Co-60	-0.035 +/- 0.056	0.015 +/- 0.051	pCi/g	0.65	< 1.42	
Cr-51	-0.07 +/- 0.46	-0.32 +/- 0.46	pCi/g	0.39	< 1.42	
Cs-134	0.15 +/- 0.61	0.11 +/- 0.46	pCi/g	0.05	< 1.42	
Cs-137	0.081 +/- 0.058	0.079 +/- 0.053	pCi/g	0.03	< 1.42	
Eu-152	-0.09 +/- 0.32	-0.02 +/- 0.25	pCi/g	0.18	< 1.42	
Eu-154	-0.13 +/- 0.31	0.05 +/- 0.30	pCi/g	0.42	< 1.42	
Eu-155	-0.03 +/- 0.14	0.11 +/- 0.16	pCi/g	0.65	< 1.42	
Fe-59	0.02 +/- 0.13	0.03 +/- 0.13	pCi/g	0.08	< 1.42	
I-131	0.02 +/- 0.15	-0.16 +/- 0.16	pCi/g	0.83	< 1.42	
K-40	20.3 +/- 3.7	20.7 +/- 3.8	pCi/g	0.08	< 1.42	
Mn-54	0.005 +/- 0.061	0.030 +/- 0.051	pCi/g	0.31	< 1.42	
Na-22	0.010 +/- 0.061	-0.078 +/- 0.068	pCi/g	0.97	< 1.42	
Nb-94	0.008 +/- 0.049	0.025 +/- 0.046	pCi/g	0.25	< 1.42	
Nb-95	0.062 +/- 0.062	0.057 +/- 0.054	pCi/g	0.05	< 1.42	
Pa-234m	-2.4 +/- 9.1	10.2 +/- 8.8	pCi/g	1	< 1.42	

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Monday, July 14, 2003 16:04:50

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID:	D-7-D	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID:	0306174-12	7/10/03	7/11/03	GS02138	380.4
DUP ID:	0306174-12-D1	7/10/03	7/11/03	GS02138	380.4

Sample Matrix: Soil
Date Collected: 25-Jun-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Pb-212	1.18 +/- 0.23	1.31 +/- 0.26	pCi/g	0.35	< 1.42	
Pb-214	0.53 +/- 0.14	0.47 +/- 0.13	pCi/g	0.27	< 1.42	
Ru-106	-0.08 +/- 0.47	-0.09 +/- 0.45	pCi/g	0.01	< 1.42	
Sb-124	-0.034 +/- 0.063	0.055 +/- 0.058	pCi/g	1.05	< 1.42	
Sb-125	-0.01 +/- 0.12	0.10 +/- 0.12	pCi/g	0.71	< 1.42	
Sc-46	-0.027 +/- 0.055	0.001 +/- 0.053	pCi/g	0.36	< 1.42	
Th-227	-0.58 +/- 0.50	-1.71 +/- 0.64	pCi/g	1.39	< 1.42	
Th-234	1.42 +/- 0.81	1.4 +/- 1.0	pCi/g	0.01	< 1.42	
Tl-208	0.50 +/- 0.12	0.41 +/- 0.10	pCi/g	0.54	< 1.42	
U-235	0.15 +/- 0.27	0.03 +/- 0.26	pCi/g	0.33	< 1.42	
Zn-65	0.26 +/- 0.23	0.04 +/- 0.19	pCi/g	0.73	< 1.42	

Comments:

Qualifiers/Flags:

W - DER is greater than Warning Limit of 1.42

H - DER is Higher han Control Limit of 2.13

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

DER - Duplicate Error Ratio

Data Package ID: *GSS0306174-1*

PARAGON ANALYTICS, INC.
Radiochemistry Data Package

3

Section 3

INDIVIDUAL SAMPLE RESULTS

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 16:04:48

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306174

Field ID: A-8
Lab ID: 0306174-1

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 25-Jun-03
Date Analyzed: 11-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030941D02A

Final Aliquot: 346.1 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.31 +/- 0.36	0.38	pCi/g	
Ag-110m	0.029 +/- 0.076	0.13	pCi/g	U
Al-26	-0.022 +/- 0.048	0.12	pCi/g	U
Am-241	-0.12 +/- 0.53	0.97	pCi/g	U
Be-7	-0.27 +/- 0.59	1.1	pCi/g	U
Bi-212	1.1 +/- 1.1	1.7	pCi/g	U
Bi-214	0.54 +/- 0.21	0.24	pCi/g	
Cd-109	2.4 +/- 1.5	2.1	pCi/g	SI
Ce-139	-0.025 +/- 0.046	0.086	pCi/g	U
Ce-144	-0.01 +/- 0.34	0.61	pCi/g	U
Co-56	-0.10 +/- 0.15	0.31	pCi/g	U
Co-57	0.041 +/- 0.042	0.066	pCi/g	U
Co-58	0.039 +/- 0.052	0.085	pCi/g	U
Co-60	0.017 +/- 0.064	0.12	pCi/g	U
Cr-51	0.20 +/- 0.65	1.1	pCi/g	U
Cs-134	-0.003 +/- 0.058	0.11	pCi/g	U
Cs-137	0.19 +/- 0.12	0.18	pCi/g	
Eu-152	0.20 +/- 0.26	0.42	pCi/g	U
Eu-154	-0.10 +/- 0.34	0.67	pCi/g	U
Eu-155	0.20 +/- 0.21	0.34	pCi/g	U
Fe-59	0.00 +/- 0.17	0.33	pCi/g	U
I-131	0.00 +/- 0.21	0.39	pCi/g	U
K-40	19.6 +/- 4.1	1.1	pCi/g	
Mn-54	0.001 +/- 0.065	0.12	pCi/g	U
Na-22	0.017 +/- 0.059	0.11	pCi/g	U
Nb-94	-0.009 +/- 0.055	0.11	pCi/g	U

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 16:04:49

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: A-8

Lab ID: 0306174-1

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 25-Jun-03
Date Analyzed: 11-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030941D02A

Final Aliquot: 346.1 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.014 +/- 0.077	0.15	pCi/g	U
Pa-234m	0 +/- 11	21	pCi/g	U
Pb-212	1.50 +/- 0.33	0.21	pCi/g	
Pb-214	0.59 +/- 0.18	0.20	pCi/g	
Ru-106	-0.49 +/- 0.53	1.1	pCi/g	U
Sb-124	-0.036 +/- 0.067	0.13	pCi/g	U
Sb-125	-0.17 +/- 0.16	0.32	pCi/g	U
Sc-46	-0.020 +/- 0.079	0.15	pCi/g	U
Th-227	0.24 +/- 0.35	0.58	pCi/g	U
Th-234	0.5 +/- 1.2	2.0	pCi/g	U
Tl-208	0.55 +/- 0.15	0.11	pCi/g	
U-235	-0.02 +/- 0.34	0.60	pCi/g	U
Zn-65	-0.17 +/- 0.15	0.33	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Monday, July 14, 2003 16:04:49

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: A-8

Lab ID: 0306174-1-D1

Sample Matrix: Soil

Date Prepared: 10-Jul-03

Prep SOP: PAI 739R6

Prep Batch: GS02138

Date Collected: 25-Jun-03

Date Analyzed: 11-Jul-03

Analytical SOP: PAI 713R8

Spectrum Code: 031040D01A

Final Aliquot: 346.1

Aliquot Units: g

Report Basis: Dry Weight

Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.36 +/- 0.31	0.36	pCi/g	
Ag-110m	-0.034 +/- 0.082	0.15	pCi/g	U
Al-26	0.007 +/- 0.055	0.098	pCi/g	U
Am-241	-0.16 +/- 0.24	0.44	pCi/g	U
Be-7	-0.15 +/- 0.43	0.78	pCi/g	U
Bi-212	2.07 +/- 0.98	1.3	pCi/g	
Bi-214	0.63 +/- 0.18	0.20	pCi/g	
Cd-109	1.1 +/- 1.0	1.7	pCi/g	U
Ce-139	-0.001 +/- 0.041	0.072	pCi/g	U
Ce-144	-0.21 +/- 0.29	0.52	pCi/g	U
Co-56	0.18 +/- 0.12	0.18	pCi/g	TI
Co-57	-0.017 +/- 0.039	0.068	pCi/g	U
Co-58	-0.019 +/- 0.052	0.096	pCi/g	U
Co-60	0.038 +/- 0.060	0.099	pCi/g	U
Cr-51	0.31 +/- 0.53	0.88	pCi/g	U
Cs-134	-0.023 +/- 0.074	0.13	pCi/g	U
Cs-137	0.180 +/- 0.076	0.10	pCi/g	
Eu-152	0.05 +/- 0.25	0.45	pCi/g	U
Eu-154	-0.11 +/- 0.31	0.56	pCi/g	U
Eu-155	0.01 +/- 0.18	0.30	pCi/g	U
Fe-59	-0.01 +/- 0.13	0.22	pCi/g	U
I-131	0.06 +/- 0.18	0.30	pCi/g	U
K-40	19.7 +/- 3.6	1.1	pCi/g	
Mn-54	-0.005 +/- 0.056	0.100	pCi/g	U
Na-22	0.000 +/- 0.060	0.11	pCi/g	U
Nb-94	-0.028 +/- 0.049	0.089	pCi/g	U
Nb-95	0.005 +/- 0.063	0.11	pCi/g	U

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Monday, July 14, 2003 16:04:49

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: A-8

Lab ID: 0306174-1-D1

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 25-Jun-03
Date Analyzed: 11-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 031040D01A

Final Aliquot: 346.1
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Pa-234m	-2.8 +/- 8.9	16	pCi/g	U
Pb-212	1.54 +/- 0.30	0.15	pCi/g	
Pb-214	0.51 +/- 0.14	0.18	pCi/g	
Ru-106	-0.41 +/- 0.51	0.93	pCi/g	U
Sb-124	-0.011 +/- 0.059	0.10	pCi/g	U
Sb-125	0.09 +/- 0.13	0.23	pCi/g	U
Sc-46	-0.020 +/- 0.053	0.098	pCi/g	U
Th-227	-2.08 +/- 0.70	1.2	pCi/g	U
Th-234	1.4 +/- 1.0	1.6	pCi/g	U
Tl-208	0.50 +/- 0.12	0.096	pCi/g	
U-235	-0.22 +/- 0.28	0.50	pCi/g	U
Zn-65	-0.09 +/- 0.15	0.27	pCi/g	U

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Monday, July 14, 2003 16:04:49

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: A-8

Lab ID: 0306174-1-D1

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 25-Jun-03
Date Analyzed: 11-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 031040D01A

Final Aliquot: 346.1
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier

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.

* - Duplicate DER not within control limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 16:04:52

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: C-8

Lab ID: 0306174-2

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 25-Jun-03
Date Analyzed: 11-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030750D03A

Final Aliquot: 320.8 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.35 +/- 0.42	0.60	pCi/g	
Ag-110m	0.012 +/- 0.071	0.13	pCi/g	U
Al-26	0.004 +/- 0.092	0.18	pCi/g	U
Am-241	0.00 +/- 0.44	0.79	pCi/g	U
Be-7	0.05 +/- 0.66	1.2	pCi/g	U
Bi-212	1.7 +/- 1.2	1.7	pCi/g	TI
Bi-214	0.71 +/- 0.26	0.27	pCi/g	
Cd-109	0.9 +/- 2.4	4.1	pCi/g	U
Ce-139	0.035 +/- 0.059	0.098	pCi/g	U
Ce-144	-0.05 +/- 0.39	0.70	pCi/g	U
Co-56	0.02 +/- 0.18	0.33	pCi/g	U
Co-57	-0.002 +/- 0.053	0.094	pCi/g	U
Co-58	-0.029 +/- 0.085	0.17	pCi/g	U
Co-60	0.11 +/- 0.12	0.18	pCi/g	U
Cr-51	0.25 +/- 0.64	1.1	pCi/g	U
Cs-134	-0.059 +/- 0.077	0.15	pCi/g	U
Cs-137	0.014 +/- 0.081	0.15	pCi/g	U
Eu-152	-0.05 +/- 0.37	0.75	pCi/g	U
Eu-154	-0.14 +/- 0.45	0.89	pCi/g	U
Eu-155	0.12 +/- 0.23	0.39	pCi/g	U
Fe-59	-0.02 +/- 0.19	0.37	pCi/g	U
I-131	0.00 +/- 0.25	0.45	pCi/g	U
K-40	17.2 +/- 3.8	1.4	pCi/g	
Mn-54	-0.046 +/- 0.076	0.16	pCi/g	U
Na-22	-0.010 +/- 0.098	0.19	pCi/g	U
Nb-94	-0.017 +/- 0.076	0.14	pCi/g	U

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 16:04:53

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: C-8

Lab ID: 0306174-2

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 25-Jun-03
Date Analyzed: 11-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030750D03A

Final Aliquot: 320.8 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.043 +/- 0.096	0.19	pCi/g	U
Pa-234m	-2 +/- 13	26	pCi/g	U
Pb-212	1.46 +/- 0.33	0.21	pCi/g	
Pb-214	0.62 +/- 0.20	0.27	pCi/g	
Ru-106	-0.39 +/- 0.67	1.3	pCi/g	U
Sb-124	-0.012 +/- 0.090	0.17	pCi/g	U
Sb-125	-0.03 +/- 0.21	0.38	pCi/g	U
Sc-46	-0.054 +/- 0.099	0.20	pCi/g	U
Th-227	-0.41 +/- 0.64	1.2	pCi/g	U
Th-234	2.5 +/- 1.6	2.5	pCi/g	TI
Tl-208	0.36 +/- 0.14	0.16	pCi/g	
U-235	0.41 +/- 0.38	0.60	pCi/g	U
Zn-65	-0.28 +/- 0.24	0.50	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 16:04:53

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: C-8-D

Lab ID: 0306174-3

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 25-Jun-03
Date Analyzed: 11-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030540D04A

Final Aliquot: 334.9 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.46 +/- 0.38	0.49	pCi/g	
Ag-110m	-0.002 +/- 0.066	0.12	pCi/g	U
Al-26	0.005 +/- 0.048	0.10	pCi/g	U
Am-241	0.22 +/- 0.41	0.68	pCi/g	U
Be-7	-0.04 +/- 0.51	0.97	pCi/g	U
Bi-212	0.0 +/- 1.0	1.9	pCi/g	U
Bi-214	0.42 +/- 0.21	0.28	pCi/g	
Cd-109	2.9 +/- 2.0	3.0	pCi/g	U
Ce-139	0.021 +/- 0.049	0.084	pCi/g	U
Ce-144	0.24 +/- 0.34	0.56	pCi/g	U
Co-56	0.04 +/- 0.16	0.29	pCi/g	U
Co-57	0.046 +/- 0.047	0.074	pCi/g	U
Co-58	-0.130 +/- 0.086	0.18	pCi/g	U
Co-60	0.149 +/- 0.084	0.15	pCi/g	U
Cr-51	-0.23 +/- 0.75	1.4	pCi/g	U
Cs-134	0.019 +/- 0.066	0.12	pCi/g	U
Cs-137	-0.007 +/- 0.071	0.13	pCi/g	U
Eu-152	0.01 +/- 0.33	0.64	pCi/g	U
Eu-154	0.44 +/- 0.45	0.69	pCi/g	U
Eu-155	0.16 +/- 0.21	0.34	pCi/g	U
Fe-59	-0.20 +/- 0.16	0.35	pCi/g	U
I-131	0.06 +/- 0.24	0.42	pCi/g	U
K-40	21.4 +/- 4.4	1.2	pCi/g	
Mn-54	0.067 +/- 0.078	0.13	pCi/g	U
Na-22	0.023 +/- 0.066	0.12	pCi/g	U
Nb-94	0.019 +/- 0.060	0.11	pCi/g	U

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 16:04:53

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: C-8-D

Lab ID: 0306174-3

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 25-Jun-03
Date Analyzed: 11-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030540D04A

Final Aliquot: 334.9 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.030 +/- 0.084	0.15	pCi/g	U
Pa-234m	4 +/- 13	23	pCi/g	U
Pb-212	1.40 +/- 0.31	0.22	pCi/g	
Pb-214	0.78 +/- 0.21	0.25	pCi/g	
Ru-106	0.21 +/- 0.63	1.1	pCi/g	U
Sb-124	-0.109 +/- 0.082	0.17	pCi/g	U
Sb-125	-0.04 +/- 0.17	0.32	pCi/g	U
Sc-46	-0.019 +/- 0.077	0.15	pCi/g	U
Th-227	-3 +/- 11	18	pCi/g	U
Th-234	1.3 +/- 1.5	2.5	pCi/g	U
Tl-208	0.49 +/- 0.15	0.14	pCi/g	
U-235	0.17 +/- 0.36	0.60	pCi/g	U
Zn-65	-0.06 +/- 0.21	0.39	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 16:04:54

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306174

Field ID: E-8
Lab ID: 0306174-4

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 25-Jun-03
Date Analyzed: 11-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030942D02A

Final Aliquot: 367.9 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.24 +/- 0.35	0.48	pCi/g	
Ag-110m	-0.042 +/- 0.060	0.12	pCi/g	U
Al-26	-0.002 +/- 0.045	0.098	pCi/g	U
Am-241	0.15 +/- 0.53	0.92	pCi/g	U
Be-7	-0.08 +/- 0.46	0.88	pCi/g	U
Bi-212	1.17 +/- 0.99	1.5	pCi/g	U
Bi-214	0.47 +/- 0.18	0.22	pCi/g	
Cd-109	3.1 +/- 1.8	2.6	pCi/g	SI
Ce-139	-0.014 +/- 0.045	0.081	pCi/g	U
Ce-144	-0.11 +/- 0.32	0.59	pCi/g	U
Co-56	0.14 +/- 0.17	0.28	pCi/g	U
Co-57	0.026 +/- 0.043	0.072	pCi/g	U
Co-58	-0.088 +/- 0.064	0.14	pCi/g	U
Co-60	-0.066 +/- 0.068	0.15	pCi/g	U
Cr-51	0.15 +/- 0.57	1.0	pCi/g	U
Cs-134	-0.092 +/- 0.060	0.13	pCi/g	U
Cs-137	0.083 +/- 0.073	0.11	pCi/g	U
Eu-152	0.12 +/- 0.24	0.43	pCi/g	U
Eu-154	0.09 +/- 0.34	0.61	pCi/g	U
Eu-155	0.06 +/- 0.20	0.34	pCi/g	U
Fe-59	0.05 +/- 0.14	0.25	pCi/g	U
I-131	0.19 +/- 0.20	0.32	pCi/g	U
K-40	21.2 +/- 4.2	0.78	pCi/g	
Mn-54	0.001 +/- 0.060	0.11	pCi/g	U
Na-22	0.033 +/- 0.078	0.14	pCi/g	U
Nb-94	-0.013 +/- 0.061	0.12	pCi/g	U

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 16:04:53

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: E-8

Lab ID: 0306174-4

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 25-Jun-03
Date Analyzed: 11-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030942D02A

Final Aliquot: 367.9 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.050 +/- 0.077	0.15	pCi/g	U
Pa-234m	-1 +/- 12	22	pCi/g	U
Pb-212	1.65 +/- 0.34	0.18	pCi/g	
Pb-214	0.54 +/- 0.17	0.23	pCi/g	
Ru-106	0.08 +/- 0.53	0.96	pCi/g	U
Sb-124	-0.033 +/- 0.067	0.13	pCi/g	U
Sb-125	-0.05 +/- 0.17	0.32	pCi/g	U
Sc-46	-0.024 +/- 0.050	0.11	pCi/g	U
Th-227	-4 +/- 10	17	pCi/g	U
Th-234	2.2 +/- 1.6	2.5	pCi/g	U
Tl-208	0.44 +/- 0.13	0.11	pCi/g	
U-235	0.18 +/- 0.31	0.52	pCi/g	U
Zn-65	0.07 +/- 0.27	0.47	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 16:04:54

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: E-8-D

Lab ID: 0306174-5

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 25-Jun-03
Date Analyzed: 14-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030947D02A

Final Aliquot: 373.9 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.34 +/- 0.35	0.42	pCi/g	
Ag-110m	-0.019 +/- 0.058	0.11	pCi/g	U
Al-26	0.006 +/- 0.053	0.11	pCi/g	U
Am-241	-0.16 +/- 0.53	0.96	pCi/g	U
Be-7	0.15 +/- 0.50	0.88	pCi/g	U
Bi-212	2.0 +/- 1.1	1.4	pCi/g	
Bi-214	0.59 +/- 0.21	0.22	pCi/g	
Cd-109	2.5 +/- 1.9	2.9	pCi/g	U
Ce-139	-0.012 +/- 0.045	0.081	pCi/g	U
Ce-144	-0.04 +/- 0.31	0.56	pCi/g	U
Co-56	0.21 +/- 0.17	0.26	pCi/g	U
Co-57	-0.042 +/- 0.045	0.085	pCi/g	U
Co-58	-0.006 +/- 0.072	0.14	pCi/g	U
Co-60	-0.021 +/- 0.065	0.13	pCi/g	U
Cr-51	-0.23 +/- 0.55	1.1	pCi/g	U
Cs-134	-0.004 +/- 0.060	0.11	pCi/g	U
Cs-137	0.024 +/- 0.073	0.13	pCi/g	U
Eu-152	-0.01 +/- 0.25	0.51	pCi/g	U
Eu-154	-0.16 +/- 0.35	0.70	pCi/g	U
Eu-155	0.10 +/- 0.19	0.32	pCi/g	U
Fe-59	-0.01 +/- 0.14	0.27	pCi/g	U
I-131	0.08 +/- 0.27	0.47	pCi/g	U
K-40	22.0 +/- 4.4	1.00	pCi/g	
Mn-54	0.042 +/- 0.066	0.11	pCi/g	U
Na-22	0.001 +/- 0.061	0.12	pCi/g	U
Nb-94	0.066 +/- 0.054	0.079	pCi/g	U

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 16:04:54

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: E-8-D

Lab ID: 0306174-5

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 25-Jun-03
Date Analyzed: 14-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030947D02A

Final Aliquot: 373.9 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.011 +/- 0.082	0.15	pCi/g	U
Pa-234m	5 +/- 11	19	pCi/g	U
Pb-212	1.51 +/- 0.32	0.18	pCi/g	
Pb-214	0.78 +/- 0.21	0.21	pCi/g	
Ru-106	0.04 +/- 0.52	0.95	pCi/g	U
Sb-124	0.034 +/- 0.073	0.13	pCi/g	U
Sb-125	0.12 +/- 0.15	0.27	pCi/g	U
Sc-46	-0.004 +/- 0.066	0.13	pCi/g	U
Th-227	-0.18 +/- 0.45	0.82	pCi/g	U
Th-234	1.4 +/- 1.6	2.6	pCi/g	U
Tl-208	0.45 +/- 0.14	0.13	pCi/g	
U-235	-0.06 +/- 0.33	0.58	pCi/g	U
Zn-65	-0.04 +/- 0.17	0.33	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 16:04:54

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: G-8

Lab ID: 0306174-6

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 25-Jun-03
Date Analyzed: 11-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030975D08A

Final Aliquot: 301.9 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.40 +/- 0.41	0.54	pCi/g	
Ag-110m	0.055 +/- 0.069	0.11	pCi/g	U
Al-26	-0.004 +/- 0.055	0.13	pCi/g	U
Am-241	0.14 +/- 0.14	0.21	pCi/g	U
Be-7	0.05 +/- 0.68	1.2	pCi/g	U
Bi-212	1.6 +/- 1.3	1.9	pCi/g	U
Bi-214	0.55 +/- 0.24	0.30	pCi/g	
Cd-109	2.6 +/- 1.3	1.9	pCi/g	SI
Ce-139	-0.025 +/- 0.052	0.097	pCi/g	U
Ce-144	-0.06 +/- 0.39	0.69	pCi/g	U
Co-56	0.05 +/- 0.16	0.29	pCi/g	U
Co-57	-0.038 +/- 0.045	0.085	pCi/g	U
Co-58	0.026 +/- 0.081	0.15	pCi/g	U
Co-60	0.000 +/- 0.074	0.15	pCi/g	U
Cr-51	-0.09 +/- 0.81	1.5	pCi/g	U
Cs-134	-0.016 +/- 0.066	0.13	pCi/g	U
Cs-137	0.20 +/- 0.11	0.14	pCi/g	
Eu-152	0.05 +/- 0.22	0.46	pCi/g	U
Eu-154	-0.13 +/- 0.45	0.90	pCi/g	U
Eu-155	0.12 +/- 0.20	0.33	pCi/g	U
Fe-59	-0.05 +/- 0.22	0.43	pCi/g	U
I-131	0.15 +/- 0.28	0.48	pCi/g	U
K-40	21.3 +/- 4.6	1.6	pCi/g	
Mn-54	0.024 +/- 0.073	0.13	pCi/g	U
Na-22	0.138 +/- 0.092	0.11	pCi/g	TI
Nb-94	0.004 +/- 0.079	0.15	pCi/g	U

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 16:04:54

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: G-8

Lab ID: 0306174-6

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 25-Jun-03
Date Analyzed: 11-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030975D08A

Final Aliquot: 301.9 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.024 +/- 0.094	0.18	pCi/g	U
Pa-234m	3 +/- 12	22	pCi/g	U
Pb-212	1.37 +/- 0.31	0.23	pCi/g	
Pb-214	0.64 +/- 0.20	0.28	pCi/g	
Ru-106	-0.34 +/- 0.69	1.4	pCi/g	U
Sb-124	0.019 +/- 0.077	0.14	pCi/g	U
Sb-125	0.02 +/- 0.18	0.32	pCi/g	U
Sc-46	0.008 +/- 0.078	0.15	pCi/g	U
Th-227	-0.23 +/- 0.37	0.70	pCi/g	U
Th-234	1.3 +/- 1.2	2.0	pCi/g	U
Tl-208	0.38 +/- 0.14	0.14	pCi/g	
U-235	0.07 +/- 0.39	0.67	pCi/g	U
Zn-65	-0.18 +/- 0.23	0.46	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 16:04:54

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: G-8-D

Lab ID: 0306174-7

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 25-Jun-03
Date Analyzed: 11-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030894D10A

Final Aliquot: 341.6 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.52 +/- 0.37	0.54	pCi/g	
Ag-110m	-0.095 +/- 0.058	0.11	pCi/g	U
Al-26	-0.039 +/- 0.065	0.12	pCi/g	U
Am-241	0.16 +/- 0.21	0.35	pCi/g	U
Be-7	-0.33 +/- 0.48	0.87	pCi/g	U
Bi-212	1.31 +/- 0.80	1.2	pCi/g	
Bi-214	0.36 +/- 0.17	0.25	pCi/g	
Cd-109	2.2 +/- 1.4	2.2	pCi/g	U
Ce-139	-0.047 +/- 0.041	0.074	pCi/g	U
Ce-144	0.28 +/- 0.32	0.51	pCi/g	U
Co-56	0.07 +/- 0.15	0.25	pCi/g	U
Co-57	-0.053 +/- 0.041	0.073	pCi/g	U
Co-58	0.007 +/- 0.061	0.11	pCi/g	U
Co-60	-0.002 +/- 0.063	0.11	pCi/g	U
Cr-51	0.18 +/- 0.55	0.93	pCi/g	U
Cs-134	0.000 +/- 0.080	0.14	pCi/g	U
Cs-137	0.081 +/- 0.058	0.088	pCi/g	U
Eu-152	0.37 +/- 0.30	0.45	pCi/g	U
Eu-154	0.19 +/- 0.33	0.54	pCi/g	U
Eu-155	0.09 +/- 0.15	0.25	pCi/g	U
Fe-59	0.04 +/- 0.15	0.25	pCi/g	U
I-131	-0.08 +/- 0.17	0.30	pCi/g	U
K-40	25.4 +/- 4.6	1.2	pCi/g	
Mn-54	0.046 +/- 0.060	0.098	pCi/g	U
Na-22	-0.041 +/- 0.069	0.13	pCi/g	U
Nb-94	0.016 +/- 0.053	0.090	pCi/g	U

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 16:04:54

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: G-8-D

Lab ID: 0306174-7

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 25-Jun-03
Date Analyzed: 11-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030894D10A

Final Aliquot: 341.6 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.021 +/- 0.069	0.12	pCi/g	U
Pa-234m	1 +/- 10	18	pCi/g	U
Pb-212	1.62 +/- 0.31	0.17	pCi/g	
Pb-214	0.55 +/- 0.16	0.21	pCi/g	
Ru-106	-0.25 +/- 0.51	0.92	pCi/g	U
Sb-124	-0.091 +/- 0.075	0.14	pCi/g	U
Sb-125	0.09 +/- 0.12	0.23	pCi/g	U
Sc-46	-0.010 +/- 0.063	0.11	pCi/g	U
Th-227	-0.96 +/- 0.55	0.99	pCi/g	U
Th-234	0.66 +/- 0.85	1.4	pCi/g	U
Tl-208	0.43 +/- 0.11	0.094	pCi/g	
U-235	-0.04 +/- 0.30	0.52	pCi/g	U
Zn-65	-0.08 +/- 0.17	0.30	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 16:04:49

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: B-7

Lab ID: 0306174-10

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 25-Jun-03
Date Analyzed: 14-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030756D03A

Final Aliquot: 350.0 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.19 +/- 0.43	0.84	pCi/g	
Ag-110m	-0.02 +/- 0.14	0.25	pCi/g	U
Al-26	0.039 +/- 0.056	0.090	pCi/g	U
Am-241	-0.04 +/- 0.45	0.79	pCi/g	U
Be-7	0.09 +/- 0.65	1.2	pCi/g	U
Bi-212	1.2 +/- 1.5	2.5	pCi/g	U
Bi-214	0.83 +/- 0.27	0.27	pCi/g	
Cd-109	1.7 +/- 1.5	2.4	pCi/g	U
Ce-139	-0.040 +/- 0.061	0.11	pCi/g	U
Ce-144	0.35 +/- 0.45	0.74	pCi/g	U
Co-56	0.11 +/- 0.21	0.35	pCi/g	U
Co-57	0.015 +/- 0.052	0.089	pCi/g	U
Co-58	0.014 +/- 0.098	0.18	pCi/g	U
Co-60	1.85 +/- 0.36	0.15	pCi/g	
Cr-51	-0.13 +/- 0.85	1.5	pCi/g	U
Cs-134	-0.049 +/- 0.080	0.15	pCi/g	U
Cs-137	0.17 +/- 0.12	0.18	pCi/g	U
Eu-152	0.06 +/- 0.43	0.80	pCi/g	U
Eu-154	-0.04 +/- 0.57	1.1	pCi/g	U
Eu-155	0.08 +/- 0.24	0.41	pCi/g	U
Fe-59	-0.12 +/- 0.28	0.52	pCi/g	U
I-131	0.04 +/- 0.35	0.62	pCi/g	U
K-40	16.9 +/- 3.7	1.5	pCi/g	
Mn-54	0.006 +/- 0.097	0.17	pCi/g	U
Na-22	0.052 +/- 0.081	0.14	pCi/g	U
Nb-94	-0.031 +/- 0.081	0.15	pCi/g	U

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Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 16:04:49

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: B-7

Lab ID: 0306174-10

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 25-Jun-03
Date Analyzed: 14-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030756D03A

Final Aliquot: 350.0 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.11 +/- 0.11	0.18	pCi/g	U
Pa-234m	14 +/- 17	28	pCi/g	U
Pb-212	1.42 +/- 0.34	0.30	pCi/g	
Pb-214	0.75 +/- 0.22	0.28	pCi/g	
Ru-106	0.36 +/- 0.80	1.4	pCi/g	U
Sb-124	-0.003 +/- 0.094	0.17	pCi/g	U
Sb-125	0.08 +/- 0.20	0.35	pCi/g	U
Sc-46	-0.02 +/- 0.11	0.20	pCi/g	U
Th-227	-2.3 +/- 9.7	16	pCi/g	U
Th-234	1.3 +/- 1.6	2.6	pCi/g	U
Tl-208	0.40 +/- 0.14	0.15	pCi/g	
U-235	-0.01 +/- 0.39	0.68	pCi/g	U
Zn-65	-0.14 +/- 0.26	0.49	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 16:04:49

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: D-7

Lab ID: 0306174-11

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 25-Jun-03
Date Analyzed: 11-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030976D08A

Final Aliquot: 332.3 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.05 +/- 0.35	0.49	pCi/g	
Ag-110m	-0.133 +/- 0.093	0.19	pCi/g	U
Al-26	-0.044 +/- 0.069	0.17	pCi/g	U
Am-241	-0.01 +/- 0.13	0.23	pCi/g	U
Be-7	0.09 +/- 0.66	1.2	pCi/g	U
Bi-212	2.2 +/- 1.4	1.9	pCi/g	TI
Bi-214	0.73 +/- 0.24	0.22	pCi/g	
Cd-109	2.1 +/- 1.2	1.8	pCi/g	SI
Ce-139	-0.023 +/- 0.052	0.096	pCi/g	U
Ce-144	0.11 +/- 0.35	0.60	pCi/g	U
Co-56	-0.02 +/- 0.16	0.31	pCi/g	U
Co-57	0.040 +/- 0.050	0.082	pCi/g	U
Co-58	0.014 +/- 0.062	0.11	pCi/g	U
Co-60	0.045 +/- 0.087	0.15	pCi/g	U
Cr-51	-0.09 +/- 0.67	1.2	pCi/g	U
Cs-134	0.005 +/- 0.055	0.10	pCi/g	U
Cs-137	0.104 +/- 0.100	0.16	pCi/g	U
Eu-152	0.22 +/- 0.32	0.54	pCi/g	U
Eu-154	-0.16 +/- 0.39	0.80	pCi/g	U
Eu-155	0.20 +/- 0.21	0.33	pCi/g	U
Fe-59	-0.01 +/- 0.20	0.37	pCi/g	U
I-131	0.00 +/- 0.20	0.38	pCi/g	U
K-40	18.1 +/- 4.0	1.7	pCi/g	
Mn-54	0.037 +/- 0.059	0.099	pCi/g	U
Na-22	0.046 +/- 0.057	0.090	pCi/g	U
Nb-94	0.031 +/- 0.078	0.14	pCi/g	U

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 16:04:50

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: D-7

Lab ID: 0306174-11

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 25-Jun-03
Date Analyzed: 11-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030976D08A

Final Aliquot: 332.3 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.031 +/- 0.096	0.17	pCi/g	U
Pa-234m	0 +/- 11	22	pCi/g	U
Pb-212	1.14 +/- 0.28	0.23	pCi/g	
Pb-214	0.54 +/- 0.17	0.22	pCi/g	
Ru-106	0.25 +/- 0.58	1.0	pCi/g	U
Sb-124	0.029 +/- 0.064	0.11	pCi/g	U
Sb-125	0.14 +/- 0.17	0.31	pCi/g	U
Sc-46	-0.022 +/- 0.082	0.16	pCi/g	U
Th-227	-4 +/- 11	19	pCi/g	U
Th-234	1.15 +/- 0.99	1.6	pCi/g	U
Tl-208	0.39 +/- 0.13	0.13	pCi/g	
U-235	-0.02 +/- 0.36	0.63	pCi/g	U
Zn-65	-0.16 +/- 0.20	0.41	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 16:04:50

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: D-7-D

Lab ID: 0306174-12

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 25-Jun-03
Date Analyzed: 11-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030895D10A

Final Aliquot: 380.4 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.32 +/- 0.31	0.41	pCi/g	
Ag-110m	-0.051 +/- 0.055	0.10	pCi/g	U
Al-26	0.034 +/- 0.042	0.069	pCi/g	U
Am-241	-0.13 +/- 0.20	0.35	pCi/g	U
Be-7	-0.23 +/- 0.44	0.79	pCi/g	U
Bi-212	1.54 +/- 0.89	1.3	pCi/g	TI
Bi-214	0.45 +/- 0.17	0.24	pCi/g	
Cd-109	1.8 +/- 1.2	1.9	pCi/g	U
Ce-139	-0.012 +/- 0.039	0.067	pCi/g	U
Ce-144	-0.01 +/- 0.27	0.47	pCi/g	U
Co-56	0.06 +/- 0.12	0.20	pCi/g	U
Co-57	-0.012 +/- 0.035	0.062	pCi/g	U
Co-58	-0.070 +/- 0.058	0.11	pCi/g	U
Co-60	-0.035 +/- 0.056	0.11	pCi/g	U
Cr-51	-0.07 +/- 0.46	0.80	pCi/g	U
Cs-134	0.15 +/- 0.61	1.0	pCi/g	U
Cs-137	0.081 +/- 0.058	0.088	pCi/g	U
Eu-152	-0.09 +/- 0.32	0.57	pCi/g	U
Eu-154	-0.13 +/- 0.31	0.56	pCi/g	U
Eu-155	-0.03 +/- 0.14	0.24	pCi/g	U
Fe-59	0.02 +/- 0.13	0.23	pCi/g	U
I-131	0.02 +/- 0.15	0.26	pCi/g	U
K-40	20.3 +/- 3.7	1.3	pCi/g	
Mn-54	0.005 +/- 0.061	0.11	pCi/g	U
Na-22	0.010 +/- 0.061	0.11	pCi/g	U
Nb-94	0.008 +/- 0.049	0.084	pCi/g	U

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 16:04:50

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: D-7-D

Lab ID: 0306174-12

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 25-Jun-03
Date Analyzed: 11-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030895D10A

Final Aliquot: 380.4 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.062 +/- 0.062	0.100	pCi/g	U
Pa-234m	-2.4 +/- 9.1	16	pCi/g	U
Pb-212	1.18 +/- 0.23	0.14	pCi/g	
Pb-214	0.53 +/- 0.14	0.19	pCi/g	
Ru-106	-0.08 +/- 0.47	0.84	pCi/g	U
Sb-124	-0.034 +/- 0.063	0.11	pCi/g	U
Sb-125	-0.01 +/- 0.12	0.21	pCi/g	U
Sc-46	-0.027 +/- 0.055	0.10	pCi/g	U
Th-227	-0.58 +/- 0.50	0.89	pCi/g	U
Th-234	1.42 +/- 0.81	1.2	pCi/g	TI
Tl-208	0.50 +/- 0.12	0.094	pCi/g	
U-235	0.15 +/- 0.27	0.44	pCi/g	U
Zn-65	0.26 +/- 0.23	0.37	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

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Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Monday, July 14, 2003 16:04:50

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: D-7-D

Lab ID: 0306174-12-D1

Sample Matrix: Soil

Date Prepared: 10-Jul-03

Prep SOP: PAI 739R6

Prep Batch: GS02138

Date Collected: 25-Jun-03

Date Analyzed: 11-Jul-03

Analytical SOP: PAI 713R8

Spectrum Code: 031041D01A

Final Aliquot: 380.4

Aliquot Units: g

Report Basis: Dry Weight

Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.43 +/- 0.31	0.33	pCi/g	
Ag-110m	-0.067 +/- 0.068	0.13	pCi/g	U
Al-26	-0.008 +/- 0.040	0.076	pCi/g	U
Am-241	-0.06 +/- 0.24	0.42	pCi/g	U
Be-7	-0.10 +/- 0.42	0.74	pCi/g	U
Bi-212	1.76 +/- 0.89	1.3	pCi/g	
Bi-214	0.55 +/- 0.16	0.18	pCi/g	
Cd-109	1.4 +/- 1.0	1.6	pCi/g	U
Ce-139	0.028 +/- 0.041	0.067	pCi/g	U
Ce-144	-0.09 +/- 0.26	0.45	pCi/g	U
Co-56	0.14 +/- 0.13	0.21	pCi/g	U
Co-57	0.049 +/- 0.037	0.057	pCi/g	U
Co-58	-0.048 +/- 0.058	0.11	pCi/g	U
Co-60	0.015 +/- 0.051	0.088	pCi/g	U
Cr-51	-0.32 +/- 0.46	0.84	pCi/g	U
Cs-134	0.11 +/- 0.46	0.76	pCi/g	U
Cs-137	0.079 +/- 0.053	0.078	pCi/g	
Eu-152	-0.02 +/- 0.25	0.45	pCi/g	U
Eu-154	0.05 +/- 0.30	0.51	pCi/g	U
Eu-155	0.11 +/- 0.16	0.27	pCi/g	U
Fe-59	0.03 +/- 0.13	0.22	pCi/g	U
I-131	-0.16 +/- 0.16	0.30	pCi/g	U
K-40	20.7 +/- 3.8	1.2	pCi/g	
Mn-54	0.030 +/- 0.051	0.086	pCi/g	U
Na-22	-0.078 +/- 0.068	0.13	pCi/g	U
Nb-94	0.025 +/- 0.046	0.076	pCi/g	U
Nb-95	0.057 +/- 0.054	0.085	pCi/g	U

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Monday, July 14, 2003 16:04:50

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: D-7-D

Lab ID: 0306174-12-D1

Sample Matrix: Soil

Date Prepared: 10-Jul-03

Prep SOP: PAI 739R6

Prep Batch: GS02138

Date Collected: 25-Jun-03

Date Analyzed: 11-Jul-03

Analytical SOP: PAI 713R8

Spectrum Code: 031041D01A

Final Aliquot: 380.4

Aliquot Units: g

Report Basis: Dry Weight

Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Pa-234m	10.2 +/- 8.8	14	pCi/g	U
Pb-212	1.31 +/- 0.26	0.16	pCi/g	
Pb-214	0.47 +/- 0.13	0.16	pCi/g	
Ru-106	-0.09 +/- 0.45	0.80	pCi/g	U
Sb-124	0.055 +/- 0.058	0.092	pCi/g	U
Sb-125	0.10 +/- 0.12	0.19	pCi/g	U
Sc-46	0.001 +/- 0.053	0.094	pCi/g	U
Th-227	-1.71 +/- 0.64	1.1	pCi/g	U
Th-234	1.4 +/- 1.0	1.6	pCi/g	U
Tl-208	0.41 +/- 0.10	0.083	pCi/g	
U-235	0.03 +/- 0.26	0.45	pCi/g	U
Zn-65	0.04 +/- 0.19	0.33	pCi/g	U

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Monday, July 14, 2003 16:04:50

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: D-7-D

Lab ID: 0306174-12-D1

Sample Matrix: Soil

Date Prepared: 10-Jul-03

Prep SOP: PAI 739R6

Prep Batch: GS02138

Date Collected: 25-Jun-03

Date Analyzed: 11-Jul-03

Analytical SOP: PAI 713R8

Spectrum Code: 031041D01A

Final Aliquot: 380.4

Aliquot Units: g

Report Basis: Dry Weight

Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier

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.

* - Duplicate DER not within control limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 16:04:50

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: F-7

Lab ID: 0306174-13

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 25-Jun-03
Date Analyzed: 11-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030943D02A

Final Aliquot: 316.1 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.12 +/- 0.35	0.47	pCi/g	
Ag-110m	0.005 +/- 0.085	0.15	pCi/g	U
Al-26	-0.013 +/- 0.048	0.11	pCi/g	U
Am-241	0.10 +/- 0.57	1.0	pCi/g	U
Be-7	0.07 +/- 0.62	1.1	pCi/g	U
Bi-212	1.4 +/- 1.0	1.4	pCi/g	TI
Bi-214	0.42 +/- 0.20	0.25	pCi/g	
Cd-109	3.3 +/- 1.6	2.1	pCi/g	SI
Ce-139	-0.018 +/- 0.047	0.088	pCi/g	U
Ce-144	0.03 +/- 0.33	0.59	pCi/g	U
Co-56	-0.02 +/- 0.16	0.31	pCi/g	U
Co-57	-0.011 +/- 0.044	0.081	pCi/g	U
Co-58	0.064 +/- 0.055	0.076	pCi/g	U
Co-60	-0.027 +/- 0.031	0.093	pCi/g	U
Cr-51	-0.09 +/- 0.65	1.2	pCi/g	U
Cs-134	-0.003 +/- 0.071	0.13	pCi/g	U
Cs-137	0.140 +/- 0.095	0.14	pCi/g	
Eu-152	0.14 +/- 0.30	0.54	pCi/g	U
Eu-154	-0.37 +/- 0.30	0.72	pCi/g	U
Eu-155	0.15 +/- 0.22	0.35	pCi/g	U
Fe-59	-0.06 +/- 0.14	0.29	pCi/g	U
I-131	-0.15 +/- 0.28	0.52	pCi/g	U
K-40	18.5 +/- 3.9	1.2	pCi/g	
Mn-54	-0.025 +/- 0.072	0.14	pCi/g	U
Na-22	-0.035 +/- 0.084	0.17	pCi/g	U
Nb-94	0.016 +/- 0.052	0.094	pCi/g	U

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Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 16:04:51

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: F-7

Lab ID: 0306174-13

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 25-Jun-03
Date Analyzed: 11-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030943D02A

Final Aliquot: 316.1 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.103 +/- 0.078	0.11	pCi/g	U
Pa-234m	-2 +/- 10	21	pCi/g	U
Pb-212	1.29 +/- 0.30	0.23	pCi/g	
Pb-214	0.59 +/- 0.19	0.23	pCi/g	
Ru-106	-0.24 +/- 0.51	1.0	pCi/g	U
Sb-124	-0.006 +/- 0.081	0.15	pCi/g	U
Sb-125	-0.14 +/- 0.18	0.36	pCi/g	U
Sc-46	0.016 +/- 0.052	0.097	pCi/g	U
Th-227	-0.9 +/- 9.5	16	pCi/g	U
Th-234	0.9 +/- 1.5	2.5	pCi/g	U
Tl-208	0.33 +/- 0.12	0.13	pCi/g	
U-235	0.08 +/- 0.33	0.58	pCi/g	U
Zn-65	-0.01 +/- 0.18	0.34	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306174-1*

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Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 16:04:51

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: F-7-D

Lab ID: 0306174-14

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 25-Jun-03
Date Analyzed: 11-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030752D03A

Final Aliquot: 350.3 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.15 +/- 0.38	0.65	pCi/g	
Ag-110m	0.016 +/- 0.078	0.14	pCi/g	U
Al-26	0.025 +/- 0.062	0.12	pCi/g	U
Am-241	0.01 +/- 0.43	0.76	pCi/g	U
Be-7	-0.04 +/- 0.63	1.2	pCi/g	U
Bi-212	2.4 +/- 1.4	2.0	pCi/g	TI
Bi-214	0.63 +/- 0.24	0.27	pCi/g	
Cd-109	1.7 +/- 2.1	3.4	pCi/g	U
Ce-139	0.002 +/- 0.054	0.094	pCi/g	U
Ce-144	-0.40 +/- 0.41	0.77	pCi/g	U
Co-56	0.15 +/- 0.18	0.29	pCi/g	U
Co-57	0.020 +/- 0.047	0.079	pCi/g	U
Co-58	-0.007 +/- 0.070	0.13	pCi/g	U
Co-60	-0.005 +/- 0.066	0.13	pCi/g	U
Cr-51	-0.07 +/- 0.69	1.3	pCi/g	U
Cs-134	-0.040 +/- 0.071	0.14	pCi/g	U
Cs-137	0.063 +/- 0.091	0.15	pCi/g	U
Eu-152	0.28 +/- 0.41	0.69	pCi/g	U
Eu-154	0.34 +/- 0.44	0.71	pCi/g	U
Eu-155	0.09 +/- 0.24	0.41	pCi/g	U
Fe-59	0.08 +/- 0.14	0.23	pCi/g	U
I-131	-0.20 +/- 0.24	0.48	pCi/g	U
K-40	19.6 +/- 4.2	1.5	pCi/g	
Mn-54	0.054 +/- 0.085	0.14	pCi/g	U
Na-22	-0.027 +/- 0.091	0.18	pCi/g	U
Nb-94	-0.068 +/- 0.068	0.14	pCi/g	U

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Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 16:04:51

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: F-7-D

Lab ID: 0306174-14

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 25-Jun-03
Date Analyzed: 11-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030752D03A

Final Aliquot: 350.3 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.084 +/- 0.094	0.19	pCi/g	U
Pa-234m	-3 +/- 13	25	pCi/g	U
Pb-212	1.20 +/- 0.29	0.24	pCi/g	
Pb-214	0.59 +/- 0.18	0.22	pCi/g	
Ru-106	0.78 +/- 0.58	0.80	pCi/g	U
Sb-124	-0.024 +/- 0.085	0.16	pCi/g	U
Sb-125	-0.01 +/- 0.17	0.31	pCi/g	U
Sc-46	0.015 +/- 0.093	0.17	pCi/g	U
Th-227	-1.03 +/- 0.74	1.4	pCi/g	U
Th-234	1.3 +/- 1.7	2.8	pCi/g	U
Tl-208	0.51 +/- 0.15	0.14	pCi/g	
U-235	0.02 +/- 0.34	0.60	pCi/g	U
Zn-65	-0.21 +/- 0.19	0.40	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 16:04:51

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: H-7

Lab ID: 0306174-15

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 25-Jun-03
Date Analyzed: 11-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030542D04A

Final Aliquot: 307.5 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.43 +/- 0.39	0.53	pCi/g	
Ag-110m	0.007 +/- 0.069	0.13	pCi/g	U
Al-26	-0.045 +/- 0.067	0.16	pCi/g	U
Am-241	0.20 +/- 0.40	0.68	pCi/g	U
Be-7	0.13 +/- 0.67	1.2	pCi/g	U
Bi-212	1.5 +/- 1.2	1.9	pCi/g	U
Bi-214	0.51 +/- 0.20	0.25	pCi/g	
Cd-109	2.1 +/- 2.1	3.4	pCi/g	U
Ce-139	0.015 +/- 0.052	0.089	pCi/g	U
Ce-144	-0.05 +/- 0.34	0.62	pCi/g	U
Co-56	0.00 +/- 0.17	0.31	pCi/g	U
Co-57	-0.015 +/- 0.049	0.089	pCi/g	U
Co-58	0.007 +/- 0.082	0.15	pCi/g	U
Co-60	-0.018 +/- 0.092	0.18	pCi/g	U
Cr-51	0.42 +/- 0.80	1.3	pCi/g	U
Cs-134	0.060 +/- 0.060	0.093	pCi/g	U
Cs-137	0.118 +/- 0.082	0.12	pCi/g	U
Eu-152	-0.03 +/- 0.35	0.70	pCi/g	U
Eu-154	0.30 +/- 0.44	0.73	pCi/g	U
Eu-155	0.22 +/- 0.23	0.37	pCi/g	U
Fe-59	0.02 +/- 0.18	0.34	pCi/g	U
I-131	-0.08 +/- 0.26	0.48	pCi/g	U
K-40	16.9 +/- 3.7	1.7	pCi/g	
Mn-54	0.000 +/- 0.067	0.13	pCi/g	U
Na-22	-0.033 +/- 0.077	0.16	pCi/g	U
Nb-94	0.074 +/- 0.078	0.12	pCi/g	U

Data Package ID: *GSS0306174-1*

0 00049

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 16:04:51

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: H-7

Lab ID: 0306174-15

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 25-Jun-03
Date Analyzed: 11-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030542D04A

Final Aliquot: 307.5 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.059 +/- 0.082	0.17	pCi/g	U
Pa-234m	-11 +/- 13	28	pCi/g	U
Pb-212	1.59 +/- 0.34	0.19	pCi/g	
Pb-214	0.62 +/- 0.19	0.25	pCi/g	
Ru-106	0.23 +/- 0.70	1.2	pCi/g	U
Sb-124	0.059 +/- 0.071	0.11	pCi/g	U
Sb-125	-0.08 +/- 0.17	0.33	pCi/g	U
Sc-46	-0.035 +/- 0.062	0.13	pCi/g	U
Th-227	0.09 +/- 0.67	1.1	pCi/g	U
Th-234	0.4 +/- 1.1	1.9	pCi/g	U
Tl-208	0.43 +/- 0.14	0.14	pCi/g	
U-235	0.35 +/- 0.40	0.64	pCi/g	U
Zn-65	0.31 +/- 0.31	0.48	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

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Data Package ID: *GSS0306174-1*

Paragon Analytics, Inc.

Radiochemistry Case Narrative
Gamma Spectroscopy

New World Technology
Bethesda / GA00419

Paragon Work Order 0306173

1. This report consists of analysis results for twenty soil samples received by Paragon on 6/27/03. The analysis results for these samples are reported on a 'dry weight' basis in units of pCi/gram.
2. These samples were prepared according to Paragon Analytics, Inc. procedure PAI SOP739R6.
3. The samples were analyzed for the presence of gamma emitting radionuclides according to Paragon Analytics, Inc. procedure PAI SOP713R8. The analyses were completed on 7/10/03.
4. Sample volumes were insufficient to allow preparation of duplicates. Duplicate analyses of samples D-13 and I-6 (PAI ID 0306173-2 and -12) were performed in lieu of preparation duplicates.
5. Activity concentrations above the calculated MDC are reported in some instances where minimum nuclide identification criteria are not met. Such tentative identifications result when the software attempts to calculate net activity concentrations for analytes where either one or both of the following criteria are not satisfied: the 'diagnostic' peak for a nuclide must be identified above critical level (generally the most abundant, interference-free photopeak), or the minimum library peak tolerance of 75% must be attained. These data have been flagged with a "TI" qualifier.
6. In cases where Cd-109 is identified at a level greater than the MDC, it is assigned an "SI" flag denoting spectral interference at the 88 keV line. This interference occurs with the K_β x-ray of Pb, which occurs at an energy of 87 keV.
7. Duplicate analysis results elevated above the DER warning limit of 1.42 have been flagged as "W" for Warn. For gamma spectroscopic analysis SOP 715R13 states that 75% of the nuclides must be within the 2-sigma control limit to meet DER or RPD requirements. Elevated DER may be attributable to sample non-homogeneity.
8. There are cases where the magnitude of the negative activity is greater than the 2-sigma TPU. The analyst's review of the data does not indicate a problem with the instrument data or the subsequent reporting systems. The data quality is believed to be unaffected and the results are submitted without qualification. Under typical conditions, where background level

sample data is normally distributed and analyzed by paired observations, this event is likely to occur at least 2.5% of the time.

9. No problems were encountered with either the client samples or the associated quality control samples. All quality control criteria were met.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, Paragon Analytics, Inc. certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Radiochemistry Instrument Technician — Date: 7/11/03

Radiochemistry Final Data Review — Date: 7-11-03

1

PARAGON ANALYTICS, INC.
Radiochemistry Data Package

Section 1

SAMPLE RESULTS SUMMARY

A summary report is not provided.

Please refer to the individual sample results data in Section 3.

2

PARAGON ANALYTICS, INC.

Radiochemistry Data Package

Section 2

QC RESULTS SUMMARY

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Friday, July 11, 2003 09:18:54

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306173

Field ID:
Lab ID: GS02135BLK1

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 09-Jul-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030891D10A

Final Aliquot: 322.4
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	0.01 +/- 0.20	0.35	pCi/g	U
Ag-110m	-0.009 +/- 0.040	0.074	pCi/g	U
Al-26	-0.023 +/- 0.043	0.089	pCi/g	U
Am-241	-0.07 +/- 0.14	0.25	pCi/g	U
Be-7	0.17 +/- 0.27	0.44	pCi/g	U
Bi-212	-0.32 +/- 0.58	1.1	pCi/g	U
Bi-214	-0.12 +/- 0.14	0.25	pCi/g	U
Cd-109	-0.43 +/- 0.79	1.4	pCi/g	U
Ce-139	-0.009 +/- 0.024	0.044	pCi/g	U
Ce-144	-0.01 +/- 0.19	0.33	pCi/g	U
Co-56	0.012 +/- 0.092	0.16	pCi/g	U
Co-57	0.025 +/- 0.024	0.038	pCi/g	U
Co-58	0.010 +/- 0.041	0.071	pCi/g	U
Co-60	-0.034 +/- 0.051	0.100	pCi/g	U
Cr-51	-0.04 +/- 0.26	0.47	pCi/g	U
Cs-134	0.000 +/- 0.069	0.12	pCi/g	U
Cs-137	0.001 +/- 0.042	0.076	pCi/g	U
Eu-152	0.23 +/- 0.23	0.36	pCi/g	U
Eu-154	0.05 +/- 0.24	0.43	pCi/g	U
Eu-155	0.033 +/- 0.099	0.17	pCi/g	U
Fe-59	0.021 +/- 0.075	0.13	pCi/g	U
I-131	-0.025 +/- 0.038	0.071	pCi/g	U
K-40	0.02 +/- 0.58	1.0	pCi/g	U
Mn-54	-0.038 +/- 0.041	0.080	pCi/g	U

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Friday, July 11, 2003 09:18:54

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306173

Field ID:
Lab ID: GS02135BLK1

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 09-Jul-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030891D10A

Final Aliquot: 322.4
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier
Na-22	-0.010 +/- 0.054	0.099	pCi/g	U
Nb-94	-0.008 +/- 0.043	0.078	pCi/g	U
Nb-95	0.009 +/- 0.038	0.068	pCi/g	U
Pa-234m	-2.4 +/- 7.5	14	pCi/g	U
Pb-212	-0.049 +/- 0.064	0.12	pCi/g	U
Pb-214	-0.01 +/- 0.11	0.19	pCi/g	U
Ru-106	-0.14 +/- 0.39	0.72	pCi/g	U
Sb-124	-0.032 +/- 0.055	0.099	pCi/g	U
Sb-125	-0.04 +/- 0.10	0.19	pCi/g	U
Sc-46	-0.012 +/- 0.039	0.074	pCi/g	U
Th-227	-0.35 +/- 0.23	0.44	pCi/g	U
Th-234	0.12 +/- 0.55	0.94	pCi/g	U
Tl-208	0.019 +/- 0.041	0.069	pCi/g	U
U-235	-0.12 +/- 0.22	0.39	pCi/g	U
Zn-65	-0.05 +/- 0.12	0.22	pCi/g	U

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Friday, July 11, 2003 09:18:54

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID:

Lab ID: GS02135BLK1

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 09-Jul-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030891D10A

Final Aliquot: 322.4
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield in control at 100-110%. Quantitative yield is assumed.

Y2 - Chemical Yield outside default limits.

B3 - Analyte concentration greater than MDC but less than Requested MDC.

B - Analyte concentration greater than MDC.

SQ - Spectral iquality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Friday, July 11, 2003 09:18:46

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306173

Field ID:
Lab ID: GS02136BLK1

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02136

Date Collected: 09-Jul-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030880D09A

Final Aliquot: 48.10
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	0.08 +/- 0.87	1.7	pCi/g	U
Ag-110m	-0.04 +/- 0.14	0.31	pCi/g	U
Al-26	0.00 +/- 0.37	0.75	pCi/g	U
Am-241	-0.4 +/- 1.1	2.1	pCi/g	U
Be-7	-0.3 +/- 1.4	2.8	pCi/g	U
Bi-212	-0.7 +/- 1.9	4.3	pCi/g	U
Bi-214	0.46 +/- 0.44	0.65	pCi/g	U
Cd-109	-0.5 +/- 2.5	5.0	pCi/g	U
Ce-139	-0.034 +/- 0.090	0.18	pCi/g	U
Ce-144	-0.66 +/- 0.61	1.3	pCi/g	U
Co-56	-0.12 +/- 0.34	0.76	pCi/g	U
Co-57	0.034 +/- 0.076	0.13	pCi/g	U
Co-58	0.03 +/- 0.20	0.38	pCi/g	U
Co-60	-0.08 +/- 0.21	0.49	pCi/g	U
Cr-51	-0.8 +/- 1.0	2.2	pCi/g	U
Cs-134	-0.27 +/- 0.20	0.44	pCi/g	U
Cs-137	0.00 +/- 0.20	0.38	pCi/g	U
Eu-152	0.0 +/- 1.0	2.2	pCi/g	U
Eu-154	0.5 +/- 1.3	2.3	pCi/g	U
Eu-155	0.05 +/- 0.36	0.67	pCi/g	U
Fe-59	0.06 +/- 0.40	0.78	pCi/g	U
I-131	-0.04 +/- 0.17	0.33	pCi/g	U
K-40	1.1 +/- 2.6	4.7	pCi/g	U
Mn-54	0.04 +/- 0.18	0.34	pCi/g	U

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Friday, July 11, 2003 09:18:46

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306173

Field ID:
Lab ID: GS02136BLK1

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02136

Date Collected: 09-Jul-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030880D09A

Final Aliquot: 48.10
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier
Na-22	0.06 +/- 0.16	0.31	pCi/g	U
Nb-94	-0.08 +/- 0.20	0.41	pCi/g	U
Nb-95	-0.02 +/- 0.19	0.38	pCi/g	U
Pa-234m	0 +/- 38	76	pCi/g	U
Pb-212	-0.12 +/- 0.23	0.46	pCi/g	U
Pb-214	-0.18 +/- 0.38	0.75	pCi/g	U
Ru-106	0.4 +/- 1.8	3.4	pCi/g	U
Sb-124	-0.09 +/- 0.17	0.36	pCi/g	U
Sb-125	-0.09 +/- 0.35	0.72	pCi/g	U
Sc-46	0.02 +/- 0.14	0.30	pCi/g	U
Th-227	-0.31 +/- 0.75	1.5	pCi/g	U
Th-234	-0.4 +/- 2.3	4.2	pCi/g	U
Tl-208	0.05 +/- 0.15	0.29	pCi/g	U
U-235	0.34 +/- 0.64	1.1	pCi/g	U
Zn-65	0.05 +/- 0.49	0.96	pCi/g	U

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Friday, July 11, 2003 09:18:46

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID:

Lab ID: GS02136BLK1

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02136

Date Collected: 09-Jul-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030880D09A

Final Aliquot: 48.10
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield in control at 100-110%. Quantitative yield is assumed.

Y2 - Chemical Yield outside default limits.

B3 - Analyte concentration greater than MDC but less than Requested MDC.

B - Analyte concentration greater than MDC.

SQ - Spectral iquality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

LCS Results

Reported on: Friday, July 11, 2003 09:18:54

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID:

Lab ID: GS02135LCS1

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 09-Jul-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030537D04A

Final Aliquot: 500.0
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	LCS Results +/- 2s TPU	MDC	Spike Added	Reporting Units	LCS Recovery	Control Limits	Lab Qualifier
Am-241	199 +/- 33	3.1	196	pCi/g	102%	85-115%	P
Cd-109	890 +/- 150	10	791	pCi/g	113%	85-115%	P
Co-60	91 +/- 15	0.35	92.9	pCi/g	98%	85-115%	P
Cs-137	86 +/- 14	0.49	80.3	pCi/g	107%	85-115%	P

Comments:

Data Package ID: *GSS0306173-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
* - Duplicate DER not within control limits.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS Recovery within control limits.

Abbreviations:

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

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.

Gamma Spectroscopy Results

Method PAI 713R8

LCS Results

Reported on: Friday, July 11, 2003 09:18:47

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID:

Lab ID: GS02136LCS1

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02136

Date Collected: 09-Jul-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030889D10A

Final Aliquot: 100.0
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	LCS Results +/- 2s TPU	MDC	Spike Added	Reporting Units	LCS Recovery	Control Limits	Lab Qualifier
Am-241	890 +/- 150	3.9	890	pCi/g	100%	85-115%	P
Cd-109	3180 +/- 520	16	3130	pCi/g	101%	85-115%	P
Co-60	449 +/- 74	2.0	457	pCi/g	98%	85-115%	P
Cs-137	411 +/- 68	1.2	389	pCi/g	106%	85-115%	P

Comments:

Data Package ID: *GSS0306173-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
* - Duplicate DER not within control limits.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS Recovery within control limits.

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.

Abbreviations:

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

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Friday, July 11, 2003 09:18:46

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID:	C-12-D	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID:	0306173-1	7/9/03	7/10/03	GS02136	52.40
DUP ID:	0306173-1-D1	7/9/03	7/10/03	GS02136	43.80

Sample Matrix: Soil
Date Collected: 25-Jun-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Ac-228	1.4 +/- 1.1	0.75 +/- 0.49	pCi/g	0.55	< 1.42	
Ag-110m	-0.18 +/- 0.28	-0.20 +/- 0.27	pCi/g	0.05	< 1.42	
Al-26	-0.02 +/- 0.27	0.15 +/- 0.23	pCi/g	0.47	< 1.42	
Am-241	-0.18 +/- 0.98	0.13 +/- 0.38	pCi/g	0.3	< 1.42	
Be-7	0.9 +/- 1.7	1.4 +/- 1.5	pCi/g	0.19	< 1.42	
Bi-212	0.3 +/- 3.2	0.9 +/- 2.5	pCi/g	0.14	< 1.42	
Bi-214	0.70 +/- 0.52	-0.11 +/- 0.48	pCi/g	1.14	< 1.42	
Cd-109	0.5 +/- 3.9	-0.3 +/- 2.7	pCi/g	0.15	< 1.42	
Ce-139	0.05 +/- 0.10	0.034 +/- 0.087	pCi/g	0.14	< 1.42	
Ce-144	0.92 +/- 0.63	-0.08 +/- 0.65	pCi/g	1.1	< 1.42	
Co-56	-0.15 +/- 0.52	-0.04 +/- 0.38	pCi/g	0.17	< 1.42	
Co-57	-0.064 +/- 0.092	0.058 +/- 0.084	pCi/g	0.98	< 1.42	
Co-58	-0.02 +/- 0.22	-0.05 +/- 0.16	pCi/g	0.11	< 1.42	
Co-60	0.01 +/- 0.18	0.09 +/- 0.24	pCi/g	0.25	< 1.42	
Cr-51	1.7 +/- 1.6	0.5 +/- 1.3	pCi/g	0.57	< 1.42	
Cs-134	-0.29 +/- 0.24	0.01 +/- 0.24	pCi/g	0.89	< 1.42	
Cs-137	0.57 +/- 0.30	0.37 +/- 0.26	pCi/g	0.51	< 1.42	
Eu-152	-0.32 +/- 0.79	-0.1 +/- 1.2	pCi/g	0.18	< 1.42	
Eu-154	0.1 +/- 1.2	-0.5 +/- 1.0	pCi/g	0.38	< 1.42	
Eu-155	-0.24 +/- 0.45	-0.09 +/- 0.30	pCi/g	0.28	< 1.42	
Fe-59	0.39 +/- 0.54	-0.17 +/- 0.39	pCi/g	0.83	< 1.42	
I-131	0.33 +/- 0.58	-0.02 +/- 0.40	pCi/g	0.49	< 1.42	
K-40	6.0 +/- 3.8	7.9 +/- 4.1	pCi/g	0.34	< 1.42	
Mn-54	-0.19 +/- 0.23	-0.09 +/- 0.16	pCi/g	0.35	< 1.42	
Na-22	0.10 +/- 0.24	-0.11 +/- 0.20	pCi/g	0.68	< 1.42	
Nb-94	0.06 +/- 0.19	-0.01 +/- 0.16	pCi/g	0.26	< 1.42	
Nb-95	0.15 +/- 0.21	0.13 +/- 0.20	pCi/g	0.05	< 1.42	
Pa-234m	19 +/- 37	1 +/- 31	pCi/g	0.37	< 1.42	

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Friday, July 11, 2003 09:18:46

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID:	C-12-D	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID:	0306173-1	7/9/03	7/10/03	GS02136	52.40
DUP ID:	0306173-1-D1	7/9/03	7/10/03	GS02136	43.80

Sample Matrix: Soil
Date Collected: 25-Jun-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Pb-212	0.58 +/- 0.33	0.22 +/- 0.21	pCi/g	0.92	< 1.42	
Pb-214	0.57 +/- 0.43	0.54 +/- 0.39	pCi/g	0.05	< 1.42	
Ru-106	-1.2 +/- 1.7	-0.6 +/- 1.3	pCi/g	0.25	< 1.42	
Sb-124	-0.09 +/- 0.23	-0.17 +/- 0.23	pCi/g	0.23	< 1.42	
Sb-125	0.28 +/- 0.37	-0.25 +/- 0.36	pCi/g	1.02	< 1.42	
Sc-46	0.07 +/- 0.20	-0.25 +/- 0.20	pCi/g	1.1	< 1.42	
Th-227	0.3 +/- 1.2	-0.4 +/- 1.1	pCi/g	0.47	< 1.42	
Th-234	-0.9 +/- 2.3	0.3 +/- 1.6	pCi/g	0.44	< 1.42	
Tl-208	0.36 +/- 0.25	0.17 +/- 0.14	pCi/g	0.67	< 1.42	
U-235	0.53 +/- 0.65	0.13 +/- 0.62	pCi/g	0.45	< 1.42	
Zn-65	-0.34 +/- 0.58	-0.64 +/- 0.52	pCi/g	0.39	< 1.42	

Comments:

Qualifiers/Flags:

W - DER is greater than Warning Limit of 1.42

H - DER is Higher han Control Limit of 2.13

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

DER - Duplicate Error Ratio

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Friday, July 11, 2003 09:18:51

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID:	D-13	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID:	0306173-2	7/9/03	7/10/03	GS02135	310.6
DUP ID:	0306173-2-D1	7/9/03	7/10/03	GS02135	310.6

Sample Matrix: Soil
Date Collected: 25-Jun-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Ac-228	1.00 +/- 0.37	0.91 +/- 0.30	pCi/g	0.19	< 1.42	
Ag-110m	0.07 +/- 0.11	-0.080 +/- 0.086	pCi/g	1.11	< 1.42	
Al-26	0.016 +/- 0.066	0.021 +/- 0.030	pCi/g	0.07	< 1.42	
Am-241	-0.16 +/- 0.37	-0.02 +/- 0.37	pCi/g	0.25	< 1.42	
Be-7	0.30 +/- 0.64	0.13 +/- 0.59	pCi/g	0.19	< 1.42	
Bi-212	1.5 +/- 1.4	0.73 +/- 0.93	pCi/g	0.48	< 1.42	
Bi-214	0.52 +/- 0.23	0.41 +/- 0.19	pCi/g	0.36	< 1.42	
Cd-109	1.2 +/- 1.8	1.2 +/- 1.5	pCi/g	0.01	< 1.42	
Ce-139	0.006 +/- 0.048	-0.005 +/- 0.046	pCi/g	0.16	< 1.42	
Ce-144	0.22 +/- 0.37	0.08 +/- 0.31	pCi/g	0.3	< 1.42	
Co-56	0.08 +/- 0.16	0.01 +/- 0.14	pCi/g	0.31	< 1.42	
Co-57	0.022 +/- 0.045	-0.035 +/- 0.040	pCi/g	0.93	< 1.42	
Co-58	0.037 +/- 0.072	0.040 +/- 0.068	pCi/g	0.02	< 1.42	
Co-60	0.15 +/- 0.12	0.130 +/- 0.093	pCi/g	0.15	< 1.42	
Cr-51	-0.14 +/- 0.63	0.26 +/- 0.58	pCi/g	0.47	< 1.42	
Cs-134	0.00 +/- 0.11	0.001 +/- 0.070	pCi/g	0.01	< 1.42	
Cs-137	0.39 +/- 0.14	0.42 +/- 0.14	pCi/g	0.19	< 1.42	
Eu-152	0.07 +/- 0.28	0.07 +/- 0.30	pCi/g	0.01	< 1.42	
Eu-154	0.17 +/- 0.41	0.01 +/- 0.30	pCi/g	0.3	< 1.42	
Eu-155	0.02 +/- 0.20	-0.12 +/- 0.20	pCi/g	0.5	< 1.42	
Fe-59	0.11 +/- 0.19	0.00 +/- 0.17	pCi/g	0.42	< 1.42	
I-131	-0.20 +/- 0.21	-0.22 +/- 0.21	pCi/g	0.07	< 1.42	
K-40	10.6 +/- 2.8	11.3 +/- 2.7	pCi/g	0.17	< 1.42	
Mn-54	0.014 +/- 0.074	-0.018 +/- 0.058	pCi/g	0.34	< 1.42	
Na-22	0.018 +/- 0.099	-0.008 +/- 0.054	pCi/g	0.23	< 1.42	
Nb-94	-0.029 +/- 0.070	0.000 +/- 0.062	pCi/g	0.31	< 1.42	
Nb-95	0.022 +/- 0.083	0.051 +/- 0.075	pCi/g	0.26	< 1.42	
Pa-234m	2 +/- 11	-2 +/- 10	pCi/g	0.3	< 1.42	

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Friday, July 11, 2003 09:18:50

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID:	D-13	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID:	0306173-2	7/9/03	7/10/03	GS02135	310.6
DUP ID:	0306173-2-D1	7/9/03	7/10/03	GS02135	310.6

Sample Matrix: Soil
Date Collected: 25-Jun-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Pb-212	0.88 +/- 0.24	0.94 +/- 0.24	pCi/g	0.2	< 1.42	
Pb-214	0.51 +/- 0.19	0.30 +/- 0.15	pCi/g	0.88	< 1.42	
Ru-106	0.13 +/- 0.71	0.03 +/- 0.50	pCi/g	0.11	< 1.42	
Sb-124	-0.053 +/- 0.097	0.036 +/- 0.081	pCi/g	0.7	< 1.42	
Sb-125	0.04 +/- 0.18	0.09 +/- 0.14	pCi/g	0.24	< 1.42	
Sc-46	-0.007 +/- 0.070	0.007 +/- 0.069	pCi/g	0.14	< 1.42	
Th-227	-6 +/- 11	-0.43 +/- 0.55	pCi/g	0.51	< 1.42	
Th-234	0.7 +/- 1.2	1.4 +/- 1.3	pCi/g	0.4	< 1.42	
Tl-208	0.19 +/- 0.11	0.37 +/- 0.13	pCi/g	1.11	< 1.42	
U-235	0.24 +/- 0.37	0.25 +/- 0.32	pCi/g	0.01	< 1.42	
Zn-65	-0.19 +/- 0.20	-0.09 +/- 0.18	pCi/g	0.36	< 1.42	

Comments:

Qualifiers/Flags:

W - DER is greater than Warning Limit of 1.42

H - DER is Higher han Control Limit of 2.13

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

DER - Duplicate Error Ratio

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Friday, July 11, 2003 09:18:48

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: I-6	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID: 0306173-12	7/9/03	7/10/03	GS02135	359.7
DUP ID: 0306173-12-D1	7/9/03	7/10/03	GS02135	359.7

Sample Matrix: Soil
Date Collected: 25-Jun-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Ac-228	1.11 +/- 0.38	1.17 +/- 0.39	pCi/g	0.12	< 1.42	
Ag-110m	0.006 +/- 0.064	0.001 +/- 0.082	pCi/g	0.05	< 1.42	
Al-26	0.003 +/- 0.082	0.012 +/- 0.073	pCi/g	0.08	< 1.42	
Am-241	0.22 +/- 0.41	0.03 +/- 0.35	pCi/g	0.36	< 1.42	
Be-7	0.09 +/- 0.60	0.46 +/- 0.66	pCi/g	0.42	< 1.42	
Bi-212	1.3 +/- 1.3	0.8 +/- 1.2	pCi/g	0.28	< 1.42	
Bi-214	0.40 +/- 0.21	0.49 +/- 0.22	pCi/g	0.27	< 1.42	
Cd-109	1.7 +/- 1.7	1.8 +/- 1.3	pCi/g	0.06	< 1.42	
Ce-139	0.043 +/- 0.056	0.011 +/- 0.048	pCi/g	0.43	< 1.42	
Ce-144	-0.06 +/- 0.34	-0.15 +/- 0.32	pCi/g	0.18	< 1.42	
Co-56	0.14 +/- 0.18	0.10 +/- 0.17	pCi/g	0.18	< 1.42	
Co-57	0.004 +/- 0.047	-0.022 +/- 0.044	pCi/g	0.4	< 1.42	
Co-58	-0.019 +/- 0.065	-0.056 +/- 0.084	pCi/g	0.35	< 1.42	
Co-60	-0.038 +/- 0.060	0.090 +/- 0.096	pCi/g	1.13	< 1.42	
Cr-51	-0.13 +/- 0.67	0.45 +/- 0.60	pCi/g	0.65	< 1.42	
Cs-134	-0.011 +/- 0.074	-0.058 +/- 0.085	pCi/g	0.41	< 1.42	
Cs-137	0.001 +/- 0.069	0.046 +/- 0.090	pCi/g	0.39	< 1.42	
Eu-152	0.12 +/- 0.35	0.04 +/- 0.38	pCi/g	0.15	< 1.42	
Eu-154	-0.03 +/- 0.36	0.17 +/- 0.46	pCi/g	0.34	< 1.42	
Eu-155	0.05 +/- 0.21	-0.04 +/- 0.18	pCi/g	0.33	< 1.42	
Fe-59	-0.06 +/- 0.15	0.06 +/- 0.21	pCi/g	0.46	< 1.42	
I-131	-0.01 +/- 0.19	-0.10 +/- 0.21	pCi/g	0.32	< 1.42	
K-40	16.3 +/- 3.5	13.0 +/- 3.1	pCi/g	0.69	< 1.42	
Mn-54	0.094 +/- 0.078	-0.069 +/- 0.076	pCi/g	1.5	< 1.42	W
Na-22	0.017 +/- 0.083	-0.03 +/- 0.10	pCi/g	0.33	< 1.42	
Nb-94	-0.025 +/- 0.068	0.021 +/- 0.070	pCi/g	0.47	< 1.42	
Nb-95	0.006 +/- 0.082	-0.006 +/- 0.084	pCi/g	0.11	< 1.42	
Pa-234m	-2 +/- 12	3 +/- 14	pCi/g	0.24	< 1.42	

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Friday, July 11, 2003 09:18:48

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: I-6	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID: 0306173-12	7/9/03	7/10/03	GS02135	359.7
DUP ID: 0306173-12-D1	7/9/03	7/10/03	GS02135	359.7

Sample Matrix: Soil
Date Collected: 25-Jun-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Pb-212	1.34 +/- 0.30	1.10 +/- 0.27	pCi/g	0.6	< 1.42	
Pb-214	0.49 +/- 0.16	0.61 +/- 0.19	pCi/g	0.49	< 1.42	
Ru-106	0.32 +/- 0.58	-0.36 +/- 0.70	pCi/g	0.75	< 1.42	
Sb-124	0.009 +/- 0.085	-0.062 +/- 0.075	pCi/g	0.63	< 1.42	
Sb-125	0.05 +/- 0.17	0.12 +/- 0.17	pCi/g	0.29	< 1.42	
Sc-46	-0.005 +/- 0.086	-0.034 +/- 0.095	pCi/g	0.22	< 1.42	
Th-227	-0.36 +/- 0.61	-0.04 +/- 0.62	pCi/g	0.36	< 1.42	
Th-234	1.1 +/- 1.5	1.7 +/- 1.2	pCi/g	0.31	< 1.42	
Tl-208	0.34 +/- 0.12	0.34 +/- 0.13	pCi/g	0.05	< 1.42	
U-235	-0.20 +/- 0.36	0.00 +/- 0.33	pCi/g	0.41	< 1.42	
Zn-65	-0.20 +/- 0.21	-0.24 +/- 0.22	pCi/g	0.12	< 1.42	

Comments:

Qualifiers/Flags:

W - DER is greater than Warning Limit of 1.42

H - DER is Higher han Control Limit of 2.13

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

DER - Duplicate Error Ratio

Data Package ID: *GSS0306173-1*

PARAGON ANALYTICS, INC.
Radiochemistry Data Package

3

Section 3

INDIVIDUAL SAMPLE RESULTS

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 11, 2003 09:18:46

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: C-12-D

Lab ID: 0306173-1

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02136

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030879D09X

Final Aliquot: 52.40 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.4 +/- 1.1	1.5	pCi/g	U
Ag-110m	-0.18 +/- 0.28	0.59	pCi/g	U
Al-26	-0.02 +/- 0.27	0.59	pCi/g	U
Am-241	-0.18 +/- 0.98	1.9	pCi/g	U
Be-7	0.9 +/- 1.7	3.0	pCi/g	U
Bi-212	0.3 +/- 3.2	5.9	pCi/g	U
Bi-214	0.70 +/- 0.52	0.74	pCi/g	U
Cd-109	0.5 +/- 3.9	7.0	pCi/g	U
Ce-139	0.05 +/- 0.10	0.18	pCi/g	U
Ce-144	0.92 +/- 0.63	0.87	pCi/g	TI
Co-56	-0.15 +/- 0.52	1.1	pCi/g	U
Co-57	-0.064 +/- 0.092	0.18	pCi/g	U
Co-58	-0.02 +/- 0.22	0.45	pCi/g	U
Co-60	0.01 +/- 0.18	0.38	pCi/g	U
Cr-51	1.7 +/- 1.6	2.4	pCi/g	U
Cs-134	-0.29 +/- 0.24	0.49	pCi/g	U
Cs-137	0.57 +/- 0.30	0.37	pCi/g	
Eu-152	-0.32 +/- 0.79	2.0	pCi/g	U
Eu-154	0.1 +/- 1.2	2.3	pCi/g	U
Eu-155	-0.24 +/- 0.45	0.85	pCi/g	U
Fe-59	0.39 +/- 0.54	0.89	pCi/g	U
I-131	0.33 +/- 0.58	0.99	pCi/g	U
K-40	6.0 +/- 3.8	4.6	pCi/g	
Mn-54	-0.19 +/- 0.23	0.49	pCi/g	U
Na-22	0.10 +/- 0.24	0.43	pCi/g	U
Nb-94	0.06 +/- 0.19	0.34	pCi/g	U

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 11, 2003 09:18:46

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: C-12-D

Lab ID: 0306173-1

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02136

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030879D09X

Final Aliquot: 52.40 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.15 +/- 0.21	0.34	pCi/g	U
Pa-234m	19 +/- 37	65	pCi/g	U
Pb-212	0.58 +/- 0.33	0.45	pCi/g	
Pb-214	0.57 +/- 0.43	0.62	pCi/g	U
Ru-106	-1.2 +/- 1.7	3.7	pCi/g	U
Sb-124	-0.09 +/- 0.23	0.45	pCi/g	U
Sb-125	0.28 +/- 0.37	0.60	pCi/g	U
Sc-46	0.07 +/- 0.20	0.37	pCi/g	U
Th-227	0.3 +/- 1.2	2.0	pCi/g	U
Th-234	-0.9 +/- 2.3	4.4	pCi/g	U
Tl-208	0.36 +/- 0.25	0.35	pCi/g	Tl
U-235	0.53 +/- 0.65	1.1	pCi/g	U
Zn-65	-0.34 +/- 0.58	1.2	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Friday, July 11, 2003 09:18:46

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: C-12-D

Lab ID: 0306173-1-D1

Sample Matrix: Soil

Date Prepared: 09-Jul-03

Prep SOP: PAI 739R6

Prep Batch: GS02136

Date Collected: 25-Jun-03

Date Analyzed: 10-Jul-03

Analytical SOP: PAI 713R8

Spectrum Code: 030888D10A

Final Aliquot: 43.80

Aliquot Units: g

Report Basis: Dry Weight

Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	0.75 +/- 0.49	0.97	pCi/g	U
Ag-110m	-0.20 +/- 0.27	0.49	pCi/g	U
Al-26	0.15 +/- 0.23	0.38	pCi/g	U
Am-241	0.13 +/- 0.38	0.65	pCi/g	U
Be-7	1.4 +/- 1.5	2.3	pCi/g	U
Bi-212	0.9 +/- 2.5	4.2	pCi/g	U
Bi-214	-0.11 +/- 0.48	0.84	pCi/g	U
Cd-109	-0.3 +/- 2.7	4.6	pCi/g	U
Ce-139	0.034 +/- 0.087	0.15	pCi/g	U
Ce-144	-0.08 +/- 0.65	1.1	pCi/g	U
Co-56	-0.04 +/- 0.38	0.68	pCi/g	U
Co-57	0.058 +/- 0.084	0.14	pCi/g	U
Co-58	-0.05 +/- 0.16	0.30	pCi/g	U
Co-60	0.09 +/- 0.24	0.42	pCi/g	U
Cr-51	0.5 +/- 1.3	2.2	pCi/g	U
Cs-134	0.01 +/- 0.24	0.42	pCi/g	U
Cs-137	0.37 +/- 0.26	0.40	pCi/g	U
Eu-152	-0.1 +/- 1.2	2.2	pCi/g	U
Eu-154	-0.5 +/- 1.0	1.9	pCi/g	U
Eu-155	-0.09 +/- 0.30	0.54	pCi/g	U
Fe-59	-0.17 +/- 0.39	0.75	pCi/g	U
I-131	-0.02 +/- 0.40	0.72	pCi/g	U
K-40	7.9 +/- 4.1	5.8	pCi/g	
Mn-54	-0.09 +/- 0.16	0.30	pCi/g	U
Na-22	-0.11 +/- 0.20	0.39	pCi/g	U
Nb-94	-0.01 +/- 0.16	0.29	pCi/g	U
Nb-95	0.13 +/- 0.20	0.34	pCi/g	U

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Friday, July 11, 2003 09:18:46

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: C-12-D

Lab ID: 0306173-1-D1

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02136

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030888D10A

Final Aliquot: 43.80
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Pa-234m	1 +/- 31	55	pCi/g	U
Pb-212	0.22 +/- 0.21	0.33	pCi/g	U
Pb-214	0.54 +/- 0.39	0.61	pCi/g	U
Ru-106	-0.6 +/- 1.3	2.5	pCi/g	U
Sb-124	-0.17 +/- 0.23	0.42	pCi/g	U
Sb-125	-0.25 +/- 0.36	0.67	pCi/g	U
Sc-46	-0.25 +/- 0.20	0.40	pCi/g	U
Th-227	-0.4 +/- 1.1	1.9	pCi/g	U
Th-234	0.3 +/- 1.6	2.7	pCi/g	U
Tl-208	0.17 +/- 0.14	0.20	pCi/g	U
U-235	0.13 +/- 0.62	1.1	pCi/g	U
Zn-65	-0.64 +/- 0.52	1.0	pCi/g	U

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Friday, July 11, 2003 09:18:46

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: C-12-D

Lab ID: 0306173-1-D1

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02136

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030888D10A

Final Aliquot: 43.80
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier

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.

* - Duplicate DER not within control limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 11, 2003 09:18:50

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: D-13

Lab ID: 0306173-2

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030740D03A

Final Aliquot: 310.6 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.00 +/- 0.37	0.58	pCi/g	
Ag-110m	0.07 +/- 0.11	0.17	pCi/g	U
Al-26	0.016 +/- 0.066	0.13	pCi/g	U
Am-241	-0.16 +/- 0.37	0.70	pCi/g	U
Be-7	0.30 +/- 0.64	1.1	pCi/g	U
Bi-212	1.5 +/- 1.4	2.2	pCi/g	U
Bi-214	0.52 +/- 0.23	0.28	pCi/g	
Cd-109	1.2 +/- 1.8	3.0	pCi/g	U
Ce-139	0.006 +/- 0.048	0.086	pCi/g	U
Ce-144	0.22 +/- 0.37	0.61	pCi/g	U
Co-56	0.08 +/- 0.16	0.28	pCi/g	U
Co-57	0.022 +/- 0.045	0.077	pCi/g	U
Co-58	0.037 +/- 0.072	0.12	pCi/g	U
Co-60	0.15 +/- 0.12	0.17	pCi/g	U
Cr-51	-0.14 +/- 0.63	1.2	pCi/g	U
Cs-134	0.00 +/- 0.11	0.20	pCi/g	U
Cs-137	0.39 +/- 0.14	0.16	pCi/g	
Eu-152	0.07 +/- 0.28	0.55	pCi/g	U
Eu-154	0.17 +/- 0.41	0.72	pCi/g	U
Eu-155	0.02 +/- 0.20	0.36	pCi/g	U
Fe-59	0.11 +/- 0.19	0.32	pCi/g	U
I-131	-0.20 +/- 0.21	0.44	pCi/g	U
K-40	10.6 +/- 2.8	1.6	pCi/g	
Mn-54	0.014 +/- 0.074	0.14	pCi/g	U
Na-22	0.018 +/- 0.099	0.18	pCi/g	U
Nb-94	-0.029 +/- 0.070	0.14	pCi/g	U

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 11, 2003 09:18:50

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: D-13

Lab ID: 0306173-2

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030740D03A

Final Aliquot: 310.6 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.022 +/- 0.083	0.15	pCi/g	U
Pa-234m	2 +/- 11	21	pCi/g	U
Pb-212	0.88 +/- 0.24	0.24	pCi/g	
Pb-214	0.51 +/- 0.19	0.27	pCi/g	
Ru-106	0.13 +/- 0.71	1.3	pCi/g	U
Sb-124	-0.053 +/- 0.097	0.19	pCi/g	U
Sb-125	0.04 +/- 0.18	0.32	pCi/g	U
Sc-46	-0.007 +/- 0.070	0.14	pCi/g	U
Th-227	-6 +/- 11	18	pCi/g	U
Th-234	0.7 +/- 1.2	2.0	pCi/g	U
Tl-208	0.19 +/- 0.11	0.15	pCi/g	
U-235	0.24 +/- 0.37	0.61	pCi/g	U
Zn-65	-0.19 +/- 0.20	0.42	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Friday, July 11, 2003 09:18:51

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: D-13

Lab ID: 0306173-2-D1

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030535D04A

Final Aliquot: 310.6
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	0.91 +/- 0.30	0.46	pCi/g	
Ag-110m	-0.080 +/- 0.086	0.18	pCi/g	U
Al-26	0.021 +/- 0.030	0.029	pCi/g	U
Am-241	-0.02 +/- 0.37	0.66	pCi/g	U
Be-7	0.13 +/- 0.59	1.0	pCi/g	U
Bi-212	0.73 +/- 0.93	1.5	pCi/g	U
Bi-214	0.41 +/- 0.19	0.24	pCi/g	
Cd-109	1.2 +/- 1.5	2.4	pCi/g	U
Ce-139	-0.005 +/- 0.046	0.083	pCi/g	U
Ce-144	0.08 +/- 0.31	0.54	pCi/g	U
Co-56	0.01 +/- 0.14	0.26	pCi/g	U
Co-57	-0.035 +/- 0.040	0.078	pCi/g	U
Co-58	0.040 +/- 0.068	0.12	pCi/g	U
Co-60	0.130 +/- 0.093	0.12	pCi/g	TI
Cr-51	0.26 +/- 0.58	1.0	pCi/g	U
Cs-134	0.001 +/- 0.070	0.13	pCi/g	U
Cs-137	0.42 +/- 0.14	0.13	pCi/g	
Eu-152	0.07 +/- 0.30	0.57	pCi/g	U
Eu-154	0.01 +/- 0.30	0.60	pCi/g	U
Eu-155	-0.12 +/- 0.20	0.36	pCi/g	U
Fe-59	0.00 +/- 0.17	0.31	pCi/g	U
I-131	-0.22 +/- 0.21	0.43	pCi/g	U
K-40	11.3 +/- 2.7	1.2	pCi/g	
Mn-54	-0.018 +/- 0.058	0.12	pCi/g	U
Na-22	-0.008 +/- 0.054	0.11	pCi/g	U
Nb-94	0.000 +/- 0.062	0.12	pCi/g	U
Nb-95	0.051 +/- 0.075	0.12	pCi/g	U

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Friday, July 11, 2003 09:18:51

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: D-13

Lab ID: 0306173-2-D1

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030535D04A

Final Aliquot: 310.6
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Pa-234m	-2 +/- 10	21	pCi/g	U
Pb-212	0.94 +/- 0.24	0.19	pCi/g	
Pb-214	0.30 +/- 0.15	0.23	pCi/g	
Ru-106	0.03 +/- 0.50	0.95	pCi/g	U
Sb-124	0.036 +/- 0.081	0.14	pCi/g	U
Sb-125	0.09 +/- 0.14	0.23	pCi/g	U
Sc-46	0.007 +/- 0.069	0.13	pCi/g	U
Th-227	-0.43 +/- 0.55	1.0	pCi/g	U
Th-234	1.4 +/- 1.3	2.0	pCi/g	U
Tl-208	0.37 +/- 0.13	0.13	pCi/g	
U-235	0.25 +/- 0.32	0.53	pCi/g	U
Zn-65	-0.09 +/- 0.18	0.36	pCi/g	U

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Friday, July 11, 2003 09:18:51

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: D-13

Lab ID: 0306173-2-D1

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030535D04A

Final Aliquot: 310.6
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier

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.

* - Duplicate DER not within control limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 11, 2003 09:18:51

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: D-13-D

Lab ID: 0306173-3

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030739D03A

Final Aliquot: 334.1 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.12 +/- 0.35	0.42	pCi/g	
Ag-110m	-0.018 +/- 0.059	0.12	pCi/g	U
Al-26	0.056 +/- 0.051	0.030	pCi/g	TI
Am-241	0.02 +/- 0.39	0.69	pCi/g	U
Be-7	0.41 +/- 0.67	1.1	pCi/g	U
Bi-212	0.8 +/- 1.1	1.7	pCi/g	U
Bi-214	0.67 +/- 0.24	0.25	pCi/g	
Cd-109	2.8 +/- 1.8	2.6	pCi/g	SI
Ce-139	0.013 +/- 0.053	0.092	pCi/g	U
Ce-144	0.03 +/- 0.37	0.65	pCi/g	U
Co-56	0.03 +/- 0.16	0.29	pCi/g	U
Co-57	-0.011 +/- 0.051	0.091	pCi/g	U
Co-58	0.021 +/- 0.085	0.15	pCi/g	U
Co-60	0.094 +/- 0.080	0.11	pCi/g	U
Cr-51	0.83 +/- 0.63	0.92	pCi/g	U
Cs-134	-0.112 +/- 0.070	0.15	pCi/g	U
Cs-137	0.30 +/- 0.12	0.14	pCi/g	
Eu-152	-0.09 +/- 0.34	0.72	pCi/g	U
Eu-154	0.03 +/- 0.32	0.62	pCi/g	U
Eu-155	0.04 +/- 0.22	0.38	pCi/g	U
Fe-59	-0.03 +/- 0.16	0.33	pCi/g	U
I-131	-0.14 +/- 0.20	0.40	pCi/g	U
K-40	13.2 +/- 3.1	1.3	pCi/g	
Mn-54	0.013 +/- 0.062	0.11	pCi/g	U
Na-22	-0.024 +/- 0.076	0.16	pCi/g	U
Nb-94	0.033 +/- 0.073	0.13	pCi/g	U

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 11, 2003 09:18:51

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: D-13-D

Lab ID: 0306173-3

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030739D03A

Final Aliquot: 334.1 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.007 +/- 0.086	0.16	pCi/g	U
Pa-234m	-1 +/- 12	23	pCi/g	U
Pb-212	1.05 +/- 0.27	0.24	pCi/g	
Pb-214	0.63 +/- 0.20	0.26	pCi/g	
Ru-106	-0.19 +/- 0.59	1.2	pCi/g	U
Sb-124	0.017 +/- 0.076	0.14	pCi/g	U
Sb-125	0.02 +/- 0.16	0.30	pCi/g	U
Sc-46	-0.001 +/- 0.073	0.14	pCi/g	U
Th-227	-0.10 +/- 0.66	1.2	pCi/g	U
Th-234	0.8 +/- 1.4	2.4	pCi/g	U
Tl-208	0.34 +/- 0.13	0.14	pCi/g	
U-235	0.13 +/- 0.39	0.67	pCi/g	U
Zn-65	-0.28 +/- 0.19	0.42	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 11, 2003 09:18:52

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: E-12

Lab ID: 0306173-4

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030533D04A

Final Aliquot: 308.9 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.01 +/- 0.32	0.48	pCi/g	
Ag-110m	-0.027 +/- 0.088	0.17	pCi/g	U
Al-26	0.021 +/- 0.030	0.029	pCi/g	U
Am-241	0.12 +/- 0.41	0.70	pCi/g	U
Be-7	-0.35 +/- 0.68	1.3	pCi/g	U
Bi-212	1.4 +/- 1.2	1.8	pCi/g	U
Bi-214	0.42 +/- 0.21	0.27	pCi/g	
Cd-109	1.0 +/- 1.8	3.1	pCi/g	U
Ce-139	-0.037 +/- 0.050	0.094	pCi/g	U
Ce-144	0.18 +/- 0.36	0.60	pCi/g	U
Co-56	0.09 +/- 0.14	0.24	pCi/g	U
Co-57	0.050 +/- 0.051	0.082	pCi/g	U
Co-58	0.020 +/- 0.069	0.13	pCi/g	U
Co-60	0.056 +/- 0.067	0.11	pCi/g	U
Cr-51	-0.39 +/- 0.65	1.3	pCi/g	U
Cs-134	0.019 +/- 0.074	0.13	pCi/g	U
Cs-137	0.37 +/- 0.13	0.12	pCi/g	
Eu-152	0.03 +/- 0.26	0.52	pCi/g	U
Eu-154	-0.03 +/- 0.33	0.66	pCi/g	U
Eu-155	0.07 +/- 0.19	0.32	pCi/g	U
Fe-59	0.02 +/- 0.16	0.31	pCi/g	U
I-131	0.00 +/- 0.21	0.38	pCi/g	U
K-40	12.4 +/- 3.0	1.6	pCi/g	
Mn-54	-0.042 +/- 0.061	0.13	pCi/g	U
Na-22	0.000 +/- 0.046	0.098	pCi/g	U
Nb-94	-0.005 +/- 0.065	0.12	pCi/g	U

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 11, 2003 09:18:52

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: E-12

Lab ID: 0306173-4

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030533D04A

Final Aliquot: 308.9 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.039 +/- 0.071	0.12	pCi/g	U
Pa-234m	-5 +/- 11	22	pCi/g	U
Pb-212	1.02 +/- 0.26	0.24	pCi/g	
Pb-214	0.71 +/- 0.20	0.22	pCi/g	
Ru-106	0.20 +/- 0.64	1.1	pCi/g	U
Sb-124	0.010 +/- 0.086	0.15	pCi/g	U
Sb-125	0.00 +/- 0.16	0.29	pCi/g	U
Sc-46	0.021 +/- 0.061	0.11	pCi/g	U
Th-227	-0.44 +/- 0.63	1.2	pCi/g	U
Th-234	0.2 +/- 1.1	1.8	pCi/g	U
Tl-208	0.41 +/- 0.14	0.13	pCi/g	
U-235	-0.04 +/- 0.35	0.63	pCi/g	U
Zn-65	-0.14 +/- 0.19	0.38	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 11, 2003 09:18:52

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: E-12-D

Lab ID: 0306173-5

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030881D06A

Final Aliquot: 309.8 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.11 +/- 0.45	0.80	pCi/g	
Ag-110m	0.01 +/- 0.15	0.26	pCi/g	U
Al-26	0.026 +/- 0.089	0.17	pCi/g	U
Am-241	0.12 +/- 0.36	0.62	pCi/g	U
Be-7	0.17 +/- 0.78	1.4	pCi/g	U
Bi-212	0.4 +/- 1.3	2.4	pCi/g	U
Bi-214	0.67 +/- 0.26	0.31	pCi/g	
Cd-109	2.1 +/- 2.1	3.3	pCi/g	U
Ce-139	-0.005 +/- 0.049	0.088	pCi/g	U
Ce-144	-0.03 +/- 0.38	0.68	pCi/g	U
Co-56	0.14 +/- 0.22	0.37	pCi/g	U
Co-57	0.016 +/- 0.048	0.083	pCi/g	U
Co-58	-0.034 +/- 0.091	0.18	pCi/g	U
Co-60	0.062 +/- 0.096	0.16	pCi/g	U
Cr-51	-0.87 +/- 0.69	1.4	pCi/g	U
Cs-134	0.04 +/- 0.11	0.19	pCi/g	U
Cs-137	0.37 +/- 0.16	0.20	pCi/g	
Eu-152	-0.17 +/- 0.51	1.0	pCi/g	U
Eu-154	0.19 +/- 0.48	0.84	pCi/g	U
Eu-155	0.12 +/- 0.18	0.31	pCi/g	U
Fe-59	-0.02 +/- 0.20	0.38	pCi/g	U
I-131	0.00 +/- 0.23	0.43	pCi/g	U
K-40	12.3 +/- 3.4	3.2	pCi/g	
Mn-54	0.024 +/- 0.084	0.15	pCi/g	U
Na-22	0.084 +/- 0.075	0.10	pCi/g	U
Nb-94	-0.014 +/- 0.081	0.15	pCi/g	U

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 11, 2003 09:18:52

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: E-12-D

Lab ID: 0306173-5

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030881D06A

Final Aliquot: 309.8 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.021 +/- 0.095	0.18	pCi/g	U
Pa-234m	7 +/- 17	29	pCi/g	U
Pb-212	0.88 +/- 0.26	0.28	pCi/g	
Pb-214	0.62 +/- 0.20	0.25	pCi/g	
Ru-106	0.01 +/- 0.87	1.6	pCi/g	U
Sb-124	0.078 +/- 0.090	0.14	pCi/g	U
Sb-125	-0.03 +/- 0.22	0.40	pCi/g	U
Sc-46	0.056 +/- 0.078	0.13	pCi/g	U
Th-227	0.01 +/- 0.61	1.1	pCi/g	U
Th-234	1.3 +/- 1.4	2.3	pCi/g	U
Tl-208	0.29 +/- 0.12	0.14	pCi/g	
U-235	0.32 +/- 0.38	0.61	pCi/g	U
Zn-65	-0.29 +/- 0.27	0.53	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 11, 2003 09:18:53

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306173

Field ID: G-12
Lab ID: 0306173-7

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030967D08A

Final Aliquot: 310.6 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.04 +/- 0.34	0.46	pCi/g	
Ag-110m	-0.025 +/- 0.096	0.18	pCi/g	U
Al-26	0.018 +/- 0.074	0.14	pCi/g	U
Am-241	-0.08 +/- 0.11	0.21	pCi/g	U
Be-7	0.05 +/- 0.70	1.3	pCi/g	U
Bi-212	1.8 +/- 1.2	1.7	pCi/g	
Bi-214	0.72 +/- 0.29	0.34	pCi/g	
Cd-109	0.97 +/- 0.99	1.6	pCi/g	U
Ce-139	0.032 +/- 0.056	0.093	pCi/g	U
Ce-144	0.13 +/- 0.35	0.59	pCi/g	U
Co-56	0.16 +/- 0.19	0.30	pCi/g	U
Co-57	-0.015 +/- 0.045	0.082	pCi/g	U
Co-58	0.003 +/- 0.073	0.14	pCi/g	U
Co-60	0.048 +/- 0.080	0.14	pCi/g	U
Cr-51	0.26 +/- 0.74	1.3	pCi/g	U
Cs-134	0.072 +/- 0.057	0.12	pCi/g	U
Cs-137	0.29 +/- 0.12	0.13	pCi/g	
Eu-152	0.43 +/- 0.38	0.51	pCi/g	U
Eu-154	0.13 +/- 0.44	0.80	pCi/g	U
Eu-155	-0.02 +/- 0.18	0.32	pCi/g	U
Fe-59	0.11 +/- 0.19	0.32	pCi/g	U
I-131	-0.06 +/- 0.21	0.40	pCi/g	U
K-40	15.9 +/- 3.7	1.6	pCi/g	
Mn-54	-0.023 +/- 0.066	0.13	pCi/g	U
Na-22	0.026 +/- 0.081	0.15	pCi/g	U
Nb-94	-0.081 +/- 0.091	0.18	pCi/g	U

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 11, 2003 09:18:53

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: G-12

Lab ID: 0306173-7

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030967D08A

Final Aliquot: 310.6 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.067 +/- 0.087	0.18	pCi/g	U
Pa-234m	8 +/- 13	22	pCi/g	U
Pb-212	1.11 +/- 0.28	0.26	pCi/g	
Pb-214	0.56 +/- 0.19	0.25	pCi/g	
Ru-106	0.11 +/- 0.51	0.94	pCi/g	U
Sb-124	0.024 +/- 0.083	0.15	pCi/g	U
Sb-125	-0.03 +/- 0.17	0.32	pCi/g	U
Sc-46	-0.008 +/- 0.078	0.15	pCi/g	U
Th-227	-4 +/- 12	20	pCi/g	U
Th-234	1.1 +/- 1.0	1.6	pCi/g	U
Tl-208	0.27 +/- 0.11	0.13	pCi/g	
U-235	0.01 +/- 0.36	0.64	pCi/g	U
Zn-65	-0.01 +/- 0.21	0.39	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 11, 2003 09:18:53

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: B-11

Lab ID: 0306173-8

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030534D04A

Final Aliquot: 335.8 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.08 +/- 0.35	0.43	pCi/g	
Ag-110m	0.020 +/- 0.097	0.17	pCi/g	U
Al-26	0.066 +/- 0.061	0.080	pCi/g	U
Am-241	-0.02 +/- 0.30	0.55	pCi/g	U
Be-7	0.12 +/- 0.48	0.86	pCi/g	U
Bi-212	0.82 +/- 0.94	1.5	pCi/g	U
Bi-214	0.45 +/- 0.20	0.26	pCi/g	
Cd-109	0.9 +/- 1.5	2.5	pCi/g	U
Ce-139	-0.029 +/- 0.047	0.087	pCi/g	U
Ce-144	0.09 +/- 0.31	0.53	pCi/g	U
Co-56	0.18 +/- 0.16	0.23	pCi/g	U
Co-57	0.022 +/- 0.043	0.072	pCi/g	U
Co-58	-0.018 +/- 0.070	0.14	pCi/g	U
Co-60	-0.014 +/- 0.067	0.14	pCi/g	U
Cr-51	-0.23 +/- 0.51	1.00	pCi/g	U
Cs-134	-0.007 +/- 0.061	0.11	pCi/g	U
Cs-137	0.118 +/- 0.092	0.14	pCi/g	U
Eu-152	-0.01 +/- 0.23	0.48	pCi/g	U
Eu-154	-0.18 +/- 0.34	0.72	pCi/g	U
Eu-155	-0.08 +/- 0.17	0.31	pCi/g	U
Fe-59	0.06 +/- 0.15	0.27	pCi/g	U
I-131	-0.03 +/- 0.20	0.36	pCi/g	U
K-40	13.4 +/- 3.1	1.4	pCi/g	
Mn-54	0.006 +/- 0.058	0.11	pCi/g	U
Na-22	0.068 +/- 0.073	0.11	pCi/g	U
Nb-94	-0.005 +/- 0.060	0.11	pCi/g	U

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 11, 2003 09:18:53

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: B-11

Lab ID: 0306173-8

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030534D04A

Final Aliquot: 335.8 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.024 +/- 0.067	0.12	pCi/g	U
Pa-234m	3 +/- 11	20	pCi/g	U
Pb-212	1.03 +/- 0.25	0.19	pCi/g	
Pb-214	0.43 +/- 0.15	0.22	pCi/g	
Ru-106	-0.35 +/- 0.60	1.2	pCi/g	U
Sb-124	-0.040 +/- 0.071	0.14	pCi/g	U
Sb-125	-0.04 +/- 0.15	0.28	pCi/g	U
Sc-46	-0.064 +/- 0.058	0.13	pCi/g	U
Th-227	0.13 +/- 0.56	0.94	pCi/g	U
Th-234	-0.98 +/- 0.86	1.6	pCi/g	U
Tl-208	0.37 +/- 0.12	0.11	pCi/g	
U-235	0.05 +/- 0.30	0.53	pCi/g	U
Zn-65	-0.01 +/- 0.15	0.29	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 11, 2003 09:18:53

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306173

Field ID: F-11
Lab ID: 0306173-9

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030882D06A

Final Aliquot: 313.1 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	0.99 +/- 0.41	0.63	pCi/g	
Ag-110m	-0.10 +/- 0.11	0.23	pCi/g	U
Al-26	0.073 +/- 0.083	0.13	pCi/g	U
Am-241	0.32 +/- 0.34	0.55	pCi/g	U
Be-7	-0.63 +/- 0.68	1.4	pCi/g	U
Bi-212	2.0 +/- 1.4	1.9	pCi/g	TI
Bi-214	0.64 +/- 0.27	0.33	pCi/g	
Cd-109	-0.5 +/- 1.6	2.9	pCi/g	U
Ce-139	-0.031 +/- 0.053	0.099	pCi/g	U
Ce-144	0.14 +/- 0.33	0.57	pCi/g	U
Co-56	0.00 +/- 0.22	0.40	pCi/g	U
Co-57	-0.020 +/- 0.040	0.075	pCi/g	U
Co-58	0.018 +/- 0.095	0.17	pCi/g	U
Co-60	0.14 +/- 0.13	0.20	pCi/g	U
Cr-51	-0.52 +/- 0.70	1.4	pCi/g	U
Cs-134	-0.01 +/- 0.11	0.19	pCi/g	U
Cs-137	0.29 +/- 0.15	0.19	pCi/g	
Eu-152	0.24 +/- 0.39	0.66	pCi/g	U
Eu-154	0.11 +/- 0.52	0.94	pCi/g	U
Eu-155	0.10 +/- 0.18	0.30	pCi/g	U
Fe-59	0.08 +/- 0.22	0.39	pCi/g	U
I-131	-0.09 +/- 0.21	0.41	pCi/g	U
K-40	14.9 +/- 3.6	2.4	pCi/g	
Mn-54	-0.051 +/- 0.084	0.17	pCi/g	U
Na-22	0.001 +/- 0.089	0.17	pCi/g	U
Nb-94	-0.021 +/- 0.077	0.15	pCi/g	U

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 11, 2003 09:18:53

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: F-11

Lab ID: 0306173-9

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030882D06A

Final Aliquot: 313.1 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.01 +/- 0.10	0.19	pCi/g	U
Pa-234m	-8 +/- 16	32	pCi/g	U
Pb-212	1.08 +/- 0.28	0.27	pCi/g	
Pb-214	0.55 +/- 0.20	0.28	pCi/g	
Ru-106	0.30 +/- 0.65	1.1	pCi/g	U
Sb-124	-0.030 +/- 0.091	0.17	pCi/g	U
Sb-125	0.03 +/- 0.18	0.33	pCi/g	U
Sc-46	0.068 +/- 0.095	0.16	pCi/g	U
Th-227	-0.25 +/- 0.59	1.1	pCi/g	U
Th-234	1.6 +/- 1.6	2.5	pCi/g	U
Tl-208	0.30 +/- 0.13	0.17	pCi/g	
U-235	0.10 +/- 0.33	0.57	pCi/g	U
Zn-65	-0.08 +/- 0.26	0.49	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 11, 2003 09:18:47

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: F-11-D

Lab ID: 0306173-10

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030876D07A

Final Aliquot: 317.6 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	0.91 +/- 0.37	0.59	pCi/g	
Ag-110m	-0.112 +/- 0.069	0.16	pCi/g	U
Al-26	0.008 +/- 0.087	0.18	pCi/g	U
Am-241	-0.076 +/- 0.097	0.19	pCi/g	U
Be-7	-0.28 +/- 0.64	1.3	pCi/g	U
Bi-212	1.4 +/- 1.5	2.3	pCi/g	U
Bi-214	0.41 +/- 0.24	0.34	pCi/g	
Cd-109	0.0 +/- 1.1	1.9	pCi/g	U
Ce-139	0.017 +/- 0.041	0.071	pCi/g	U
Ce-144	0.01 +/- 0.30	0.54	pCi/g	U
Co-56	-0.06 +/- 0.18	0.36	pCi/g	U
Co-57	-0.017 +/- 0.036	0.069	pCi/g	U
Co-58	0.029 +/- 0.074	0.13	pCi/g	U
Co-60	0.11 +/- 0.12	0.20	pCi/g	U
Cr-51	0.10 +/- 0.68	1.2	pCi/g	U
Cs-134	-0.024 +/- 0.076	0.15	pCi/g	U
Cs-137	0.22 +/- 0.11	0.12	pCi/g	
Eu-152	0.12 +/- 0.37	0.70	pCi/g	U
Eu-154	-0.05 +/- 0.44	0.89	pCi/g	U
Eu-155	0.15 +/- 0.16	0.26	pCi/g	U
Fe-59	-0.13 +/- 0.18	0.40	pCi/g	U
I-131	0.05 +/- 0.24	0.44	pCi/g	U
K-40	12.6 +/- 3.3	1.5	pCi/g	
Mn-54	0.028 +/- 0.058	0.10	pCi/g	U
Na-22	0.042 +/- 0.096	0.17	pCi/g	U
Nb-94	0.082 +/- 0.090	0.14	pCi/g	U

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 11, 2003 09:18:47

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: F-11-D

Lab ID: 0306173-10

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030876D07A

Final Aliquot: 317.6 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.050 +/- 0.093	0.19	pCi/g	U
Pa-234m	-2 +/- 13	26	pCi/g	U
Pb-212	1.00 +/- 0.26	0.22	pCi/g	
Pb-214	0.49 +/- 0.19	0.30	pCi/g	
Ru-106	0.00 +/- 0.62	1.2	pCi/g	U
Sb-124	0.043 +/- 0.088	0.15	pCi/g	U
Sb-125	0.10 +/- 0.20	0.34	pCi/g	U
Sc-46	0.001 +/- 0.081	0.16	pCi/g	U
Th-227	0.09 +/- 0.39	0.68	pCi/g	U
Th-234	0.50 +/- 0.75	1.2	pCi/g	U
Tl-208	0.27 +/- 0.11	0.12	pCi/g	
U-235	0.35 +/- 0.34	0.53	pCi/g	U
Zn-65	-0.05 +/- 0.23	0.46	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 11, 2003 09:18:49

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306173

Field ID: H-9
Lab ID: 0306173-17

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030742D03A

Final Aliquot: 302.9 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.27 +/- 0.39	0.56	pCi/g	
Ag-110m	-0.073 +/- 0.084	0.17	pCi/g	U
Al-26	-0.008 +/- 0.058	0.13	pCi/g	U
Am-241	-0.06 +/- 0.47	0.84	pCi/g	U
Be-7	-0.15 +/- 0.65	1.2	pCi/g	U
Bi-212	1.5 +/- 1.3	1.9	pCi/g	U
Bi-214	0.56 +/- 0.25	0.30	pCi/g	
Cd-109	-0.4 +/- 2.4	4.2	pCi/g	U
Ce-139	0.009 +/- 0.057	0.10	pCi/g	U
Ce-144	0.30 +/- 0.42	0.70	pCi/g	U
Co-56	0.22 +/- 0.19	0.28	pCi/g	U
Co-57	-0.068 +/- 0.058	0.11	pCi/g	U
Co-58	-0.038 +/- 0.080	0.16	pCi/g	U
Co-60	0.045 +/- 0.072	0.12	pCi/g	U
Cr-51	0.49 +/- 0.71	1.2	pCi/g	U
Cs-134	0.061 +/- 0.074	0.12	pCi/g	U
Cs-137	0.113 +/- 0.098	0.15	pCi/g	U
Eu-152	0.10 +/- 0.40	0.75	pCi/g	U
Eu-154	0.13 +/- 0.44	0.80	pCi/g	U
Eu-155	0.16 +/- 0.26	0.43	pCi/g	U
Fe-59	-0.02 +/- 0.13	0.28	pCi/g	U
I-131	-0.22 +/- 0.27	0.52	pCi/g	U
K-40	20.5 +/- 4.4	1.5	pCi/g	
Mn-54	-0.063 +/- 0.078	0.16	pCi/g	U
Na-22	-0.05 +/- 0.11	0.22	pCi/g	U
Nb-94	0.000 +/- 0.076	0.14	pCi/g	U

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 11, 2003 09:18:49

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: H-9

Lab ID: 0306173-17

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030742D03A

Final Aliquot: 302.9 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.11 +/- 0.10	0.15	pCi/g	U
Pa-234m	-2 +/- 14	27	pCi/g	U
Pb-212	1.46 +/- 0.35	0.28	pCi/g	
Pb-214	0.58 +/- 0.20	0.26	pCi/g	
Ru-106	-0.12 +/- 0.76	1.4	pCi/g	U
Sb-124	-0.090 +/- 0.089	0.18	pCi/g	U
Sb-125	0.02 +/- 0.18	0.35	pCi/g	U
Sc-46	0.011 +/- 0.099	0.18	pCi/g	U
Th-227	-0.30 +/- 0.70	1.3	pCi/g	U
Th-234	1.8 +/- 1.8	2.9	pCi/g	U
Tl-208	0.44 +/- 0.15	0.15	pCi/g	
U-235	-0.22 +/- 0.39	0.72	pCi/g	U
Zn-65	-0.14 +/- 0.20	0.41	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 11, 2003 09:18:50

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: H-9-D

Lab ID: 0306173-18

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030536D04A

Final Aliquot: 342.7 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.54 +/- 0.39	0.51	pCi/g	
Ag-110m	-0.025 +/- 0.064	0.12	pCi/g	U
Al-26	-0.002 +/- 0.031	0.079	pCi/g	U
Am-241	0.13 +/- 0.41	0.69	pCi/g	U
Be-7	0.16 +/- 0.50	0.89	pCi/g	U
Bi-212	0.9 +/- 1.1	1.8	pCi/g	U
Bi-214	0.54 +/- 0.21	0.24	pCi/g	
Cd-109	1.8 +/- 1.9	3.1	pCi/g	U
Ce-139	-0.011 +/- 0.046	0.083	pCi/g	U
Ce-144	0.28 +/- 0.35	0.57	pCi/g	U
Co-56	-0.02 +/- 0.16	0.30	pCi/g	U
Co-57	0.016 +/- 0.045	0.076	pCi/g	U
Co-58	-0.006 +/- 0.069	0.13	pCi/g	U
Co-60	0.020 +/- 0.057	0.10	pCi/g	U
Cr-51	0.38 +/- 0.60	1.0	pCi/g	U
Cs-134	-0.044 +/- 0.062	0.12	pCi/g	U
Cs-137	0.129 +/- 0.081	0.11	pCi/g	TI
Eu-152	-0.14 +/- 0.31	0.66	pCi/g	U
Eu-154	-0.31 +/- 0.44	0.89	pCi/g	U
Eu-155	0.06 +/- 0.22	0.37	pCi/g	U
Fe-59	0.05 +/- 0.17	0.30	pCi/g	U
I-131	-0.09 +/- 0.20	0.38	pCi/g	U
K-40	18.5 +/- 3.9	1.5	pCi/g	
Mn-54	0.022 +/- 0.072	0.13	pCi/g	U
Na-22	-0.066 +/- 0.065	0.15	pCi/g	U
Nb-94	-0.019 +/- 0.064	0.12	pCi/g	U

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 11, 2003 09:18:50

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: H-9-D

Lab ID: 0306173-18

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030536D04A

Final Aliquot: 342.7 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.035 +/- 0.074	0.15	pCi/g	U
Pa-234m	4 +/- 13	23	pCi/g	U
Pb-212	1.22 +/- 0.28	0.22	pCi/g	
Pb-214	0.83 +/- 0.22	0.24	pCi/g	
Ru-106	0.01 +/- 0.51	0.96	pCi/g	U
Sb-124	-0.061 +/- 0.072	0.14	pCi/g	U
Sb-125	0.01 +/- 0.15	0.27	pCi/g	U
Sc-46	-0.081 +/- 0.079	0.17	pCi/g	U
Th-227	-0.04 +/- 0.60	1.0	pCi/g	U
Th-234	0.99 +/- 0.94	1.5	pCi/g	U
Tl-208	0.49 +/- 0.14	0.12	pCi/g	
U-235	-0.12 +/- 0.36	0.65	pCi/g	U
Zn-65	-0.07 +/- 0.17	0.33	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306173-1*

Paragon Analytics, Inc.

Radiochemistry Case Narrative
Gamma Spectroscopy

New World Technology
Bethesda / GA00419

Paragon Work Order 0306172

1. This report consists of analysis results for twenty soil samples received by Paragon on 6/27/03. The analysis results for these samples are reported on a 'dry weight' basis in units of pCi/gram.
2. These samples were prepared according to Paragon Analytics, Inc. procedure PAI SOP739R6.
3. The samples were analyzed for the presence of gamma emitting radionuclides according to Paragon Analytics, Inc. procedure PAI SOP713R8. The analyses were completed on 7/09/03.
4. Sample volumes were insufficient to allow preparation of duplicates. Duplicate analyses of samples B-9 and C-10-D (PAI ID 0306172-1 and -12) were performed in lieu of preparation duplicates.
5. Activity concentrations above the calculated MDC are reported in some instances where minimum nuclide identification criteria are not met. Such tentative identifications result when the software attempts to calculate net activity concentrations for analytes where either one or both of the following criteria are not satisfied: the 'diagnostic' peak for a nuclide must be identified above critical level (generally the most abundant, interference-free photopeak), or the minimum library peak tolerance of 75% must be attained. These data have been flagged with a "TI" qualifier.
6. In cases where Cd-109 is identified at a level greater than the MDC, it is assigned an "SI" flag denoting spectral interference at the 88 keV line. This interference occurs with the K_β x-ray of Pb, which occurs at an energy of 87 keV.
7. Duplicate analysis results elevated above the DER warning limit of 1.42 have been flagged as "W" for Warn. For gamma spectroscopic analysis SOP 715R13 states that 75% of the nuclides must be within the 2-sigma control limit to meet DER or RPD requirements. Elevated DER may be attributable to sample non-homogeneity.
8. There are cases where the magnitude of the negative activity is greater than the 2-sigma TPU. The analyst's review of the data does not indicate a problem with the instrument data or the subsequent reporting systems. The data quality is believed to be unaffected and the results are submitted without qualification. Under typical conditions, where background level

sample data is normally distributed and analyzed by paired observations, this event is likely to occur at least 2.5% of the time.

9. No problems were encountered with either the client samples or the associated quality control samples. All quality control criteria were met.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, Paragon Analytics, Inc. certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Radiochemistry Instrument Technician — Date: 7-14-03

Radiochemistry Final Data Review — Date: 7-15-03

1

PARAGON ANALYTICS, INC.
Radiochemistry Data Package

Section 1

SAMPLE RESULTS SUMMARY

A summary report is not provided.

Please refer to the individual sample results data in Section 3.

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PARAGON ANALYTICS, INC.

Radiochemistry Data Package

Section 2

QC RESULTS SUMMARY

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Monday, July 14, 2003 09:54:20

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306172

Field ID:
Lab ID: GS02132BLK1

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02132

Date Collected: 08-Jul-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030878D10A

Final Aliquot: 323.1
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	-0.11 +/- 0.18	0.34	pCi/g	U
Ag-110m	0.028 +/- 0.041	0.067	pCi/g	U
Al-26	0.002 +/- 0.052	0.096	pCi/g	U
Am-241	0.08 +/- 0.13	0.22	pCi/g	U
Be-7	-0.38 +/- 0.34	0.65	pCi/g	U
Bi-212	0.01 +/- 0.58	1.0	pCi/g	U
Bi-214	-0.20 +/- 0.13	0.24	pCi/g	U
Cd-109	0.00 +/- 0.81	1.4	pCi/g	U
Ce-139	0.001 +/- 0.026	0.045	pCi/g	U
Ce-144	-0.03 +/- 0.18	0.33	pCi/g	U
Co-56	0.003 +/- 0.091	0.16	pCi/g	U
Co-57	-0.003 +/- 0.025	0.044	pCi/g	U
Co-58	-0.055 +/- 0.046	0.090	pCi/g	U
Co-60	0.004 +/- 0.046	0.083	pCi/g	U
Cr-51	-0.09 +/- 0.26	0.48	pCi/g	U
Cs-134	-0.042 +/- 0.068	0.13	pCi/g	U
Cs-137	-0.026 +/- 0.045	0.085	pCi/g	U
Eu-152	0.18 +/- 0.24	0.39	pCi/g	U
Eu-154	-0.15 +/- 0.27	0.51	pCi/g	U
Eu-155	-0.008 +/- 0.089	0.16	pCi/g	U
Fe-59	-0.005 +/- 0.092	0.17	pCi/g	U
I-131	0.029 +/- 0.039	0.063	pCi/g	U
K-40	-0.17 +/- 0.72	1.3	pCi/g	U
Mn-54	-0.010 +/- 0.046	0.085	pCi/g	U

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Monday, July 14, 2003 09:54:20

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306172

Field ID:
Lab ID: GS02132BLK1

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02132

Date Collected: 08-Jul-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030878D10A

Final Aliquot: 323.1
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier
Na-22	0.005 +/- 0.048	0.087	pCi/g	U
Nb-94	-0.041 +/- 0.046	0.088	pCi/g	U
Nb-95	0.017 +/- 0.037	0.064	pCi/g	U
Pa-234m	0.2 +/- 7.1	13	pCi/g	U
Pb-212	-0.063 +/- 0.073	0.13	pCi/g	U
Pb-214	-0.078 +/- 0.097	0.18	pCi/g	U
Ru-106	-0.13 +/- 0.44	0.80	pCi/g	U
Sb-124	-0.024 +/- 0.055	0.098	pCi/g	U
Sb-125	0.01 +/- 0.10	0.18	pCi/g	U
Sc-46	0.014 +/- 0.042	0.074	pCi/g	U
Th-227	-0.28 +/- 0.24	0.44	pCi/g	U
Th-234	0.79 +/- 0.52	0.77	pCi/g	TI
Tl-208	0.017 +/- 0.047	0.081	pCi/g	U
U-235	-0.14 +/- 0.21	0.39	pCi/g	U
Zn-65	-0.07 +/- 0.11	0.20	pCi/g	U

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Monday, July 14, 2003 09:54:20

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID:

Lab ID: GS02132BLK1

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02132

Date Collected: 08-Jul-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030878D10A

Final Aliquot: 323.1
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield in control at 100-110%. Quantitative yield is assumed.

Y2 - Chemical Yield outside default limits.

B3 - Analyte concentration greater than MDC but less than Requested MDC.

B - Analyte concentration greater than MDC.

SQ - Spectral iquality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Monday, July 14, 2003 09:54:22

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID:

Lab ID: GS02133BLK1

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02133

Date Collected: 08-Jul-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030928D02A

Final Aliquot: 49.76
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	-0.04 +/- 0.42	0.91	pCi/g	U
Ag-110m	0.00 +/- 0.14	0.27	pCi/g	U
Al-26	0.03 +/- 0.16	0.33	pCi/g	U
Am-241	0.09 +/- 0.82	1.5	pCi/g	U
Be-7	0.23 +/- 0.88	1.6	pCi/g	U
Bi-212	1.4 +/- 2.1	3.4	pCi/g	U
Bi-214	-0.10 +/- 0.34	0.66	pCi/g	U
Cd-109	-1.8 +/- 2.2	4.7	pCi/g	U
Ce-139	0.056 +/- 0.065	0.10	pCi/g	U
Ce-144	-0.06 +/- 0.50	0.96	pCi/g	U
Co-56	0.06 +/- 0.27	0.51	pCi/g	U
Co-57	-0.010 +/- 0.063	0.12	pCi/g	U
Co-58	0.02 +/- 0.16	0.30	pCi/g	U
Co-60	-0.01 +/- 0.11	0.26	pCi/g	U
Cr-51	0.33 +/- 0.74	1.3	pCi/g	U
Cs-134	0.06 +/- 0.15	0.26	pCi/g	U
Cs-137	-0.03 +/- 0.15	0.30	pCi/g	U
Eu-152	-0.59 +/- 0.65	1.7	pCi/g	U
Eu-154	-0.34 +/- 0.52	1.4	pCi/g	U
Eu-155	-0.05 +/- 0.28	0.56	pCi/g	U
Fe-59	-0.04 +/- 0.21	0.48	pCi/g	U
I-131	-0.08 +/- 0.11	0.24	pCi/g	U
K-40	-0.3 +/- 1.9	4.0	pCi/g	U
Mn-54	-0.03 +/- 0.10	0.23	pCi/g	U

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Monday, July 14, 2003 09:54:22

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306172

Field ID:
Lab ID: GS02133BLK1

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02133

Date Collected: 08-Jul-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030928D02A

Final Aliquot: 49.76
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier
Na-22	-0.06 +/- 0.15	0.35	pCi/g	U
Nb-94	-0.02 +/- 0.14	0.27	pCi/g	U
Nb-95	0.01 +/- 0.12	0.23	pCi/g	U
Pa-234m	3 +/- 21	42	pCi/g	U
Pb-212	0.08 +/- 0.21	0.36	pCi/g	U
Pb-214	0.19 +/- 0.30	0.50	pCi/g	U
Ru-106	0.7 +/- 1.5	2.6	pCi/g	U
Sb-124	0.04 +/- 0.13	0.24	pCi/g	U
Sb-125	0.04 +/- 0.25	0.49	pCi/g	U
Sc-46	-0.01 +/- 0.14	0.29	pCi/g	U
Th-227	-0.31 +/- 0.62	1.2	pCi/g	U
Th-234	0.3 +/- 1.4	2.6	pCi/g	U
Tl-208	-0.02 +/- 0.17	0.32	pCi/g	U
U-235	-0.07 +/- 0.51	0.98	pCi/g	U
Zn-65	0.00 +/- 0.25	0.54	pCi/g	U

000010

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Monday, July 14, 2003 09:54:22

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID:

Lab ID: GS02133BLK1

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02133

Date Collected: 08-Jul-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030928D02A

Final Aliquot: 49.76
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield in control at 100-110%. Quantitative yield is assumed.

Y2 - Chemical Yield outside default limits.

B3 - Analyte concentration greater than MDC but less than Requested MDC.

B - Analyte concentration greater than MDC.

SQ - Spectral iquality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

LCS Results

Reported on: Monday, July 14, 2003 09:54:20

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID:

Lab ID: GS02132LCS1

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02132

Date Collected: 08-Jul-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030872D07A

Final Aliquot: 500.0
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	LCS Results +/- 2s TPU	MDC	Spike Added	Reporting Units	LCS Recovery	Control Limits	Lab Qualifier
Am-241	211 +/- 35	1.2	196	pCi/g	107%	85-115%	P
Cd-109	840 +/- 140	6.5	792	pCi/g	106%	85-115%	P
Co-60	96 +/- 16	0.37	92.9	pCi/g	104%	85-115%	P
Cs-137	85 +/- 14	0.55	80.3	pCi/g	105%	85-115%	P

Comments:

Data Package ID: *GSS0306172-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
* - Duplicate DER not within control limits.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS Recovery within control limits.

Abbreviations:

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

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.

Gamma Spectroscopy Results

Method PAI 713R8

LCS Results

Reported on: Monday, July 14, 2003 09:54:22

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID:

Lab ID: GS02133LCS1

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02133

Date Collected: 08-Jul-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030957D08A

Final Aliquot: 100.0
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	LCS Results +/- 2s TPU	MDC	Spike Added	Reporting Units	LCS Recovery	Control Limits	Lab Qualifier
Am-241	950 +/- 160	2.7	890	pCi/g	107%	85-115%	P
Cd-109	3280 +/- 540	16	3140	pCi/g	105%	85-115%	P
Co-60	479 +/- 79	1.2	457	pCi/g	105%	85-115%	P
Cs-137	429 +/- 71	1.8	389	pCi/g	110%	85-115%	P

Comments:

Data Package ID: *GSS0306172-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
* - Duplicate DER not within control limits.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS Recovery within control limits.

Abbreviations:

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

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.

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Monday, July 14, 2003 09:54:14

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: B-9	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID: 0306172-1	7/8/03	7/9/03	GS02132	307.7
DUP ID: 0306172-1-D1	7/8/03	7/9/03	GS02132	307.7

Sample Matrix: Soil
Date Collected: 25-Jun-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Ac-228	2.05 +/- 0.54	1.55 +/- 0.37	pCi/g	0.75	< 1.42	
Ag-110m	-0.059 +/- 0.084	-0.009 +/- 0.059	pCi/g	0.49	< 1.42	
Al-26	-0.024 +/- 0.065	0.010 +/- 0.045	pCi/g	0.43	< 1.42	
Am-241	-0.06 +/- 0.46	0.25 +/- 0.29	pCi/g	0.57	< 1.42	
Be-7	0.79 +/- 0.65	0.31 +/- 0.51	pCi/g	0.58	< 1.42	
Bi-212	0.7 +/- 1.3	1.39 +/- 0.83	pCi/g	0.42	< 1.42	
Bi-214	0.84 +/- 0.30	0.74 +/- 0.21	pCi/g	0.25	< 1.42	
Cd-109	5.2 +/- 2.6	1.7 +/- 1.8	pCi/g	1.09	< 1.42	
Ce-139	-0.050 +/- 0.061	0.000 +/- 0.044	pCi/g	0.67	< 1.42	
Ce-144	-0.21 +/- 0.43	0.23 +/- 0.26	pCi/g	0.88	< 1.42	
Co-56	0.01 +/- 0.19	0.04 +/- 0.13	pCi/g	0.15	< 1.42	
Co-57	-0.010 +/- 0.056	-0.014 +/- 0.043	pCi/g	0.06	< 1.42	
Co-58	-0.030 +/- 0.073	-0.058 +/- 0.064	pCi/g	0.29	< 1.42	
Co-60	-0.038 +/- 0.092	0.000 +/- 0.056	pCi/g	0.36	< 1.42	
Cr-51	0.33 +/- 0.73	-0.23 +/- 0.50	pCi/g	0.63	< 1.42	
Cs-134	-0.003 +/- 0.074	-0.032 +/- 0.081	pCi/g	0.27	< 1.42	
Cs-137	-0.002 +/- 0.088	0.044 +/- 0.058	pCi/g	0.43	< 1.42	
Eu-152	0.15 +/- 0.38	-0.07 +/- 0.29	pCi/g	0.45	< 1.42	
Eu-154	-0.04 +/- 0.42	-0.04 +/- 0.32	pCi/g	0	< 1.42	
Eu-155	0.33 +/- 0.26	0.15 +/- 0.19	pCi/g	0.56	< 1.42	
Fe-59	0.09 +/- 0.20	-0.10 +/- 0.14	pCi/g	0.77	< 1.42	
I-131	-0.03 +/- 0.22	-0.11 +/- 0.15	pCi/g	0.31	< 1.42	
K-40	16.7 +/- 3.8	17.7 +/- 3.4	pCi/g	0.19	< 1.42	
Mn-54	0.027 +/- 0.075	0.068 +/- 0.062	pCi/g	0.41	< 1.42	
Na-22	0.09 +/- 0.10	-0.058 +/- 0.082	pCi/g	1.09	< 1.42	
Nb-94	-0.006 +/- 0.083	0.041 +/- 0.059	pCi/g	0.46	< 1.42	
Nb-95	0.036 +/- 0.097	-0.008 +/- 0.060	pCi/g	0.39	< 1.42	
Pa-234m	0 +/- 14	-1.3 +/- 9.8	pCi/g	0.1	< 1.42	

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Monday, July 14, 2003 09:54:14

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID:	B-9	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID:	0306172-1	7/8/03	7/9/03	GS02132	307.7
DUP ID:	0306172-1-D1	7/8/03	7/9/03	GS02132	307.7

Sample Matrix: Soil
Date Collected: 25-Jun-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Pb-212	1.47 +/- 0.35	1.77 +/- 0.34	pCi/g	0.63	< 1.42	
Pb-214	0.61 +/- 0.20	0.78 +/- 0.19	pCi/g	0.63	< 1.42	
Ru-106	-0.18 +/- 0.72	-0.43 +/- 0.55	pCi/g	0.27	< 1.42	
Sb-124	0.023 +/- 0.084	0.007 +/- 0.064	pCi/g	0.15	< 1.42	
Sb-125	-0.27 +/- 0.17	0.05 +/- 0.14	pCi/g	1.42	< 1.42	
Sc-46	-0.061 +/- 0.091	-0.001 +/- 0.063	pCi/g	0.54	< 1.42	
Th-227	-0.37 +/- 0.79	-2.32 +/- 0.77	pCi/g	1.76	< 1.42	W
Th-234	1.0 +/- 1.8	1.6 +/- 1.4	pCi/g	0.27	< 1.42	
Tl-208	0.51 +/- 0.17	0.47 +/- 0.12	pCi/g	0.21	< 1.42	
U-235	-0.05 +/- 0.44	0.15 +/- 0.32	pCi/g	0.36	< 1.42	
Zn-65	-0.26 +/- 0.21	-0.08 +/- 0.18	pCi/g	0.64	< 1.42	

Comments:

Qualifiers/Flags:

W - DER is greater than Warning Limit of 1.42

H - DER is Higher han Control Limit of 2.13

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

DER - Duplicate Error Ratio

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Monday, July 14, 2003 09:54:21

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: C-10	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID: 0306172-11	7/8/03	7/9/03	GS02133	53.70
DUP ID: 0306172-11-D1	7/8/03	7/9/03	GS02133	44.40

Sample Matrix: Soil
Date Collected: 25-Jun-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Ac-228	0.48 +/- 0.59	0.57 +/- 0.79	pCi/g	0.09	< 1.42	
Ag-110m	-0.14 +/- 0.23	-0.04 +/- 0.13	pCi/g	0.39	< 1.42	
Al-26	-0.18 +/- 0.19	-0.04 +/- 0.14	pCi/g	0.6	< 1.42	
Am-241	-0.06 +/- 0.42	0.6 +/- 1.1	pCi/g	0.55	< 1.42	
Be-7	0.51 +/- 1.00	1.4 +/- 1.6	pCi/g	0.46	< 1.42	
Bi-212	1.3 +/- 1.9	0.5 +/- 2.0	pCi/g	0.28	< 1.42	
Bi-214	0.32 +/- 0.33	0.25 +/- 0.46	pCi/g	0.13	< 1.42	
Cd-109	-1.7 +/- 3.0	1.3 +/- 4.1	pCi/g	0.6	< 1.42	
Ce-139	-0.047 +/- 0.074	0.055 +/- 0.081	pCi/g	0.93	< 1.42	
Ce-144	0.03 +/- 0.47	0.20 +/- 0.64	pCi/g	0.21	< 1.42	
Co-56	0.05 +/- 0.29	0.03 +/- 0.26	pCi/g	0.05	< 1.42	
Co-57	0.006 +/- 0.065	-0.016 +/- 0.076	pCi/g	0.22	< 1.42	
Co-58	0.00 +/- 0.15	-0.07 +/- 0.19	pCi/g	0.27	< 1.42	
Co-60	0.37 +/- 0.24	0.28 +/- 0.29	pCi/g	0.26	< 1.42	
Cr-51	0.69 +/- 1.00	-0.1 +/- 1.4	pCi/g	0.47	< 1.42	
Cs-134	0.04 +/- 0.20	0.08 +/- 0.18	pCi/g	0.16	< 1.42	
Cs-137	0.63 +/- 0.23	0.61 +/- 0.26	pCi/g	0.06	< 1.42	
Eu-152	-0.13 +/- 0.74	-0.23 +/- 0.79	pCi/g	0.1	< 1.42	
Eu-154	-0.45 +/- 0.84	1.03 +/- 0.98	pCi/g	1.14	< 1.42	
Eu-155	0.12 +/- 0.31	0.13 +/- 0.41	pCi/g	0.02	< 1.42	
Fe-59	-0.10 +/- 0.34	-0.05 +/- 0.39	pCi/g	0.1	< 1.42	
I-131	-0.05 +/- 0.27	-0.20 +/- 0.50	pCi/g	0.26	< 1.42	
K-40	12.7 +/- 3.9	8.6 +/- 4.0	pCi/g	0.74	< 1.42	
Mn-54	0.02 +/- 0.16	-0.04 +/- 0.15	pCi/g	0.23	< 1.42	
Na-22	0.05 +/- 0.18	0.08 +/- 0.18	pCi/g	0.11	< 1.42	
Nb-94	-0.11 +/- 0.14	-0.12 +/- 0.15	pCi/g	0.06	< 1.42	
Nb-95	0.00 +/- 0.14	0.11 +/- 0.19	pCi/g	0.49	< 1.42	
Pa-234m	11 +/- 26	-16 +/- 27	pCi/g	0.7	< 1.42	

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Monday, July 14, 2003 09:54:21

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID:	C-10	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID:	0306172-11	7/8/03	7/9/03	GS02133	53.70
DUP ID:	0306172-11-D1	7/8/03	7/9/03	GS02133	44.40

Sample Matrix: Soil
Date Collected: 25-Jun-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Pb-212	0.64 +/- 0.25	0.81 +/- 0.38	pCi/g	0.39	< 1.42	
Pb-214	0.17 +/- 0.23	0.28 +/- 0.29	pCi/g	0.31	< 1.42	
Ru-106	-1.5 +/- 1.4	1.5 +/- 1.4	pCi/g	1.48	< 1.42	W
Sb-124	0.07 +/- 0.16	-0.11 +/- 0.19	pCi/g	0.73	< 1.42	
Sb-125	0.43 +/- 0.29	0.42 +/- 0.40	pCi/g	0.01	< 1.42	
Sc-46	-0.02 +/- 0.15	0.05 +/- 0.19	pCi/g	0.31	< 1.42	
Th-227	-0.92 +/- 0.99	0.0 +/- 1.0	pCi/g	0.64	< 1.42	
Th-234	2.0 +/- 1.9	0.2 +/- 2.5	pCi/g	0.57	< 1.42	
Tl-208	0.11 +/- 0.12	0.25 +/- 0.19	pCi/g	0.64	< 1.42	
U-235	-0.03 +/- 0.53	-0.04 +/- 0.63	pCi/g	0.01	< 1.42	
Zn-65	-0.30 +/- 0.38	-0.05 +/- 0.34	pCi/g	0.49	< 1.42	

Comments:

Qualifiers/Flags:

W - DER is greater than Warning Limit of 1.42

H - DER is Higher han Control Limit of 2.13

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

DER - Duplicate Error Ratio

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Monday, July 14, 2003 09:54:15

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306172

Field ID:	C-10-D	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID:	0306172-12	7/8/03	7/9/03	GS02132	367.0
DUP ID:	0306172-12-D1	7/8/03	7/9/03	GS02132	367.0

Sample Matrix: Soil
Date Collected: 25-Jun-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Ac-228	1.62 +/- 0.45	1.35 +/- 0.32	pCi/g	0.48	< 1.42	
Ag-110m	0.024 +/- 0.067	-0.001 +/- 0.045	pCi/g	0.32	< 1.42	
Al-26	0.013 +/- 0.027	-0.021 +/- 0.042	pCi/g	0.7	< 1.42	
Am-241	0.00 +/- 0.12	-0.05 +/- 0.25	pCi/g	0.18	< 1.42	
Be-7	0.22 +/- 0.49	-0.18 +/- 0.40	pCi/g	0.63	< 1.42	
Bi-212	1.3 +/- 1.2	1.21 +/- 0.87	pCi/g	0.09	< 1.42	
Bi-214	0.47 +/- 0.21	0.57 +/- 0.18	pCi/g	0.34	< 1.42	
Cd-109	2.7 +/- 1.4	1.2 +/- 1.5	pCi/g	0.72	< 1.42	
Ce-139	0.046 +/- 0.043	-0.044 +/- 0.042	pCi/g	1.51	< 1.42	W
Ce-144	-0.21 +/- 0.31	0.00 +/- 0.26	pCi/g	0.51	< 1.42	
Co-56	0.00 +/- 0.20	0.18 +/- 0.12	pCi/g	0.77	< 1.42	
Co-57	0.023 +/- 0.039	-0.016 +/- 0.034	pCi/g	0.74	< 1.42	
Co-58	-0.033 +/- 0.071	0.005 +/- 0.053	pCi/g	0.43	< 1.42	
Co-60	0.041 +/- 0.087	-0.017 +/- 0.054	pCi/g	0.56	< 1.42	
Cr-51	0.13 +/- 0.52	0.03 +/- 0.44	pCi/g	0.15	< 1.42	
Cs-134	-0.053 +/- 0.071	0.027 +/- 0.078	pCi/g	0.76	< 1.42	
Cs-137	0.000 +/- 0.080	-0.013 +/- 0.050	pCi/g	0.14	< 1.42	
Eu-152	0.00 +/- 0.35	0.22 +/- 0.27	pCi/g	0.5	< 1.42	
Eu-154	0.13 +/- 0.46	0.10 +/- 0.26	pCi/g	0.06	< 1.42	
Eu-155	0.23 +/- 0.18	0.13 +/- 0.17	pCi/g	0.38	< 1.42	
Fe-59	-0.17 +/- 0.19	-0.01 +/- 0.11	pCi/g	0.73	< 1.42	
I-131	0.15 +/- 0.20	0.03 +/- 0.14	pCi/g	0.5	< 1.42	
K-40	15.7 +/- 3.7	17.8 +/- 3.3	pCi/g	0.41	< 1.42	
Mn-54	0.015 +/- 0.060	0.027 +/- 0.055	pCi/g	0.15	< 1.42	
Na-22	-0.019 +/- 0.090	0.003 +/- 0.060	pCi/g	0.2	< 1.42	
Nb-94	0.012 +/- 0.061	0.001 +/- 0.048	pCi/g	0.14	< 1.42	
Nb-95	-0.020 +/- 0.081	-0.021 +/- 0.061	pCi/g	0.01	< 1.42	
Pa-234m	-1 +/- 13	-1.6 +/- 8.3	pCi/g	0.02	< 1.42	

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Monday, July 14, 2003 09:54:15

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID:	C-10-D	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID:	0306172-12	7/8/03	7/9/03	GS02132	367.0
DUP ID:	0306172-12-D1	7/8/03	7/9/03	GS02132	367.0

Sample Matrix: Soil
Date Collected: 25-Jun-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Pb-212	1.37 +/- 0.31	1.50 +/- 0.29	pCi/g	0.31	< 1.42	
Pb-214	0.58 +/- 0.18	0.69 +/- 0.16	pCi/g	0.42	< 1.42	
Ru-106	-0.38 +/- 0.53	0.13 +/- 0.48	pCi/g	0.71	< 1.42	
Sb-124	-0.012 +/- 0.081	0.048 +/- 0.085	pCi/g	0.51	< 1.42	
Sb-125	-0.06 +/- 0.19	0.04 +/- 0.11	pCi/g	0.47	< 1.42	
Sc-46	-0.029 +/- 0.072	-0.025 +/- 0.053	pCi/g	0.04	< 1.42	
Th-227	0.31 +/- 0.32	0.1 +/- 7.7	pCi/g	0.03	< 1.42	
Th-234	1.4 +/- 1.1	0.81 +/- 0.89	pCi/g	0.46	< 1.42	
Tl-208	0.37 +/- 0.13	0.50 +/- 0.12	pCi/g	0.72	< 1.42	
U-235	-0.04 +/- 0.31	-0.12 +/- 0.29	pCi/g	0.19	< 1.42	
Zn-65	-0.18 +/- 0.21	-0.11 +/- 0.15	pCi/g	0.25	< 1.42	

Comments:

Qualifiers/Flags:

W - DER is greater than Warning Limit of 1.42

H - DER is Higher han Control Limit of 2.13

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

DER - Duplicate Error Ratio

Data Package ID: *GSS0306172-1*

PARAGON ANALYTICS, INC.
Radiochemistry Data Package

3

Section 3

INDIVIDUAL SAMPLE RESULTS

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 09:54:13

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: B-9

Lab ID: 0306172-1

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02132

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030733D03A

Final Aliquot: 307.7 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	2.05 +/- 0.54	0.62	pCi/g	
Ag-110m	-0.059 +/- 0.084	0.17	pCi/g	U
Al-26	-0.024 +/- 0.065	0.15	pCi/g	U
Am-241	-0.06 +/- 0.46	0.82	pCi/g	U
Be-7	0.79 +/- 0.65	0.96	pCi/g	U
Bi-212	0.7 +/- 1.3	2.2	pCi/g	U
Bi-214	0.84 +/- 0.30	0.34	pCi/g	
Cd-109	5.2 +/- 2.6	3.7	pCi/g	SI
Ce-139	-0.050 +/- 0.061	0.11	pCi/g	U
Ce-144	-0.21 +/- 0.43	0.78	pCi/g	U
Co-56	0.01 +/- 0.19	0.35	pCi/g	U
Co-57	-0.010 +/- 0.056	0.100	pCi/g	U
Co-58	-0.030 +/- 0.073	0.15	pCi/g	U
Co-60	-0.038 +/- 0.092	0.19	pCi/g	U
Cr-51	0.33 +/- 0.73	1.2	pCi/g	U
Cs-134	-0.003 +/- 0.074	0.14	pCi/g	U
Cs-137	-0.002 +/- 0.088	0.16	pCi/g	U
Eu-152	0.15 +/- 0.38	0.68	pCi/g	U
Eu-154	-0.04 +/- 0.42	0.81	pCi/g	U
Eu-155	0.33 +/- 0.26	0.39	pCi/g	U
Fe-59	0.09 +/- 0.20	0.35	pCi/g	U
I-131	-0.03 +/- 0.22	0.41	pCi/g	U
K-40	16.7 +/- 3.8	1.8	pCi/g	
Mn-54	0.027 +/- 0.075	0.13	pCi/g	U
Na-22	0.09 +/- 0.10	0.16	pCi/g	U
Nb-94	-0.006 +/- 0.083	0.15	pCi/g	U

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 09:54:14

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: B-9

Lab ID: 0306172-1

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02132

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030733D03A

Final Aliquot: 307.7 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.036 +/- 0.097	0.17	pCi/g	U
Pa-234m	0 +/- 14	26	pCi/g	U
Pb-212	1.47 +/- 0.35	0.28	pCi/g	
Pb-214	0.61 +/- 0.20	0.25	pCi/g	
Ru-106	-0.18 +/- 0.72	1.4	pCi/g	U
Sb-124	0.023 +/- 0.084	0.15	pCi/g	U
Sb-125	-0.27 +/- 0.17	0.38	pCi/g	U
Sc-46	-0.061 +/- 0.091	0.19	pCi/g	U
Th-227	-0.37 +/- 0.79	1.4	pCi/g	U
Th-234	1.0 +/- 1.8	2.9	pCi/g	U
Tl-208	0.51 +/- 0.17	0.17	pCi/g	
U-235	-0.05 +/- 0.44	0.77	pCi/g	U
Zn-65	-0.26 +/- 0.21	0.45	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Monday, July 14, 2003 09:54:14

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: B-9

Lab ID: 0306172-1-D1

Sample Matrix: Soil

Date Prepared: 08-Jul-03

Prep SOP: PAI 739R6

Prep Batch: GS02132

Date Collected: 25-Jun-03

Date Analyzed: 09-Jul-03

Analytical SOP: PAI 713R8

Spectrum Code: 031032D01A

Final Aliquot: 307.7

Aliquot Units: g

Report Basis: Dry Weight

Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.55 +/- 0.37	0.45	pCi/g	
Ag-110m	-0.009 +/- 0.059	0.10	pCi/g	U
Al-26	0.010 +/- 0.045	0.081	pCi/g	U
Am-241	0.25 +/- 0.29	0.48	pCi/g	U
Be-7	0.31 +/- 0.51	0.86	pCi/g	U
Bi-212	1.39 +/- 0.83	1.2	pCi/g	
Bi-214	0.74 +/- 0.21	0.23	pCi/g	
Cd-109	1.7 +/- 1.8	2.9	pCi/g	U
Ce-139	0.000 +/- 0.044	0.076	pCi/g	U
Ce-144	0.23 +/- 0.26	0.41	pCi/g	U
Co-56	0.04 +/- 0.13	0.22	pCi/g	U
Co-57	-0.014 +/- 0.043	0.076	pCi/g	U
Co-58	-0.058 +/- 0.064	0.12	pCi/g	U
Co-60	0.000 +/- 0.056	0.10	pCi/g	U
Cr-51	-0.23 +/- 0.50	0.91	pCi/g	U
Cs-134	-0.032 +/- 0.081	0.14	pCi/g	U
Cs-137	0.044 +/- 0.058	0.095	pCi/g	U
Eu-152	-0.07 +/- 0.29	0.53	pCi/g	U
Eu-154	-0.04 +/- 0.32	0.57	pCi/g	U
Eu-155	0.15 +/- 0.19	0.31	pCi/g	U
Fe-59	-0.10 +/- 0.14	0.26	pCi/g	U
I-131	-0.11 +/- 0.15	0.28	pCi/g	U
K-40	17.7 +/- 3.4	1.4	pCi/g	
Mn-54	0.068 +/- 0.062	0.098	pCi/g	U
Na-22	-0.058 +/- 0.082	0.15	pCi/g	U
Nb-94	0.041 +/- 0.059	0.098	pCi/g	U
Nb-95	-0.008 +/- 0.060	0.11	pCi/g	U

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Monday, July 14, 2003 09:54:14

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: B-9

Lab ID: 0306172-1-D1

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02132

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 031032D01A

Final Aliquot: 307.7
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Pa-234m	-1.3 +/- 9.8	18	pCi/g	U
Pb-212	1.77 +/- 0.34	0.18	pCi/g	
Pb-214	0.78 +/- 0.19	0.23	pCi/g	
Ru-106	-0.43 +/- 0.55	1.0	pCi/g	U
Sb-124	0.007 +/- 0.064	0.11	pCi/g	U
Sb-125	0.05 +/- 0.14	0.27	pCi/g	U
Sc-46	-0.001 +/- 0.063	0.11	pCi/g	U
Th-227	-2.32 +/- 0.77	1.3	pCi/g	U
Th-234	1.6 +/- 1.4	2.2	pCi/g	U
Tl-208	0.47 +/- 0.12	0.12	pCi/g	
U-235	0.15 +/- 0.32	0.53	pCi/g	U
Zn-65	-0.08 +/- 0.18	0.32	pCi/g	U

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Monday, July 14, 2003 09:54:14

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: B-9

Lab ID: 0306172-1-D1

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02132

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 031032D01A

Final Aliquot: 307.7
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier

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.

* - Duplicate DER not within control limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 09:54:17

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: B-9-D

Lab ID: 0306172-2

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02132

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030869D07A

Final Aliquot: 350.2 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.61 +/- 0.45	0.60	pCi/g	
Ag-110m	0.038 +/- 0.072	0.12	pCi/g	U
Al-26	0.012 +/- 0.051	0.11	pCi/g	U
Am-241	0.00 +/- 0.11	0.20	pCi/g	U
Be-7	0.12 +/- 0.59	1.1	pCi/g	U
Bi-212	0.5 +/- 1.2	2.2	pCi/g	U
Bi-214	0.65 +/- 0.25	0.28	pCi/g	
Cd-109	2.5 +/- 1.5	2.2	pCi/g	SI
Ce-139	0.026 +/- 0.050	0.084	pCi/g	U
Ce-144	0.15 +/- 0.34	0.57	pCi/g	U
Co-56	0.18 +/- 0.20	0.31	pCi/g	U
Co-57	-0.048 +/- 0.041	0.079	pCi/g	U
Co-58	0.015 +/- 0.077	0.14	pCi/g	U
Co-60	0.021 +/- 0.091	0.17	pCi/g	U
Cr-51	-0.04 +/- 0.60	1.1	pCi/g	U
Cs-134	0.028 +/- 0.066	0.12	pCi/g	U
Cs-137	-0.102 +/- 0.086	0.18	pCi/g	U
Eu-152	-0.16 +/- 0.35	0.80	pCi/g	U
Eu-154	0.09 +/- 0.45	0.84	pCi/g	U
Eu-155	-0.05 +/- 0.17	0.31	pCi/g	U
Fe-59	0.06 +/- 0.16	0.30	pCi/g	U
I-131	0.09 +/- 0.20	0.35	pCi/g	U
K-40	16.6 +/- 3.9	1.4	pCi/g	
Mn-54	0.073 +/- 0.080	0.12	pCi/g	U
Na-22	-0.006 +/- 0.059	0.13	pCi/g	U
Nb-94	-0.031 +/- 0.078	0.15	pCi/g	U

000026

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 09:54:17

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: B-9-D

Lab ID: 0306172-2

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02132

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030869D07A

Final Aliquot: 350.2 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.105 +/- 0.097	0.20	pCi/g	U
Pa-234m	-6 +/- 14	29	pCi/g	U
Pb-212	1.59 +/- 0.34	0.19	pCi/g	
Pb-214	0.71 +/- 0.21	0.31	pCi/g	
Ru-106	-0.34 +/- 0.63	1.3	pCi/g	U
Sb-124	-0.006 +/- 0.075	0.14	pCi/g	U
Sb-125	0.06 +/- 0.16	0.29	pCi/g	U
Sc-46	-0.033 +/- 0.065	0.14	pCi/g	U
Th-227	0.24 +/- 0.37	0.62	pCi/g	U
Th-234	1.28 +/- 0.84	1.8	pCi/g	U
Tl-208	0.71 +/- 0.19	0.15	pCi/g	
U-235	0.14 +/- 0.33	0.56	pCi/g	U
Zn-65	0.04 +/- 0.19	0.35	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 09:54:18

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: D-9

Lab ID: 0306172-3

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02132

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030875D10A

Final Aliquot: 350.9 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.07 +/- 0.29	0.47	pCi/g	
Ag-110m	0.037 +/- 0.066	0.12	pCi/g	U
Al-26	0.010 +/- 0.049	0.089	pCi/g	U
Am-241	-0.10 +/- 0.21	0.37	pCi/g	U
Be-7	0.03 +/- 0.43	0.75	pCi/g	U
Bi-212	1.8 +/- 1.0	1.5	pCi/g	
Bi-214	0.42 +/- 0.18	0.24	pCi/g	
Cd-109	0.7 +/- 1.1	1.8	pCi/g	U
Ce-139	-0.005 +/- 0.040	0.069	pCi/g	U
Ce-144	-0.40 +/- 0.30	0.54	pCi/g	U
Co-56	0.05 +/- 0.16	0.26	pCi/g	U
Co-57	0.001 +/- 0.035	0.061	pCi/g	U
Co-58	0.015 +/- 0.061	0.10	pCi/g	U
Co-60	0.017 +/- 0.059	0.10	pCi/g	U
Cr-51	0.37 +/- 0.49	0.79	pCi/g	U
Cs-134	0.024 +/- 0.077	0.13	pCi/g	U
Cs-137	0.046 +/- 0.056	0.091	pCi/g	U
Eu-152	-0.05 +/- 0.29	0.53	pCi/g	U
Eu-154	-0.06 +/- 0.34	0.61	pCi/g	U
Eu-155	0.08 +/- 0.15	0.24	pCi/g	U
Fe-59	-0.10 +/- 0.14	0.27	pCi/g	U
I-131	-0.02 +/- 0.15	0.26	pCi/g	U
K-40	20.6 +/- 3.8	1.4	pCi/g	
Mn-54	0.001 +/- 0.056	0.098	pCi/g	U
Na-22	0.020 +/- 0.064	0.11	pCi/g	U
Nb-94	0.019 +/- 0.052	0.089	pCi/g	U

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 09:54:18

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: D-9

Lab ID: 0306172-3

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02132

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030875D10A

Final Aliquot: 350.9 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.014 +/- 0.060	0.10	pCi/g	U
Pa-234m	9.2 +/- 9.0	14	pCi/g	U
Pb-212	1.48 +/- 0.29	0.16	pCi/g	
Pb-214	0.50 +/- 0.15	0.20	pCi/g	
Ru-106	0.12 +/- 0.49	0.85	pCi/g	U
Sb-124	-0.004 +/- 0.067	0.12	pCi/g	U
Sb-125	-0.09 +/- 0.13	0.23	pCi/g	U
Sc-46	-0.038 +/- 0.060	0.11	pCi/g	U
Th-227	-2.0 +/- 8.1	13	pCi/g	U
Th-234	1.26 +/- 0.84	1.3	pCi/g	U
Tl-208	0.43 +/- 0.11	0.11	pCi/g	
U-235	0.22 +/- 0.30	0.50	pCi/g	U
Zn-65	-0.04 +/- 0.16	0.29	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 09:54:18

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: D-9-D

Lab ID: 0306172-4

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02132

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030929D02A

Final Aliquot: 319.1 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.58 +/- 0.41	0.42	pCi/g	
Ag-110m	-0.016 +/- 0.063	0.12	pCi/g	U
Al-26	-0.054 +/- 0.050	0.14	pCi/g	U
Am-241	0.38 +/- 0.57	0.94	pCi/g	U
Be-7	-0.39 +/- 0.57	1.1	pCi/g	U
Bi-212	1.2 +/- 1.1	1.6	pCi/g	U
Bi-214	0.68 +/- 0.23	0.22	pCi/g	
Cd-109	0.7 +/- 2.2	3.7	pCi/g	U
Ce-139	0.006 +/- 0.050	0.088	pCi/g	U
Ce-144	0.25 +/- 0.36	0.60	pCi/g	U
Co-56	0.05 +/- 0.17	0.31	pCi/g	U
Co-57	-0.019 +/- 0.044	0.082	pCi/g	U
Co-58	0.055 +/- 0.055	0.083	pCi/g	U
Co-60	0.021 +/- 0.056	0.10	pCi/g	U
Cr-51	0.24 +/- 0.58	1.0	pCi/g	U
Cs-134	-0.036 +/- 0.050	0.14	pCi/g	U
Cs-137	0.034 +/- 0.079	0.14	pCi/g	U
Eu-152	0.17 +/- 0.27	0.46	pCi/g	U
Eu-154	0.00 +/- 0.33	0.63	pCi/g	U
Eu-155	-0.06 +/- 0.21	0.39	pCi/g	U
Fe-59	0.06 +/- 0.16	0.29	pCi/g	U
I-131	-0.14 +/- 0.18	0.35	pCi/g	U
K-40	18.4 +/- 3.9	1.1	pCi/g	
Mn-54	-0.021 +/- 0.062	0.12	pCi/g	U
Na-22	0.025 +/- 0.073	0.13	pCi/g	U
Nb-94	-0.026 +/- 0.064	0.13	pCi/g	U

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 09:54:18

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: D-9-D

Lab ID: 0306172-4

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02132

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030929D02A

Final Aliquot: 319.1 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.022 +/- 0.083	0.16	pCi/g	U
Pa-234m	1 +/- 11	21	pCi/g	U
Pb-212	1.48 +/- 0.33	0.24	pCi/g	
Pb-214	0.54 +/- 0.17	0.24	pCi/g	
Ru-106	-0.38 +/- 0.56	1.2	pCi/g	U
Sb-124	-0.038 +/- 0.071	0.14	pCi/g	U
Sb-125	-0.10 +/- 0.19	0.36	pCi/g	U
Sc-46	0.007 +/- 0.084	0.15	pCi/g	U
Th-227	-1 +/- 11	18	pCi/g	U
Th-234	2.4 +/- 1.5	2.3	pCi/g	TI
Tl-208	0.45 +/- 0.14	0.12	pCi/g	
U-235	0.21 +/- 0.34	0.57	pCi/g	U
Zn-65	0.00 +/- 0.16	0.31	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 09:54:18

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: F-9

Lab ID: 0306172-5

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02132

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030734D03A

Final Aliquot: 344.3 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.45 +/- 0.44	0.55	pCi/g	
Ag-110m	0.07 +/- 0.12	0.19	pCi/g	U
Al-26	-0.014 +/- 0.072	0.15	pCi/g	U
Am-241	-0.14 +/- 0.44	0.80	pCi/g	U
Be-7	0.26 +/- 0.56	0.96	pCi/g	U
Bi-212	0.3 +/- 1.2	2.1	pCi/g	U
Bi-214	0.67 +/- 0.26	0.29	pCi/g	
Cd-109	1.3 +/- 1.6	2.6	pCi/g	U
Ce-139	-0.032 +/- 0.056	0.10	pCi/g	U
Ce-144	-0.10 +/- 0.38	0.69	pCi/g	U
Co-56	0.05 +/- 0.21	0.37	pCi/g	U
Co-57	0.009 +/- 0.054	0.094	pCi/g	U
Co-58	0.073 +/- 0.073	0.11	pCi/g	U
Co-60	0.069 +/- 0.099	0.16	pCi/g	U
Cr-51	-0.08 +/- 0.64	1.2	pCi/g	U
Cs-134	-0.013 +/- 0.066	0.12	pCi/g	U
Cs-137	0.210 +/- 0.099	0.12	pCi/g	
Eu-152	-0.16 +/- 0.39	0.81	pCi/g	U
Eu-154	0.22 +/- 0.37	0.63	pCi/g	U
Eu-155	-0.10 +/- 0.23	0.41	pCi/g	U
Fe-59	0.03 +/- 0.17	0.31	pCi/g	U
I-131	-0.19 +/- 0.22	0.43	pCi/g	U
K-40	17.0 +/- 3.8	1.6	pCi/g	
Mn-54	0.055 +/- 0.062	0.097	pCi/g	U
Na-22	0.037 +/- 0.071	0.12	pCi/g	U
Nb-94	-0.021 +/- 0.072	0.14	pCi/g	U

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 09:54:18

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: F-9

Lab ID: 0306172-5

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02132

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030734D03A

Final Aliquot: 344.3 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.032 +/- 0.079	0.16	pCi/g	U
Pa-234m	2 +/- 12	21	pCi/g	U
Pb-212	1.27 +/- 0.29	0.22	pCi/g	
Pb-214	0.67 +/- 0.21	0.29	pCi/g	
Ru-106	0.01 +/- 0.61	1.1	pCi/g	U
Sb-124	0.009 +/- 0.076	0.14	pCi/g	U
Sb-125	0.03 +/- 0.17	0.34	pCi/g	U
Sc-46	-0.038 +/- 0.073	0.15	pCi/g	U
Th-227	-1.5 +/- 8.3	14	pCi/g	U
Th-234	1.6 +/- 1.8	3.0	pCi/g	U
Tl-208	0.51 +/- 0.17	0.17	pCi/g	
U-235	0.04 +/- 0.37	0.65	pCi/g	U
Zn-65	-0.32 +/- 0.22	0.46	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 09:54:19

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: F-9-D

Lab ID: 0306172-6

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02132

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030870D07A

Final Aliquot: 356.8 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.25 +/- 0.38	0.58	pCi/g	
Ag-110m	-0.081 +/- 0.075	0.16	pCi/g	U
Al-26	-0.050 +/- 0.070	0.18	pCi/g	U
Am-241	-0.02 +/- 0.11	0.19	pCi/g	U
Be-7	-0.07 +/- 0.56	1.1	pCi/g	U
Bi-212	1.0 +/- 1.4	2.4	pCi/g	U
Bi-214	0.58 +/- 0.23	0.23	pCi/g	
Cd-109	1.39 +/- 0.94	1.4	pCi/g	U
Ce-139	0.014 +/- 0.049	0.085	pCi/g	U
Ce-144	-0.30 +/- 0.27	0.54	pCi/g	U
Co-56	-0.10 +/- 0.17	0.35	pCi/g	U
Co-57	-0.014 +/- 0.036	0.067	pCi/g	U
Co-58	-0.014 +/- 0.055	0.12	pCi/g	U
Co-60	-0.02 +/- 0.10	0.20	pCi/g	U
Cr-51	0.22 +/- 0.62	1.1	pCi/g	U
Cs-134	-0.005 +/- 0.063	0.12	pCi/g	U
Cs-137	0.133 +/- 0.091	0.13	pCi/g	TI
Eu-152	0.42 +/- 0.37	0.48	pCi/g	U
Eu-154	0.14 +/- 0.35	0.64	pCi/g	U
Eu-155	0.16 +/- 0.16	0.25	pCi/g	U
Fe-59	0.02 +/- 0.19	0.35	pCi/g	U
I-131	-0.09 +/- 0.20	0.38	pCi/g	U
K-40	18.1 +/- 4.1	1.4	pCi/g	
Mn-54	-0.010 +/- 0.071	0.14	pCi/g	U
Na-22	-0.021 +/- 0.084	0.17	pCi/g	U
Nb-94	-0.006 +/- 0.068	0.13	pCi/g	U

Data Package ID: *GSS0306172-1*

000034

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 09:54:19

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: F-9-D

Lab ID: 0306172-6

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02132

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030870D07A

Final Aliquot: 356.8 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.018 +/- 0.098	0.19	pCi/g	U
Pa-234m	-3 +/- 11	23	pCi/g	U
Pb-212	1.32 +/- 0.30	0.19	pCi/g	
Pb-214	0.61 +/- 0.20	0.25	pCi/g	
Ru-106	-0.51 +/- 0.63	1.3	pCi/g	U
Sb-124	0.094 +/- 0.074	0.10	pCi/g	U
Sb-125	0.01 +/- 0.16	0.30	pCi/g	U
Sc-46	0.009 +/- 0.073	0.14	pCi/g	U
Th-227	0.06 +/- 0.36	0.64	pCi/g	U
Th-234	0.85 +/- 0.87	1.7	pCi/g	U
Tl-208	0.35 +/- 0.13	0.13	pCi/g	
U-235	-0.04 +/- 0.30	0.54	pCi/g	U
Zn-65	-0.32 +/- 0.23	0.50	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 09:54:19

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: H-11

Lab ID: 0306172-7

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02132

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030958D08A

Final Aliquot: 291.8 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.19 +/- 0.42	0.49	pCi/g	
Ag-110m	-0.154 +/- 0.098	0.20	pCi/g	U
Al-26	0.022 +/- 0.068	0.13	pCi/g	U
Am-241	-0.14 +/- 0.14	0.27	pCi/g	U
Be-7	0.20 +/- 0.61	1.1	pCi/g	U
Bi-212	1.3 +/- 1.4	2.2	pCi/g	U
Bi-214	0.56 +/- 0.24	0.28	pCi/g	
Cd-109	1.4 +/- 1.1	1.7	pCi/g	U
Ce-139	-0.011 +/- 0.051	0.094	pCi/g	U
Ce-144	-0.08 +/- 0.41	0.73	pCi/g	U
Co-56	0.02 +/- 0.17	0.32	pCi/g	U
Co-57	-0.002 +/- 0.047	0.084	pCi/g	U
Co-58	-0.017 +/- 0.084	0.16	pCi/g	U
Co-60	0.000 +/- 0.096	0.19	pCi/g	U
Cr-51	-0.21 +/- 0.83	1.5	pCi/g	U
Cs-134	0.006 +/- 0.075	0.14	pCi/g	U
Cs-137	0.15 +/- 0.10	0.14	pCi/g	TI
Eu-152	-0.05 +/- 0.34	0.72	pCi/g	U
Eu-154	-0.18 +/- 0.48	0.96	pCi/g	U
Eu-155	0.35 +/- 0.21	0.31	pCi/g	TI
Fe-59	-0.11 +/- 0.15	0.34	pCi/g	U
I-131	0.12 +/- 0.19	0.31	pCi/g	U
K-40	19.3 +/- 4.3	1.4	pCi/g	
Mn-54	-0.037 +/- 0.073	0.15	pCi/g	U
Na-22	-0.077 +/- 0.087	0.19	pCi/g	U
Nb-94	-0.013 +/- 0.077	0.15	pCi/g	U

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 09:54:19

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: H-11

Lab ID: 0306172-7

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02132

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030958D08A

Final Aliquot: 291.8 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.05 +/- 0.10	0.20	pCi/g	U
Pa-234m	-3 +/- 14	28	pCi/g	U
Pb-212	1.53 +/- 0.35	0.26	pCi/g	
Pb-214	0.62 +/- 0.21	0.27	pCi/g	
Ru-106	0.29 +/- 0.58	1.0	pCi/g	U
Sb-124	0.000 +/- 0.083	0.15	pCi/g	U
Sb-125	0.17 +/- 0.19	0.30	pCi/g	U
Sc-46	0.07 +/- 0.10	0.17	pCi/g	U
Th-227	-0.26 +/- 0.40	0.75	pCi/g	U
Th-234	1.7 +/- 1.3	2.1	pCi/g	U
Tl-208	0.39 +/- 0.14	0.16	pCi/g	
U-235	0.14 +/- 0.37	0.64	pCi/g	U
Zn-65	-0.15 +/- 0.23	0.46	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 09:54:15

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: A-10

Lab ID: 0306172-10

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02132

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030735D03A

Final Aliquot: 300.3 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.36 +/- 0.43	0.67	pCi/g	
Ag-110m	-0.02 +/- 0.12	0.21	pCi/g	U
Al-26	-0.04 +/- 0.11	0.22	pCi/g	U
Am-241	-0.10 +/- 0.47	0.86	pCi/g	U
Be-7	0.25 +/- 0.69	1.2	pCi/g	U
Bi-212	2.1 +/- 1.5	2.1	pCi/g	TI
Bi-214	0.43 +/- 0.22	0.29	pCi/g	
Cd-109	0.4 +/- 2.5	4.2	pCi/g	U
Ce-139	0.023 +/- 0.055	0.094	pCi/g	U
Ce-144	0.25 +/- 0.40	0.67	pCi/g	U
Co-56	0.03 +/- 0.17	0.31	pCi/g	U
Co-57	-0.008 +/- 0.053	0.096	pCi/g	U
Co-58	-0.061 +/- 0.082	0.17	pCi/g	U
Co-60	-0.060 +/- 0.095	0.20	pCi/g	U
Cr-51	0.20 +/- 0.72	1.3	pCi/g	U
Cs-134	0.009 +/- 0.089	0.16	pCi/g	U
Cs-137	0.32 +/- 0.13	0.14	pCi/g	
Eu-152	0.39 +/- 0.47	0.75	pCi/g	U
Eu-154	-0.03 +/- 0.44	0.86	pCi/g	U
Eu-155	0.16 +/- 0.24	0.40	pCi/g	U
Fe-59	0.24 +/- 0.20	0.29	pCi/g	U
I-131	0.04 +/- 0.22	0.39	pCi/g	U
K-40	15.4 +/- 3.6	1.9	pCi/g	
Mn-54	0.063 +/- 0.086	0.14	pCi/g	U
Na-22	0.071 +/- 0.088	0.14	pCi/g	U
Nb-94	-0.030 +/- 0.080	0.15	pCi/g	U

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 09:54:15

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: A-10

Lab ID: 0306172-10

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02132

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030735D03A

Final Aliquot: 300.3 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.015 +/- 0.081	0.16	pCi/g	U
Pa-234m	5 +/- 13	24	pCi/g	U
Pb-212	1.33 +/- 0.32	0.28	pCi/g	
Pb-214	0.54 +/- 0.20	0.26	pCi/g	
Ru-106	-0.28 +/- 0.63	1.3	pCi/g	U
Sb-124	-0.04 +/- 0.10	0.20	pCi/g	U
Sb-125	-0.16 +/- 0.21	0.42	pCi/g	U
Sc-46	-0.054 +/- 0.092	0.19	pCi/g	U
Th-227	0.01 +/- 0.65	1.1	pCi/g	U
Th-234	1.3 +/- 1.6	2.6	pCi/g	U
Tl-208	0.42 +/- 0.15	0.15	pCi/g	
U-235	0.25 +/- 0.41	0.68	pCi/g	U
Zn-65	0.02 +/- 0.21	0.39	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 09:54:20

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: C-10

Lab ID: 0306172-11

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02133

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 031030D01B

Final Aliquot: 53.70 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	0.48 +/- 0.59	0.96	pCi/g	U
Ag-110m	-0.14 +/- 0.23	0.41	pCi/g	U
Al-26	-0.18 +/- 0.19	0.38	pCi/g	U
Am-241	-0.06 +/- 0.42	0.76	pCi/g	U
Be-7	0.51 +/- 1.00	1.7	pCi/g	U
Bi-212	1.3 +/- 1.9	3.1	pCi/g	U
Bi-214	0.32 +/- 0.33	0.53	pCi/g	U
Cd-109	-1.7 +/- 3.0	5.4	pCi/g	U
Ce-139	-0.047 +/- 0.074	0.14	pCi/g	U
Ce-144	0.03 +/- 0.47	0.82	pCi/g	U
Co-56	0.05 +/- 0.29	0.51	pCi/g	U
Co-57	0.006 +/- 0.065	0.11	pCi/g	U
Co-58	0.00 +/- 0.15	0.27	pCi/g	U
Co-60	0.37 +/- 0.24	0.36	pCi/g	
Cr-51	0.69 +/- 1.00	1.6	pCi/g	U
Cs-134	0.04 +/- 0.20	0.34	pCi/g	U
Cs-137	0.63 +/- 0.23	0.27	pCi/g	
Eu-152	-0.13 +/- 0.74	1.4	pCi/g	U
Eu-154	-0.45 +/- 0.84	1.6	pCi/g	U
Eu-155	0.12 +/- 0.31	0.53	pCi/g	U
Fe-59	-0.10 +/- 0.34	0.63	pCi/g	U
I-131	-0.05 +/- 0.27	0.50	pCi/g	U
K-40	12.7 +/- 3.9	4.2	pCi/g	
Mn-54	0.02 +/- 0.16	0.28	pCi/g	U
Na-22	0.05 +/- 0.18	0.31	pCi/g	U
Nb-94	-0.11 +/- 0.14	0.27	pCi/g	U

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 09:54:21

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: C-10

Lab ID: 0306172-11

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02133

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 031030D01B

Final Aliquot: 53.70 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.00 +/- 0.14	0.26	pCi/g	U
Pa-234m	11 +/- 26	44	pCi/g	U
Pb-212	0.64 +/- 0.25	0.34	pCi/g	
Pb-214	0.17 +/- 0.23	0.37	pCi/g	U
Ru-106	-1.5 +/- 1.4	2.6	pCi/g	U
Sb-124	0.07 +/- 0.16	0.27	pCi/g	U
Sb-125	0.43 +/- 0.29	0.43	pCi/g	TI
Sc-46	-0.02 +/- 0.15	0.27	pCi/g	U
Th-227	-0.92 +/- 0.99	1.8	pCi/g	U
Th-234	2.0 +/- 1.9	3.0	pCi/g	U
Tl-208	0.11 +/- 0.12	0.19	pCi/g	U
U-235	-0.03 +/- 0.53	0.93	pCi/g	U
Zn-65	-0.30 +/- 0.38	0.72	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Monday, July 14, 2003 09:54:21

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: C-10

Lab ID: 0306172-11-D1

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02133

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030927D02A

Final Aliquot: 44.40
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	0.57 +/- 0.79	1.3	pCi/g	U
Ag-110m	-0.04 +/- 0.13	0.29	pCi/g	U
Al-26	-0.04 +/- 0.14	0.37	pCi/g	U
Am-241	0.6 +/- 1.1	1.9	pCi/g	U
Be-7	1.4 +/- 1.6	2.6	pCi/g	U
Bi-212	0.5 +/- 2.0	3.8	pCi/g	U
Bi-214	0.25 +/- 0.46	0.78	pCi/g	U
Cd-109	1.3 +/- 4.1	7.1	pCi/g	U
Ce-139	0.055 +/- 0.081	0.14	pCi/g	U
Ce-144	0.20 +/- 0.64	1.1	pCi/g	U
Co-56	0.03 +/- 0.26	0.53	pCi/g	U
Co-57	-0.016 +/- 0.076	0.15	pCi/g	U
Co-58	-0.07 +/- 0.19	0.40	pCi/g	U
Co-60	0.28 +/- 0.29	0.44	pCi/g	U
Cr-51	-0.1 +/- 1.4	2.7	pCi/g	U
Cs-134	0.08 +/- 0.18	0.32	pCi/g	U
Cs-137	0.61 +/- 0.26	0.23	pCi/g	
Eu-152	-0.23 +/- 0.79	1.8	pCi/g	U
Eu-154	1.03 +/- 0.98	1.4	pCi/g	U
Eu-155	0.13 +/- 0.41	0.72	pCi/g	U
Fe-59	-0.05 +/- 0.39	0.82	pCi/g	U
I-131	-0.20 +/- 0.50	0.98	pCi/g	U
K-40	8.6 +/- 4.0	4.0	pCi/g	
Mn-54	-0.04 +/- 0.15	0.31	pCi/g	U
Na-22	0.08 +/- 0.18	0.32	pCi/g	U
Nb-94	-0.12 +/- 0.15	0.34	pCi/g	U
Nb-95	0.11 +/- 0.19	0.33	pCi/g	U

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Monday, July 14, 2003 09:54:21

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306172

Field ID: C-10
Lab ID: 0306172-11-D1

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02133

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030927D02A

Final Aliquot: 44.40
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Pa-234m	-16 +/- 27	62	pCi/g	U
Pb-212	0.81 +/- 0.38	0.48	pCi/g	
Pb-214	0.28 +/- 0.29	0.62	pCi/g	U
Ru-106	1.5 +/- 1.4	2.1	pCi/g	U
Sb-124	-0.11 +/- 0.19	0.40	pCi/g	U
Sb-125	0.42 +/- 0.40	0.59	pCi/g	U
Sc-46	0.05 +/- 0.19	0.36	pCi/g	U
Th-227	0.0 +/- 1.0	1.8	pCi/g	U
Th-234	0.2 +/- 2.5	4.4	pCi/g	U
Tl-208	0.25 +/- 0.19	0.26	pCi/g	U
U-235	-0.04 +/- 0.63	1.2	pCi/g	U
Zn-65	-0.05 +/- 0.34	0.73	pCi/g	U

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Monday, July 14, 2003 09:54:21

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: C-10

Lab ID: 0306172-11-D1

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02133

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030927D02A

Final Aliquot: 44.40
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier

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.

* - Duplicate DER not within control limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 09:54:15

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306172

Field ID: C-10-D
Lab ID: 0306172-12

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02132

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030871D07A

Final Aliquot: 367.0 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.62 +/- 0.45	0.47	pCi/g	
Ag-110m	0.024 +/- 0.067	0.12	pCi/g	U
Al-26	0.013 +/- 0.027	0.036	pCi/g	U
Am-241	0.00 +/- 0.12	0.21	pCi/g	U
Be-7	0.22 +/- 0.49	0.85	pCi/g	U
Bi-212	1.3 +/- 1.2	1.8	pCi/g	U
Bi-214	0.47 +/- 0.21	0.26	pCi/g	
Cd-109	2.7 +/- 1.4	2.0	pCi/g	SI
Ce-139	0.046 +/- 0.043	0.066	pCi/g	U
Ce-144	-0.21 +/- 0.31	0.58	pCi/g	U
Co-56	0.00 +/- 0.20	0.37	pCi/g	U
Co-57	0.023 +/- 0.039	0.066	pCi/g	U
Co-58	-0.033 +/- 0.071	0.15	pCi/g	U
Co-60	0.041 +/- 0.087	0.15	pCi/g	U
Cr-51	0.13 +/- 0.52	0.93	pCi/g	U
Cs-134	-0.053 +/- 0.071	0.14	pCi/g	U
Cs-137	0.000 +/- 0.080	0.15	pCi/g	U
Eu-152	0.00 +/- 0.35	0.71	pCi/g	U
Eu-154	0.13 +/- 0.46	0.83	pCi/g	U
Eu-155	0.23 +/- 0.18	0.28	pCi/g	U
Fe-59	-0.17 +/- 0.19	0.41	pCi/g	U
I-131	0.15 +/- 0.20	0.32	pCi/g	U
K-40	15.7 +/- 3.7	1.5	pCi/g	
Mn-54	0.015 +/- 0.060	0.11	pCi/g	U
Na-22	-0.019 +/- 0.090	0.18	pCi/g	U
Nb-94	0.012 +/- 0.061	0.11	pCi/g	U

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 09:54:15

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: C-10-D

Lab ID: 0306172-12

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02132

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030871D07A

Final Aliquot: 367.0 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.020 +/- 0.081	0.16	pCi/g	U
Pa-234m	-1 +/- 13	25	pCi/g	U
Pb-212	1.37 +/- 0.31	0.20	pCi/g	
Pb-214	0.58 +/- 0.18	0.21	pCi/g	
Ru-106	-0.38 +/- 0.53	1.1	pCi/g	U
Sb-124	-0.012 +/- 0.081	0.15	pCi/g	U
Sb-125	-0.06 +/- 0.19	0.36	pCi/g	U
Sc-46	-0.029 +/- 0.072	0.15	pCi/g	U
Th-227	0.31 +/- 0.32	0.50	pCi/g	U
Th-234	1.4 +/- 1.1	1.6	pCi/g	U
Tl-208	0.37 +/- 0.13	0.12	pCi/g	
U-235	-0.04 +/- 0.31	0.56	pCi/g	U
Zn-65	-0.18 +/- 0.21	0.44	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Monday, July 14, 2003 09:54:15

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: C-10-D

Lab ID: 0306172-12-D1

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02132

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 031034D01A

Final Aliquot: 367.0
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.35 +/- 0.32	0.40	pCi/g	
Ag-110m	-0.001 +/- 0.045	0.080	pCi/g	U
Al-26	-0.021 +/- 0.042	0.084	pCi/g	U
Am-241	-0.05 +/- 0.25	0.44	pCi/g	U
Be-7	-0.18 +/- 0.40	0.72	pCi/g	U
Bi-212	1.21 +/- 0.87	1.3	pCi/g	U
Bi-214	0.57 +/- 0.18	0.22	pCi/g	
Cd-109	1.2 +/- 1.5	2.4	pCi/g	U
Ce-139	-0.044 +/- 0.042	0.076	pCi/g	U
Ce-144	0.00 +/- 0.26	0.45	pCi/g	U
Co-56	0.18 +/- 0.12	0.17	pCi/g	TI
Co-57	-0.016 +/- 0.034	0.060	pCi/g	U
Co-58	0.005 +/- 0.053	0.092	pCi/g	U
Co-60	-0.017 +/- 0.054	0.100	pCi/g	U
Cr-51	0.03 +/- 0.44	0.76	pCi/g	U
Cs-134	0.027 +/- 0.078	0.13	pCi/g	U
Cs-137	-0.013 +/- 0.050	0.090	pCi/g	U
Eu-152	0.22 +/- 0.27	0.45	pCi/g	U
Eu-154	0.10 +/- 0.26	0.44	pCi/g	U
Eu-155	0.13 +/- 0.17	0.28	pCi/g	U
Fe-59	-0.01 +/- 0.11	0.20	pCi/g	U
I-131	0.03 +/- 0.14	0.24	pCi/g	U
K-40	17.8 +/- 3.3	1.2	pCi/g	
Mn-54	0.027 +/- 0.055	0.092	pCi/g	U
Na-22	0.003 +/- 0.060	0.11	pCi/g	U
Nb-94	0.001 +/- 0.048	0.084	pCi/g	U
Nb-95	-0.021 +/- 0.061	0.11	pCi/g	U

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Monday, July 14, 2003 09:54:15

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: C-10-D

Lab ID: 0306172-12-D1

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02132

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 031034D01A

Final Aliquot: 367.0
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Pa-234m	-1.6 +/- 8.3	15	pCi/g	U
Pb-212	1.50 +/- 0.29	0.15	pCi/g	
Pb-214	0.69 +/- 0.16	0.17	pCi/g	
Ru-106	0.13 +/- 0.48	0.83	pCi/g	U
Sb-124	0.048 +/- 0.085	0.14	pCi/g	U
Sb-125	0.04 +/- 0.11	0.23	pCi/g	U
Sc-46	-0.025 +/- 0.053	0.098	pCi/g	U
Th-227	0.1 +/- 7.7	13	pCi/g	U
Th-234	0.81 +/- 0.89	1.6	pCi/g	U
Tl-208	0.50 +/- 0.12	0.10	pCi/g	
U-235	-0.12 +/- 0.29	0.51	pCi/g	U
Zn-65	-0.11 +/- 0.15	0.27	pCi/g	U

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Monday, July 14, 2003 09:54:15

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: C-10-D

Lab ID: 0306172-12-D1

Sample Matrix: Soil

Date Prepared: 08-Jul-03

Prep SOP: PAI 739R6

Prep Batch: GS02132

Date Collected: 25-Jun-03

Date Analyzed: 09-Jul-03

Analytical SOP: PAI 713R8

Spectrum Code: 031034D01A

Final Aliquot: 367.0

Aliquot Units: g

Report Basis: Dry Weight

Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier

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.

* - Duplicate DER not within control limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 09:54:21

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: E-10

Lab ID: 0306172-13

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02133

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030956D08A

Final Aliquot: 44.30 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.02 +/- 0.97	1.4	pCi/g	U
Ag-110m	0.05 +/- 0.26	0.46	pCi/g	U
Al-26	0.09 +/- 0.20	0.38	pCi/g	U
Am-241	0.10 +/- 0.22	0.37	pCi/g	U
Be-7	1.7 +/- 1.8	2.8	pCi/g	U
Bi-212	1.2 +/- 3.0	5.3	pCi/g	U
Bi-214	0.34 +/- 0.44	0.72	pCi/g	U
Cd-109	0.4 +/- 2.1	3.8	pCi/g	U
Ce-139	-0.08 +/- 0.11	0.22	pCi/g	U
Ce-144	0.19 +/- 0.61	1.1	pCi/g	U
Co-56	-0.13 +/- 0.39	0.85	pCi/g	U
Co-57	0.032 +/- 0.085	0.15	pCi/g	U
Co-58	0.04 +/- 0.18	0.35	pCi/g	U
Co-60	0.25 +/- 0.22	0.27	pCi/g	U
Cr-51	-0.1 +/- 2.1	3.9	pCi/g	U
Cs-134	0.00 +/- 0.17	0.32	pCi/g	U
Cs-137	1.20 +/- 0.43	0.37	pCi/g	
Eu-152	0.0 +/- 1.0	2.2	pCi/g	U
Eu-154	-0.47 +/- 0.94	2.2	pCi/g	U
Eu-155	0.07 +/- 0.31	0.55	pCi/g	U
Fe-59	-0.11 +/- 0.47	0.99	pCi/g	U
I-131	-0.09 +/- 0.57	1.1	pCi/g	U
K-40	4.0 +/- 3.5	5.2	pCi/g	U
Mn-54	-0.02 +/- 0.21	0.42	pCi/g	U
Na-22	0.22 +/- 0.26	0.40	pCi/g	U
Nb-94	-0.09 +/- 0.21	0.42	pCi/g	U

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 09:54:21

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: E-10

Lab ID: 0306172-13

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02133

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030956D08A

Final Aliquot: 44.30 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.00 +/- 0.24	0.46	pCi/g	U
Pa-234m	14 +/- 25	44	pCi/g	U
Pb-212	0.47 +/- 0.34	0.50	pCi/g	U
Pb-214	0.42 +/- 0.45	0.72	pCi/g	U
Ru-106	0.2 +/- 2.1	3.8	pCi/g	U
Sb-124	0.09 +/- 0.19	0.34	pCi/g	U
Sb-125	-0.10 +/- 0.40	0.82	pCi/g	U
Sc-46	-0.06 +/- 0.20	0.42	pCi/g	U
Th-227	0.20 +/- 0.80	1.4	pCi/g	U
Th-234	-0.8 +/- 1.7	3.1	pCi/g	U
Tl-208	0.05 +/- 0.22	0.41	pCi/g	U
U-235	-0.22 +/- 0.67	1.3	pCi/g	U
Zn-65	-0.06 +/- 0.56	1.1	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 09:54:15

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: E-10-D

Lab ID: 0306172-14

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02132

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030959D08A

Final Aliquot: 251.0 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.22 +/- 0.47	0.63	pCi/g	
Ag-110m	0.057 +/- 0.084	0.14	pCi/g	U
Al-26	0.030 +/- 0.043	0.041	pCi/g	U
Am-241	0.05 +/- 0.15	0.25	pCi/g	U
Be-7	0.18 +/- 0.70	1.3	pCi/g	U
Bi-212	1.9 +/- 1.6	2.4	pCi/g	U
Bi-214	0.30 +/- 0.20	0.27	pCi/g	
Cd-109	1.3 +/- 1.5	2.5	pCi/g	U
Ce-139	0.000 +/- 0.059	0.11	pCi/g	U
Ce-144	0.10 +/- 0.40	0.70	pCi/g	U
Co-56	0.08 +/- 0.20	0.36	pCi/g	U
Co-57	0.000 +/- 0.053	0.094	pCi/g	U
Co-58	-0.081 +/- 0.096	0.20	pCi/g	U
Co-60	-0.012 +/- 0.098	0.20	pCi/g	U
Cr-51	-0.44 +/- 0.81	1.6	pCi/g	U
Cs-134	-0.013 +/- 0.069	0.13	pCi/g	U
Cs-137	0.35 +/- 0.14	0.15	pCi/g	
Eu-152	0.00 +/- 0.41	0.83	pCi/g	U
Eu-154	-0.31 +/- 0.45	0.99	pCi/g	U
Eu-155	-0.05 +/- 0.19	0.34	pCi/g	U
Fe-59	-0.02 +/- 0.22	0.43	pCi/g	U
I-131	0.00 +/- 0.22	0.41	pCi/g	U
K-40	15.3 +/- 3.7	1.5	pCi/g	
Mn-54	0.013 +/- 0.087	0.16	pCi/g	U
Na-22	0.01 +/- 0.10	0.20	pCi/g	U
Nb-94	0.043 +/- 0.096	0.17	pCi/g	U

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 09:54:16

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: E-10-D

Lab ID: 0306172-14

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02132

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030959D08A

Final Aliquot: 251.0 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.03 +/- 0.10	0.20	pCi/g	U
Pa-234m	8 +/- 14	24	pCi/g	U
Pb-212	0.93 +/- 0.26	0.22	pCi/g	
Pb-214	0.46 +/- 0.19	0.35	pCi/g	
Ru-106	-0.40 +/- 0.74	1.5	pCi/g	U
Sb-124	0.000 +/- 0.084	0.16	pCi/g	U
Sb-125	-0.02 +/- 0.18	0.34	pCi/g	U
Sc-46	-0.02 +/- 0.11	0.20	pCi/g	U
Th-227	-0.12 +/- 0.40	0.74	pCi/g	U
Th-234	1.70 +/- 0.99	1.8	pCi/g	U
Tl-208	0.47 +/- 0.16	0.14	pCi/g	
U-235	-0.24 +/- 0.42	0.78	pCi/g	U
Zn-65	-0.07 +/- 0.24	0.47	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 09:54:16

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: G-10

Lab ID: 0306172-15

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02132

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030877D10A

Final Aliquot: 370.4 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.11 +/- 0.28	0.37	pCi/g	
Ag-110m	0.001 +/- 0.045	0.080	pCi/g	U
Al-26	-0.033 +/- 0.060	0.11	pCi/g	U
Am-241	-0.12 +/- 0.20	0.36	pCi/g	U
Be-7	-0.05 +/- 0.39	0.70	pCi/g	U
Bi-212	1.16 +/- 0.85	1.3	pCi/g	U
Bi-214	0.47 +/- 0.17	0.24	pCi/g	
Cd-109	2.4 +/- 1.3	1.8	pCi/g	SI
Ce-139	0.001 +/- 0.040	0.068	pCi/g	U
Ce-144	-0.24 +/- 0.29	0.52	pCi/g	U
Co-56	0.07 +/- 0.12	0.21	pCi/g	U
Co-57	0.012 +/- 0.035	0.059	pCi/g	U
Co-58	0.002 +/- 0.056	0.099	pCi/g	U
Co-60	0.019 +/- 0.056	0.097	pCi/g	U
Cr-51	-0.16 +/- 0.45	0.80	pCi/g	U
Cs-134	0.18 +/- 0.41	0.67	pCi/g	U
Cs-137	-0.024 +/- 0.049	0.089	pCi/g	U
Eu-152	0.22 +/- 0.29	0.47	pCi/g	U
Eu-154	-0.13 +/- 0.29	0.54	pCi/g	U
Eu-155	0.03 +/- 0.14	0.24	pCi/g	U
Fe-59	0.00 +/- 0.13	0.23	pCi/g	U
I-131	-0.11 +/- 0.13	0.24	pCi/g	U
K-40	20.4 +/- 3.8	1.4	pCi/g	
Mn-54	-0.023 +/- 0.052	0.095	pCi/g	U
Na-22	0.023 +/- 0.065	0.11	pCi/g	U
Nb-94	0.047 +/- 0.049	0.078	pCi/g	U

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 09:54:16

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306172

Field ID: G-10
Lab ID: 0306172-15

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02132

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030877D10A

Final Aliquot: 370.4 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.005 +/- 0.063	0.11	pCi/g	U
Pa-234m	-1.0 +/- 8.8	16	pCi/g	U
Pb-212	1.34 +/- 0.26	0.16	pCi/g	
Pb-214	0.65 +/- 0.16	0.20	pCi/g	
Ru-106	0.03 +/- 0.44	0.76	pCi/g	U
Sb-124	-0.030 +/- 0.062	0.11	pCi/g	U
Sb-125	0.05 +/- 0.13	0.21	pCi/g	U
Sc-46	-0.011 +/- 0.051	0.092	pCi/g	U
Th-227	0.4 +/- 6.7	11	pCi/g	U
Th-234	1.6 +/- 1.1	1.7	pCi/g	U
Tl-208	0.40 +/- 0.10	0.10	pCi/g	
U-235	-0.10 +/- 0.27	0.47	pCi/g	U
Zn-65	0.18 +/- 0.21	0.34	pCi/g	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.
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.

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

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 09:54:22

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: G-10-D

Lab ID: 0306172-16

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02133

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030874D10A

Final Aliquot: 63.90 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	0.79 +/- 0.72	1.1	pCi/g	U
Ag-110m	-0.12 +/- 0.19	0.35	pCi/g	U
Al-26	-0.12 +/- 0.19	0.37	pCi/g	U
Am-241	-0.22 +/- 0.28	0.51	pCi/g	U
Be-7	0.2 +/- 1.0	1.8	pCi/g	U
Bi-212	1.6 +/- 1.9	3.1	pCi/g	U
Bi-214	-0.29 +/- 0.28	0.52	pCi/g	U
Cd-109	1.4 +/- 2.1	3.4	pCi/g	U
Ce-139	-0.036 +/- 0.066	0.12	pCi/g	U
Ce-144	0.18 +/- 0.48	0.81	pCi/g	U
Co-56	-0.04 +/- 0.30	0.54	pCi/g	U
Co-57	-0.035 +/- 0.060	0.11	pCi/g	U
Co-58	-0.06 +/- 0.14	0.25	pCi/g	U
Co-60	0.60 +/- 0.20	0.34	pCi/g	
Cr-51	-0.40 +/- 0.88	1.6	pCi/g	U
Cs-134	-0.01 +/- 0.12	0.22	pCi/g	U
Cs-137	0.73 +/- 0.23	0.27	pCi/g	
Eu-152	0.23 +/- 0.85	1.5	pCi/g	U
Eu-154	0.54 +/- 0.76	1.3	pCi/g	U
Eu-155	0.12 +/- 0.22	0.37	pCi/g	U
Fe-59	0.23 +/- 0.33	0.54	pCi/g	U
I-131	0.19 +/- 0.26	0.43	pCi/g	U
K-40	14.1 +/- 3.7	3.2	pCi/g	
Mn-54	0.03 +/- 0.13	0.23	pCi/g	U
Na-22	0.05 +/- 0.14	0.25	pCi/g	U
Nb-94	0.08 +/- 0.12	0.19	pCi/g	U

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 09:54:22

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: G-10-D

Lab ID: 0306172-16

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02133

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030874D10A

Final Aliquot: 63.90 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.02 +/- 0.14	0.25	pCi/g	U
Pa-234m	3 +/- 23	41	pCi/g	U
Pb-212	1.01 +/- 0.28	0.28	pCi/g	
Pb-214	0.36 +/- 0.29	0.46	pCi/g	U
Ru-106	-0.3 +/- 1.2	2.2	pCi/g	U
Sb-124	-0.15 +/- 0.17	0.30	pCi/g	U
Sb-125	0.32 +/- 0.25	0.37	pCi/g	U
Sc-46	-0.03 +/- 0.14	0.25	pCi/g	U
Th-227	-1.10 +/- 0.88	1.6	pCi/g	U
Th-234	0.8 +/- 1.4	2.3	pCi/g	U
Tl-208	0.22 +/- 0.14	0.20	pCi/g	
U-235	-0.39 +/- 0.47	0.87	pCi/g	U
Zn-65	-0.17 +/- 0.39	0.71	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 09:54:17

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: B-13

Lab ID: 0306172-19

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02132

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030960D08A

Final Aliquot: 316.7 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.40 +/- 0.44	0.63	pCi/g	
Ag-110m	0.056 +/- 0.073	0.12	pCi/g	U
Al-26	0.022 +/- 0.051	0.096	pCi/g	U
Am-241	0.05 +/- 0.12	0.20	pCi/g	U
Be-7	-0.23 +/- 0.71	1.3	pCi/g	U
Bi-212	1.7 +/- 1.2	1.5	pCi/g	TI
Bi-214	0.54 +/- 0.21	0.22	pCi/g	
Cd-109	1.2 +/- 1.2	1.9	pCi/g	U
Ce-139	-0.024 +/- 0.056	0.10	pCi/g	U
Ce-144	-0.27 +/- 0.35	0.66	pCi/g	U
Co-56	0.16 +/- 0.16	0.25	pCi/g	U
Co-57	0.021 +/- 0.046	0.079	pCi/g	U
Co-58	0.002 +/- 0.069	0.13	pCi/g	U
Co-60	0.32 +/- 0.14	0.14	pCi/g	
Cr-51	0.48 +/- 0.54	0.86	pCi/g	U
Cs-134	-0.026 +/- 0.074	0.14	pCi/g	U
Cs-137	0.45 +/- 0.15	0.14	pCi/g	
Eu-152	-0.05 +/- 0.31	0.66	pCi/g	U
Eu-154	0.08 +/- 0.39	0.72	pCi/g	U
Eu-155	-0.03 +/- 0.17	0.31	pCi/g	U
Fe-59	-0.04 +/- 0.18	0.35	pCi/g	U
I-131	-0.06 +/- 0.19	0.36	pCi/g	U
K-40	11.7 +/- 2.9	1.5	pCi/g	
Mn-54	0.069 +/- 0.079	0.12	pCi/g	U
Na-22	0.071 +/- 0.090	0.14	pCi/g	U
Nb-94	-0.006 +/- 0.087	0.16	pCi/g	U

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 09:54:17

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: B-13

Lab ID: 0306172-19

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02132

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030960D08A

Final Aliquot: 316.7 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.010 +/- 0.093	0.17	pCi/g	U
Pa-234m	-1 +/- 12	23	pCi/g	U
Pb-212	1.27 +/- 0.29	0.18	pCi/g	
Pb-214	0.45 +/- 0.17	0.24	pCi/g	
Ru-106	-0.05 +/- 0.65	1.2	pCi/g	U
Sb-124	0.000 +/- 0.080	0.15	pCi/g	U
Sb-125	0.01 +/- 0.14	0.29	pCi/g	U
Sc-46	0.076 +/- 0.081	0.13	pCi/g	U
Th-227	-0.51 +/- 0.38	0.74	pCi/g	U
Th-234	0.4 +/- 1.2	2.0	pCi/g	U
Tl-208	0.31 +/- 0.12	0.12	pCi/g	
U-235	0.26 +/- 0.36	0.59	pCi/g	U
Zn-65	0.04 +/- 0.22	0.40	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 09:54:22

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: C-12

Lab ID: 0306172-20

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02133

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 031031D01A

Final Aliquot: 42.50 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	-0.07 +/- 0.76	1.4	pCi/g	U
Ag-110m	-0.23 +/- 0.27	0.51	pCi/g	U
Al-26	-0.08 +/- 0.21	0.41	pCi/g	U
Am-241	0.38 +/- 0.58	0.95	pCi/g	U
Be-7	1.5 +/- 1.5	2.4	pCi/g	U
Bi-212	0.5 +/- 2.3	4.1	pCi/g	U
Bi-214	0.26 +/- 0.41	0.68	pCi/g	U
Cd-109	2.5 +/- 3.2	5.2	pCi/g	U
Ce-139	-0.020 +/- 0.091	0.16	pCi/g	U
Ce-144	0.17 +/- 0.55	0.95	pCi/g	U
Co-56	-0.05 +/- 0.40	0.72	pCi/g	U
Co-57	0.062 +/- 0.084	0.14	pCi/g	U
Co-58	-0.15 +/- 0.15	0.31	pCi/g	U
Co-60	-0.05 +/- 0.19	0.37	pCi/g	U
Cr-51	-1.6 +/- 1.2	2.3	pCi/g	U
Cs-134	-0.16 +/- 0.20	0.36	pCi/g	U
Cs-137	1.05 +/- 0.31	0.29	pCi/g	
Eu-152	0.30 +/- 0.64	1.1	pCi/g	U
Eu-154	-0.18 +/- 0.95	1.8	pCi/g	U
Eu-155	0.10 +/- 0.37	0.64	pCi/g	U
Fe-59	0.20 +/- 0.33	0.56	pCi/g	U
I-131	0.29 +/- 0.37	0.60	pCi/g	U
K-40	5.2 +/- 3.5	5.2	pCi/g	
Mn-54	0.03 +/- 0.19	0.33	pCi/g	U
Na-22	0.06 +/- 0.22	0.38	pCi/g	U
Nb-94	-0.11 +/- 0.16	0.31	pCi/g	U

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 09:54:22

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: C-12

Lab ID: 0306172-20

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02133

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 031031D01A

Final Aliquot: 42.50 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.04 +/- 0.20	0.36	pCi/g	U
Pa-234m	2 +/- 30	53	pCi/g	U
Pb-212	0.34 +/- 0.25	0.38	pCi/g	U
Pb-214	0.18 +/- 0.32	0.53	pCi/g	U
Ru-106	0.7 +/- 1.5	2.5	pCi/g	U
Sb-124	-0.14 +/- 0.22	0.40	pCi/g	U
Sb-125	-0.25 +/- 0.37	0.69	pCi/g	U
Sc-46	-0.02 +/- 0.18	0.33	pCi/g	U
Th-227	-0.9 +/- 1.1	2.0	pCi/g	U
Th-234	-0.4 +/- 2.2	3.9	pCi/g	U
Tl-208	0.16 +/- 0.18	0.28	pCi/g	U
U-235	-0.13 +/- 0.62	1.1	pCi/g	U
Zn-65	0.17 +/- 0.44	0.76	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306172-1*

Survey Unit #2

Paragon Analytics, Inc.

Radiochemistry Case Narrative
Gamma Spectroscopy

New World Technology
Bethesda / GA00419

Paragon Work Order 0306174

1. This report consists of analysis results for twenty soil samples received by Paragon on 6/27/03. The analysis results for these samples are reported on a 'dry weight' basis in units of pCi/gram.
2. These samples were prepared according to Paragon Analytics, Inc. procedure PAI SOP739R6.
3. The samples were analyzed for the presence of gamma emitting radionuclides according to Paragon Analytics, Inc. procedure PAI SOP713R8. The analyses were completed on 7/14/03.
4. Sample volumes were insufficient to allow preparation of duplicates. Duplicate analyses of samples A-8 and D-7-D (PAI ID 0306174-1 and -12) were performed in lieu of preparation duplicates.
5. Activity concentrations above the calculated MDC are reported in some instances where minimum nuclide identification criteria are not met. Such tentative identifications result when the software attempts to calculate net activity concentrations for analytes where either one or both of the following criteria are not satisfied: the 'diagnostic' peak for a nuclide must be identified above critical level (generally the most abundant, interference-free photopeak), or the minimum library peak tolerance of 75% must be attained. These data have been flagged with a "TI" qualifier.
6. In cases where Cd-109 is identified at a level greater than the MDC, it is assigned an "SI" flag denoting spectral interference at the 88 keV line. This interference occurs with the K_β x-ray of Pb, which occurs at an energy of 87 keV.
7. Duplicate analysis results elevated above the DER limit of 2.13 have been flagged as "H" for high. For gamma spectroscopic analysis SOP 715R13 states that 75% of the nuclides must be within the 2-sigma control limit to meet DER or RPD requirements. Elevated DER may be attributable to sample non-homogeneity.
8. There are cases where the magnitude of the negative activity is greater than the 2-sigma TPU. The analyst's review of the data does not indicate a problem with the instrument data or the subsequent reporting systems. The data quality is believed to be unaffected and the results are submitted without qualification. Under typical conditions, where background level

sample data is normally distributed and analyzed by paired observations, this event is likely to occur at least 2.5% of the time.

9. No problems were encountered with either the client samples or the associated quality control samples. All quality control criteria were met.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, Paragon Analytics, Inc. certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Radiochemistry Instrument Technician — Date: 7-15-03

Radiochemistry Final Data Review — Date: 7-15-03

1

PARAGON ANALYTICS, INC.
Radiochemistry Data Package

Section 1

SAMPLE RESULTS SUMMARY

A summary report is not provided.

Please refer to the individual sample results data in Section 3.

2

PARAGON ANALYTICS, INC.

Radiochemistry Data Package

Section 2

QC RESULTS SUMMARY

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Monday, July 14, 2003 16:04:55

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306174

Field ID:
Lab ID: GS02138BLK1

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 10-Jul-03
Date Analyzed: 14-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 031045D01A

Final Aliquot: 339.0
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	-0.06 +/- 0.18	0.33	pCi/g	U
Ag-110m	0.013 +/- 0.038	0.066	pCi/g	U
Al-26	0.002 +/- 0.039	0.074	pCi/g	U
Am-241	-0.01 +/- 0.17	0.30	pCi/g	U
Be-7	0.00 +/- 0.30	0.54	pCi/g	U
Bi-212	-0.01 +/- 0.52	0.94	pCi/g	U
Bi-214	-0.03 +/- 0.10	0.18	pCi/g	U
Cd-109	-0.29 +/- 0.83	1.5	pCi/g	U
Ce-139	0.002 +/- 0.026	0.045	pCi/g	U
Ce-144	0.02 +/- 0.17	0.29	pCi/g	U
Co-56	0.011 +/- 0.064	0.11	pCi/g	U
Co-57	0.011 +/- 0.024	0.040	pCi/g	U
Co-58	-0.007 +/- 0.036	0.067	pCi/g	U
Co-60	0.014 +/- 0.039	0.069	pCi/g	U
Cr-51	-0.02 +/- 0.27	0.49	pCi/g	U
Cs-134	-0.014 +/- 0.044	0.079	pCi/g	U
Cs-137	-0.010 +/- 0.043	0.078	pCi/g	U
Eu-152	0.08 +/- 0.18	0.32	pCi/g	U
Eu-154	0.12 +/- 0.25	0.43	pCi/g	U
Eu-155	-0.02 +/- 0.11	0.20	pCi/g	U
Fe-59	0.055 +/- 0.069	0.11	pCi/g	U
I-131	-0.007 +/- 0.051	0.091	pCi/g	U
K-40	-0.51 +/- 0.58	1.1	pCi/g	U
Mn-54	0.021 +/- 0.040	0.067	pCi/g	U

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Monday, July 14, 2003 16:04:55

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306174

Field ID:
Lab ID: GS02138BLK1

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 10-Jul-03
Date Analyzed: 14-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 031045D01A

Final Aliquot: 339.0
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier
Na-22	-0.020 +/- 0.054	0.10	pCi/g	U
Nb-94	-0.001 +/- 0.042	0.075	pCi/g	U
Nb-95	0.012 +/- 0.036	0.063	pCi/g	U
Pa-234m	2.4 +/- 7.7	13	pCi/g	U
Pb-212	-0.053 +/- 0.066	0.12	pCi/g	U
Pb-214	0.049 +/- 0.089	0.15	pCi/g	U
Ru-106	0.12 +/- 0.42	0.73	pCi/g	U
Sb-124	-0.024 +/- 0.046	0.084	pCi/g	U
Sb-125	0.011 +/- 0.098	0.17	pCi/g	U
Sc-46	0.020 +/- 0.039	0.066	pCi/g	U
Th-227	-0.29 +/- 0.22	0.41	pCi/g	U
Th-234	0.15 +/- 0.59	1.0	pCi/g	U
Tl-208	0.018 +/- 0.044	0.075	pCi/g	U
U-235	0.10 +/- 0.19	0.32	pCi/g	U
Zn-65	0.001 +/- 0.093	0.17	pCi/g	U

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Monday, July 14, 2003 16:04:55

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID:

Lab ID: GS02138BLK1

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 10-Jul-03
Date Analyzed: 14-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 031045D01A

Final Aliquot: 339.0
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield in control at 100-110%. Quantitative yield is assumed.

Y2 - Chemical Yield outside default limits.

B3 - Analyte concentration greater than MDC but less than Requested MDC.

B - Analyte concentration greater than MDC.

SQ - Spectral iquality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

LCS Results

Reported on: Monday, July 14, 2003 16:04:55

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID:

Lab ID: GS02138LCS1

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 10-Jul-03
Date Analyzed: 11-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030978D08A

Final Aliquot: 500.0
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	LCS Results +/- 2s TPU	MDC	Spike Added	Reporting Units	LCS Recovery	Control Limits	Lab Qualifier
Am-241	209 +/- 35	1.3	196	pCi/g	107%	85-115%	P
Cd-109	860 +/- 140	7.2	790	pCi/g	109%	85-115%	P
Co-60	95 +/- 16	0.30	92.8	pCi/g	103%	85-115%	P
Cs-137	85 +/- 14	0.53	80.3	pCi/g	106%	85-115%	P

Comments:

Data Package ID: *GSS0306174-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
* - Duplicate DER not within control limits.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS Recovery within control limits.

Abbreviations:

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

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.

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Monday, July 14, 2003 16:04:49

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID:	A-8	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID:	0306174-1	7/10/03	7/11/03	GS02138	346.1
DUP ID:	0306174-1-D1	7/10/03	7/11/03	GS02138	346.1

Sample Matrix: Soil
Date Collected: 25-Jun-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Ac-228	1.31 +/- 0.36	1.36 +/- 0.31	pCi/g	0.1	< 1.42	
Ag-110m	0.029 +/- 0.076	-0.034 +/- 0.082	pCi/g	0.57	< 1.42	
Al-26	-0.022 +/- 0.048	0.007 +/- 0.055	pCi/g	0.39	< 1.42	
Am-241	-0.12 +/- 0.53	-0.16 +/- 0.24	pCi/g	0.06	< 1.42	
Be-7	-0.27 +/- 0.59	-0.15 +/- 0.43	pCi/g	0.17	< 1.42	
Bi-212	1.1 +/- 1.1	2.07 +/- 0.98	pCi/g	0.66	< 1.42	
Bi-214	0.54 +/- 0.21	0.63 +/- 0.18	pCi/g	0.32	< 1.42	
Cd-109	2.4 +/- 1.5	1.1 +/- 1.0	pCi/g	0.73	< 1.42	
Ce-139	-0.025 +/- 0.046	-0.001 +/- 0.041	pCi/g	0.38	< 1.42	
Ce-144	-0.01 +/- 0.34	-0.21 +/- 0.29	pCi/g	0.45	< 1.42	
Co-56	-0.10 +/- 0.15	0.18 +/- 0.12	pCi/g	1.39	< 1.42	
Co-57	0.041 +/- 0.042	-0.017 +/- 0.039	pCi/g	1.01	< 1.42	
Co-58	0.039 +/- 0.052	-0.019 +/- 0.052	pCi/g	0.77	< 1.42	
Co-60	0.017 +/- 0.064	0.038 +/- 0.060	pCi/g	0.24	< 1.42	
Cr-51	0.20 +/- 0.65	0.31 +/- 0.53	pCi/g	0.14	< 1.42	
Cs-134	-0.003 +/- 0.058	-0.023 +/- 0.074	pCi/g	0.22	< 1.42	
Cs-137	0.19 +/- 0.12	0.180 +/- 0.076	pCi/g	0.06	< 1.42	
Eu-152	0.20 +/- 0.26	0.05 +/- 0.25	pCi/g	0.4	< 1.42	
Eu-154	-0.10 +/- 0.34	-0.11 +/- 0.31	pCi/g	0.01	< 1.42	
Eu-155	0.20 +/- 0.21	0.01 +/- 0.18	pCi/g	0.7	< 1.42	
Fe-59	0.00 +/- 0.17	-0.01 +/- 0.13	pCi/g	0.04	< 1.42	
I-131	0.00 +/- 0.21	0.06 +/- 0.18	pCi/g	0.21	< 1.42	
K-40	19.6 +/- 4.1	19.7 +/- 3.6	pCi/g	0.02	< 1.42	
Mn-54	0.001 +/- 0.065	-0.005 +/- 0.056	pCi/g	0.07	< 1.42	
Na-22	0.017 +/- 0.059	0.000 +/- 0.060	pCi/g	0.21	< 1.42	
Nb-94	-0.009 +/- 0.055	-0.028 +/- 0.049	pCi/g	0.25	< 1.42	
Nb-95	-0.014 +/- 0.077	0.005 +/- 0.063	pCi/g	0.19	< 1.42	
Pa-234m	0 +/- 11	-2.8 +/- 8.9	pCi/g	0.2	< 1.42	

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Monday, July 14, 2003 16:04:49

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: A-8	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID: 0306174-1	7/10/03	7/11/03	GS02138	346.1
DUP ID: 0306174-1-D1	7/10/03	7/11/03	GS02138	346.1

Sample Matrix: Soil
Date Collected: 25-Jun-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Pb-212	1.50 +/- 0.33	1.54 +/- 0.30	pCi/g	0.09	< 1.42	
Pb-214	0.59 +/- 0.18	0.51 +/- 0.14	pCi/g	0.38	< 1.42	
Ru-106	-0.49 +/- 0.53	-0.41 +/- 0.51	pCi/g	0.11	< 1.42	
Sb-124	-0.036 +/- 0.067	-0.011 +/- 0.059	pCi/g	0.27	< 1.42	
Sb-125	-0.17 +/- 0.16	0.09 +/- 0.13	pCi/g	1.26	< 1.42	
Sc-46	-0.020 +/- 0.079	-0.020 +/- 0.053	pCi/g	0.01	< 1.42	
Th-227	0.24 +/- 0.35	-2.08 +/- 0.70	pCi/g	2.98	< 1.42	H
Th-234	0.5 +/- 1.2	1.4 +/- 1.0	pCi/g	0.61	< 1.42	
Tl-208	0.55 +/- 0.15	0.50 +/- 0.12	pCi/g	0.29	< 1.42	
U-235	-0.02 +/- 0.34	-0.22 +/- 0.28	pCi/g	0.45	< 1.42	
Zn-65	-0.17 +/- 0.15	-0.09 +/- 0.15	pCi/g	0.41	< 1.42	

Comments:

Qualifiers/Flags:

W - DER is greater than Warning Limit of 1.42

H - DER is Higher han Control Limit of 2.13

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

DER - Duplicate Error Ratio

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Monday, July 14, 2003 16:04:50

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID:	D-7-D	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID:	0306174-12	7/10/03	7/11/03	GS02138	380.4
DUP ID:	0306174-12-D1	7/10/03	7/11/03	GS02138	380.4

Sample Matrix: Soil
Date Collected: 25-Jun-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Ac-228	1.32 +/- 0.31	1.43 +/- 0.31	pCi/g	0.25	< 1.42	
Ag-110m	-0.051 +/- 0.055	-0.067 +/- 0.068	pCi/g	0.17	< 1.42	
Al-26	0.034 +/- 0.042	-0.008 +/- 0.040	pCi/g	0.72	< 1.42	
Am-241	-0.13 +/- 0.20	-0.06 +/- 0.24	pCi/g	0.25	< 1.42	
Be-7	-0.23 +/- 0.44	-0.10 +/- 0.42	pCi/g	0.22	< 1.42	
Bi-212	1.54 +/- 0.89	1.76 +/- 0.89	pCi/g	0.18	< 1.42	
Bi-214	0.45 +/- 0.17	0.55 +/- 0.16	pCi/g	0.44	< 1.42	
Cd-109	1.8 +/- 1.2	1.4 +/- 1.0	pCi/g	0.28	< 1.42	
Ce-139	-0.012 +/- 0.039	0.028 +/- 0.041	pCi/g	0.7	< 1.42	
Ce-144	-0.01 +/- 0.27	-0.09 +/- 0.26	pCi/g	0.2	< 1.42	
Co-56	0.06 +/- 0.12	0.14 +/- 0.13	pCi/g	0.45	< 1.42	
Co-57	-0.012 +/- 0.035	0.049 +/- 0.037	pCi/g	1.21	< 1.42	
Co-58	-0.070 +/- 0.058	-0.048 +/- 0.058	pCi/g	0.27	< 1.42	
Co-60	-0.035 +/- 0.056	0.015 +/- 0.051	pCi/g	0.65	< 1.42	
Cr-51	-0.07 +/- 0.46	-0.32 +/- 0.46	pCi/g	0.39	< 1.42	
Cs-134	0.15 +/- 0.61	0.11 +/- 0.46	pCi/g	0.05	< 1.42	
Cs-137	0.081 +/- 0.058	0.079 +/- 0.053	pCi/g	0.03	< 1.42	
Eu-152	-0.09 +/- 0.32	-0.02 +/- 0.25	pCi/g	0.18	< 1.42	
Eu-154	-0.13 +/- 0.31	0.05 +/- 0.30	pCi/g	0.42	< 1.42	
Eu-155	-0.03 +/- 0.14	0.11 +/- 0.16	pCi/g	0.65	< 1.42	
Fe-59	0.02 +/- 0.13	0.03 +/- 0.13	pCi/g	0.08	< 1.42	
I-131	0.02 +/- 0.15	-0.16 +/- 0.16	pCi/g	0.83	< 1.42	
K-40	20.3 +/- 3.7	20.7 +/- 3.8	pCi/g	0.08	< 1.42	
Mn-54	0.005 +/- 0.061	0.030 +/- 0.051	pCi/g	0.31	< 1.42	
Na-22	0.010 +/- 0.061	-0.078 +/- 0.068	pCi/g	0.97	< 1.42	
Nb-94	0.008 +/- 0.049	0.025 +/- 0.046	pCi/g	0.25	< 1.42	
Nb-95	0.062 +/- 0.062	0.057 +/- 0.054	pCi/g	0.05	< 1.42	
Pa-234m	-2.4 +/- 9.1	10.2 +/- 8.8	pCi/g	1	< 1.42	

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Monday, July 14, 2003 16:04:50

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID:	D-7-D	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID:	0306174-12	7/10/03	7/11/03	GS02138	380.4
DUP ID:	0306174-12-D1	7/10/03	7/11/03	GS02138	380.4

Sample Matrix: Soil
Date Collected: 25-Jun-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Pb-212	1.18 +/- 0.23	1.31 +/- 0.26	pCi/g	0.35	< 1.42	
Pb-214	0.53 +/- 0.14	0.47 +/- 0.13	pCi/g	0.27	< 1.42	
Ru-106	-0.08 +/- 0.47	-0.09 +/- 0.45	pCi/g	0.01	< 1.42	
Sb-124	-0.034 +/- 0.063	0.055 +/- 0.058	pCi/g	1.05	< 1.42	
Sb-125	-0.01 +/- 0.12	0.10 +/- 0.12	pCi/g	0.71	< 1.42	
Sc-46	-0.027 +/- 0.055	0.001 +/- 0.053	pCi/g	0.36	< 1.42	
Th-227	-0.58 +/- 0.50	-1.71 +/- 0.64	pCi/g	1.39	< 1.42	
Th-234	1.42 +/- 0.81	1.4 +/- 1.0	pCi/g	0.01	< 1.42	
Tl-208	0.50 +/- 0.12	0.41 +/- 0.10	pCi/g	0.54	< 1.42	
U-235	0.15 +/- 0.27	0.03 +/- 0.26	pCi/g	0.33	< 1.42	
Zn-65	0.26 +/- 0.23	0.04 +/- 0.19	pCi/g	0.73	< 1.42	

Comments:

Qualifiers/Flags:

W - DER is greater than Warning Limit of 1.42

H - DER is Higher han Control Limit of 2.13

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

DER - Duplicate Error Ratio

Data Package ID: *GSS0306174-1*

PARAGON ANALYTICS, INC.
Radiochemistry Data Package

3

Section 3

INDIVIDUAL SAMPLE RESULTS

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 16:04:55

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: I-8

Lab ID: 0306174-8

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 25-Jun-03
Date Analyzed: 11-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030751D03A

Final Aliquot: 309.1 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.32 +/- 0.40	0.60	pCi/g	
Ag-110m	-0.029 +/- 0.086	0.17	pCi/g	U
Al-26	-0.032 +/- 0.046	0.13	pCi/g	U
Am-241	0.25 +/- 0.47	0.79	pCi/g	U
Be-7	0.45 +/- 0.68	1.1	pCi/g	U
Bi-212	1.4 +/- 1.3	2.0	pCi/g	U
Bi-214	0.50 +/- 0.25	0.34	pCi/g	
Cd-109	1.3 +/- 2.5	4.1	pCi/g	U
Ce-139	-0.022 +/- 0.058	0.11	pCi/g	U
Ce-144	0.15 +/- 0.38	0.65	pCi/g	U
Co-56	0.07 +/- 0.19	0.32	pCi/g	U
Co-57	-0.057 +/- 0.054	0.10	pCi/g	U
Co-58	-0.030 +/- 0.089	0.17	pCi/g	U
Co-60	0.060 +/- 0.099	0.17	pCi/g	U
Cr-51	0.21 +/- 0.66	1.2	pCi/g	U
Cs-134	0.004 +/- 0.071	0.13	pCi/g	U
Cs-137	0.106 +/- 0.100	0.15	pCi/g	U
Eu-152	-0.20 +/- 0.38	0.82	pCi/g	U
Eu-154	-0.43 +/- 0.44	0.96	pCi/g	U
Eu-155	0.11 +/- 0.25	0.42	pCi/g	U
Fe-59	-0.13 +/- 0.21	0.44	pCi/g	U
I-131	-0.14 +/- 0.30	0.57	pCi/g	U
K-40	19.2 +/- 4.2	1.6	pCi/g	
Mn-54	-0.055 +/- 0.076	0.16	pCi/g	U
Na-22	0.040 +/- 0.088	0.15	pCi/g	U
Nb-94	0.012 +/- 0.090	0.16	pCi/g	U

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 16:04:55

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: I-8

Lab ID: 0306174-8

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 25-Jun-03
Date Analyzed: 11-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030751D03A

Final Aliquot: 309.1 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.066 +/- 0.085	0.18	pCi/g	U
Pa-234m	3 +/- 12	23	pCi/g	U
Pb-212	1.37 +/- 0.32	0.25	pCi/g	
Pb-214	0.69 +/- 0.23	0.31	pCi/g	
Ru-106	0.01 +/- 0.68	1.3	pCi/g	U
Sb-124	-0.117 +/- 0.092	0.19	pCi/g	U
Sb-125	0.03 +/- 0.18	0.33	pCi/g	U
Sc-46	0.023 +/- 0.084	0.15	pCi/g	U
Th-227	-0.06 +/- 0.63	1.1	pCi/g	U
Th-234	0.6 +/- 1.4	2.3	pCi/g	U
Tl-208	0.43 +/- 0.15	0.14	pCi/g	
U-235	0.21 +/- 0.43	0.72	pCi/g	U
Zn-65	-0.10 +/- 0.21	0.42	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 16:04:55

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: K-8

Lab ID: 0306174-9

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 25-Jun-03
Date Analyzed: 11-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030541D04A

Final Aliquot: 284.4 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.20 +/- 0.38	0.58	pCi/g	
Ag-110m	-0.005 +/- 0.071	0.13	pCi/g	U
Al-26	-0.009 +/- 0.064	0.14	pCi/g	U
Am-241	0.07 +/- 0.38	0.67	pCi/g	U
Be-7	0.29 +/- 0.69	1.2	pCi/g	U
Bi-212	1.4 +/- 1.3	2.1	pCi/g	U
Bi-214	0.54 +/- 0.23	0.27	pCi/g	
Cd-109	2.1 +/- 2.1	3.3	pCi/g	U
Ce-139	-0.008 +/- 0.053	0.096	pCi/g	U
Ce-144	-0.09 +/- 0.36	0.66	pCi/g	U
Co-56	0.18 +/- 0.20	0.32	pCi/g	U
Co-57	0.017 +/- 0.051	0.087	pCi/g	U
Co-58	-0.066 +/- 0.074	0.16	pCi/g	U
Co-60	0.013 +/- 0.076	0.14	pCi/g	U
Cr-51	0.00 +/- 0.73	1.3	pCi/g	U
Cs-134	0.039 +/- 0.075	0.13	pCi/g	U
Cs-137	0.163 +/- 0.093	0.12	pCi/g	
Eu-152	0.03 +/- 0.31	0.62	pCi/g	U
Eu-154	-0.04 +/- 0.38	0.76	pCi/g	U
Eu-155	0.21 +/- 0.23	0.37	pCi/g	U
Fe-59	0.07 +/- 0.18	0.32	pCi/g	U
I-131	-0.23 +/- 0.27	0.53	pCi/g	U
K-40	18.3 +/- 4.0	1.4	pCi/g	
Mn-54	-0.013 +/- 0.079	0.15	pCi/g	U
Na-22	0.009 +/- 0.078	0.15	pCi/g	U
Nb-94	0.011 +/- 0.072	0.13	pCi/g	U

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 16:04:55

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: K-8

Lab ID: 0306174-9

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 25-Jun-03
Date Analyzed: 11-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030541D04A

Final Aliquot: 284.4 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.028 +/- 0.080	0.16	pCi/g	U
Pa-234m	0 +/- 11	22	pCi/g	U
Pb-212	1.38 +/- 0.31	0.22	pCi/g	
Pb-214	0.59 +/- 0.20	0.28	pCi/g	
Ru-106	0.03 +/- 0.57	1.1	pCi/g	U
Sb-124	0.033 +/- 0.089	0.15	pCi/g	U
Sb-125	-0.01 +/- 0.20	0.37	pCi/g	U
Sc-46	0.023 +/- 0.063	0.11	pCi/g	U
Th-227	0.23 +/- 0.77	1.3	pCi/g	U
Th-234	1.3 +/- 1.5	2.5	pCi/g	U
Tl-208	0.50 +/- 0.16	0.14	pCi/g	
U-235	-0.01 +/- 0.35	0.63	pCi/g	U
Zn-65	-0.23 +/- 0.23	0.47	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

000035

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 16:04:51

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: J-7

Lab ID: 0306174-16

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 25-Jun-03
Date Analyzed: 14-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030900D10A

Final Aliquot: 320.5 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.12 +/- 0.31	0.50	pCi/g	
Ag-110m	-0.087 +/- 0.093	0.17	pCi/g	U
Al-26	-0.063 +/- 0.067	0.13	pCi/g	U
Am-241	-0.03 +/- 0.23	0.39	pCi/g	U
Be-7	0.04 +/- 0.50	0.87	pCi/g	U
Bi-212	1.0 +/- 1.1	1.8	pCi/g	U
Bi-214	0.61 +/- 0.19	0.24	pCi/g	
Cd-109	1.2 +/- 1.4	2.4	pCi/g	U
Ce-139	0.022 +/- 0.043	0.071	pCi/g	U
Ce-144	0.08 +/- 0.31	0.53	pCi/g	U
Co-56	0.18 +/- 0.15	0.23	pCi/g	U
Co-57	0.007 +/- 0.038	0.065	pCi/g	U
Co-58	-0.045 +/- 0.062	0.12	pCi/g	U
Co-60	0.030 +/- 0.068	0.12	pCi/g	U
Cr-51	0.17 +/- 0.59	1.0	pCi/g	U
Cs-134	0.32 +/- 0.43	0.71	pCi/g	U
Cs-137	0.216 +/- 0.092	0.12	pCi/g	
Eu-152	-0.04 +/- 0.34	0.61	pCi/g	U
Eu-154	0.22 +/- 0.31	0.51	pCi/g	U
Eu-155	0.15 +/- 0.17	0.27	pCi/g	U
Fe-59	-0.01 +/- 0.16	0.28	pCi/g	U
I-131	-0.02 +/- 0.21	0.38	pCi/g	U
K-40	21.1 +/- 4.0	1.5	pCi/g	
Mn-54	0.006 +/- 0.067	0.12	pCi/g	U
Na-22	-0.040 +/- 0.072	0.13	pCi/g	U
Nb-94	0.036 +/- 0.055	0.091	pCi/g	U

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 16:04:51

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: J-7

Lab ID: 0306174-16

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 25-Jun-03
Date Analyzed: 14-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030900D10A

Final Aliquot: 320.5 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.030 +/- 0.073	0.13	pCi/g	U
Pa-234m	6.5 +/- 10.0	17	pCi/g	U
Pb-212	1.50 +/- 0.29	0.16	pCi/g	
Pb-214	0.69 +/- 0.18	0.22	pCi/g	
Ru-106	-0.22 +/- 0.55	0.99	pCi/g	U
Sb-124	0.063 +/- 0.069	0.11	pCi/g	U
Sb-125	0.07 +/- 0.13	0.24	pCi/g	U
Sc-46	-0.008 +/- 0.065	0.12	pCi/g	U
Th-227	-0.1 +/- 8.9	15	pCi/g	U
Th-234	0.94 +/- 0.91	1.5	pCi/g	U
Tl-208	0.38 +/- 0.10	0.10	pCi/g	
U-235	-0.14 +/- 0.29	0.51	pCi/g	U
Zn-65	0.11 +/- 0.23	0.38	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 16:04:52

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: L-7

Lab ID: 0306174-17

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 25-Jun-03
Date Analyzed: 11-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030977D08A

Final Aliquot: 299.4 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	0.89 +/- 0.35	0.55	pCi/g	
Ag-110m	0.009 +/- 0.096	0.17	pCi/g	U
Al-26	-0.002 +/- 0.039	0.10	pCi/g	U
Am-241	-0.07 +/- 0.11	0.21	pCi/g	U
Be-7	0.10 +/- 0.64	1.2	pCi/g	U
Bi-212	0.6 +/- 1.4	2.5	pCi/g	U
Bi-214	0.58 +/- 0.23	0.24	pCi/g	
Cd-109	0.93 +/- 0.98	1.6	pCi/g	U
Ce-139	-0.003 +/- 0.049	0.088	pCi/g	U
Ce-144	0.21 +/- 0.32	0.53	pCi/g	U
Co-56	0.39 +/- 0.20	0.20	pCi/g	TI
Co-57	0.034 +/- 0.038	0.061	pCi/g	U
Co-58	0.007 +/- 0.063	0.12	pCi/g	U
Co-60	-0.060 +/- 0.070	0.17	pCi/g	U
Cr-51	-0.24 +/- 0.72	1.4	pCi/g	U
Cs-134	-0.027 +/- 0.070	0.14	pCi/g	U
Cs-137	0.40 +/- 0.14	0.12	pCi/g	
Eu-152	0.00 +/- 0.40	0.79	pCi/g	U
Eu-154	0.26 +/- 0.38	0.62	pCi/g	U
Eu-155	0.07 +/- 0.17	0.29	pCi/g	U
Fe-59	-0.08 +/- 0.18	0.37	pCi/g	U
I-131	0.18 +/- 0.26	0.43	pCi/g	U
K-40	14.2 +/- 3.4	1.3	pCi/g	
Mn-54	-0.053 +/- 0.061	0.14	pCi/g	U
Na-22	0.076 +/- 0.099	0.16	pCi/g	U
Nb-94	0.002 +/- 0.088	0.16	pCi/g	U

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 16:04:52

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: L-7

Lab ID: 0306174-17

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 25-Jun-03
Date Analyzed: 11-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030977D08A

Final Aliquot: 299.4 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.014 +/- 0.073	0.14	pCi/g	U
Pa-234m	8 +/- 12	20	pCi/g	U
Pb-212	1.12 +/- 0.29	0.27	pCi/g	
Pb-214	0.58 +/- 0.20	0.25	pCi/g	
Ru-106	0.00 +/- 0.68	1.3	pCi/g	U
Sb-124	0.006 +/- 0.082	0.15	pCi/g	U
Sb-125	0.02 +/- 0.16	0.30	pCi/g	U
Sc-46	0.041 +/- 0.082	0.14	pCi/g	U
Th-227	-0.04 +/- 0.50	0.88	pCi/g	U
Th-234	-0.13 +/- 0.87	1.5	pCi/g	U
Tl-208	0.53 +/- 0.16	0.14	pCi/g	
U-235	0.00 +/- 0.36	0.64	pCi/g	U
Zn-65	0.11 +/- 0.18	0.30	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 16:04:52

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: A-6

Lab ID: 0306174-18

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 25-Jun-03
Date Analyzed: 11-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030896D10A

Final Aliquot: 372.5 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.61 +/- 0.35	0.41	pCi/g	
Ag-110m	-0.042 +/- 0.052	0.096	pCi/g	U
Al-26	0.001 +/- 0.052	0.095	pCi/g	U
Am-241	-0.05 +/- 0.22	0.37	pCi/g	U
Be-7	0.05 +/- 0.42	0.73	pCi/g	U
Bi-212	1.53 +/- 0.95	1.4	pCi/g	
Bi-214	0.55 +/- 0.17	0.22	pCi/g	
Cd-109	3.3 +/- 1.6	2.3	pCi/g	SI
Ce-139	-0.004 +/- 0.041	0.071	pCi/g	U
Ce-144	-0.01 +/- 0.30	0.51	pCi/g	U
Co-56	0.03 +/- 0.14	0.23	pCi/g	U
Co-57	0.023 +/- 0.039	0.065	pCi/g	U
Co-58	0.015 +/- 0.055	0.096	pCi/g	U
Co-60	-0.044 +/- 0.068	0.13	pCi/g	U
Cr-51	-0.14 +/- 0.53	0.93	pCi/g	U
Cs-134	0.21 +/- 0.48	0.80	pCi/g	U
Cs-137	0.060 +/- 0.056	0.088	pCi/g	U
Eu-152	-0.04 +/- 0.29	0.53	pCi/g	U
Eu-154	0.17 +/- 0.30	0.50	pCi/g	U
Eu-155	0.05 +/- 0.15	0.25	pCi/g	U
Fe-59	0.11 +/- 0.13	0.22	pCi/g	U
I-131	-0.03 +/- 0.16	0.29	pCi/g	U
K-40	19.9 +/- 3.7	1.4	pCi/g	
Mn-54	0.003 +/- 0.057	0.099	pCi/g	U
Na-22	-0.016 +/- 0.069	0.12	pCi/g	U
Nb-94	0.040 +/- 0.053	0.087	pCi/g	U

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 16:04:52

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: A-6

Lab ID: 0306174-18

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 25-Jun-03
Date Analyzed: 11-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030896D10A

Final Aliquot: 372.5 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.055 +/- 0.064	0.10	pCi/g	U
Pa-234m	-3.9 +/- 9.3	17	pCi/g	U
Pb-212	1.65 +/- 0.31	0.16	pCi/g	
Pb-214	0.63 +/- 0.16	0.21	pCi/g	
Ru-106	-0.60 +/- 0.49	0.92	pCi/g	U
Sb-124	-0.062 +/- 0.065	0.12	pCi/g	U
Sb-125	-0.09 +/- 0.13	0.24	pCi/g	U
Sc-46	-0.022 +/- 0.058	0.11	pCi/g	U
Th-227	2.0 +/- 5.8	9.5	pCi/g	U
Th-234	2.4 +/- 1.1	1.6	pCi/g	TI
Tl-208	0.44 +/- 0.11	0.11	pCi/g	
U-235	-0.14 +/- 0.29	0.50	pCi/g	U
Zn-65	0.23 +/- 0.22	0.36	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 16:04:52

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: C-6

Lab ID: 0306174-19

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 25-Jun-03
Date Analyzed: 11-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 031042D01B

Final Aliquot: 361.2 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.32 +/- 0.30	0.34	pCi/g	
Ag-110m	-0.070 +/- 0.075	0.14	pCi/g	U
Al-26	0.005 +/- 0.034	0.063	pCi/g	U
Am-241	0.26 +/- 0.25	0.39	pCi/g	U
Be-7	-0.06 +/- 0.42	0.75	pCi/g	U
Bi-212	1.45 +/- 0.97	1.5	pCi/g	U
Bi-214	0.60 +/- 0.17	0.18	pCi/g	
Cd-109	0.82 +/- 0.98	1.6	pCi/g	U
Ce-139	0.022 +/- 0.042	0.069	pCi/g	U
Ce-144	0.14 +/- 0.28	0.47	pCi/g	U
Co-56	0.00 +/- 0.13	0.22	pCi/g	U
Co-57	-0.003 +/- 0.038	0.066	pCi/g	U
Co-58	0.014 +/- 0.057	0.099	pCi/g	U
Co-60	0.031 +/- 0.057	0.095	pCi/g	U
Cr-51	-0.19 +/- 0.50	0.89	pCi/g	U
Cs-134	0.069 +/- 0.058	0.091	pCi/g	U
Cs-137	0.082 +/- 0.050	0.073	pCi/g	
Eu-152	0.13 +/- 0.25	0.43	pCi/g	U
Eu-154	-0.17 +/- 0.29	0.54	pCi/g	U
Eu-155	0.12 +/- 0.13	0.20	pCi/g	U
Fe-59	-0.17 +/- 0.13	0.25	pCi/g	U
I-131	0.05 +/- 0.17	0.29	pCi/g	U
K-40	21.8 +/- 4.0	1.2	pCi/g	
Mn-54	0.001 +/- 0.057	0.10	pCi/g	U
Na-22	-0.058 +/- 0.072	0.13	pCi/g	U
Nb-94	0.018 +/- 0.051	0.088	pCi/g	U

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 16:04:52

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: C-6

Lab ID: 0306174-19

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 25-Jun-03
Date Analyzed: 11-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 031042D01B

Final Aliquot: 361.2 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.022 +/- 0.059	0.11	pCi/g	U
Pa-234m	6.6 +/- 9.1	15	pCi/g	U
Pb-212	1.47 +/- 0.28	0.16	pCi/g	
Pb-214	0.68 +/- 0.16	0.18	pCi/g	
Ru-106	0.13 +/- 0.46	0.79	pCi/g	U
Sb-124	-0.024 +/- 0.057	0.10	pCi/g	U
Sb-125	-0.02 +/- 0.12	0.21	pCi/g	U
Sc-46	-0.023 +/- 0.055	0.10	pCi/g	U
Th-227	1.6 +/- 7.2	12	pCi/g	U
Th-234	0.43 +/- 1.00	1.7	pCi/g	U
Tl-208	0.45 +/- 0.11	0.10	pCi/g	
U-235	-0.25 +/- 0.27	0.49	pCi/g	U
Zn-65	0.04 +/- 0.20	0.33	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 16:04:53

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: E-6

Lab ID: 0306174-20

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 25-Jun-03
Date Analyzed: 11-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030897D10A

Final Aliquot: 361.6 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.27 +/- 0.30	0.39	pCi/g	
Ag-110m	-0.013 +/- 0.075	0.13	pCi/g	U
Al-26	0.025 +/- 0.038	0.064	pCi/g	U
Am-241	-0.05 +/- 0.20	0.35	pCi/g	U
Be-7	-0.30 +/- 0.43	0.80	pCi/g	U
Bi-212	1.09 +/- 0.80	1.2	pCi/g	U
Bi-214	0.47 +/- 0.17	0.22	pCi/g	
Cd-109	3.4 +/- 1.4	2.0	pCi/g	SI
Ce-139	0.005 +/- 0.038	0.065	pCi/g	U
Ce-144	-0.32 +/- 0.30	0.53	pCi/g	U
Co-56	0.21 +/- 0.14	0.22	pCi/g	U
Co-57	0.000 +/- 0.038	0.065	pCi/g	U
Co-58	-0.063 +/- 0.061	0.11	pCi/g	U
Co-60	0.037 +/- 0.060	0.100	pCi/g	U
Cr-51	0.00 +/- 0.47	0.83	pCi/g	U
Cs-134	-0.02 +/- 0.49	0.81	pCi/g	U
Cs-137	0.092 +/- 0.066	0.10	pCi/g	U
Eu-152	0.22 +/- 0.31	0.51	pCi/g	U
Eu-154	0.14 +/- 0.33	0.56	pCi/g	U
Eu-155	0.01 +/- 0.15	0.26	pCi/g	U
Fe-59	-0.02 +/- 0.13	0.24	pCi/g	U
I-131	0.06 +/- 0.17	0.28	pCi/g	U
K-40	21.8 +/- 4.0	1.3	pCi/g	
Mn-54	0.043 +/- 0.059	0.097	pCi/g	U
Na-22	0.005 +/- 0.062	0.11	pCi/g	U
Nb-94	-0.033 +/- 0.050	0.091	pCi/g	U

Data Package ID: *GSS0306174-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 16:04:53

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306174

Field ID: E-6

Lab ID: 0306174-20

Sample Matrix: Soil
Date Prepared: 10-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02138

Date Collected: 25-Jun-03
Date Analyzed: 11-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030897D10A

Final Aliquot: 361.6 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.009 +/- 0.059	0.10	pCi/g	U
Pa-234m	6 +/- 10	17	pCi/g	U
Pb-212	1.28 +/- 0.25	0.15	pCi/g	
Pb-214	0.56 +/- 0.15	0.20	pCi/g	
Ru-106	-0.04 +/- 0.48	0.85	pCi/g	U
Sb-124	-0.090 +/- 0.065	0.12	pCi/g	U
Sb-125	0.05 +/- 0.11	0.19	pCi/g	U
Sc-46	-0.029 +/- 0.062	0.11	pCi/g	U
Th-227	2.0 +/- 5.7	9.4	pCi/g	U
Th-234	2.08 +/- 0.92	1.6	pCi/g	
Tl-208	0.37 +/- 0.10	0.10	pCi/g	
U-235	-0.30 +/- 0.28	0.50	pCi/g	U
Zn-65	0.26 +/- 0.23	0.36	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306174-1*

Paragon Analytics, Inc.

Radiochemistry Case Narrative
Gamma Spectroscopy

New World Technology
Bethesda / GA00419

Paragon Work Order 0306173

1. This report consists of analysis results for twenty soil samples received by Paragon on 6/27/03. The analysis results for these samples are reported on a 'dry weight' basis in units of pCi/gram.
2. These samples were prepared according to Paragon Analytics, Inc. procedure PAI SOP739R6.
3. The samples were analyzed for the presence of gamma emitting radionuclides according to Paragon Analytics, Inc. procedure PAI SOP713R8. The analyses were completed on 7/10/03.
4. Sample volumes were insufficient to allow preparation of duplicates. Duplicate analyses of samples D-13 and I-6 (PAI ID 0306173-2 and -12) were performed in lieu of preparation duplicates.
5. Activity concentrations above the calculated MDC are reported in some instances where minimum nuclide identification criteria are not met. Such tentative identifications result when the software attempts to calculate net activity concentrations for analytes where either one or both of the following criteria are not satisfied: the 'diagnostic' peak for a nuclide must be identified above critical level (generally the most abundant, interference-free photopeak), or the minimum library peak tolerance of 75% must be attained. These data have been flagged with a "TI" qualifier.
6. In cases where Cd-109 is identified at a level greater than the MDC, it is assigned an "SI" flag denoting spectral interference at the 88 keV line. This interference occurs with the K_β x-ray of Pb, which occurs at an energy of 87 keV.
7. Duplicate analysis results elevated above the DER warning limit of 1.42 have been flagged as "W" for Warn. For gamma spectroscopic analysis SOP 715R13 states that 75% of the nuclides must be within the 2-sigma control limit to meet DER or RPD requirements. Elevated DER may be attributable to sample non-homogeneity.
8. There are cases where the magnitude of the negative activity is greater than the 2-sigma TPU. The analyst's review of the data does not indicate a problem with the instrument data or the subsequent reporting systems. The data quality is believed to be unaffected and the results are submitted without qualification. Under typical conditions, where background level

sample data is normally distributed and analyzed by paired observations, this event is likely to occur at least 2.5% of the time.

9. No problems were encountered with either the client samples or the associated quality control samples. All quality control criteria were met.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, Paragon Analytics, Inc. certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Radiochemistry Instrument Technician — Date: 7/11/03

Radiochemistry Final Data Review — Date: 7-11-03

1

PARAGON ANALYTICS, INC.
Radiochemistry Data Package

Section 1

SAMPLE RESULTS SUMMARY

A summary report is not provided.

Please refer to the individual sample results data in Section 3.

2

PARAGON ANALYTICS, INC.

Radiochemistry Data Package

Section 2

QC RESULTS SUMMARY

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Friday, July 11, 2003 09:18:54

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306173

Field ID:
Lab ID: GS02135BLK1

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 09-Jul-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030891D10A

Final Aliquot: 322.4
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	0.01 +/- 0.20	0.35	pCi/g	U
Ag-110m	-0.009 +/- 0.040	0.074	pCi/g	U
Al-26	-0.023 +/- 0.043	0.089	pCi/g	U
Am-241	-0.07 +/- 0.14	0.25	pCi/g	U
Be-7	0.17 +/- 0.27	0.44	pCi/g	U
Bi-212	-0.32 +/- 0.58	1.1	pCi/g	U
Bi-214	-0.12 +/- 0.14	0.25	pCi/g	U
Cd-109	-0.43 +/- 0.79	1.4	pCi/g	U
Ce-139	-0.009 +/- 0.024	0.044	pCi/g	U
Ce-144	-0.01 +/- 0.19	0.33	pCi/g	U
Co-56	0.012 +/- 0.092	0.16	pCi/g	U
Co-57	0.025 +/- 0.024	0.038	pCi/g	U
Co-58	0.010 +/- 0.041	0.071	pCi/g	U
Co-60	-0.034 +/- 0.051	0.100	pCi/g	U
Cr-51	-0.04 +/- 0.26	0.47	pCi/g	U
Cs-134	0.000 +/- 0.069	0.12	pCi/g	U
Cs-137	0.001 +/- 0.042	0.076	pCi/g	U
Eu-152	0.23 +/- 0.23	0.36	pCi/g	U
Eu-154	0.05 +/- 0.24	0.43	pCi/g	U
Eu-155	0.033 +/- 0.099	0.17	pCi/g	U
Fe-59	0.021 +/- 0.075	0.13	pCi/g	U
I-131	-0.025 +/- 0.038	0.071	pCi/g	U
K-40	0.02 +/- 0.58	1.0	pCi/g	U
Mn-54	-0.038 +/- 0.041	0.080	pCi/g	U

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Friday, July 11, 2003 09:18:54

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306173

Field ID:
Lab ID: GS02135BLK1

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 09-Jul-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030891D10A

Final Aliquot: 322.4
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier
Na-22	-0.010 +/- 0.054	0.099	pCi/g	U
Nb-94	-0.008 +/- 0.043	0.078	pCi/g	U
Nb-95	0.009 +/- 0.038	0.068	pCi/g	U
Pa-234m	-2.4 +/- 7.5	14	pCi/g	U
Pb-212	-0.049 +/- 0.064	0.12	pCi/g	U
Pb-214	-0.01 +/- 0.11	0.19	pCi/g	U
Ru-106	-0.14 +/- 0.39	0.72	pCi/g	U
Sb-124	-0.032 +/- 0.055	0.099	pCi/g	U
Sb-125	-0.04 +/- 0.10	0.19	pCi/g	U
Sc-46	-0.012 +/- 0.039	0.074	pCi/g	U
Th-227	-0.35 +/- 0.23	0.44	pCi/g	U
Th-234	0.12 +/- 0.55	0.94	pCi/g	U
Tl-208	0.019 +/- 0.041	0.069	pCi/g	U
U-235	-0.12 +/- 0.22	0.39	pCi/g	U
Zn-65	-0.05 +/- 0.12	0.22	pCi/g	U

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Friday, July 11, 2003 09:18:54

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID:

Lab ID: GS02135BLK1

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 09-Jul-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030891D10A

Final Aliquot: 322.4
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield in control at 100-110%. Quantitative yield is assumed.

Y2 - Chemical Yield outside default limits.

B3 - Analyte concentration greater than MDC but less than Requested MDC.

B - Analyte concentration greater than MDC.

SQ - Spectral iquality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Friday, July 11, 2003 09:18:46

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306173

Field ID:
Lab ID: GS02136BLK1

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02136

Date Collected: 09-Jul-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030880D09A

Final Aliquot: 48.10
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	0.08 +/- 0.87	1.7	pCi/g	U
Ag-110m	-0.04 +/- 0.14	0.31	pCi/g	U
Al-26	0.00 +/- 0.37	0.75	pCi/g	U
Am-241	-0.4 +/- 1.1	2.1	pCi/g	U
Be-7	-0.3 +/- 1.4	2.8	pCi/g	U
Bi-212	-0.7 +/- 1.9	4.3	pCi/g	U
Bi-214	0.46 +/- 0.44	0.65	pCi/g	U
Cd-109	-0.5 +/- 2.5	5.0	pCi/g	U
Ce-139	-0.034 +/- 0.090	0.18	pCi/g	U
Ce-144	-0.66 +/- 0.61	1.3	pCi/g	U
Co-56	-0.12 +/- 0.34	0.76	pCi/g	U
Co-57	0.034 +/- 0.076	0.13	pCi/g	U
Co-58	0.03 +/- 0.20	0.38	pCi/g	U
Co-60	-0.08 +/- 0.21	0.49	pCi/g	U
Cr-51	-0.8 +/- 1.0	2.2	pCi/g	U
Cs-134	-0.27 +/- 0.20	0.44	pCi/g	U
Cs-137	0.00 +/- 0.20	0.38	pCi/g	U
Eu-152	0.0 +/- 1.0	2.2	pCi/g	U
Eu-154	0.5 +/- 1.3	2.3	pCi/g	U
Eu-155	0.05 +/- 0.36	0.67	pCi/g	U
Fe-59	0.06 +/- 0.40	0.78	pCi/g	U
I-131	-0.04 +/- 0.17	0.33	pCi/g	U
K-40	1.1 +/- 2.6	4.7	pCi/g	U
Mn-54	0.04 +/- 0.18	0.34	pCi/g	U

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Friday, July 11, 2003 09:18:46

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306173

Field ID:
Lab ID: GS02136BLK1

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02136

Date Collected: 09-Jul-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030880D09A

Final Aliquot: 48.10
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier
Na-22	0.06 +/- 0.16	0.31	pCi/g	U
Nb-94	-0.08 +/- 0.20	0.41	pCi/g	U
Nb-95	-0.02 +/- 0.19	0.38	pCi/g	U
Pa-234m	0 +/- 38	76	pCi/g	U
Pb-212	-0.12 +/- 0.23	0.46	pCi/g	U
Pb-214	-0.18 +/- 0.38	0.75	pCi/g	U
Ru-106	0.4 +/- 1.8	3.4	pCi/g	U
Sb-124	-0.09 +/- 0.17	0.36	pCi/g	U
Sb-125	-0.09 +/- 0.35	0.72	pCi/g	U
Sc-46	0.02 +/- 0.14	0.30	pCi/g	U
Th-227	-0.31 +/- 0.75	1.5	pCi/g	U
Th-234	-0.4 +/- 2.3	4.2	pCi/g	U
Tl-208	0.05 +/- 0.15	0.29	pCi/g	U
U-235	0.34 +/- 0.64	1.1	pCi/g	U
Zn-65	0.05 +/- 0.49	0.96	pCi/g	U

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Friday, July 11, 2003 09:18:46

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID:

Lab ID: GS02136BLK1

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02136

Date Collected: 09-Jul-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030880D09A

Final Aliquot: 48.10
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield in control at 100-110%. Quantitative yield is assumed.

Y2 - Chemical Yield outside default limits.

B3 - Analyte concentration greater than MDC but less than Requested MDC.

B - Analyte concentration greater than MDC.

SQ - Spectral iquality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

LCS Results

Reported on: Friday, July 11, 2003 09:18:54

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID:

Lab ID: GS02135LCS1

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 09-Jul-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030537D04A

Final Aliquot: 500.0
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	LCS Results +/- 2s TPU	MDC	Spike Added	Reporting Units	LCS Recovery	Control Limits	Lab Qualifier
Am-241	199 +/- 33	3.1	196	pCi/g	102%	85-115%	P
Cd-109	890 +/- 150	10	791	pCi/g	113%	85-115%	P
Co-60	91 +/- 15	0.35	92.9	pCi/g	98%	85-115%	P
Cs-137	86 +/- 14	0.49	80.3	pCi/g	107%	85-115%	P

Comments:

Data Package ID: *GSS0306173-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
* - Duplicate DER not within control limits.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS Recovery within control limits.

Abbreviations:

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

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.

Gamma Spectroscopy Results

Method PAI 713R8

LCS Results

Reported on: Friday, July 11, 2003 09:18:47

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID:

Lab ID: GS02136LCS1

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02136

Date Collected: 09-Jul-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030889D10A

Final Aliquot: 100.0
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	LCS Results +/- 2s TPU	MDC	Spike Added	Reporting Units	LCS Recovery	Control Limits	Lab Qualifier
Am-241	890 +/- 150	3.9	890	pCi/g	100%	85-115%	P
Cd-109	3180 +/- 520	16	3130	pCi/g	101%	85-115%	P
Co-60	449 +/- 74	2.0	457	pCi/g	98%	85-115%	P
Cs-137	411 +/- 68	1.2	389	pCi/g	106%	85-115%	P

Comments:

Data Package ID: *GSS0306173-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
* - Duplicate DER not within control limits.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS Recovery within control limits.

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.

Abbreviations:

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

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Friday, July 11, 2003 09:18:46

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID:	C-12-D	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID:	0306173-1	7/9/03	7/10/03	GS02136	52.40
DUP ID:	0306173-1-D1	7/9/03	7/10/03	GS02136	43.80

Sample Matrix: Soil
Date Collected: 25-Jun-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Ac-228	1.4 +/- 1.1	0.75 +/- 0.49	pCi/g	0.55	< 1.42	
Ag-110m	-0.18 +/- 0.28	-0.20 +/- 0.27	pCi/g	0.05	< 1.42	
Al-26	-0.02 +/- 0.27	0.15 +/- 0.23	pCi/g	0.47	< 1.42	
Am-241	-0.18 +/- 0.98	0.13 +/- 0.38	pCi/g	0.3	< 1.42	
Be-7	0.9 +/- 1.7	1.4 +/- 1.5	pCi/g	0.19	< 1.42	
Bi-212	0.3 +/- 3.2	0.9 +/- 2.5	pCi/g	0.14	< 1.42	
Bi-214	0.70 +/- 0.52	-0.11 +/- 0.48	pCi/g	1.14	< 1.42	
Cd-109	0.5 +/- 3.9	-0.3 +/- 2.7	pCi/g	0.15	< 1.42	
Ce-139	0.05 +/- 0.10	0.034 +/- 0.087	pCi/g	0.14	< 1.42	
Ce-144	0.92 +/- 0.63	-0.08 +/- 0.65	pCi/g	1.1	< 1.42	
Co-56	-0.15 +/- 0.52	-0.04 +/- 0.38	pCi/g	0.17	< 1.42	
Co-57	-0.064 +/- 0.092	0.058 +/- 0.084	pCi/g	0.98	< 1.42	
Co-58	-0.02 +/- 0.22	-0.05 +/- 0.16	pCi/g	0.11	< 1.42	
Co-60	0.01 +/- 0.18	0.09 +/- 0.24	pCi/g	0.25	< 1.42	
Cr-51	1.7 +/- 1.6	0.5 +/- 1.3	pCi/g	0.57	< 1.42	
Cs-134	-0.29 +/- 0.24	0.01 +/- 0.24	pCi/g	0.89	< 1.42	
Cs-137	0.57 +/- 0.30	0.37 +/- 0.26	pCi/g	0.51	< 1.42	
Eu-152	-0.32 +/- 0.79	-0.1 +/- 1.2	pCi/g	0.18	< 1.42	
Eu-154	0.1 +/- 1.2	-0.5 +/- 1.0	pCi/g	0.38	< 1.42	
Eu-155	-0.24 +/- 0.45	-0.09 +/- 0.30	pCi/g	0.28	< 1.42	
Fe-59	0.39 +/- 0.54	-0.17 +/- 0.39	pCi/g	0.83	< 1.42	
I-131	0.33 +/- 0.58	-0.02 +/- 0.40	pCi/g	0.49	< 1.42	
K-40	6.0 +/- 3.8	7.9 +/- 4.1	pCi/g	0.34	< 1.42	
Mn-54	-0.19 +/- 0.23	-0.09 +/- 0.16	pCi/g	0.35	< 1.42	
Na-22	0.10 +/- 0.24	-0.11 +/- 0.20	pCi/g	0.68	< 1.42	
Nb-94	0.06 +/- 0.19	-0.01 +/- 0.16	pCi/g	0.26	< 1.42	
Nb-95	0.15 +/- 0.21	0.13 +/- 0.20	pCi/g	0.05	< 1.42	
Pa-234m	19 +/- 37	1 +/- 31	pCi/g	0.37	< 1.42	

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Friday, July 11, 2003 09:18:46

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID:	C-12-D	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID:	0306173-1	7/9/03	7/10/03	GS02136	52.40
DUP ID:	0306173-1-D1	7/9/03	7/10/03	GS02136	43.80

Sample Matrix: Soil
Date Collected: 25-Jun-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Pb-212	0.58 +/- 0.33	0.22 +/- 0.21	pCi/g	0.92	< 1.42	
Pb-214	0.57 +/- 0.43	0.54 +/- 0.39	pCi/g	0.05	< 1.42	
Ru-106	-1.2 +/- 1.7	-0.6 +/- 1.3	pCi/g	0.25	< 1.42	
Sb-124	-0.09 +/- 0.23	-0.17 +/- 0.23	pCi/g	0.23	< 1.42	
Sb-125	0.28 +/- 0.37	-0.25 +/- 0.36	pCi/g	1.02	< 1.42	
Sc-46	0.07 +/- 0.20	-0.25 +/- 0.20	pCi/g	1.1	< 1.42	
Th-227	0.3 +/- 1.2	-0.4 +/- 1.1	pCi/g	0.47	< 1.42	
Th-234	-0.9 +/- 2.3	0.3 +/- 1.6	pCi/g	0.44	< 1.42	
Tl-208	0.36 +/- 0.25	0.17 +/- 0.14	pCi/g	0.67	< 1.42	
U-235	0.53 +/- 0.65	0.13 +/- 0.62	pCi/g	0.45	< 1.42	
Zn-65	-0.34 +/- 0.58	-0.64 +/- 0.52	pCi/g	0.39	< 1.42	

Comments:

Qualifiers/Flags:

W - DER is greater than Warning Limit of 1.42

H - DER is Higher han Control Limit of 2.13

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

DER - Duplicate Error Ratio

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Friday, July 11, 2003 09:18:51

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID:	D-13	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID:	0306173-2	7/9/03	7/10/03	GS02135	310.6
DUP ID:	0306173-2-D1	7/9/03	7/10/03	GS02135	310.6

Sample Matrix: Soil
Date Collected: 25-Jun-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Ac-228	1.00 +/- 0.37	0.91 +/- 0.30	pCi/g	0.19	< 1.42	
Ag-110m	0.07 +/- 0.11	-0.080 +/- 0.086	pCi/g	1.11	< 1.42	
Al-26	0.016 +/- 0.066	0.021 +/- 0.030	pCi/g	0.07	< 1.42	
Am-241	-0.16 +/- 0.37	-0.02 +/- 0.37	pCi/g	0.25	< 1.42	
Be-7	0.30 +/- 0.64	0.13 +/- 0.59	pCi/g	0.19	< 1.42	
Bi-212	1.5 +/- 1.4	0.73 +/- 0.93	pCi/g	0.48	< 1.42	
Bi-214	0.52 +/- 0.23	0.41 +/- 0.19	pCi/g	0.36	< 1.42	
Cd-109	1.2 +/- 1.8	1.2 +/- 1.5	pCi/g	0.01	< 1.42	
Ce-139	0.006 +/- 0.048	-0.005 +/- 0.046	pCi/g	0.16	< 1.42	
Ce-144	0.22 +/- 0.37	0.08 +/- 0.31	pCi/g	0.3	< 1.42	
Co-56	0.08 +/- 0.16	0.01 +/- 0.14	pCi/g	0.31	< 1.42	
Co-57	0.022 +/- 0.045	-0.035 +/- 0.040	pCi/g	0.93	< 1.42	
Co-58	0.037 +/- 0.072	0.040 +/- 0.068	pCi/g	0.02	< 1.42	
Co-60	0.15 +/- 0.12	0.130 +/- 0.093	pCi/g	0.15	< 1.42	
Cr-51	-0.14 +/- 0.63	0.26 +/- 0.58	pCi/g	0.47	< 1.42	
Cs-134	0.00 +/- 0.11	0.001 +/- 0.070	pCi/g	0.01	< 1.42	
Cs-137	0.39 +/- 0.14	0.42 +/- 0.14	pCi/g	0.19	< 1.42	
Eu-152	0.07 +/- 0.28	0.07 +/- 0.30	pCi/g	0.01	< 1.42	
Eu-154	0.17 +/- 0.41	0.01 +/- 0.30	pCi/g	0.3	< 1.42	
Eu-155	0.02 +/- 0.20	-0.12 +/- 0.20	pCi/g	0.5	< 1.42	
Fe-59	0.11 +/- 0.19	0.00 +/- 0.17	pCi/g	0.42	< 1.42	
I-131	-0.20 +/- 0.21	-0.22 +/- 0.21	pCi/g	0.07	< 1.42	
K-40	10.6 +/- 2.8	11.3 +/- 2.7	pCi/g	0.17	< 1.42	
Mn-54	0.014 +/- 0.074	-0.018 +/- 0.058	pCi/g	0.34	< 1.42	
Na-22	0.018 +/- 0.099	-0.008 +/- 0.054	pCi/g	0.23	< 1.42	
Nb-94	-0.029 +/- 0.070	0.000 +/- 0.062	pCi/g	0.31	< 1.42	
Nb-95	0.022 +/- 0.083	0.051 +/- 0.075	pCi/g	0.26	< 1.42	
Pa-234m	2 +/- 11	-2 +/- 10	pCi/g	0.3	< 1.42	

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Friday, July 11, 2003 09:18:50

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID:	D-13	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID:	0306173-2	7/9/03	7/10/03	GS02135	310.6
DUP ID:	0306173-2-D1	7/9/03	7/10/03	GS02135	310.6

Sample Matrix: Soil
Date Collected: 25-Jun-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Pb-212	0.88 +/- 0.24	0.94 +/- 0.24	pCi/g	0.2	< 1.42	
Pb-214	0.51 +/- 0.19	0.30 +/- 0.15	pCi/g	0.88	< 1.42	
Ru-106	0.13 +/- 0.71	0.03 +/- 0.50	pCi/g	0.11	< 1.42	
Sb-124	-0.053 +/- 0.097	0.036 +/- 0.081	pCi/g	0.7	< 1.42	
Sb-125	0.04 +/- 0.18	0.09 +/- 0.14	pCi/g	0.24	< 1.42	
Sc-46	-0.007 +/- 0.070	0.007 +/- 0.069	pCi/g	0.14	< 1.42	
Th-227	-6 +/- 11	-0.43 +/- 0.55	pCi/g	0.51	< 1.42	
Th-234	0.7 +/- 1.2	1.4 +/- 1.3	pCi/g	0.4	< 1.42	
Tl-208	0.19 +/- 0.11	0.37 +/- 0.13	pCi/g	1.11	< 1.42	
U-235	0.24 +/- 0.37	0.25 +/- 0.32	pCi/g	0.01	< 1.42	
Zn-65	-0.19 +/- 0.20	-0.09 +/- 0.18	pCi/g	0.36	< 1.42	

Comments:

Qualifiers/Flags:

W - DER is greater than Warning Limit of 1.42

H - DER is Higher han Control Limit of 2.13

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

DER - Duplicate Error Ratio

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Friday, July 11, 2003 09:18:48

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: I-6	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID: 0306173-12	7/9/03	7/10/03	GS02135	359.7
DUP ID: 0306173-12-D1	7/9/03	7/10/03	GS02135	359.7

Sample Matrix: Soil
Date Collected: 25-Jun-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Ac-228	1.11 +/- 0.38	1.17 +/- 0.39	pCi/g	0.12	< 1.42	
Ag-110m	0.006 +/- 0.064	0.001 +/- 0.082	pCi/g	0.05	< 1.42	
Al-26	0.003 +/- 0.082	0.012 +/- 0.073	pCi/g	0.08	< 1.42	
Am-241	0.22 +/- 0.41	0.03 +/- 0.35	pCi/g	0.36	< 1.42	
Be-7	0.09 +/- 0.60	0.46 +/- 0.66	pCi/g	0.42	< 1.42	
Bi-212	1.3 +/- 1.3	0.8 +/- 1.2	pCi/g	0.28	< 1.42	
Bi-214	0.40 +/- 0.21	0.49 +/- 0.22	pCi/g	0.27	< 1.42	
Cd-109	1.7 +/- 1.7	1.8 +/- 1.3	pCi/g	0.06	< 1.42	
Ce-139	0.043 +/- 0.056	0.011 +/- 0.048	pCi/g	0.43	< 1.42	
Ce-144	-0.06 +/- 0.34	-0.15 +/- 0.32	pCi/g	0.18	< 1.42	
Co-56	0.14 +/- 0.18	0.10 +/- 0.17	pCi/g	0.18	< 1.42	
Co-57	0.004 +/- 0.047	-0.022 +/- 0.044	pCi/g	0.4	< 1.42	
Co-58	-0.019 +/- 0.065	-0.056 +/- 0.084	pCi/g	0.35	< 1.42	
Co-60	-0.038 +/- 0.060	0.090 +/- 0.096	pCi/g	1.13	< 1.42	
Cr-51	-0.13 +/- 0.67	0.45 +/- 0.60	pCi/g	0.65	< 1.42	
Cs-134	-0.011 +/- 0.074	-0.058 +/- 0.085	pCi/g	0.41	< 1.42	
Cs-137	0.001 +/- 0.069	0.046 +/- 0.090	pCi/g	0.39	< 1.42	
Eu-152	0.12 +/- 0.35	0.04 +/- 0.38	pCi/g	0.15	< 1.42	
Eu-154	-0.03 +/- 0.36	0.17 +/- 0.46	pCi/g	0.34	< 1.42	
Eu-155	0.05 +/- 0.21	-0.04 +/- 0.18	pCi/g	0.33	< 1.42	
Fe-59	-0.06 +/- 0.15	0.06 +/- 0.21	pCi/g	0.46	< 1.42	
I-131	-0.01 +/- 0.19	-0.10 +/- 0.21	pCi/g	0.32	< 1.42	
K-40	16.3 +/- 3.5	13.0 +/- 3.1	pCi/g	0.69	< 1.42	
Mn-54	0.094 +/- 0.078	-0.069 +/- 0.076	pCi/g	1.5	< 1.42	W
Na-22	0.017 +/- 0.083	-0.03 +/- 0.10	pCi/g	0.33	< 1.42	
Nb-94	-0.025 +/- 0.068	0.021 +/- 0.070	pCi/g	0.47	< 1.42	
Nb-95	0.006 +/- 0.082	-0.006 +/- 0.084	pCi/g	0.11	< 1.42	
Pa-234m	-2 +/- 12	3 +/- 14	pCi/g	0.24	< 1.42	

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Friday, July 11, 2003 09:18:48

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: I-6	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID: 0306173-12	7/9/03	7/10/03	GS02135	359.7
DUP ID: 0306173-12-D1	7/9/03	7/10/03	GS02135	359.7

Sample Matrix: Soil
Date Collected: 25-Jun-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Pb-212	1.34 +/- 0.30	1.10 +/- 0.27	pCi/g	0.6	< 1.42	
Pb-214	0.49 +/- 0.16	0.61 +/- 0.19	pCi/g	0.49	< 1.42	
Ru-106	0.32 +/- 0.58	-0.36 +/- 0.70	pCi/g	0.75	< 1.42	
Sb-124	0.009 +/- 0.085	-0.062 +/- 0.075	pCi/g	0.63	< 1.42	
Sb-125	0.05 +/- 0.17	0.12 +/- 0.17	pCi/g	0.29	< 1.42	
Sc-46	-0.005 +/- 0.086	-0.034 +/- 0.095	pCi/g	0.22	< 1.42	
Th-227	-0.36 +/- 0.61	-0.04 +/- 0.62	pCi/g	0.36	< 1.42	
Th-234	1.1 +/- 1.5	1.7 +/- 1.2	pCi/g	0.31	< 1.42	
Tl-208	0.34 +/- 0.12	0.34 +/- 0.13	pCi/g	0.05	< 1.42	
U-235	-0.20 +/- 0.36	0.00 +/- 0.33	pCi/g	0.41	< 1.42	
Zn-65	-0.20 +/- 0.21	-0.24 +/- 0.22	pCi/g	0.12	< 1.42	

Comments:

Qualifiers/Flags:

W - DER is greater than Warning Limit of 1.42

H - DER is Higher han Control Limit of 2.13

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

DER - Duplicate Error Ratio

Data Package ID: *GSS0306173-1*

PARAGON ANALYTICS, INC.
Radiochemistry Data Package

3

Section 3

INDIVIDUAL SAMPLE RESULTS

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 11, 2003 09:18:52

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: F-13

Lab ID: 0306173-6

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030875D07A

Final Aliquot: 350.1 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	0.75 +/- 0.28	0.52	pCi/g	
Ag-110m	0.006 +/- 0.061	0.12	pCi/g	U
Al-26	-0.083 +/- 0.085	0.22	pCi/g	U
Am-241	-0.017 +/- 0.087	0.16	pCi/g	U
Be-7	0.44 +/- 0.57	0.93	pCi/g	U
Bi-212	1.6 +/- 1.3	1.9	pCi/g	U
Bi-214	0.43 +/- 0.21	0.26	pCi/g	
Cd-109	0.97 +/- 0.92	1.4	pCi/g	U
Ce-139	-0.003 +/- 0.041	0.074	pCi/g	U
Ce-144	0.09 +/- 0.27	0.47	pCi/g	U
Co-56	-0.03 +/- 0.15	0.31	pCi/g	U
Co-57	0.004 +/- 0.034	0.060	pCi/g	U
Co-58	0.015 +/- 0.078	0.14	pCi/g	U
Co-60	0.032 +/- 0.093	0.17	pCi/g	U
Cr-51	0.32 +/- 0.66	1.1	pCi/g	U
Cs-134	-0.100 +/- 0.070	0.15	pCi/g	U
Cs-137	0.41 +/- 0.15	0.14	pCi/g	
Eu-152	-0.05 +/- 0.35	0.75	pCi/g	U
Eu-154	-0.05 +/- 0.38	0.77	pCi/g	U
Eu-155	0.11 +/- 0.16	0.27	pCi/g	U
Fe-59	-0.14 +/- 0.17	0.38	pCi/g	U
I-131	0.01 +/- 0.22	0.40	pCi/g	U
K-40	10.9 +/- 2.9	1.4	pCi/g	
Mn-54	0.016 +/- 0.064	0.12	pCi/g	U
Na-22	-0.046 +/- 0.058	0.15	pCi/g	U
Nb-94	0.037 +/- 0.066	0.11	pCi/g	U

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 11, 2003 09:18:52

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: F-13

Lab ID: 0306173-6

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030875D07A

Final Aliquot: 350.1 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.009 +/- 0.097	0.18	pCi/g	U
Pa-234m	1 +/- 12	23	pCi/g	U
Pb-212	0.85 +/- 0.23	0.21	pCi/g	
Pb-214	0.49 +/- 0.17	0.23	pCi/g	
Ru-106	-0.34 +/- 0.57	1.2	pCi/g	U
Sb-124	0.052 +/- 0.080	0.13	pCi/g	U
Sb-125	0.04 +/- 0.18	0.32	pCi/g	U
Sc-46	0.022 +/- 0.061	0.11	pCi/g	U
Th-227	0.06 +/- 0.31	0.55	pCi/g	U
Th-234	0.53 +/- 0.54	1.0	pCi/g	U
Tl-208	0.34 +/- 0.13	0.14	pCi/g	
U-235	0.18 +/- 0.30	0.51	pCi/g	U
Zn-65	-0.22 +/- 0.19	0.43	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 11, 2003 09:18:47

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: G-6

Lab ID: 0306173-11

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030968D08A

Final Aliquot: 335.7 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.33 +/- 0.42	0.56	pCi/g	
Ag-110m	0.017 +/- 0.071	0.13	pCi/g	U
Al-26	-0.015 +/- 0.044	0.12	pCi/g	U
Am-241	0.05 +/- 0.14	0.23	pCi/g	U
Be-7	0.13 +/- 0.57	1.0	pCi/g	U
Bi-212	1.5 +/- 1.0	1.3	pCi/g	
Bi-214	0.79 +/- 0.26	0.28	pCi/g	
Cd-109	2.5 +/- 1.5	2.3	pCi/g	SI
Ce-139	-0.015 +/- 0.051	0.093	pCi/g	U
Ce-144	-0.16 +/- 0.35	0.64	pCi/g	U
Co-56	0.10 +/- 0.20	0.34	pCi/g	U
Co-57	-0.004 +/- 0.042	0.075	pCi/g	U
Co-58	-0.060 +/- 0.077	0.16	pCi/g	U
Co-60	-0.018 +/- 0.076	0.16	pCi/g	U
Cr-51	-0.27 +/- 0.73	1.4	pCi/g	U
Cs-134	-0.087 +/- 0.073	0.15	pCi/g	U
Cs-137	0.148 +/- 0.086	0.11	pCi/g	
Eu-152	0.04 +/- 0.34	0.66	pCi/g	U
Eu-154	0.16 +/- 0.31	0.55	pCi/g	U
Eu-155	0.23 +/- 0.19	0.29	pCi/g	U
Fe-59	-0.15 +/- 0.21	0.42	pCi/g	U
I-131	-0.07 +/- 0.21	0.41	pCi/g	U
K-40	20.2 +/- 4.3	1.1	pCi/g	
Mn-54	-0.030 +/- 0.072	0.14	pCi/g	U
Na-22	0.035 +/- 0.087	0.15	pCi/g	U
Nb-94	-0.019 +/- 0.072	0.14	pCi/g	U

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 11, 2003 09:18:47

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: G-6

Lab ID: 0306173-11

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030968D08A

Final Aliquot: 335.7 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.079 +/- 0.088	0.18	pCi/g	U
Pa-234m	-2 +/- 12	24	pCi/g	U
Pb-212	1.35 +/- 0.31	0.22	pCi/g	
Pb-214	0.67 +/- 0.21	0.25	pCi/g	
Ru-106	0.05 +/- 0.50	0.94	pCi/g	U
Sb-124	-0.068 +/- 0.084	0.17	pCi/g	U
Sb-125	0.13 +/- 0.13	0.23	pCi/g	U
Sc-46	-0.065 +/- 0.064	0.15	pCi/g	U
Th-227	-0.19 +/- 0.38	0.70	pCi/g	U
Th-234	1.4 +/- 1.1	1.8	pCi/g	U
Tl-208	0.42 +/- 0.13	0.11	pCi/g	
U-235	-0.13 +/- 0.38	0.68	pCi/g	U
Zn-65	-0.12 +/- 0.17	0.36	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 11, 2003 09:18:47

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: I-6

Lab ID: 0306173-12

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030741D03A

Final Aliquot: 359.7 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.11 +/- 0.38	0.55	pCi/g	
Ag-110m	0.006 +/- 0.064	0.12	pCi/g	U
Al-26	0.003 +/- 0.082	0.16	pCi/g	U
Am-241	0.22 +/- 0.41	0.69	pCi/g	U
Be-7	0.09 +/- 0.60	1.1	pCi/g	U
Bi-212	1.3 +/- 1.3	2.0	pCi/g	U
Bi-214	0.40 +/- 0.21	0.29	pCi/g	
Cd-109	1.7 +/- 1.7	2.8	pCi/g	U
Ce-139	0.043 +/- 0.056	0.092	pCi/g	U
Ce-144	-0.06 +/- 0.34	0.61	pCi/g	U
Co-56	0.14 +/- 0.18	0.28	pCi/g	U
Co-57	0.004 +/- 0.047	0.082	pCi/g	U
Co-58	-0.019 +/- 0.065	0.13	pCi/g	U
Co-60	-0.038 +/- 0.060	0.14	pCi/g	U
Cr-51	-0.13 +/- 0.67	1.2	pCi/g	U
Cs-134	-0.011 +/- 0.074	0.14	pCi/g	U
Cs-137	0.001 +/- 0.069	0.13	pCi/g	U
Eu-152	0.12 +/- 0.35	0.63	pCi/g	U
Eu-154	-0.03 +/- 0.36	0.69	pCi/g	U
Eu-155	0.05 +/- 0.21	0.36	pCi/g	U
Fe-59	-0.06 +/- 0.15	0.31	pCi/g	U
I-131	-0.01 +/- 0.19	0.35	pCi/g	U
K-40	16.3 +/- 3.5	1.1	pCi/g	
Mn-54	0.094 +/- 0.078	0.11	pCi/g	U
Na-22	0.017 +/- 0.083	0.15	pCi/g	U
Nb-94	-0.025 +/- 0.068	0.13	pCi/g	U

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 11, 2003 09:18:47

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: I-6

Lab ID: 0306173-12

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030741D03A

Final Aliquot: 359.7 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.006 +/- 0.082	0.15	pCi/g	U
Pa-234m	-2 +/- 12	23	pCi/g	U
Pb-212	1.34 +/- 0.30	0.19	pCi/g	
Pb-214	0.49 +/- 0.16	0.20	pCi/g	
Ru-106	0.32 +/- 0.58	0.99	pCi/g	U
Sb-124	0.009 +/- 0.085	0.15	pCi/g	U
Sb-125	0.05 +/- 0.17	0.31	pCi/g	U
Sc-46	-0.005 +/- 0.086	0.16	pCi/g	U
Th-227	-0.36 +/- 0.61	1.1	pCi/g	U
Th-234	1.1 +/- 1.5	2.4	pCi/g	U
Tl-208	0.34 +/- 0.12	0.13	pCi/g	
U-235	-0.20 +/- 0.36	0.67	pCi/g	U
Zn-65	-0.20 +/- 0.21	0.42	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Friday, July 11, 2003 09:18:48

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306173

Field ID: I-6
Lab ID: 0306173-12-D1

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030884D06A

Final Aliquot: 359.7
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.17 +/- 0.39	0.62	pCi/g	
Ag-110m	0.001 +/- 0.082	0.15	pCi/g	U
Al-26	0.012 +/- 0.073	0.14	pCi/g	U
Am-241	0.03 +/- 0.35	0.61	pCi/g	U
Be-7	0.46 +/- 0.66	1.1	pCi/g	U
Bi-212	0.8 +/- 1.2	2.0	pCi/g	U
Bi-214	0.49 +/- 0.22	0.29	pCi/g	
Cd-109	1.8 +/- 1.3	1.9	pCi/g	U
Ce-139	0.011 +/- 0.048	0.083	pCi/g	U
Ce-144	-0.15 +/- 0.32	0.59	pCi/g	U
Co-56	0.10 +/- 0.17	0.30	pCi/g	U
Co-57	-0.022 +/- 0.044	0.081	pCi/g	U
Co-58	-0.056 +/- 0.084	0.17	pCi/g	U
Co-60	0.090 +/- 0.096	0.15	pCi/g	U
Cr-51	0.45 +/- 0.60	0.97	pCi/g	U
Cs-134	-0.058 +/- 0.085	0.17	pCi/g	U
Cs-137	0.046 +/- 0.090	0.15	pCi/g	U
Eu-152	0.04 +/- 0.38	0.71	pCi/g	U
Eu-154	0.17 +/- 0.46	0.81	pCi/g	U
Eu-155	-0.04 +/- 0.18	0.33	pCi/g	U
Fe-59	0.06 +/- 0.21	0.37	pCi/g	U
I-131	-0.10 +/- 0.21	0.40	pCi/g	U
K-40	13.0 +/- 3.1	1.5	pCi/g	
Mn-54	-0.069 +/- 0.076	0.15	pCi/g	U
Na-22	-0.03 +/- 0.10	0.20	pCi/g	U
Nb-94	0.021 +/- 0.070	0.12	pCi/g	U
Nb-95	-0.006 +/- 0.084	0.16	pCi/g	U

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Friday, July 11, 2003 09:18:48

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: I-6

Lab ID: 0306173-12-D1

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030884D06A

Final Aliquot: 359.7
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Pa-234m	3 +/- 14	26	pCi/g	U
Pb-212	1.10 +/- 0.27	0.25	pCi/g	
Pb-214	0.61 +/- 0.19	0.27	pCi/g	
Ru-106	-0.36 +/- 0.70	1.3	pCi/g	U
Sb-124	-0.062 +/- 0.075	0.15	pCi/g	U
Sb-125	0.12 +/- 0.17	0.31	pCi/g	U
Sc-46	-0.034 +/- 0.095	0.18	pCi/g	U
Th-227	-0.04 +/- 0.62	1.1	pCi/g	U
Th-234	1.7 +/- 1.2	2.2	pCi/g	U
Tl-208	0.34 +/- 0.13	0.16	pCi/g	
U-235	0.00 +/- 0.33	0.59	pCi/g	U
Zn-65	-0.24 +/- 0.22	0.44	pCi/g	U

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Friday, July 11, 2003 09:18:48

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: I-6

Lab ID: 0306173-12-D1

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030884D06A

Final Aliquot: 359.7
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier

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.

* - Duplicate DER not within control limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 11, 2003 09:18:48

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: K-6

Lab ID: 0306173-13

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030883D06A

Final Aliquot: 293.9 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.33 +/- 0.46	0.61	pCi/g	
Ag-110m	-0.11 +/- 0.11	0.21	pCi/g	U
Al-26	0.040 +/- 0.097	0.18	pCi/g	U
Am-241	-0.21 +/- 0.39	0.72	pCi/g	U
Be-7	-0.10 +/- 0.74	1.4	pCi/g	U
Bi-212	2.3 +/- 1.6	2.3	pCi/g	TI
Bi-214	0.50 +/- 0.24	0.31	pCi/g	
Cd-109	1.9 +/- 2.0	3.2	pCi/g	U
Ce-139	-0.014 +/- 0.051	0.093	pCi/g	U
Ce-144	-0.05 +/- 0.38	0.69	pCi/g	U
Co-56	0.14 +/- 0.23	0.38	pCi/g	U
Co-57	0.031 +/- 0.056	0.094	pCi/g	U
Co-58	0.061 +/- 0.095	0.16	pCi/g	U
Co-60	0.175 +/- 0.097	0.091	pCi/g	TI
Cr-51	-0.14 +/- 0.81	1.5	pCi/g	U
Cs-134	0.02 +/- 0.11	0.19	pCi/g	U
Cs-137	0.21 +/- 0.12	0.17	pCi/g	TI
Eu-152	-0.20 +/- 0.49	1.0	pCi/g	U
Eu-154	0.69 +/- 0.49	0.66	pCi/g	TI
Eu-155	-0.09 +/- 0.22	0.40	pCi/g	U
Fe-59	-0.03 +/- 0.26	0.49	pCi/g	U
I-131	-0.08 +/- 0.23	0.43	pCi/g	U
K-40	17.8 +/- 4.1	2.4	pCi/g	
Mn-54	0.032 +/- 0.095	0.17	pCi/g	U
Na-22	0.00 +/- 0.11	0.21	pCi/g	U
Nb-94	0.017 +/- 0.076	0.14	pCi/g	U

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 11, 2003 09:18:48

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: K-6

Lab ID: 0306173-13

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030883D06A

Final Aliquot: 293.9 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.01 +/- 0.10	0.19	pCi/g	U
Pa-234m	6 +/- 15	27	pCi/g	U
Pb-212	1.13 +/- 0.30	0.29	pCi/g	
Pb-214	0.62 +/- 0.20	0.28	pCi/g	
Ru-106	-0.06 +/- 0.76	1.4	pCi/g	U
Sb-124	0.025 +/- 0.090	0.16	pCi/g	U
Sb-125	-0.01 +/- 0.18	0.33	pCi/g	U
Sc-46	-0.037 +/- 0.098	0.19	pCi/g	U
Th-227	-16 +/- 41	67	pCi/g	U
Th-234	0.4 +/- 1.2	2.1	pCi/g	U
Tl-208	0.39 +/- 0.14	0.16	pCi/g	
U-235	0.13 +/- 0.38	0.64	pCi/g	U
Zn-65	-0.10 +/- 0.31	0.57	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 11, 2003 09:18:48

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306173

Field ID: B-5
Lab ID: 0306173-14

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030877D07A

Final Aliquot: 286.8 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.18 +/- 0.40	0.61	pCi/g	
Ag-110m	-0.031 +/- 0.085	0.17	pCi/g	U
Al-26	0.051 +/- 0.059	0.046	pCi/g	U
Am-241	0.01 +/- 0.12	0.22	pCi/g	U
Be-7	-0.18 +/- 0.76	1.5	pCi/g	U
Bi-212	0.8 +/- 1.4	2.4	pCi/g	U
Bi-214	0.47 +/- 0.25	0.31	pCi/g	
Cd-109	1.1 +/- 1.2	1.9	pCi/g	U
Ce-139	0.004 +/- 0.049	0.089	pCi/g	U
Ce-144	-0.09 +/- 0.39	0.70	pCi/g	U
Co-56	0.19 +/- 0.24	0.38	pCi/g	U
Co-57	0.004 +/- 0.045	0.080	pCi/g	U
Co-58	-0.012 +/- 0.093	0.18	pCi/g	U
Co-60	0.013 +/- 0.069	0.14	pCi/g	U
Cr-51	-0.61 +/- 0.72	1.5	pCi/g	U
Cs-134	-0.007 +/- 0.091	0.17	pCi/g	U
Cs-137	0.10 +/- 0.11	0.18	pCi/g	U
Eu-152	-0.06 +/- 0.43	0.92	pCi/g	U
Eu-154	0.00 +/- 0.42	0.85	pCi/g	U
Eu-155	-0.10 +/- 0.19	0.35	pCi/g	U
Fe-59	0.02 +/- 0.18	0.34	pCi/g	U
I-131	-0.11 +/- 0.28	0.53	pCi/g	U
K-40	18.6 +/- 4.4	1.5	pCi/g	
Mn-54	-0.039 +/- 0.084	0.17	pCi/g	U
Na-22	-0.05 +/- 0.12	0.24	pCi/g	U
Nb-94	0.061 +/- 0.084	0.14	pCi/g	U

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 11, 2003 09:18:48

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: B-5

Lab ID: 0306173-14

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030877D07A

Final Aliquot: 286.8 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.057 +/- 0.095	0.16	pCi/g	U
Pa-234m	10 +/- 15	26	pCi/g	U
Pb-212	1.34 +/- 0.32	0.20	pCi/g	
Pb-214	0.59 +/- 0.21	0.27	pCi/g	
Ru-106	-0.63 +/- 0.74	1.6	pCi/g	U
Sb-124	0.06 +/- 0.11	0.18	pCi/g	U
Sb-125	0.05 +/- 0.20	0.35	pCi/g	U
Sc-46	0.009 +/- 0.083	0.16	pCi/g	U
Th-227	-0.02 +/- 0.43	0.77	pCi/g	U
Th-234	1.79 +/- 0.97	1.7	pCi/g	
Tl-208	0.46 +/- 0.17	0.18	pCi/g	
U-235	0.08 +/- 0.37	0.66	pCi/g	U
Zn-65	-0.21 +/- 0.29	0.59	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 11, 2003 09:18:49

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: D-5

Lab ID: 0306173-15

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030969D08A

Final Aliquot: 347.4 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.09 +/- 0.35	0.56	pCi/g	
Ag-110m	-0.09 +/- 0.11	0.22	pCi/g	U
Al-26	0.020 +/- 0.046	0.087	pCi/g	U
Am-241	0.03 +/- 0.12	0.21	pCi/g	U
Be-7	-0.26 +/- 0.61	1.2	pCi/g	U
Bi-212	0.8 +/- 1.2	2.0	pCi/g	U
Bi-214	0.66 +/- 0.25	0.29	pCi/g	
Cd-109	2.2 +/- 1.4	2.1	pCi/g	SI
Ce-139	-0.036 +/- 0.052	0.097	pCi/g	U
Ce-144	0.00 +/- 0.34	0.60	pCi/g	U
Co-56	0.01 +/- 0.16	0.30	pCi/g	U
Co-57	0.002 +/- 0.043	0.075	pCi/g	U
Co-58	-0.024 +/- 0.060	0.13	pCi/g	U
Co-60	0.017 +/- 0.077	0.14	pCi/g	U
Cr-51	-0.49 +/- 0.67	1.3	pCi/g	U
Cs-134	-0.070 +/- 0.068	0.14	pCi/g	U
Cs-137	0.133 +/- 0.093	0.13	pCi/g	
Eu-152	0.00 +/- 0.30	0.60	pCi/g	U
Eu-154	0.04 +/- 0.39	0.74	pCi/g	U
Eu-155	0.22 +/- 0.19	0.30	pCi/g	U
Fe-59	0.10 +/- 0.18	0.31	pCi/g	U
I-131	0.06 +/- 0.20	0.34	pCi/g	U
K-40	19.8 +/- 4.2	1.3	pCi/g	
Mn-54	0.028 +/- 0.069	0.12	pCi/g	U
Na-22	0.017 +/- 0.083	0.15	pCi/g	U
Nb-94	-0.035 +/- 0.071	0.14	pCi/g	U

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 11, 2003 09:18:49

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: D-5

Lab ID: 0306173-15

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030969D08A

Final Aliquot: 347.4 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.119 +/- 0.092	0.19	pCi/g	U
Pa-234m	3 +/- 14	25	pCi/g	U
Pb-212	1.30 +/- 0.29	0.21	pCi/g	
Pb-214	0.46 +/- 0.15	0.20	pCi/g	
Ru-106	-0.10 +/- 0.57	1.1	pCi/g	U
Sb-124	0.038 +/- 0.078	0.13	pCi/g	U
Sb-125	0.08 +/- 0.13	0.24	pCi/g	U
Sc-46	-0.070 +/- 0.077	0.16	pCi/g	U
Th-227	0.04 +/- 0.34	0.60	pCi/g	U
Th-234	1.5 +/- 1.0	1.6	pCi/g	U
Tl-208	0.46 +/- 0.14	0.13	pCi/g	
U-235	0.16 +/- 0.34	0.57	pCi/g	U
Zn-65	-0.11 +/- 0.20	0.39	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 11, 2003 09:18:49

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: F-5

Lab ID: 0306173-16

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030890D10A

Final Aliquot: 343.3 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.36 +/- 0.33	0.43	pCi/g	
Ag-110m	-0.027 +/- 0.061	0.11	pCi/g	U
Al-26	0.002 +/- 0.049	0.091	pCi/g	U
Am-241	0.21 +/- 0.20	0.32	pCi/g	U
Be-7	-0.09 +/- 0.43	0.76	pCi/g	U
Bi-212	0.93 +/- 0.97	1.6	pCi/g	U
Bi-214	0.27 +/- 0.17	0.26	pCi/g	
Cd-109	1.6 +/- 1.4	2.2	pCi/g	U
Ce-139	-0.015 +/- 0.041	0.072	pCi/g	U
Ce-144	0.10 +/- 0.31	0.52	pCi/g	U
Co-56	0.13 +/- 0.15	0.24	pCi/g	U
Co-57	0.017 +/- 0.039	0.066	pCi/g	U
Co-58	-0.053 +/- 0.062	0.12	pCi/g	U
Co-60	0.038 +/- 0.066	0.11	pCi/g	U
Cr-51	0.21 +/- 0.49	0.83	pCi/g	U
Cs-134	-0.033 +/- 0.078	0.14	pCi/g	U
Cs-137	0.070 +/- 0.065	0.10	pCi/g	U
Eu-152	0.28 +/- 0.27	0.42	pCi/g	U
Eu-154	0.03 +/- 0.34	0.59	pCi/g	U
Eu-155	0.03 +/- 0.14	0.25	pCi/g	U
Fe-59	0.01 +/- 0.15	0.26	pCi/g	U
I-131	0.05 +/- 0.16	0.27	pCi/g	U
K-40	20.4 +/- 3.8	1.5	pCi/g	
Mn-54	-0.007 +/- 0.061	0.11	pCi/g	U
Na-22	-0.004 +/- 0.066	0.12	pCi/g	U
Nb-94	-0.012 +/- 0.051	0.091	pCi/g	U

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 11, 2003 09:18:49

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: F-5

Lab ID: 0306173-16

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030890D10A

Final Aliquot: 343.3 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.021 +/- 0.061	0.10	pCi/g	U
Pa-234m	-0.6 +/- 10.0	18	pCi/g	U
Pb-212	1.51 +/- 0.29	0.16	pCi/g	
Pb-214	0.59 +/- 0.16	0.21	pCi/g	
Ru-106	-0.36 +/- 0.52	0.95	pCi/g	U
Sb-124	-0.042 +/- 0.070	0.12	pCi/g	U
Sb-125	0.06 +/- 0.12	0.22	pCi/g	U
Sc-46	-0.015 +/- 0.052	0.095	pCi/g	U
Th-227	-0.83 +/- 0.56	0.99	pCi/g	U
Th-234	-0.18 +/- 0.72	1.2	pCi/g	U
Tl-208	0.44 +/- 0.11	0.11	pCi/g	
U-235	-0.15 +/- 0.29	0.52	pCi/g	U
Zn-65	-0.01 +/- 0.20	0.34	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 11, 2003 09:18:50

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: J-9

Lab ID: 0306173-19

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030878D07A

Final Aliquot: 283.2 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.03 +/- 0.43	0.71	pCi/g	
Ag-110m	-0.055 +/- 0.088	0.18	pCi/g	U
Al-26	-0.003 +/- 0.053	0.14	pCi/g	U
Am-241	-0.07 +/- 0.12	0.23	pCi/g	U
Be-7	-0.42 +/- 0.75	1.5	pCi/g	U
Bi-212	1.9 +/- 1.5	2.2	pCi/g	U
Bi-214	0.45 +/- 0.26	0.34	pCi/g	
Cd-109	-0.2 +/- 1.3	2.3	pCi/g	U
Ce-139	0.021 +/- 0.049	0.085	pCi/g	U
Ce-144	-0.03 +/- 0.33	0.61	pCi/g	U
Co-56	-0.23 +/- 0.23	0.50	pCi/g	U
Co-57	0.025 +/- 0.047	0.078	pCi/g	U
Co-58	0.011 +/- 0.084	0.16	pCi/g	U
Co-60	-0.04 +/- 0.10	0.22	pCi/g	U
Cr-51	-0.40 +/- 0.69	1.4	pCi/g	U
Cs-134	-0.014 +/- 0.091	0.17	pCi/g	U
Cs-137	0.17 +/- 0.12	0.18	pCi/g	U
Eu-152	0.33 +/- 0.40	0.61	pCi/g	U
Eu-154	-0.06 +/- 0.55	1.1	pCi/g	U
Eu-155	0.21 +/- 0.18	0.27	pCi/g	U
Fe-59	-0.12 +/- 0.23	0.48	pCi/g	U
I-131	-0.06 +/- 0.27	0.50	pCi/g	U
K-40	14.3 +/- 3.7	1.8	pCi/g	
Mn-54	0.076 +/- 0.082	0.13	pCi/g	U
Na-22	-0.03 +/- 0.11	0.23	pCi/g	U
Nb-94	0.023 +/- 0.088	0.16	pCi/g	U

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 11, 2003 09:18:50

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: J-9

Lab ID: 0306173-19

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030878D07A

Final Aliquot: 283.2 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.01 +/- 0.11	0.20	pCi/g	U
Pa-234m	12 +/- 17	29	pCi/g	U
Pb-212	1.13 +/- 0.30	0.26	pCi/g	
Pb-214	0.71 +/- 0.24	0.28	pCi/g	
Ru-106	-0.21 +/- 0.77	1.5	pCi/g	U
Sb-124	0.11 +/- 0.11	0.17	pCi/g	U
Sb-125	-0.02 +/- 0.23	0.43	pCi/g	U
Sc-46	0.060 +/- 0.088	0.15	pCi/g	U
Th-227	0.20 +/- 0.40	0.68	pCi/g	U
Th-234	1.42 +/- 0.98	2.1	pCi/g	U
Tl-208	0.61 +/- 0.18	0.13	pCi/g	
U-235	0.00 +/- 0.38	0.67	pCi/g	U
Zn-65	-0.05 +/- 0.21	0.43	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 11, 2003 09:18:51

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306173

Field ID: L-9
Lab ID: 0306173-20

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030970D08A

Final Aliquot: 313.7 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.08 +/- 0.36	0.58	pCi/g	
Ag-110m	-0.062 +/- 0.073	0.15	pCi/g	U
Al-26	-0.061 +/- 0.078	0.19	pCi/g	U
Am-241	0.06 +/- 0.14	0.23	pCi/g	U
Be-7	0.00 +/- 0.56	1.0	pCi/g	U
Bi-212	1.4 +/- 1.3	2.1	pCi/g	U
Bi-214	0.64 +/- 0.25	0.29	pCi/g	
Cd-109	2.3 +/- 1.2	1.7	pCi/g	SI
Ce-139	-0.024 +/- 0.049	0.091	pCi/g	U
Ce-144	0.27 +/- 0.36	0.59	pCi/g	U
Co-56	0.02 +/- 0.16	0.30	pCi/g	U
Co-57	0.021 +/- 0.046	0.077	pCi/g	U
Co-58	-0.027 +/- 0.064	0.13	pCi/g	U
Co-60	0.029 +/- 0.074	0.13	pCi/g	U
Cr-51	-0.19 +/- 0.68	1.3	pCi/g	U
Cs-134	0.068 +/- 0.075	0.12	pCi/g	U
Cs-137	0.096 +/- 0.090	0.14	pCi/g	U
Eu-152	0.05 +/- 0.28	0.57	pCi/g	U
Eu-154	-0.21 +/- 0.48	0.97	pCi/g	U
Eu-155	0.18 +/- 0.18	0.29	pCi/g	U
Fe-59	0.07 +/- 0.20	0.35	pCi/g	U
I-131	-0.12 +/- 0.21	0.41	pCi/g	U
K-40	17.3 +/- 3.9	1.6	pCi/g	
Mn-54	0.036 +/- 0.073	0.13	pCi/g	U
Na-22	0.034 +/- 0.078	0.14	pCi/g	U
Nb-94	0.004 +/- 0.076	0.14	pCi/g	U

Data Package ID: *GSS0306173-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Friday, July 11, 2003 09:18:51

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306173

Field ID: L-9

Lab ID: 0306173-20

Sample Matrix: Soil
Date Prepared: 09-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02135

Date Collected: 25-Jun-03
Date Analyzed: 10-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030970D08A

Final Aliquot: 313.7 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.004 +/- 0.098	0.18	pCi/g	U
Pa-234m	3 +/- 12	23	pCi/g	U
Pb-212	1.23 +/- 0.30	0.24	pCi/g	
Pb-214	0.63 +/- 0.19	0.22	pCi/g	
Ru-106	0.27 +/- 0.64	1.1	pCi/g	U
Sb-124	-0.018 +/- 0.086	0.16	pCi/g	U
Sb-125	0.06 +/- 0.15	0.30	pCi/g	U
Sc-46	-0.023 +/- 0.071	0.15	pCi/g	U
Th-227	-0.14 +/- 0.36	0.66	pCi/g	U
Th-234	0.95 +/- 0.86	1.4	pCi/g	U
Tl-208	0.41 +/- 0.13	0.12	pCi/g	
U-235	0.10 +/- 0.36	0.62	pCi/g	U
Zn-65	-0.13 +/- 0.17	0.36	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306173-1*

Paragon Analytics, Inc.

Radiochemistry Case Narrative
Gamma Spectroscopy

New World Technology
Bethesda / GA00419

Paragon Work Order 0306172

1. This report consists of analysis results for twenty soil samples received by Paragon on 6/27/03. The analysis results for these samples are reported on a 'dry weight' basis in units of pCi/gram.
2. These samples were prepared according to Paragon Analytics, Inc. procedure PAI SOP739R6.
3. The samples were analyzed for the presence of gamma emitting radionuclides according to Paragon Analytics, Inc. procedure PAI SOP713R8. The analyses were completed on 7/09/03.
4. Sample volumes were insufficient to allow preparation of duplicates. Duplicate analyses of samples B-9 and C-10-D (PAI ID 0306172-1 and -12) were performed in lieu of preparation duplicates.
5. Activity concentrations above the calculated MDC are reported in some instances where minimum nuclide identification criteria are not met. Such tentative identifications result when the software attempts to calculate net activity concentrations for analytes where either one or both of the following criteria are not satisfied: the 'diagnostic' peak for a nuclide must be identified above critical level (generally the most abundant, interference-free photopeak), or the minimum library peak tolerance of 75% must be attained. These data have been flagged with a "TI" qualifier.
6. In cases where Cd-109 is identified at a level greater than the MDC, it is assigned an "SI" flag denoting spectral interference at the 88 keV line. This interference occurs with the K_β x-ray of Pb, which occurs at an energy of 87 keV.
7. Duplicate analysis results elevated above the DER warning limit of 1.42 have been flagged as "W" for Warn. For gamma spectroscopic analysis SOP 715R13 states that 75% of the nuclides must be within the 2-sigma control limit to meet DER or RPD requirements. Elevated DER may be attributable to sample non-homogeneity.
8. There are cases where the magnitude of the negative activity is greater than the 2-sigma TPU. The analyst's review of the data does not indicate a problem with the instrument data or the subsequent reporting systems. The data quality is believed to be unaffected and the results are submitted without qualification. Under typical conditions, where background level

sample data is normally distributed and analyzed by paired observations, this event is likely to occur at least 2.5% of the time.

9. No problems were encountered with either the client samples or the associated quality control samples. All quality control criteria were met.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, Paragon Analytics, Inc. certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Radiochemistry Instrument Technician — Date: 7-14-03

Radiochemistry Final Data Review — Date: 7-15-03

1

PARAGON ANALYTICS, INC.
Radiochemistry Data Package

Section 1

SAMPLE RESULTS SUMMARY

A summary report is not provided.

Please refer to the individual sample results data in Section 3.

2

PARAGON ANALYTICS, INC.

Radiochemistry Data Package

Section 2

QC RESULTS SUMMARY

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Monday, July 14, 2003 09:54:20

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306172

Field ID:
Lab ID: GS02132BLK1

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02132

Date Collected: 08-Jul-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030878D10A

Final Aliquot: 323.1
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	-0.11 +/- 0.18	0.34	pCi/g	U
Ag-110m	0.028 +/- 0.041	0.067	pCi/g	U
Al-26	0.002 +/- 0.052	0.096	pCi/g	U
Am-241	0.08 +/- 0.13	0.22	pCi/g	U
Be-7	-0.38 +/- 0.34	0.65	pCi/g	U
Bi-212	0.01 +/- 0.58	1.0	pCi/g	U
Bi-214	-0.20 +/- 0.13	0.24	pCi/g	U
Cd-109	0.00 +/- 0.81	1.4	pCi/g	U
Ce-139	0.001 +/- 0.026	0.045	pCi/g	U
Ce-144	-0.03 +/- 0.18	0.33	pCi/g	U
Co-56	0.003 +/- 0.091	0.16	pCi/g	U
Co-57	-0.003 +/- 0.025	0.044	pCi/g	U
Co-58	-0.055 +/- 0.046	0.090	pCi/g	U
Co-60	0.004 +/- 0.046	0.083	pCi/g	U
Cr-51	-0.09 +/- 0.26	0.48	pCi/g	U
Cs-134	-0.042 +/- 0.068	0.13	pCi/g	U
Cs-137	-0.026 +/- 0.045	0.085	pCi/g	U
Eu-152	0.18 +/- 0.24	0.39	pCi/g	U
Eu-154	-0.15 +/- 0.27	0.51	pCi/g	U
Eu-155	-0.008 +/- 0.089	0.16	pCi/g	U
Fe-59	-0.005 +/- 0.092	0.17	pCi/g	U
I-131	0.029 +/- 0.039	0.063	pCi/g	U
K-40	-0.17 +/- 0.72	1.3	pCi/g	U
Mn-54	-0.010 +/- 0.046	0.085	pCi/g	U

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Monday, July 14, 2003 09:54:20

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306172

Field ID:
Lab ID: GS02132BLK1

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02132

Date Collected: 08-Jul-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030878D10A

Final Aliquot: 323.1
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier
Na-22	0.005 +/- 0.048	0.087	pCi/g	U
Nb-94	-0.041 +/- 0.046	0.088	pCi/g	U
Nb-95	0.017 +/- 0.037	0.064	pCi/g	U
Pa-234m	0.2 +/- 7.1	13	pCi/g	U
Pb-212	-0.063 +/- 0.073	0.13	pCi/g	U
Pb-214	-0.078 +/- 0.097	0.18	pCi/g	U
Ru-106	-0.13 +/- 0.44	0.80	pCi/g	U
Sb-124	-0.024 +/- 0.055	0.098	pCi/g	U
Sb-125	0.01 +/- 0.10	0.18	pCi/g	U
Sc-46	0.014 +/- 0.042	0.074	pCi/g	U
Th-227	-0.28 +/- 0.24	0.44	pCi/g	U
Th-234	0.79 +/- 0.52	0.77	pCi/g	TI
Tl-208	0.017 +/- 0.047	0.081	pCi/g	U
U-235	-0.14 +/- 0.21	0.39	pCi/g	U
Zn-65	-0.07 +/- 0.11	0.20	pCi/g	U

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Monday, July 14, 2003 09:54:20

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID:

Lab ID: GS02132BLK1

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02132

Date Collected: 08-Jul-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030878D10A

Final Aliquot: 323.1
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield in control at 100-110%. Quantitative yield is assumed.

Y2 - Chemical Yield outside default limits.

B3 - Analyte concentration greater than MDC but less than Requested MDC.

B - Analyte concentration greater than MDC.

SQ - Spectral iquality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Monday, July 14, 2003 09:54:22

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID:

Lab ID: GS02133BLK1

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02133

Date Collected: 08-Jul-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030928D02A

Final Aliquot: 49.76
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	-0.04 +/- 0.42	0.91	pCi/g	U
Ag-110m	0.00 +/- 0.14	0.27	pCi/g	U
Al-26	0.03 +/- 0.16	0.33	pCi/g	U
Am-241	0.09 +/- 0.82	1.5	pCi/g	U
Be-7	0.23 +/- 0.88	1.6	pCi/g	U
Bi-212	1.4 +/- 2.1	3.4	pCi/g	U
Bi-214	-0.10 +/- 0.34	0.66	pCi/g	U
Cd-109	-1.8 +/- 2.2	4.7	pCi/g	U
Ce-139	0.056 +/- 0.065	0.10	pCi/g	U
Ce-144	-0.06 +/- 0.50	0.96	pCi/g	U
Co-56	0.06 +/- 0.27	0.51	pCi/g	U
Co-57	-0.010 +/- 0.063	0.12	pCi/g	U
Co-58	0.02 +/- 0.16	0.30	pCi/g	U
Co-60	-0.01 +/- 0.11	0.26	pCi/g	U
Cr-51	0.33 +/- 0.74	1.3	pCi/g	U
Cs-134	0.06 +/- 0.15	0.26	pCi/g	U
Cs-137	-0.03 +/- 0.15	0.30	pCi/g	U
Eu-152	-0.59 +/- 0.65	1.7	pCi/g	U
Eu-154	-0.34 +/- 0.52	1.4	pCi/g	U
Eu-155	-0.05 +/- 0.28	0.56	pCi/g	U
Fe-59	-0.04 +/- 0.21	0.48	pCi/g	U
I-131	-0.08 +/- 0.11	0.24	pCi/g	U
K-40	-0.3 +/- 1.9	4.0	pCi/g	U
Mn-54	-0.03 +/- 0.10	0.23	pCi/g	U

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Monday, July 14, 2003 09:54:22

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306172

Field ID:
Lab ID: GS02133BLK1

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02133

Date Collected: 08-Jul-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030928D02A

Final Aliquot: 49.76
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier
Na-22	-0.06 +/- 0.15	0.35	pCi/g	U
Nb-94	-0.02 +/- 0.14	0.27	pCi/g	U
Nb-95	0.01 +/- 0.12	0.23	pCi/g	U
Pa-234m	3 +/- 21	42	pCi/g	U
Pb-212	0.08 +/- 0.21	0.36	pCi/g	U
Pb-214	0.19 +/- 0.30	0.50	pCi/g	U
Ru-106	0.7 +/- 1.5	2.6	pCi/g	U
Sb-124	0.04 +/- 0.13	0.24	pCi/g	U
Sb-125	0.04 +/- 0.25	0.49	pCi/g	U
Sc-46	-0.01 +/- 0.14	0.29	pCi/g	U
Th-227	-0.31 +/- 0.62	1.2	pCi/g	U
Th-234	0.3 +/- 1.4	2.6	pCi/g	U
Tl-208	-0.02 +/- 0.17	0.32	pCi/g	U
U-235	-0.07 +/- 0.51	0.98	pCi/g	U
Zn-65	0.00 +/- 0.25	0.54	pCi/g	U

000010

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Monday, July 14, 2003 09:54:22

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID:

Lab ID: GS02133BLK1

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02133

Date Collected: 08-Jul-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030928D02A

Final Aliquot: 49.76
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield in control at 100-110%. Quantitative yield is assumed.

Y2 - Chemical Yield outside default limits.

B3 - Analyte concentration greater than MDC but less than Requested MDC.

B - Analyte concentration greater than MDC.

SQ - Spectral iquality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

LCS Results

Reported on: Monday, July 14, 2003 09:54:20

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID:

Lab ID: GS02132LCS1

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02132

Date Collected: 08-Jul-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030872D07A

Final Aliquot: 500.0
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	LCS Results +/- 2s TPU	MDC	Spike Added	Reporting Units	LCS Recovery	Control Limits	Lab Qualifier
Am-241	211 +/- 35	1.2	196	pCi/g	107%	85-115%	P
Cd-109	840 +/- 140	6.5	792	pCi/g	106%	85-115%	P
Co-60	96 +/- 16	0.37	92.9	pCi/g	104%	85-115%	P
Cs-137	85 +/- 14	0.55	80.3	pCi/g	105%	85-115%	P

Comments:

Data Package ID: *GSS0306172-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
* - Duplicate DER not within control limits.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS Recovery within control limits.

Abbreviations:

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

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.

Gamma Spectroscopy Results

Method PAI 713R8

LCS Results

Reported on: Monday, July 14, 2003 09:54:22

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID:

Lab ID: GS02133LCS1

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02133

Date Collected: 08-Jul-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030957D08A

Final Aliquot: 100.0
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	LCS Results +/- 2s TPU	MDC	Spike Added	Reporting Units	LCS Recovery	Control Limits	Lab Qualifier
Am-241	950 +/- 160	2.7	890	pCi/g	107%	85-115%	P
Cd-109	3280 +/- 540	16	3140	pCi/g	105%	85-115%	P
Co-60	479 +/- 79	1.2	457	pCi/g	105%	85-115%	P
Cs-137	429 +/- 71	1.8	389	pCi/g	110%	85-115%	P

Comments:

Data Package ID: *GSS0306172-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
* - Duplicate DER not within control limits.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS Recovery within control limits.

Abbreviations:

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

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.

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Monday, July 14, 2003 09:54:14

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: B-9	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID: 0306172-1	7/8/03	7/9/03	GS02132	307.7
DUP ID: 0306172-1-D1	7/8/03	7/9/03	GS02132	307.7

Sample Matrix: Soil
Date Collected: 25-Jun-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Ac-228	2.05 +/- 0.54	1.55 +/- 0.37	pCi/g	0.75	< 1.42	
Ag-110m	-0.059 +/- 0.084	-0.009 +/- 0.059	pCi/g	0.49	< 1.42	
Al-26	-0.024 +/- 0.065	0.010 +/- 0.045	pCi/g	0.43	< 1.42	
Am-241	-0.06 +/- 0.46	0.25 +/- 0.29	pCi/g	0.57	< 1.42	
Be-7	0.79 +/- 0.65	0.31 +/- 0.51	pCi/g	0.58	< 1.42	
Bi-212	0.7 +/- 1.3	1.39 +/- 0.83	pCi/g	0.42	< 1.42	
Bi-214	0.84 +/- 0.30	0.74 +/- 0.21	pCi/g	0.25	< 1.42	
Cd-109	5.2 +/- 2.6	1.7 +/- 1.8	pCi/g	1.09	< 1.42	
Ce-139	-0.050 +/- 0.061	0.000 +/- 0.044	pCi/g	0.67	< 1.42	
Ce-144	-0.21 +/- 0.43	0.23 +/- 0.26	pCi/g	0.88	< 1.42	
Co-56	0.01 +/- 0.19	0.04 +/- 0.13	pCi/g	0.15	< 1.42	
Co-57	-0.010 +/- 0.056	-0.014 +/- 0.043	pCi/g	0.06	< 1.42	
Co-58	-0.030 +/- 0.073	-0.058 +/- 0.064	pCi/g	0.29	< 1.42	
Co-60	-0.038 +/- 0.092	0.000 +/- 0.056	pCi/g	0.36	< 1.42	
Cr-51	0.33 +/- 0.73	-0.23 +/- 0.50	pCi/g	0.63	< 1.42	
Cs-134	-0.003 +/- 0.074	-0.032 +/- 0.081	pCi/g	0.27	< 1.42	
Cs-137	-0.002 +/- 0.088	0.044 +/- 0.058	pCi/g	0.43	< 1.42	
Eu-152	0.15 +/- 0.38	-0.07 +/- 0.29	pCi/g	0.45	< 1.42	
Eu-154	-0.04 +/- 0.42	-0.04 +/- 0.32	pCi/g	0	< 1.42	
Eu-155	0.33 +/- 0.26	0.15 +/- 0.19	pCi/g	0.56	< 1.42	
Fe-59	0.09 +/- 0.20	-0.10 +/- 0.14	pCi/g	0.77	< 1.42	
I-131	-0.03 +/- 0.22	-0.11 +/- 0.15	pCi/g	0.31	< 1.42	
K-40	16.7 +/- 3.8	17.7 +/- 3.4	pCi/g	0.19	< 1.42	
Mn-54	0.027 +/- 0.075	0.068 +/- 0.062	pCi/g	0.41	< 1.42	
Na-22	0.09 +/- 0.10	-0.058 +/- 0.082	pCi/g	1.09	< 1.42	
Nb-94	-0.006 +/- 0.083	0.041 +/- 0.059	pCi/g	0.46	< 1.42	
Nb-95	0.036 +/- 0.097	-0.008 +/- 0.060	pCi/g	0.39	< 1.42	
Pa-234m	0 +/- 14	-1.3 +/- 9.8	pCi/g	0.1	< 1.42	

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Monday, July 14, 2003 09:54:14

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID:	B-9	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID:	0306172-1	7/8/03	7/9/03	GS02132	307.7
DUP ID:	0306172-1-D1	7/8/03	7/9/03	GS02132	307.7

Sample Matrix: Soil
Date Collected: 25-Jun-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Pb-212	1.47 +/- 0.35	1.77 +/- 0.34	pCi/g	0.63	< 1.42	
Pb-214	0.61 +/- 0.20	0.78 +/- 0.19	pCi/g	0.63	< 1.42	
Ru-106	-0.18 +/- 0.72	-0.43 +/- 0.55	pCi/g	0.27	< 1.42	
Sb-124	0.023 +/- 0.084	0.007 +/- 0.064	pCi/g	0.15	< 1.42	
Sb-125	-0.27 +/- 0.17	0.05 +/- 0.14	pCi/g	1.42	< 1.42	
Sc-46	-0.061 +/- 0.091	-0.001 +/- 0.063	pCi/g	0.54	< 1.42	
Th-227	-0.37 +/- 0.79	-2.32 +/- 0.77	pCi/g	1.76	< 1.42	W
Th-234	1.0 +/- 1.8	1.6 +/- 1.4	pCi/g	0.27	< 1.42	
Tl-208	0.51 +/- 0.17	0.47 +/- 0.12	pCi/g	0.21	< 1.42	
U-235	-0.05 +/- 0.44	0.15 +/- 0.32	pCi/g	0.36	< 1.42	
Zn-65	-0.26 +/- 0.21	-0.08 +/- 0.18	pCi/g	0.64	< 1.42	

Comments:

Qualifiers/Flags:

W - DER is greater than Warning Limit of 1.42

H - DER is Higher han Control Limit of 2.13

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

DER - Duplicate Error Ratio

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Monday, July 14, 2003 09:54:21

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: C-10	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID: 0306172-11	7/8/03	7/9/03	GS02133	53.70
DUP ID: 0306172-11-D1	7/8/03	7/9/03	GS02133	44.40

Sample Matrix: Soil
Date Collected: 25-Jun-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Ac-228	0.48 +/- 0.59	0.57 +/- 0.79	pCi/g	0.09	< 1.42	
Ag-110m	-0.14 +/- 0.23	-0.04 +/- 0.13	pCi/g	0.39	< 1.42	
Al-26	-0.18 +/- 0.19	-0.04 +/- 0.14	pCi/g	0.6	< 1.42	
Am-241	-0.06 +/- 0.42	0.6 +/- 1.1	pCi/g	0.55	< 1.42	
Be-7	0.51 +/- 1.00	1.4 +/- 1.6	pCi/g	0.46	< 1.42	
Bi-212	1.3 +/- 1.9	0.5 +/- 2.0	pCi/g	0.28	< 1.42	
Bi-214	0.32 +/- 0.33	0.25 +/- 0.46	pCi/g	0.13	< 1.42	
Cd-109	-1.7 +/- 3.0	1.3 +/- 4.1	pCi/g	0.6	< 1.42	
Ce-139	-0.047 +/- 0.074	0.055 +/- 0.081	pCi/g	0.93	< 1.42	
Ce-144	0.03 +/- 0.47	0.20 +/- 0.64	pCi/g	0.21	< 1.42	
Co-56	0.05 +/- 0.29	0.03 +/- 0.26	pCi/g	0.05	< 1.42	
Co-57	0.006 +/- 0.065	-0.016 +/- 0.076	pCi/g	0.22	< 1.42	
Co-58	0.00 +/- 0.15	-0.07 +/- 0.19	pCi/g	0.27	< 1.42	
Co-60	0.37 +/- 0.24	0.28 +/- 0.29	pCi/g	0.26	< 1.42	
Cr-51	0.69 +/- 1.00	-0.1 +/- 1.4	pCi/g	0.47	< 1.42	
Cs-134	0.04 +/- 0.20	0.08 +/- 0.18	pCi/g	0.16	< 1.42	
Cs-137	0.63 +/- 0.23	0.61 +/- 0.26	pCi/g	0.06	< 1.42	
Eu-152	-0.13 +/- 0.74	-0.23 +/- 0.79	pCi/g	0.1	< 1.42	
Eu-154	-0.45 +/- 0.84	1.03 +/- 0.98	pCi/g	1.14	< 1.42	
Eu-155	0.12 +/- 0.31	0.13 +/- 0.41	pCi/g	0.02	< 1.42	
Fe-59	-0.10 +/- 0.34	-0.05 +/- 0.39	pCi/g	0.1	< 1.42	
I-131	-0.05 +/- 0.27	-0.20 +/- 0.50	pCi/g	0.26	< 1.42	
K-40	12.7 +/- 3.9	8.6 +/- 4.0	pCi/g	0.74	< 1.42	
Mn-54	0.02 +/- 0.16	-0.04 +/- 0.15	pCi/g	0.23	< 1.42	
Na-22	0.05 +/- 0.18	0.08 +/- 0.18	pCi/g	0.11	< 1.42	
Nb-94	-0.11 +/- 0.14	-0.12 +/- 0.15	pCi/g	0.06	< 1.42	
Nb-95	0.00 +/- 0.14	0.11 +/- 0.19	pCi/g	0.49	< 1.42	
Pa-234m	11 +/- 26	-16 +/- 27	pCi/g	0.7	< 1.42	

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Monday, July 14, 2003 09:54:21

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID:	C-10	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID:	0306172-11	7/8/03	7/9/03	GS02133	53.70
DUP ID:	0306172-11-D1	7/8/03	7/9/03	GS02133	44.40

Sample Matrix: Soil
Date Collected: 25-Jun-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Pb-212	0.64 +/- 0.25	0.81 +/- 0.38	pCi/g	0.39	< 1.42	
Pb-214	0.17 +/- 0.23	0.28 +/- 0.29	pCi/g	0.31	< 1.42	
Ru-106	-1.5 +/- 1.4	1.5 +/- 1.4	pCi/g	1.48	< 1.42	W
Sb-124	0.07 +/- 0.16	-0.11 +/- 0.19	pCi/g	0.73	< 1.42	
Sb-125	0.43 +/- 0.29	0.42 +/- 0.40	pCi/g	0.01	< 1.42	
Sc-46	-0.02 +/- 0.15	0.05 +/- 0.19	pCi/g	0.31	< 1.42	
Th-227	-0.92 +/- 0.99	0.0 +/- 1.0	pCi/g	0.64	< 1.42	
Th-234	2.0 +/- 1.9	0.2 +/- 2.5	pCi/g	0.57	< 1.42	
Tl-208	0.11 +/- 0.12	0.25 +/- 0.19	pCi/g	0.64	< 1.42	
U-235	-0.03 +/- 0.53	-0.04 +/- 0.63	pCi/g	0.01	< 1.42	
Zn-65	-0.30 +/- 0.38	-0.05 +/- 0.34	pCi/g	0.49	< 1.42	

Comments:

Qualifiers/Flags:

W - DER is greater than Warning Limit of 1.42

H - DER is Higher han Control Limit of 2.13

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

DER - Duplicate Error Ratio

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Monday, July 14, 2003 09:54:15

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306172

Field ID:	C-10-D	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID:	0306172-12	7/8/03	7/9/03	GS02132	367.0
DUP ID:	0306172-12-D1	7/8/03	7/9/03	GS02132	367.0

Sample Matrix: Soil
Date Collected: 25-Jun-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Ac-228	1.62 +/- 0.45	1.35 +/- 0.32	pCi/g	0.48	< 1.42	
Ag-110m	0.024 +/- 0.067	-0.001 +/- 0.045	pCi/g	0.32	< 1.42	
Al-26	0.013 +/- 0.027	-0.021 +/- 0.042	pCi/g	0.7	< 1.42	
Am-241	0.00 +/- 0.12	-0.05 +/- 0.25	pCi/g	0.18	< 1.42	
Be-7	0.22 +/- 0.49	-0.18 +/- 0.40	pCi/g	0.63	< 1.42	
Bi-212	1.3 +/- 1.2	1.21 +/- 0.87	pCi/g	0.09	< 1.42	
Bi-214	0.47 +/- 0.21	0.57 +/- 0.18	pCi/g	0.34	< 1.42	
Cd-109	2.7 +/- 1.4	1.2 +/- 1.5	pCi/g	0.72	< 1.42	
Ce-139	0.046 +/- 0.043	-0.044 +/- 0.042	pCi/g	1.51	< 1.42	W
Ce-144	-0.21 +/- 0.31	0.00 +/- 0.26	pCi/g	0.51	< 1.42	
Co-56	0.00 +/- 0.20	0.18 +/- 0.12	pCi/g	0.77	< 1.42	
Co-57	0.023 +/- 0.039	-0.016 +/- 0.034	pCi/g	0.74	< 1.42	
Co-58	-0.033 +/- 0.071	0.005 +/- 0.053	pCi/g	0.43	< 1.42	
Co-60	0.041 +/- 0.087	-0.017 +/- 0.054	pCi/g	0.56	< 1.42	
Cr-51	0.13 +/- 0.52	0.03 +/- 0.44	pCi/g	0.15	< 1.42	
Cs-134	-0.053 +/- 0.071	0.027 +/- 0.078	pCi/g	0.76	< 1.42	
Cs-137	0.000 +/- 0.080	-0.013 +/- 0.050	pCi/g	0.14	< 1.42	
Eu-152	0.00 +/- 0.35	0.22 +/- 0.27	pCi/g	0.5	< 1.42	
Eu-154	0.13 +/- 0.46	0.10 +/- 0.26	pCi/g	0.06	< 1.42	
Eu-155	0.23 +/- 0.18	0.13 +/- 0.17	pCi/g	0.38	< 1.42	
Fe-59	-0.17 +/- 0.19	-0.01 +/- 0.11	pCi/g	0.73	< 1.42	
I-131	0.15 +/- 0.20	0.03 +/- 0.14	pCi/g	0.5	< 1.42	
K-40	15.7 +/- 3.7	17.8 +/- 3.3	pCi/g	0.41	< 1.42	
Mn-54	0.015 +/- 0.060	0.027 +/- 0.055	pCi/g	0.15	< 1.42	
Na-22	-0.019 +/- 0.090	0.003 +/- 0.060	pCi/g	0.2	< 1.42	
Nb-94	0.012 +/- 0.061	0.001 +/- 0.048	pCi/g	0.14	< 1.42	
Nb-95	-0.020 +/- 0.081	-0.021 +/- 0.061	pCi/g	0.01	< 1.42	
Pa-234m	-1 +/- 13	-1.6 +/- 8.3	pCi/g	0.02	< 1.42	

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Monday, July 14, 2003 09:54:15

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID:	C-10-D	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID:	0306172-12	7/8/03	7/9/03	GS02132	367.0
DUP ID:	0306172-12-D1	7/8/03	7/9/03	GS02132	367.0

Sample Matrix: Soil
Date Collected: 25-Jun-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Pb-212	1.37 +/- 0.31	1.50 +/- 0.29	pCi/g	0.31	< 1.42	
Pb-214	0.58 +/- 0.18	0.69 +/- 0.16	pCi/g	0.42	< 1.42	
Ru-106	-0.38 +/- 0.53	0.13 +/- 0.48	pCi/g	0.71	< 1.42	
Sb-124	-0.012 +/- 0.081	0.048 +/- 0.085	pCi/g	0.51	< 1.42	
Sb-125	-0.06 +/- 0.19	0.04 +/- 0.11	pCi/g	0.47	< 1.42	
Sc-46	-0.029 +/- 0.072	-0.025 +/- 0.053	pCi/g	0.04	< 1.42	
Th-227	0.31 +/- 0.32	0.1 +/- 7.7	pCi/g	0.03	< 1.42	
Th-234	1.4 +/- 1.1	0.81 +/- 0.89	pCi/g	0.46	< 1.42	
Tl-208	0.37 +/- 0.13	0.50 +/- 0.12	pCi/g	0.72	< 1.42	
U-235	-0.04 +/- 0.31	-0.12 +/- 0.29	pCi/g	0.19	< 1.42	
Zn-65	-0.18 +/- 0.21	-0.11 +/- 0.15	pCi/g	0.25	< 1.42	

Comments:

Qualifiers/Flags:

W - DER is greater than Warning Limit of 1.42

H - DER is Higher han Control Limit of 2.13

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

DER - Duplicate Error Ratio

Data Package ID: *GSS0306172-1*

PARAGON ANALYTICS, INC.
Radiochemistry Data Package

3

Section 3

INDIVIDUAL SAMPLE RESULTS

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 09:54:19

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306172

Field ID: J-11
Lab ID: 0306172-8

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02132

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030876D10A

Final Aliquot: 295.4 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	0.87 +/- 0.28	0.52	pCi/g	
Ag-110m	-0.19 +/- 0.10	0.20	pCi/g	U
Al-26	-0.007 +/- 0.055	0.11	pCi/g	U
Am-241	0.28 +/- 0.22	0.34	pCi/g	U
Be-7	-0.01 +/- 0.48	0.85	pCi/g	U
Bi-212	1.27 +/- 0.85	1.2	pCi/g	
Bi-214	0.22 +/- 0.18	0.28	pCi/g	U
Cd-109	1.2 +/- 1.3	2.0	pCi/g	U
Ce-139	0.023 +/- 0.046	0.078	pCi/g	U
Ce-144	0.02 +/- 0.31	0.54	pCi/g	U
Co-56	0.03 +/- 0.14	0.25	pCi/g	U
Co-57	0.004 +/- 0.039	0.068	pCi/g	U
Co-58	-0.042 +/- 0.067	0.12	pCi/g	U
Co-60	0.022 +/- 0.069	0.12	pCi/g	U
Cr-51	0.20 +/- 0.53	0.89	pCi/g	U
Cs-134	-0.020 +/- 0.082	0.14	pCi/g	U
Cs-137	0.75 +/- 0.17	0.11	pCi/g	
Eu-152	0.03 +/- 0.34	0.61	pCi/g	U
Eu-154	-0.20 +/- 0.34	0.64	pCi/g	U
Eu-155	-0.06 +/- 0.15	0.27	pCi/g	U
Fe-59	0.10 +/- 0.15	0.25	pCi/g	U
I-131	-0.02 +/- 0.15	0.27	pCi/g	U
K-40	13.9 +/- 2.8	1.6	pCi/g	
Mn-54	-0.033 +/- 0.064	0.12	pCi/g	U
Na-22	-0.079 +/- 0.079	0.15	pCi/g	U
Nb-94	0.029 +/- 0.060	0.10	pCi/g	U

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 09:54:19

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: J-11

Lab ID: 0306172-8

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02132

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030876D10A

Final Aliquot: 295.4 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.086 +/- 0.068	0.13	pCi/g	U
Pa-234m	6.0 +/- 10.0	17	pCi/g	U
Pb-212	1.00 +/- 0.22	0.17	pCi/g	
Pb-214	0.46 +/- 0.15	0.23	pCi/g	
Ru-106	-0.27 +/- 0.56	1.0	pCi/g	U
Sb-124	-0.061 +/- 0.075	0.14	pCi/g	U
Sb-125	0.11 +/- 0.14	0.25	pCi/g	U
Sc-46	0.022 +/- 0.062	0.11	pCi/g	U
Th-227	-0.31 +/- 0.54	0.95	pCi/g	U
Th-234	0.73 +/- 0.95	1.6	pCi/g	U
Tl-208	0.32 +/- 0.10	0.12	pCi/g	
U-235	-0.10 +/- 0.30	0.52	pCi/g	U
Zn-65	-0.13 +/- 0.21	0.39	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 09:54:20

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: L-11

Lab ID: 0306172-9

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02132

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 031033D01A

Final Aliquot: 284.7 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	0.78 +/- 0.27	0.49	pCi/g	
Ag-110m	-0.117 +/- 0.097	0.18	pCi/g	U
Al-26	-0.019 +/- 0.052	0.10	pCi/g	U
Am-241	0.21 +/- 0.27	0.45	pCi/g	U
Be-7	-0.41 +/- 0.56	1.0	pCi/g	U
Bi-212	0.46 +/- 0.89	1.5	pCi/g	U
Bi-214	0.44 +/- 0.18	0.23	pCi/g	
Cd-109	1.1 +/- 1.7	2.7	pCi/g	U
Ce-139	0.003 +/- 0.042	0.072	pCi/g	U
Ce-144	-0.22 +/- 0.29	0.53	pCi/g	U
Co-56	0.02 +/- 0.12	0.20	pCi/g	U
Co-57	0.003 +/- 0.037	0.064	pCi/g	U
Co-58	0.043 +/- 0.059	0.097	pCi/g	U
Co-60	0.000 +/- 0.064	0.12	pCi/g	U
Cr-51	0.15 +/- 0.48	0.83	pCi/g	U
Cs-134	0.005 +/- 0.091	0.15	pCi/g	U
Cs-137	0.47 +/- 0.12	0.12	pCi/g	
Eu-152	0.36 +/- 0.26	0.38	pCi/g	U
Eu-154	-0.13 +/- 0.31	0.58	pCi/g	U
Eu-155	-0.01 +/- 0.18	0.31	pCi/g	U
Fe-59	-0.07 +/- 0.14	0.26	pCi/g	U
I-131	-0.01 +/- 0.16	0.28	pCi/g	U
K-40	14.1 +/- 2.8	1.4	pCi/g	
Mn-54	-0.034 +/- 0.065	0.12	pCi/g	U
Na-22	-0.025 +/- 0.068	0.13	pCi/g	U
Nb-94	-0.007 +/- 0.056	0.099	pCi/g	U

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 09:54:20

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: L-11

Lab ID: 0306172-9

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02132

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 031033D01A

Final Aliquot: 284.7 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.044 +/- 0.069	0.13	pCi/g	U
Pa-234m	4.3 +/- 9.7	17	pCi/g	U
Pb-212	0.78 +/- 0.20	0.20	pCi/g	
Pb-214	0.56 +/- 0.16	0.22	pCi/g	
Ru-106	-0.29 +/- 0.54	0.98	pCi/g	U
Sb-124	0.040 +/- 0.070	0.12	pCi/g	U
Sb-125	-0.05 +/- 0.15	0.26	pCi/g	U
Sc-46	0.037 +/- 0.058	0.096	pCi/g	U
Th-227	-1.25 +/- 0.62	1.1	pCi/g	U
Th-234	0.5 +/- 1.1	1.8	pCi/g	U
Tl-208	0.220 +/- 0.087	0.11	pCi/g	
U-235	-0.07 +/- 0.29	0.52	pCi/g	U
Zn-65	-0.19 +/- 0.17	0.32	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 09:54:16

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: I-10

Lab ID: 0306172-17

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02132

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030736D03A

Final Aliquot: 293.8 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.53 +/- 0.46	0.68	pCi/g	
Ag-110m	-0.052 +/- 0.083	0.17	pCi/g	U
Al-26	-0.013 +/- 0.073	0.16	pCi/g	U
Am-241	0.30 +/- 0.47	0.78	pCi/g	U
Be-7	0.52 +/- 0.66	1.1	pCi/g	U
Bi-212	2.2 +/- 1.4	1.9	pCi/g	TI
Bi-214	0.56 +/- 0.24	0.27	pCi/g	
Cd-109	2.4 +/- 2.3	3.7	pCi/g	U
Ce-139	0.000 +/- 0.059	0.10	pCi/g	U
Ce-144	-0.10 +/- 0.42	0.76	pCi/g	U
Co-56	-0.06 +/- 0.19	0.37	pCi/g	U
Co-57	0.023 +/- 0.059	0.100	pCi/g	U
Co-58	-0.047 +/- 0.071	0.15	pCi/g	U
Co-60	-0.028 +/- 0.089	0.18	pCi/g	U
Cr-51	0.65 +/- 0.67	1.0	pCi/g	U
Cs-134	-0.018 +/- 0.086	0.16	pCi/g	U
Cs-137	0.12 +/- 0.10	0.16	pCi/g	U
Eu-152	-0.12 +/- 0.45	0.91	pCi/g	U
Eu-154	-0.04 +/- 0.42	0.82	pCi/g	U
Eu-155	-0.22 +/- 0.27	0.50	pCi/g	U
Fe-59	0.04 +/- 0.20	0.37	pCi/g	U
I-131	-0.12 +/- 0.25	0.48	pCi/g	U
K-40	18.2 +/- 4.1	1.7	pCi/g	
Mn-54	-0.007 +/- 0.087	0.16	pCi/g	U
Na-22	-0.007 +/- 0.086	0.17	pCi/g	U
Nb-94	0.012 +/- 0.079	0.14	pCi/g	U

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 09:54:16

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: I-10

Lab ID: 0306172-17

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02132

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030736D03A

Final Aliquot: 293.8 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.023 +/- 0.095	0.18	pCi/g	U
Pa-234m	1 +/- 12	23	pCi/g	U
Pb-212	1.39 +/- 0.33	0.28	pCi/g	
Pb-214	0.70 +/- 0.22	0.29	pCi/g	
Ru-106	0.79 +/- 0.77	1.2	pCi/g	U
Sb-124	-0.035 +/- 0.100	0.19	pCi/g	U
Sb-125	0.04 +/- 0.18	0.36	pCi/g	U
Sc-46	0.036 +/- 0.070	0.12	pCi/g	U
Th-227	-3 +/- 15	24	pCi/g	U
Th-234	1.8 +/- 1.6	2.6	pCi/g	U
Tl-208	0.45 +/- 0.16	0.18	pCi/g	
U-235	-0.09 +/- 0.41	0.74	pCi/g	U
Zn-65	-0.21 +/- 0.22	0.46	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 09:54:17

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: K-10

Lab ID: 0306172-18

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02132

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030878D06A

Final Aliquot: 341.6 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.11 +/- 0.41	0.67	pCi/g	
Ag-110m	-0.103 +/- 0.096	0.19	pCi/g	U
Al-26	-0.041 +/- 0.080	0.18	pCi/g	U
Am-241	0.06 +/- 0.38	0.66	pCi/g	U
Be-7	-0.82 +/- 0.68	1.4	pCi/g	U
Bi-212	1.9 +/- 1.4	2.0	pCi/g	U
Bi-214	0.52 +/- 0.25	0.34	pCi/g	
Cd-109	2.0 +/- 2.2	3.5	pCi/g	U
Ce-139	-0.033 +/- 0.048	0.090	pCi/g	U
Ce-144	0.00 +/- 0.38	0.67	pCi/g	U
Co-56	0.15 +/- 0.21	0.35	pCi/g	U
Co-57	-0.047 +/- 0.047	0.088	pCi/g	U
Co-58	0.013 +/- 0.071	0.13	pCi/g	U
Co-60	0.013 +/- 0.091	0.17	pCi/g	U
Cr-51	-0.66 +/- 0.69	1.3	pCi/g	U
Cs-134	0.03 +/- 0.10	0.18	pCi/g	U
Cs-137	0.125 +/- 0.098	0.15	pCi/g	U
Eu-152	-0.38 +/- 0.49	1.0	pCi/g	U
Eu-154	0.42 +/- 0.44	0.69	pCi/g	U
Eu-155	0.08 +/- 0.19	0.32	pCi/g	U
Fe-59	-0.01 +/- 0.25	0.46	pCi/g	U
I-131	0.05 +/- 0.22	0.39	pCi/g	U
K-40	18.7 +/- 4.1	2.1	pCi/g	
Mn-54	0.008 +/- 0.082	0.15	pCi/g	U
Na-22	0.01 +/- 0.11	0.20	pCi/g	U
Nb-94	0.072 +/- 0.075	0.12	pCi/g	U

Data Package ID: *GSS0306172-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Monday, July 14, 2003 09:54:17

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306172

Field ID: K-10

Lab ID: 0306172-18

Sample Matrix: Soil
Date Prepared: 08-Jul-03
Prep SOP: PAI 739R6
Prep Batch: GS02132

Date Collected: 25-Jun-03
Date Analyzed: 09-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030878D06A

Final Aliquot: 341.6 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.019 +/- 0.084	0.16	pCi/g	U
Pa-234m	-11 +/- 15	30	pCi/g	U
Pb-212	1.53 +/- 0.34	0.24	pCi/g	
Pb-214	0.63 +/- 0.19	0.23	pCi/g	
Ru-106	-0.09 +/- 0.77	1.4	pCi/g	U
Sb-124	0.038 +/- 0.082	0.14	pCi/g	U
Sb-125	0.03 +/- 0.16	0.28	pCi/g	U
Sc-46	0.020 +/- 0.081	0.15	pCi/g	U
Th-227	-0.26 +/- 0.63	1.1	pCi/g	U
Th-234	-0.1 +/- 1.1	1.9	pCi/g	U
Tl-208	0.35 +/- 0.14	0.16	pCi/g	
U-235	0.02 +/- 0.37	0.65	pCi/g	U
Zn-65	-0.21 +/- 0.24	0.47	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306172-1*

Paragon Analytics, Inc.

Radiochemistry Case Narrative
Gamma Spectroscopy

New World Technology
Bethesda / GA00419

Paragon Work Order 0306155

1. This report consists of analysis results for twenty soil samples received by Paragon on 6/26/03. The analysis results for these samples are reported on a 'dry weight' basis in units of pCi/gram.
2. These samples were prepared according to Paragon Analytics, Inc. procedure PAI SOP739R6.
3. The samples were analyzed for the presence of gamma emitting radionuclides according to Paragon Analytics, Inc. procedure PAI SOP713R8. The analyses were completed on 7/2/03.
4. Sample volumes were insufficient to allow preparation of duplicates. Duplicate analyses of samples G-5 and C-2 (PAI ID 0306155-1 and -11) were performed in lieu of preparation duplicates.
5. Activity concentrations above the calculated MDC are reported in some instances where minimum nuclide identification criteria are not met. Such tentative identifications result when the software attempts to calculate net activity concentrations for analytes where either one or both of the following criteria are not satisfied: the 'diagnostic' peak for a nuclide must be identified above critical level (generally the most abundant, interference-free photopeak), or the minimum library peak tolerance of 75% must be attained. These data have been flagged with a "TI" qualifier.
6. In cases where Cd-109 is identified at a level greater than the MDC, it is assigned an "SI" flag denoting spectral interference at the 88 keV line. This interference occurs with the K_β x-ray of Pb, which occurs at an energy of 87 keV.
7. There are cases where the magnitude of the negative activity is greater than the 2-sigma TPU. The analyst's review of the data does not indicate a problem with the instrument data or the subsequent reporting systems. The data quality is believed to be unaffected and the results are submitted without qualification. Under typical conditions, where background level sample data is normally distributed and analyzed by paired observations, this event is likely to occur at least 2.5% of the time.
8. No problems were encountered with either the client samples or the associated quality control samples. All quality control criteria were met.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, Paragon Analytics, Inc. certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Radiochemistry Instrument Technician	7-10-03 Date
Radiochemistry Final Data Review	7-10-03 Date

1

PARAGON ANALYTICS, INC.
Radiochemistry Data Package

Section 1

SAMPLE RESULTS SUMMARY

A summary report is not provided.

Please refer to the individual sample results data in Section 3.

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PARAGON ANALYTICS, INC.

Radiochemistry Data Package

Section 2

QC RESULTS SUMMARY

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Thursday, July 10, 2003 11:19:09

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306155

Field ID:
Lab ID: GS02122BLK1

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 30-Jun-03
Date Analyzed: 02-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030931D08A

Final Aliquot: 292.0
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	-0.07 +/- 0.21	0.46	pCi/g	U
Ag-110m	0.070 +/- 0.061	0.087	pCi/g	U
Al-26	-0.033 +/- 0.059	0.15	pCi/g	U
Am-241	-0.042 +/- 0.075	0.15	pCi/g	U
Be-7	-0.17 +/- 0.35	0.76	pCi/g	U
Bi-212	-0.01 +/- 0.88	1.7	pCi/g	U
Bi-214	-0.04 +/- 0.13	0.26	pCi/g	U
Cd-109	-0.25 +/- 0.71	1.4	pCi/g	U
Ce-139	0.008 +/- 0.027	0.049	pCi/g	U
Ce-144	0.02 +/- 0.23	0.41	pCi/g	U
Co-56	-0.010 +/- 0.073	0.17	pCi/g	U
Co-57	-0.009 +/- 0.024	0.049	pCi/g	U
Co-58	0.004 +/- 0.046	0.093	pCi/g	U
Co-60	0.010 +/- 0.054	0.11	pCi/g	U
Cr-51	0.01 +/- 0.36	0.69	pCi/g	U
Cs-134	0.039 +/- 0.066	0.11	pCi/g	U
Cs-137	-0.024 +/- 0.068	0.14	pCi/g	U
Eu-152	-0.30 +/- 0.25	0.72	pCi/g	U
Eu-154	0.04 +/- 0.20	0.42	pCi/g	U
Eu-155	-0.11 +/- 0.10	0.22	pCi/g	U
Fe-59	-0.089 +/- 0.093	0.24	pCi/g	U
I-131	0.024 +/- 0.052	0.092	pCi/g	U
K-40	-0.59 +/- 0.68	1.6	pCi/g	U
Mn-54	-0.008 +/- 0.049	0.10	pCi/g	U

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Thursday, July 10, 2003 11:19:09

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306155

Field ID:
Lab ID: GS02122BLK1

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 30-Jun-03
Date Analyzed: 02-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030931D08A

Final Aliquot: 292.0
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier
Na-22	0.005 +/- 0.065	0.13	pCi/g	U
Nb-94	0.031 +/- 0.061	0.11	pCi/g	U
Nb-95	-0.034 +/- 0.054	0.12	pCi/g	U
Pa-234m	-4.1 +/- 7.7	18	pCi/g	U
Pb-212	-0.093 +/- 0.082	0.17	pCi/g	U
Pb-214	-0.04 +/- 0.11	0.22	pCi/g	U
Ru-106	-0.11 +/- 0.60	1.2	pCi/g	U
Sb-124	0.000 +/- 0.065	0.12	pCi/g	U
Sb-125	0.02 +/- 0.12	0.23	pCi/g	U
Sc-46	-0.022 +/- 0.065	0.14	pCi/g	U
Th-227	-0.17 +/- 0.27	0.55	pCi/g	U
Th-234	0.10 +/- 0.65	1.1	pCi/g	U
Tl-208	-0.002 +/- 0.060	0.12	pCi/g	U
U-235	-0.01 +/- 0.27	0.50	pCi/g	U
Zn-65	0.12 +/- 0.12	0.17	pCi/g	U

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Method Blank Results

Reported on: Thursday, July 10, 2003 11:19:09

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306155

Field ID:
Lab ID: GS02122BLK1

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 30-Jun-03
Date Analyzed: 02-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030931D08A

Final Aliquot: 292.0
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2s TPU	MDC	Reporting Units	Lab Qualifier

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

LT - Result is less than Requested MDC, greater than sample specific MDC.

Y1 - Chemical Yield in control at 100-110%. Quantitative yield is assumed.

Y2 - Chemical Yield outside default limits.

B3 - Analyte concentration greater than MDC but less than Requested MDC.

B - Analyte concentration greater than MDC.

SQ - Spectral iquality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

LCS Results

Reported on: Thursday, July 10, 2003 11:19:09

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306155

Field ID:

Lab ID: GS02122LCS1

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 30-Jun-03
Date Analyzed: 02-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030849D10A

Final Aliquot: 500.0
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	LCS Results +/- 2s TPU	MDC	Spike Added	Reporting Units	LCS Recovery	Control Limits	Lab Qualifier
Am-241	212 +/- 35	2.0	196	pCi/g	108%	85-115%	P
Cd-109	870 +/- 140	7.7	802	pCi/g	109%	85-115%	P
Co-60	94 +/- 16	0.37	93.2	pCi/g	101%	85-115%	P
Cs-137	87 +/- 14	0.41	80.4	pCi/g	108%	85-115%	P

Comments:

Data Package ID: *GSS0306155-1*

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU
LT - Result is less than Requested MDC, greater than sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
* - Duplicate DER not within control limits.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS Recovery within control limits.

Abbreviations:

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

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.

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Thursday, July 10, 2003 11:19:02

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306155

Field ID:	G-5	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID:	0306155-1	6/30/03	7/1/03	GS02122	273.8
DUP ID:	0306155-1-D1	6/30/03	7/1/03	GS02122	273.8

Sample Matrix: Soil
Date Collected: 25-Jun-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Ac-228	0.90 +/- 0.31	1.18 +/- 0.32	pCi/g	0.62	< 1.42	
Ag-110m	-0.008 +/- 0.087	0.044 +/- 0.091	pCi/g	0.41	< 1.42	
Al-26	0.007 +/- 0.062	0.029 +/- 0.049	pCi/g	0.27	< 1.42	
Am-241	-0.07 +/- 0.25	0.15 +/- 0.29	pCi/g	0.57	< 1.42	
Be-7	0.11 +/- 0.44	0.17 +/- 0.50	pCi/g	0.09	< 1.42	
Bi-212	1.2 +/- 1.1	2.0 +/- 1.1	pCi/g	0.48	< 1.42	
Bi-214	0.31 +/- 0.19	0.47 +/- 0.18	pCi/g	0.6	< 1.42	
Cd-109	3.2 +/- 1.8	2.0 +/- 1.4	pCi/g	0.52	< 1.42	
Ce-139	0.023 +/- 0.043	-0.038 +/- 0.048	pCi/g	0.94	< 1.42	
Ce-144	-0.04 +/- 0.33	0.15 +/- 0.30	pCi/g	0.41	< 1.42	
Co-56	-0.03 +/- 0.16	0.08 +/- 0.13	pCi/g	0.56	< 1.42	
Co-57	-0.022 +/- 0.043	0.007 +/- 0.041	pCi/g	0.49	< 1.42	
Co-58	-0.039 +/- 0.069	-0.036 +/- 0.054	pCi/g	0.03	< 1.42	
Co-60	0.047 +/- 0.055	0.032 +/- 0.069	pCi/g	0.16	< 1.42	
Cr-51	0.04 +/- 0.47	0.11 +/- 0.46	pCi/g	0.11	< 1.42	
Cs-134	0.012 +/- 0.085	0.031 +/- 0.044	pCi/g	0.2	< 1.42	
Cs-137	0.124 +/- 0.077	0.127 +/- 0.069	pCi/g	0.03	< 1.42	
Eu-152	-0.02 +/- 0.37	0.17 +/- 0.31	pCi/g	0.41	< 1.42	
Eu-154	0.17 +/- 0.39	0.10 +/- 0.39	pCi/g	0.13	< 1.42	
Eu-155	0.12 +/- 0.16	0.24 +/- 0.21	pCi/g	0.49	< 1.42	
Fe-59	-0.02 +/- 0.14	-0.07 +/- 0.14	pCi/g	0.25	< 1.42	
I-131	-0.031 +/- 0.079	0.014 +/- 0.085	pCi/g	0.39	< 1.42	
K-40	20.1 +/- 3.9	20.1 +/- 3.8	pCi/g	0.01	< 1.42	
Mn-54	-0.006 +/- 0.070	0.021 +/- 0.062	pCi/g	0.28	< 1.42	
Na-22	0.029 +/- 0.078	-0.025 +/- 0.078	pCi/g	0.5	< 1.42	
Nb-94	-0.041 +/- 0.063	0.004 +/- 0.058	pCi/g	0.53	< 1.42	
Nb-95	0.077 +/- 0.066	0.021 +/- 0.064	pCi/g	0.61	< 1.42	
Pa-234m	5 +/- 12	5 +/- 11	pCi/g	0.01	< 1.42	

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Thursday, July 10, 2003 11:19:02

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306155

Field ID: G-5	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID: 0306155-1	6/30/03	7/1/03	GS02122	273.8
DUP ID: 0306155-1-D1	6/30/03	7/1/03	GS02122	273.8

Sample Matrix: Soil
Date Collected: 25-Jun-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Pb-212	1.40 +/- 0.29	1.42 +/- 0.29	pCi/g	0.04	< 1.42	
Pb-214	0.61 +/- 0.18	0.71 +/- 0.19	pCi/g	0.37	< 1.42	
Ru-106	-0.34 +/- 0.59	0.37 +/- 0.64	pCi/g	0.81	< 1.42	
Sb-124	-0.052 +/- 0.074	0.008 +/- 0.062	pCi/g	0.62	< 1.42	
Sb-125	-0.06 +/- 0.15	0.09 +/- 0.14	pCi/g	0.73	< 1.42	
Sc-46	-0.017 +/- 0.064	0.003 +/- 0.066	pCi/g	0.22	< 1.42	
Th-227	-0.81 +/- 0.59	1.3 +/- 8.3	pCi/g	0.25	< 1.42	
Th-234	1.5 +/- 1.3	2.2 +/- 1.2	pCi/g	0.41	< 1.42	
Tl-208	0.39 +/- 0.12	0.42 +/- 0.12	pCi/g	0.16	< 1.42	
U-235	-0.49 +/- 0.35	-0.09 +/- 0.32	pCi/g	0.84	< 1.42	
Zn-65	0.05 +/- 0.22	-0.07 +/- 0.17	pCi/g	0.43	< 1.42	

Comments:

Qualifiers/Flags:

W - DER is greater than Warning Limit of 1.42

H - DER is Higher han Control Limit of 2.13

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

DER - Duplicate Error Ratio

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Thursday, July 10, 2003 11:19:03

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306155

Field ID:	C-2	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID:	0306155-11	6/30/03	7/2/03	GS02122	321.0
DUP ID:	0306155-11-D1	6/30/03	7/2/03	GS02122	321.0

Sample Matrix: Soil
Date Collected: 25-Jun-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Ac-228	0.92 +/- 0.31	1.20 +/- 0.39	pCi/g	0.55	< 1.42	
Ag-110m	0.016 +/- 0.075	-0.027 +/- 0.072	pCi/g	0.42	< 1.42	
Al-26	0.008 +/- 0.057	0.061 +/- 0.061	pCi/g	0.63	< 1.42	
Am-241	-0.05 +/- 0.14	0.04 +/- 0.12	pCi/g	0.47	< 1.42	
Be-7	-0.08 +/- 0.56	0.50 +/- 0.60	pCi/g	0.71	< 1.42	
Bi-212	2.0 +/- 1.3	0.6 +/- 1.1	pCi/g	0.81	< 1.42	
Bi-214	0.68 +/- 0.25	0.58 +/- 0.26	pCi/g	0.27	< 1.42	
Cd-109	1.7 +/- 1.2	1.9 +/- 1.4	pCi/g	0.08	< 1.42	
Ce-139	0.015 +/- 0.051	-0.004 +/- 0.046	pCi/g	0.27	< 1.42	
Ce-144	0.00 +/- 0.35	-0.01 +/- 0.32	pCi/g	0.02	< 1.42	
Co-56	0.07 +/- 0.15	0.01 +/- 0.18	pCi/g	0.24	< 1.42	
Co-57	0.014 +/- 0.044	0.025 +/- 0.039	pCi/g	0.18	< 1.42	
Co-58	0.033 +/- 0.063	-0.009 +/- 0.073	pCi/g	0.44	< 1.42	
Co-60	0.000 +/- 0.064	-0.012 +/- 0.077	pCi/g	0.12	< 1.42	
Cr-51	0.08 +/- 0.55	0.28 +/- 0.58	pCi/g	0.26	< 1.42	
Cs-134	-0.005 +/- 0.063	0.036 +/- 0.080	pCi/g	0.4	< 1.42	
Cs-137	0.13 +/- 0.10	0.09 +/- 0.11	pCi/g	0.27	< 1.42	
Eu-152	0.05 +/- 0.42	0.12 +/- 0.40	pCi/g	0.12	< 1.42	
Eu-154	0.16 +/- 0.31	0.05 +/- 0.39	pCi/g	0.23	< 1.42	
Eu-155	0.10 +/- 0.19	0.21 +/- 0.18	pCi/g	0.45	< 1.42	
Fe-59	0.01 +/- 0.18	-0.10 +/- 0.17	pCi/g	0.43	< 1.42	
I-131	-0.05 +/- 0.10	-0.01 +/- 0.12	pCi/g	0.25	< 1.42	
K-40	18.9 +/- 4.1	14.3 +/- 3.6	pCi/g	0.84	< 1.42	
Mn-54	0.047 +/- 0.070	-0.001 +/- 0.072	pCi/g	0.47	< 1.42	
Na-22	0.049 +/- 0.072	0.08 +/- 0.10	pCi/g	0.29	< 1.42	
Nb-94	0.002 +/- 0.080	0.027 +/- 0.086	pCi/g	0.21	< 1.42	
Nb-95	-0.070 +/- 0.068	-0.029 +/- 0.084	pCi/g	0.38	< 1.42	
Pa-234m	-3.7 +/- 9.9	2 +/- 13	pCi/g	0.33	< 1.42	

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Duplicate Sample Results (DER)

Reported on: Thursday, July 10, 2003 11:19:03

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306155

Field ID:	C-2	Prep Date	Analysis Date	Prep Batch	Final Aliquot
Lab ID:	0306155-11	6/30/03	7/2/03	GS02122	321.0
DUP ID:	0306155-11-D1	6/30/03	7/2/03	GS02122	321.0

Sample Matrix: Soil
Date Collected: 25-Jun-03
Analytical SOP: PAI 713R8
Prep SOP: PAI 739R6
Aliquot Units: g
Report Basis: Dry Weight

Analyte	Sample Result +/- 2s TPU	Duplicate Result +/- 2s TPU	Units	DER	Warning Limit	Lab Qualifiers
Pb-212	1.32 +/- 0.30	1.20 +/- 0.30	pCi/g	0.28	< 1.42	
Pb-214	0.63 +/- 0.19	0.58 +/- 0.20	pCi/g	0.19	< 1.42	
Ru-106	-0.26 +/- 0.66	-0.43 +/- 0.69	pCi/g	0.18	< 1.42	
Sb-124	-0.005 +/- 0.067	0.026 +/- 0.085	pCi/g	0.29	< 1.42	
Sb-125	-0.05 +/- 0.17	-0.06 +/- 0.18	pCi/g	0.02	< 1.42	
Sc-46	0.035 +/- 0.071	0.013 +/- 0.090	pCi/g	0.2	< 1.42	
Th-227	-0.62 +/- 0.36	-0.18 +/- 0.38	pCi/g	0.86	< 1.42	
Th-234	1.08 +/- 0.80	1.49 +/- 0.88	pCi/g	0.35	< 1.42	
Tl-208	0.50 +/- 0.15	0.50 +/- 0.16	pCi/g	0.02	< 1.42	
U-235	-0.26 +/- 0.39	-0.17 +/- 0.34	pCi/g	0.18	< 1.42	
Zn-65	-0.12 +/- 0.18	-0.16 +/- 0.24	pCi/g	0.11	< 1.42	

Comments:

Qualifiers/Flags:

W - DER is greater than Warning Limit of 1.42

H - DER is Higher han Control Limit of 2.13

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

DER - Duplicate Error Ratio

Data Package ID: *GSS0306155-1*

PARAGON ANALYTICS, INC.
Radiochemistry Data Package

3

Section 3

INDIVIDUAL SAMPLE RESULTS

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Thursday, July 10, 2003 11:19:01

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306155

Field ID: G-5

Lab ID: 0306155-1

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 01-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030840D10A

Final Aliquot: 273.8 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	0.90 +/- 0.31	0.44	pCi/g	
Ag-110m	-0.008 +/- 0.087	0.15	pCi/g	U
Al-26	0.007 +/- 0.062	0.11	pCi/g	U
Am-241	-0.07 +/- 0.25	0.43	pCi/g	U
Be-7	0.11 +/- 0.44	0.76	pCi/g	U
Bi-212	1.2 +/- 1.1	1.8	pCi/g	U
Bi-214	0.31 +/- 0.19	0.29	pCi/g	
Cd-109	3.2 +/- 1.8	2.7	pCi/g	SI
Ce-139	0.023 +/- 0.043	0.071	pCi/g	U
Ce-144	-0.04 +/- 0.33	0.58	pCi/g	U
Co-56	-0.03 +/- 0.16	0.28	pCi/g	U
Co-57	-0.022 +/- 0.043	0.077	pCi/g	U
Co-58	-0.039 +/- 0.069	0.13	pCi/g	U
Co-60	0.047 +/- 0.055	0.089	pCi/g	U
Cr-51	0.04 +/- 0.47	0.81	pCi/g	U
Cs-134	0.012 +/- 0.085	0.14	pCi/g	U
Cs-137	0.124 +/- 0.077	0.11	pCi/g	
Eu-152	-0.02 +/- 0.37	0.67	pCi/g	U
Eu-154	0.17 +/- 0.39	0.66	pCi/g	U
Eu-155	0.12 +/- 0.16	0.27	pCi/g	U
Fe-59	-0.02 +/- 0.14	0.25	pCi/g	U
I-131	-0.031 +/- 0.079	0.14	pCi/g	U
K-40	20.1 +/- 3.9	1.9	pCi/g	
Mn-54	-0.006 +/- 0.070	0.12	pCi/g	U
Na-22	0.029 +/- 0.078	0.13	pCi/g	U
Nb-94	-0.041 +/- 0.063	0.12	pCi/g	U

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Thursday, July 10, 2003 11:19:02

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306155

Field ID: G-5

Lab ID: 0306155-1

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 01-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030840D10A

Final Aliquot: 273.8 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.077 +/- 0.066	0.10	pCi/g	U
Pa-234m	5 +/- 12	20	pCi/g	U
Pb-212	1.40 +/- 0.29	0.19	pCi/g	
Pb-214	0.61 +/- 0.18	0.27	pCi/g	
Ru-106	-0.34 +/- 0.59	1.1	pCi/g	U
Sb-124	-0.052 +/- 0.074	0.13	pCi/g	U
Sb-125	-0.06 +/- 0.15	0.28	pCi/g	U
Sc-46	-0.017 +/- 0.064	0.12	pCi/g	U
Th-227	-0.81 +/- 0.59	1.1	pCi/g	U
Th-234	1.5 +/- 1.3	2.2	pCi/g	U
Tl-208	0.39 +/- 0.12	0.13	pCi/g	
U-235	-0.49 +/- 0.35	0.64	pCi/g	U
Zn-65	0.05 +/- 0.22	0.37	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Thursday, July 10, 2003 11:19:02

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306155

Field ID: G-5

Lab ID: 0306155-1-D1

Sample Matrix: Soil

Date Prepared: 30-Jun-03

Prep SOP: PAI 739R6

Prep Batch: GS02122

Date Collected: 25-Jun-03

Date Analyzed: 01-Jul-03

Analytical SOP: PAI 713R8

Spectrum Code: 030995D01A

Final Aliquot: 273.8

Aliquot Units: g

Report Basis: Dry Weight

Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.18 +/- 0.32	0.56	pCi/g	
Ag-110m	0.044 +/- 0.091	0.15	pCi/g	U
Al-26	0.029 +/- 0.049	0.083	pCi/g	U
Am-241	0.15 +/- 0.29	0.49	pCi/g	U
Be-7	0.17 +/- 0.50	0.86	pCi/g	U
Bi-212	2.0 +/- 1.1	1.6	pCi/g	TI
Bi-214	0.47 +/- 0.18	0.24	pCi/g	
Cd-109	2.0 +/- 1.4	2.2	pCi/g	U
Ce-139	-0.038 +/- 0.048	0.087	pCi/g	U
Ce-144	0.15 +/- 0.30	0.50	pCi/g	U
Co-56	0.08 +/- 0.13	0.22	pCi/g	U
Co-57	0.007 +/- 0.041	0.070	pCi/g	U
Co-58	-0.036 +/- 0.054	0.10	pCi/g	U
Co-60	0.032 +/- 0.069	0.12	pCi/g	U
Cr-51	0.11 +/- 0.46	0.80	pCi/g	U
Cs-134	0.031 +/- 0.044	0.080	pCi/g	U
Cs-137	0.127 +/- 0.069	0.097	pCi/g	
Eu-152	0.17 +/- 0.31	0.51	pCi/g	U
Eu-154	0.10 +/- 0.39	0.67	pCi/g	U
Eu-155	0.24 +/- 0.21	0.32	pCi/g	U
Fe-59	-0.07 +/- 0.14	0.25	pCi/g	U
I-131	0.014 +/- 0.085	0.15	pCi/g	U
K-40	20.1 +/- 3.8	1.5	pCi/g	
Mn-54	0.021 +/- 0.062	0.11	pCi/g	U
Na-22	-0.025 +/- 0.078	0.14	pCi/g	U
Nb-94	0.004 +/- 0.058	0.10	pCi/g	U
Nb-95	0.021 +/- 0.064	0.11	pCi/g	U

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Thursday, July 10, 2003 11:19:02

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306155

Field ID: G-5

Lab ID: 0306155-1-D1

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 01-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030995D01A

Final Aliquot: 273.8
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Pa-234m	5 +/- 11	19	pCi/g	U
Pb-212	1.42 +/- 0.29	0.19	pCi/g	
Pb-214	0.71 +/- 0.19	0.24	pCi/g	
Ru-106	0.37 +/- 0.64	1.1	pCi/g	U
Sb-124	0.008 +/- 0.062	0.11	pCi/g	U
Sb-125	0.09 +/- 0.14	0.26	pCi/g	U
Sc-46	0.003 +/- 0.066	0.12	pCi/g	U
Th-227	1.3 +/- 8.3	14	pCi/g	U
Th-234	2.2 +/- 1.2	1.8	pCi/g	TI
Tl-208	0.42 +/- 0.12	0.13	pCi/g	
U-235	-0.09 +/- 0.32	0.56	pCi/g	U
Zn-65	-0.07 +/- 0.17	0.31	pCi/g	U

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Thursday, July 10, 2003 11:19:02

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306155

Field ID: G-5
Lab ID: 0306155-1-D1

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 01-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030995D01A

Final Aliquot: 273.8
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier

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.
* - Duplicate DER not within control limits.
LT - Result is less than Requested MDC, greater than sample specific MDC.
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.

Abbreviations:

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

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Thursday, July 10, 2003 11:19:06

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306155

Field ID: A-4
Lab ID: 0306155-2

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 01-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030838D07A

Final Aliquot: 259.8 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.10 +/- 0.41	0.78	pCi/g	
Ag-110m	-0.02 +/- 0.10	0.19	pCi/g	U
Al-26	0.09 +/- 0.12	0.19	pCi/g	U
Am-241	0.03 +/- 0.13	0.23	pCi/g	U
Be-7	0.29 +/- 0.66	1.2	pCi/g	U
Bi-212	0.7 +/- 1.5	2.6	pCi/g	U
Bi-214	0.61 +/- 0.29	0.35	pCi/g	
Cd-109	1.7 +/- 1.5	2.3	pCi/g	U
Ce-139	0.002 +/- 0.049	0.089	pCi/g	U
Ce-144	0.00 +/- 0.34	0.62	pCi/g	U
Co-56	0.11 +/- 0.18	0.31	pCi/g	U
Co-57	-0.008 +/- 0.043	0.079	pCi/g	U
Co-58	0.032 +/- 0.083	0.15	pCi/g	U
Co-60	0.11 +/- 0.12	0.17	pCi/g	U
Cr-51	0.00 +/- 0.66	1.2	pCi/g	U
Cs-134	-0.07 +/- 0.10	0.20	pCi/g	U
Cs-137	0.06 +/- 0.12	0.20	pCi/g	U
Eu-152	0.07 +/- 0.47	0.94	pCi/g	U
Eu-154	0.00 +/- 0.47	0.93	pCi/g	U
Eu-155	0.15 +/- 0.18	0.28	pCi/g	U
Fe-59	-0.05 +/- 0.19	0.39	pCi/g	U
I-131	-0.02 +/- 0.12	0.23	pCi/g	U
K-40	15.1 +/- 3.9	1.9	pCi/g	
Mn-54	0.00 +/- 0.11	0.20	pCi/g	U
Na-22	0.07 +/- 0.10	0.17	pCi/g	U
Nb-94	0.008 +/- 0.087	0.16	pCi/g	U

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Thursday, July 10, 2003 11:19:06

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306155

Field ID: A-4
Lab ID: 0306155-2

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 01-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030838D07A

Final Aliquot: 259.8 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.03 +/- 0.11	0.22	pCi/g	U
Pa-234m	4 +/- 16	30	pCi/g	U
Pb-212	1.18 +/- 0.31	0.28	pCi/g	
Pb-214	0.67 +/- 0.22	0.28	pCi/g	
Ru-106	-0.23 +/- 0.73	1.5	pCi/g	U
Sb-124	0.03 +/- 0.11	0.19	pCi/g	U
Sb-125	-0.03 +/- 0.22	0.42	pCi/g	U
Sc-46	-0.059 +/- 0.091	0.20	pCi/g	U
Th-227	0.05 +/- 0.48	0.86	pCi/g	U
Th-234	1.6 +/- 1.0	1.9	pCi/g	U
Tl-208	0.47 +/- 0.17	0.19	pCi/g	
U-235	0.12 +/- 0.43	0.74	pCi/g	U
Zn-65	-0.22 +/- 0.30	0.62	pCi/g	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.
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.

Abbreviations:

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

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Thursday, July 10, 2003 11:19:07

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306155

Field ID: C-4
Lab ID: 0306155-3

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 01-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030841D10A

Final Aliquot: 290.3 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.02 +/- 0.30	0.52	pCi/g	
Ag-110m	-0.058 +/- 0.086	0.16	pCi/g	U
Al-26	0.045 +/- 0.056	0.090	pCi/g	U
Am-241	-0.12 +/- 0.35	0.61	pCi/g	U
Be-7	0.01 +/- 0.48	0.83	pCi/g	U
Bi-212	1.6 +/- 1.0	1.5	pCi/g	TI
Bi-214	0.56 +/- 0.21	0.29	pCi/g	
Cd-109	1.1 +/- 1.2	1.9	pCi/g	U
Ce-139	-0.005 +/- 0.043	0.074	pCi/g	U
Ce-144	-0.08 +/- 0.33	0.57	pCi/g	U
Co-56	0.06 +/- 0.14	0.25	pCi/g	U
Co-57	0.012 +/- 0.041	0.070	pCi/g	U
Co-58	-0.046 +/- 0.063	0.12	pCi/g	U
Co-60	-0.009 +/- 0.070	0.13	pCi/g	U
Cr-51	0.22 +/- 0.42	0.71	pCi/g	U
Cs-134	0.44 +/- 0.57	0.94	pCi/g	U
Cs-137	0.166 +/- 0.086	0.12	pCi/g	
Eu-152	-0.39 +/- 0.34	0.66	pCi/g	U
Eu-154	-0.09 +/- 0.36	0.66	pCi/g	U
Eu-155	-0.03 +/- 0.16	0.29	pCi/g	U
Fe-59	0.01 +/- 0.14	0.25	pCi/g	U
I-131	-0.029 +/- 0.076	0.14	pCi/g	U
K-40	21.3 +/- 4.1	1.8	pCi/g	
Mn-54	-0.030 +/- 0.067	0.12	pCi/g	U
Na-22	-0.001 +/- 0.078	0.14	pCi/g	U
Nb-94	0.019 +/- 0.062	0.11	pCi/g	U

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Thursday, July 10, 2003 11:19:06

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306155

Field ID: C-4
Lab ID: 0306155-3

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 01-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030841D10A

Final Aliquot: 290.3 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.058 +/- 0.066	0.11	pCi/g	U
Pa-234m	-2 +/- 11	19	pCi/g	U
Pb-212	1.38 +/- 0.28	0.16	pCi/g	
Pb-214	0.57 +/- 0.17	0.25	pCi/g	
Ru-106	-0.14 +/- 0.54	0.97	pCi/g	U
Sb-124	-0.018 +/- 0.069	0.12	pCi/g	U
Sb-125	0.03 +/- 0.15	0.26	pCi/g	U
Sc-46	-0.025 +/- 0.063	0.12	pCi/g	U
Th-227	-0.89 +/- 0.58	1.0	pCi/g	U
Th-234	1.09 +/- 1.00	1.6	pCi/g	U
Tl-208	0.34 +/- 0.11	0.12	pCi/g	
U-235	-0.28 +/- 0.34	0.61	pCi/g	U
Zn-65	0.14 +/- 0.25	0.42	pCi/g	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.
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.

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

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Thursday, July 10, 2003 11:19:07

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306155

Field ID: E-4
Lab ID: 0306155-4

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 01-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030996D01A

Final Aliquot: 284.6 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.25 +/- 0.34	0.52	pCi/g	
Ag-110m	-0.065 +/- 0.089	0.16	pCi/g	U
Al-26	-0.019 +/- 0.052	0.10	pCi/g	U
Am-241	-0.12 +/- 0.28	0.50	pCi/g	U
Be-7	0.26 +/- 0.49	0.83	pCi/g	U
Bi-212	1.4 +/- 1.0	1.6	pCi/g	U
Bi-214	0.65 +/- 0.21	0.25	pCi/g	
Cd-109	1.1 +/- 1.1	1.7	pCi/g	U
Ce-139	0.041 +/- 0.045	0.073	pCi/g	U
Ce-144	0.01 +/- 0.31	0.54	pCi/g	U
Co-56	0.20 +/- 0.13	0.19	pCi/g	TI
Co-57	0.001 +/- 0.038	0.067	pCi/g	U
Co-58	-0.014 +/- 0.052	0.096	pCi/g	U
Co-60	-0.054 +/- 0.067	0.13	pCi/g	U
Cr-51	0.06 +/- 0.43	0.74	pCi/g	U
Cs-134	0.037 +/- 0.098	0.16	pCi/g	U
Cs-137	0.106 +/- 0.068	0.10	pCi/g	
Eu-152	0.11 +/- 0.33	0.57	pCi/g	U
Eu-154	-0.05 +/- 0.35	0.63	pCi/g	U
Eu-155	-0.04 +/- 0.19	0.33	pCi/g	U
Fe-59	-0.03 +/- 0.13	0.23	pCi/g	U
I-131	0.010 +/- 0.079	0.14	pCi/g	U
K-40	16.3 +/- 3.2	1.7	pCi/g	
Mn-54	-0.003 +/- 0.067	0.12	pCi/g	U
Na-22	0.007 +/- 0.071	0.13	pCi/g	U
Nb-94	0.053 +/- 0.057	0.091	pCi/g	U

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Thursday, July 10, 2003 11:19:07

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306155

Field ID: E-4

Lab ID: 0306155-4

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 01-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030996D01A

Final Aliquot: 284.6 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.022 +/- 0.059	0.10	pCi/g	U
Pa-234m	0 +/- 11	19	pCi/g	U
Pb-212	1.19 +/- 0.26	0.20	pCi/g	
Pb-214	0.62 +/- 0.17	0.22	pCi/g	
Ru-106	-0.06 +/- 0.58	1.0	pCi/g	U
Sb-124	0.080 +/- 0.069	0.11	pCi/g	U
Sb-125	0.20 +/- 0.14	0.23	pCi/g	U
Sc-46	-0.019 +/- 0.056	0.10	pCi/g	U
Th-227	-1.77 +/- 0.72	1.3	pCi/g	U
Th-234	1.2 +/- 1.2	1.9	pCi/g	U
Tl-208	0.36 +/- 0.11	0.12	pCi/g	
U-235	-0.03 +/- 0.30	0.52	pCi/g	U
Zn-65	-0.16 +/- 0.17	0.32	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Thursday, July 10, 2003 11:19:07

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306155

Field ID: G-4
Lab ID: 0306155-5

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 01-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030839D07A

Final Aliquot: 252.5 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.56 +/- 0.52	0.64	pCi/g	
Ag-110m	0.017 +/- 0.095	0.17	pCi/g	U
Al-26	-0.071 +/- 0.098	0.25	pCi/g	U
Am-241	0.20 +/- 0.15	0.23	pCi/g	U
Be-7	0.79 +/- 0.74	1.1	pCi/g	U
Bi-212	1.8 +/- 1.8	2.7	pCi/g	U
Bi-214	0.44 +/- 0.24	0.31	pCi/g	
Cd-109	1.9 +/- 1.4	2.1	pCi/g	U
Ce-139	-0.038 +/- 0.052	0.10	pCi/g	U
Ce-144	-0.03 +/- 0.39	0.70	pCi/g	U
Co-56	0.07 +/- 0.20	0.36	pCi/g	U
Co-57	-0.013 +/- 0.048	0.088	pCi/g	U
Co-58	-0.01 +/- 0.10	0.20	pCi/g	U
Co-60	0.000 +/- 0.093	0.19	pCi/g	U
Cr-51	-0.51 +/- 0.64	1.3	pCi/g	U
Cs-134	0.000 +/- 0.092	0.17	pCi/g	U
Cs-137	0.16 +/- 0.11	0.15	pCi/g	TI
Eu-152	-0.15 +/- 0.47	1.0	pCi/g	U
Eu-154	0.19 +/- 0.61	1.1	pCi/g	U
Eu-155	0.16 +/- 0.20	0.32	pCi/g	U
Fe-59	-0.15 +/- 0.19	0.44	pCi/g	U
I-131	0.07 +/- 0.12	0.21	pCi/g	U
K-40	21.0 +/- 5.0	2.2	pCi/g	
Mn-54	0.093 +/- 0.093	0.14	pCi/g	U
Na-22	0.020 +/- 0.091	0.18	pCi/g	U
Nb-94	0.10 +/- 0.10	0.16	pCi/g	U

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Thursday, July 10, 2003 11:19:07

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306155

Field ID: G-4
Lab ID: 0306155-5

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 01-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030839D07A

Final Aliquot: 252.5 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.07 +/- 0.12	0.20	pCi/g	U
Pa-234m	12 +/- 19	32	pCi/g	U
Pb-212	1.42 +/- 0.35	0.28	pCi/g	
Pb-214	0.35 +/- 0.20	0.37	pCi/g	U
Ru-106	-0.16 +/- 0.94	1.8	pCi/g	U
Sb-124	0.048 +/- 0.097	0.17	pCi/g	U
Sb-125	-0.03 +/- 0.23	0.44	pCi/g	U
Sc-46	0.041 +/- 0.091	0.16	pCi/g	U
Th-227	-0.19 +/- 0.41	0.79	pCi/g	U
Th-234	1.9 +/- 1.2	2.3	pCi/g	U
Tl-208	0.40 +/- 0.16	0.16	pCi/g	
U-235	-0.17 +/- 0.41	0.77	pCi/g	U
Zn-65	-0.27 +/- 0.28	0.61	pCi/g	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.
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.

Abbreviations:

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

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Thursday, July 10, 2003 11:19:07

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306155

Field ID: B-3
Lab ID: 0306155-6

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 01-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030842D10A

Final Aliquot: 320.6 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.09 +/- 0.29	0.42	pCi/g	
Ag-110m	-0.038 +/- 0.088	0.16	pCi/g	U
Al-26	-0.047 +/- 0.075	0.14	pCi/g	U
Am-241	0.04 +/- 0.21	0.36	pCi/g	U
Be-7	-0.27 +/- 0.40	0.74	pCi/g	U
Bi-212	1.32 +/- 0.70	0.94	pCi/g	
Bi-214	0.42 +/- 0.19	0.28	pCi/g	
Cd-109	0.7 +/- 1.4	2.3	pCi/g	U
Ce-139	-0.017 +/- 0.040	0.071	pCi/g	U
Ce-144	-0.08 +/- 0.29	0.51	pCi/g	U
Co-56	0.09 +/- 0.12	0.20	pCi/g	U
Co-57	-0.001 +/- 0.037	0.064	pCi/g	U
Co-58	-0.017 +/- 0.060	0.11	pCi/g	U
Co-60	0.002 +/- 0.054	0.098	pCi/g	U
Cr-51	-0.24 +/- 0.41	0.74	pCi/g	U
Cs-134	-0.074 +/- 0.075	0.14	pCi/g	U
Cs-137	0.110 +/- 0.072	0.11	pCi/g	
Eu-152	-0.04 +/- 0.32	0.57	pCi/g	U
Eu-154	0.11 +/- 0.31	0.53	pCi/g	U
Eu-155	0.12 +/- 0.16	0.26	pCi/g	U
Fe-59	-0.02 +/- 0.12	0.21	pCi/g	U
I-131	0.015 +/- 0.075	0.13	pCi/g	U
K-40	17.9 +/- 3.4	1.5	pCi/g	
Mn-54	-0.003 +/- 0.059	0.10	pCi/g	U
Na-22	0.044 +/- 0.065	0.11	pCi/g	U
Nb-94	-0.001 +/- 0.055	0.097	pCi/g	U

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Thursday, July 10, 2003 11:19:08

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306155

Field ID: B-3

Lab ID: 0306155-6

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 01-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030842D10A

Final Aliquot: 320.6 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.017 +/- 0.058	0.099	pCi/g	U
Pa-234m	-11 +/- 11	20	pCi/g	U
Pb-212	1.38 +/- 0.27	0.14	pCi/g	
Pb-214	0.58 +/- 0.17	0.23	pCi/g	
Ru-106	-0.26 +/- 0.54	0.97	pCi/g	U
Sb-124	-0.054 +/- 0.066	0.12	pCi/g	U
Sb-125	0.07 +/- 0.12	0.23	pCi/g	U
Sc-46	0.037 +/- 0.054	0.089	pCi/g	U
Th-227	-1.0 +/- 9.9	16	pCi/g	U
Th-234	0.9 +/- 1.1	1.7	pCi/g	U
Tl-208	0.42 +/- 0.11	0.11	pCi/g	
U-235	-0.03 +/- 0.32	0.56	pCi/g	U
Zn-65	0.05 +/- 0.19	0.32	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Thursday, July 10, 2003 11:19:08

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306155

Field ID: D-3
Lab ID: 0306155-7

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 01-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030997D01A

Final Aliquot: 304.3 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.25 +/- 0.33	0.56	pCi/g	
Ag-110m	-0.045 +/- 0.086	0.16	pCi/g	U
Al-26	-0.010 +/- 0.050	0.095	pCi/g	U
Am-241	0.07 +/- 0.29	0.50	pCi/g	U
Be-7	0.11 +/- 0.42	0.72	pCi/g	U
Bi-212	1.07 +/- 0.91	1.4	pCi/g	U
Bi-214	0.53 +/- 0.19	0.24	pCi/g	
Cd-109	0.9 +/- 1.0	1.7	pCi/g	U
Ce-139	-0.012 +/- 0.044	0.078	pCi/g	U
Ce-144	-0.23 +/- 0.29	0.53	pCi/g	U
Co-56	0.06 +/- 0.13	0.22	pCi/g	U
Co-57	0.005 +/- 0.037	0.064	pCi/g	U
Co-58	0.003 +/- 0.055	0.098	pCi/g	U
Co-60	0.001 +/- 0.064	0.12	pCi/g	U
Cr-51	-0.24 +/- 0.41	0.75	pCi/g	U
Cs-134	0.022 +/- 0.089	0.15	pCi/g	U
Cs-137	0.113 +/- 0.069	0.10	pCi/g	
Eu-152	0.01 +/- 0.26	0.48	pCi/g	U
Eu-154	0.05 +/- 0.29	0.51	pCi/g	U
Eu-155	0.10 +/- 0.18	0.29	pCi/g	U
Fe-59	0.02 +/- 0.13	0.23	pCi/g	U
I-131	-0.080 +/- 0.080	0.15	pCi/g	U
K-40	21.5 +/- 4.0	1.4	pCi/g	
Mn-54	-0.025 +/- 0.064	0.12	pCi/g	U
Na-22	0.019 +/- 0.073	0.13	pCi/g	U
Nb-94	0.041 +/- 0.055	0.091	pCi/g	U

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Thursday, July 10, 2003 11:19:08

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306155

Field ID: D-3
Lab ID: 0306155-7

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 01-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030997D01A

Final Aliquot: 304.3 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.012 +/- 0.061	0.11	pCi/g	U
Pa-234m	-0.3 +/- 9.5	17	pCi/g	U
Pb-212	1.35 +/- 0.27	0.17	pCi/g	
Pb-214	0.59 +/- 0.16	0.18	pCi/g	
Ru-106	0.05 +/- 0.54	0.95	pCi/g	U
Sb-124	0.114 +/- 0.096	0.14	pCi/g	U
Sb-125	-0.01 +/- 0.14	0.26	pCi/g	U
Sc-46	0.013 +/- 0.061	0.11	pCi/g	U
Th-227	-6 +/- 13	21	pCi/g	U
Th-234	0.71 +/- 0.95	1.6	pCi/g	U
Tl-208	0.40 +/- 0.11	0.12	pCi/g	
U-235	0.03 +/- 0.32	0.54	pCi/g	U
Zn-65	-0.06 +/- 0.17	0.31	pCi/g	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.
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.

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

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Thursday, July 10, 2003 11:19:08

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306155

Field ID: F-3

Lab ID: 0306155-8

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 01-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030926D08A

Final Aliquot: 257.1 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.38 +/- 0.47	0.55	pCi/g	
Ag-110m	0.00 +/- 0.12	0.22	pCi/g	U
Al-26	-0.005 +/- 0.065	0.15	pCi/g	U
Am-241	-0.04 +/- 0.14	0.25	pCi/g	U
Be-7	0.47 +/- 0.64	1.0	pCi/g	U
Bi-212	2.5 +/- 1.4	1.8	pCi/g	TI
Bi-214	0.89 +/- 0.29	0.32	pCi/g	
Cd-109	3.3 +/- 1.6	2.2	pCi/g	SI
Ce-139	0.047 +/- 0.063	0.10	pCi/g	U
Ce-144	-0.32 +/- 0.37	0.72	pCi/g	U
Co-56	0.16 +/- 0.21	0.33	pCi/g	U
Co-57	0.000 +/- 0.049	0.087	pCi/g	U
Co-58	-0.070 +/- 0.069	0.16	pCi/g	U
Co-60	-0.023 +/- 0.080	0.17	pCi/g	U
Cr-51	-0.05 +/- 0.68	1.3	pCi/g	U
Cs-134	0.044 +/- 0.090	0.15	pCi/g	U
Cs-137	0.12 +/- 0.12	0.19	pCi/g	U
Eu-152	0.17 +/- 0.38	0.69	pCi/g	U
Eu-154	-0.26 +/- 0.45	0.96	pCi/g	U
Eu-155	0.05 +/- 0.20	0.35	pCi/g	U
Fe-59	-0.02 +/- 0.18	0.36	pCi/g	U
I-131	0.004 +/- 0.099	0.18	pCi/g	U
K-40	18.3 +/- 4.3	1.9	pCi/g	
Mn-54	0.102 +/- 0.081	0.11	pCi/g	U
Na-22	0.071 +/- 0.083	0.13	pCi/g	U
Nb-94	0.033 +/- 0.078	0.14	pCi/g	U

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Thursday, July 10, 2003 11:19:08

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306155

Field ID: F-3

Lab ID: 0306155-8

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 01-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030926D08A

Final Aliquot: 257.1 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.04 +/- 0.10	0.20	pCi/g	U
Pa-234m	2 +/- 13	25	pCi/g	U
Pb-212	1.05 +/- 0.29	0.27	pCi/g	
Pb-214	0.84 +/- 0.25	0.25	pCi/g	
Ru-106	-0.26 +/- 0.75	1.5	pCi/g	U
Sb-124	0.073 +/- 0.096	0.16	pCi/g	U
Sb-125	0.02 +/- 0.17	0.31	pCi/g	U
Sc-46	-0.088 +/- 0.094	0.20	pCi/g	U
Th-227	-0.07 +/- 0.41	0.75	pCi/g	U
Th-234	2.2 +/- 1.3	2.0	pCi/g	TI
Tl-208	0.29 +/- 0.13	0.14	pCi/g	
U-235	-0.39 +/- 0.44	0.83	pCi/g	U
Zn-65	-0.04 +/- 0.18	0.36	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Thursday, July 10, 2003 11:19:09

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306155

Field ID: G-3
Lab ID: 0306155-9

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 01-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030844D10A

Final Aliquot: 294.7 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.27 +/- 0.34	0.52	pCi/g	
Ag-110m	-0.067 +/- 0.080	0.15	pCi/g	U
Al-26	0.021 +/- 0.060	0.11	pCi/g	U
Am-241	0.09 +/- 0.25	0.41	pCi/g	U
Be-7	-0.14 +/- 0.48	0.86	pCi/g	U
Bi-212	1.62 +/- 0.98	1.4	pCi/g	TI
Bi-214	0.59 +/- 0.22	0.29	pCi/g	
Cd-109	1.5 +/- 1.4	2.3	pCi/g	U
Ce-139	-0.047 +/- 0.041	0.075	pCi/g	U
Ce-144	-0.11 +/- 0.33	0.57	pCi/g	U
Co-56	0.08 +/- 0.14	0.23	pCi/g	U
Co-57	0.031 +/- 0.041	0.067	pCi/g	U
Co-58	0.034 +/- 0.062	0.10	pCi/g	U
Co-60	0.043 +/- 0.070	0.12	pCi/g	U
Cr-51	-0.02 +/- 0.46	0.81	pCi/g	U
Cs-134	-0.022 +/- 0.087	0.15	pCi/g	U
Cs-137	0.140 +/- 0.083	0.12	pCi/g	
Eu-152	-0.31 +/- 0.37	0.70	pCi/g	U
Eu-154	0.06 +/- 0.38	0.66	pCi/g	U
Eu-155	0.12 +/- 0.16	0.27	pCi/g	U
Fe-59	-0.08 +/- 0.15	0.27	pCi/g	U
I-131	-0.032 +/- 0.079	0.14	pCi/g	U
K-40	21.0 +/- 4.0	1.7	pCi/g	
Mn-54	-0.005 +/- 0.065	0.11	pCi/g	U
Na-22	-0.041 +/- 0.083	0.15	pCi/g	U
Nb-94	-0.029 +/- 0.065	0.12	pCi/g	U

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Thursday, July 10, 2003 11:19:09

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306155

Field ID: G-3
Lab ID: 0306155-9

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 01-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030844D10A

Final Aliquot: 294.7 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.055 +/- 0.064	0.10	pCi/g	U
Pa-234m	8 +/- 11	17	pCi/g	U
Pb-212	1.19 +/- 0.25	0.18	pCi/g	
Pb-214	0.58 +/- 0.18	0.24	pCi/g	
Ru-106	0.09 +/- 0.53	0.92	pCi/g	U
Sb-124	0.010 +/- 0.070	0.12	pCi/g	U
Sb-125	-0.06 +/- 0.14	0.26	pCi/g	U
Sc-46	0.018 +/- 0.054	0.094	pCi/g	U
Th-227	-1.01 +/- 0.61	1.1	pCi/g	U
Th-234	0.85 +/- 0.92	1.5	pCi/g	U
Tl-208	0.43 +/- 0.12	0.12	pCi/g	
U-235	-0.26 +/- 0.33	0.59	pCi/g	U
Zn-65	-0.09 +/- 0.19	0.34	pCi/g	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.
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.

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

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Thursday, July 10, 2003 11:19:02

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306155

Field ID: A-2
Lab ID: 0306155-10

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 02-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030843D07A

Final Aliquot: 371.2 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.27 +/- 0.37	0.47	pCi/g	
Ag-110m	-0.024 +/- 0.073	0.14	pCi/g	U
Al-26	0.048 +/- 0.078	0.13	pCi/g	U
Am-241	-0.03 +/- 0.12	0.21	pCi/g	U
Be-7	-0.04 +/- 0.53	1.0	pCi/g	U
Bi-212	0.9 +/- 1.3	2.1	pCi/g	U
Bi-214	0.44 +/- 0.20	0.23	pCi/g	
Cd-109	1.6 +/- 1.2	1.9	pCi/g	U
Ce-139	0.028 +/- 0.046	0.077	pCi/g	U
Ce-144	-0.17 +/- 0.30	0.57	pCi/g	U
Co-56	0.17 +/- 0.14	0.21	pCi/g	U
Co-57	0.030 +/- 0.038	0.061	pCi/g	U
Co-58	0.049 +/- 0.072	0.12	pCi/g	U
Co-60	0.040 +/- 0.081	0.14	pCi/g	U
Cr-51	-0.25 +/- 0.49	0.96	pCi/g	U
Cs-134	-0.010 +/- 0.075	0.14	pCi/g	U
Cs-137	-0.004 +/- 0.073	0.14	pCi/g	U
Eu-152	0.15 +/- 0.27	0.47	pCi/g	U
Eu-154	-0.13 +/- 0.42	0.85	pCi/g	U
Eu-155	0.25 +/- 0.17	0.25	pCi/g	TI
Fe-59	0.15 +/- 0.15	0.24	pCi/g	U
I-131	-0.01 +/- 0.10	0.19	pCi/g	U
K-40	15.9 +/- 3.7	1.3	pCi/g	
Mn-54	0.071 +/- 0.062	0.087	pCi/g	U
Na-22	0.024 +/- 0.070	0.13	pCi/g	U
Nb-94	0.029 +/- 0.068	0.12	pCi/g	U

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Thursday, July 10, 2003 11:19:02

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306155

Field ID: A-2

Lab ID: 0306155-10

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 02-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030843D07A

Final Aliquot: 371.2 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.063 +/- 0.081	0.17	pCi/g	U
Pa-234m	5 +/- 13	23	pCi/g	U
Pb-212	1.49 +/- 0.33	0.22	pCi/g	
Pb-214	0.59 +/- 0.19	0.25	pCi/g	
Ru-106	0.11 +/- 0.54	1.0	pCi/g	U
Sb-124	0.033 +/- 0.080	0.14	pCi/g	U
Sb-125	0.01 +/- 0.16	0.32	pCi/g	U
Sc-46	-0.056 +/- 0.064	0.14	pCi/g	U
Th-227	0.13 +/- 0.37	0.64	pCi/g	U
Th-234	1.23 +/- 0.65	1.3	pCi/g	U
Tl-208	0.40 +/- 0.13	0.12	pCi/g	
U-235	0.03 +/- 0.32	0.56	pCi/g	U
Zn-65	-0.11 +/- 0.17	0.36	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Thursday, July 10, 2003 11:19:02

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306155

Field ID: C-2
Lab ID: 0306155-11

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 02-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030928D08A

Final Aliquot: 321.0 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	0.92 +/- 0.31	0.43	pCi/g	
Ag-110m	0.016 +/- 0.075	0.13	pCi/g	U
Al-26	0.008 +/- 0.057	0.12	pCi/g	U
Am-241	-0.05 +/- 0.14	0.24	pCi/g	U
Be-7	-0.08 +/- 0.56	1.1	pCi/g	U
Bi-212	2.0 +/- 1.3	1.7	pCi/g	TI
Bi-214	0.68 +/- 0.25	0.27	pCi/g	
Cd-109	1.7 +/- 1.2	1.8	pCi/g	U
Ce-139	0.015 +/- 0.051	0.087	pCi/g	U
Ce-144	0.00 +/- 0.35	0.62	pCi/g	U
Co-56	0.07 +/- 0.15	0.26	pCi/g	U
Co-57	0.014 +/- 0.044	0.076	pCi/g	U
Co-58	0.033 +/- 0.063	0.11	pCi/g	U
Co-60	0.000 +/- 0.064	0.13	pCi/g	U
Cr-51	0.08 +/- 0.55	0.98	pCi/g	U
Cs-134	-0.005 +/- 0.063	0.12	pCi/g	U
Cs-137	0.13 +/- 0.10	0.15	pCi/g	U
Eu-152	0.05 +/- 0.42	0.80	pCi/g	U
Eu-154	0.16 +/- 0.31	0.54	pCi/g	U
Eu-155	0.10 +/- 0.19	0.32	pCi/g	U
Fe-59	0.01 +/- 0.18	0.33	pCi/g	U
I-131	-0.05 +/- 0.10	0.20	pCi/g	U
K-40	18.9 +/- 4.1	1.4	pCi/g	
Mn-54	0.047 +/- 0.070	0.12	pCi/g	U
Na-22	0.049 +/- 0.072	0.12	pCi/g	U
Nb-94	0.002 +/- 0.080	0.15	pCi/g	U

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Thursday, July 10, 2003 11:19:03

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306155

Field ID: C-2
Lab ID: 0306155-11

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 02-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030928D08A

Final Aliquot: 321.0 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.070 +/- 0.068	0.15	pCi/g	U
Pa-234m	-3.7 +/- 9.9	21	pCi/g	U
Pb-212	1.32 +/- 0.30	0.20	pCi/g	
Pb-214	0.63 +/- 0.19	0.23	pCi/g	
Ru-106	-0.26 +/- 0.66	1.3	pCi/g	U
Sb-124	-0.005 +/- 0.067	0.13	pCi/g	U
Sb-125	-0.05 +/- 0.17	0.33	pCi/g	U
Sc-46	0.035 +/- 0.071	0.12	pCi/g	U
Th-227	-0.62 +/- 0.36	0.73	pCi/g	U
Th-234	1.08 +/- 0.80	1.6	pCi/g	U
Tl-208	0.50 +/- 0.15	0.13	pCi/g	
U-235	-0.26 +/- 0.39	0.72	pCi/g	U
Zn-65	-0.12 +/- 0.18	0.38	pCi/g	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.
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.

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

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Thursday, July 10, 2003 11:19:03

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306155

Field ID: C-2
Lab ID: 0306155-11-D1

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 02-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030844D07A

Final Aliquot: 321.0
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.20 +/- 0.39	0.45	pCi/g	
Ag-110m	-0.027 +/- 0.072	0.14	pCi/g	U
Al-26	0.061 +/- 0.061	0.041	pCi/g	TI
Am-241	0.04 +/- 0.12	0.20	pCi/g	U
Be-7	0.50 +/- 0.60	0.97	pCi/g	U
Bi-212	0.6 +/- 1.1	1.8	pCi/g	U
Bi-214	0.58 +/- 0.26	0.30	pCi/g	
Cd-109	1.9 +/- 1.4	2.2	pCi/g	U
Ce-139	-0.004 +/- 0.046	0.083	pCi/g	U
Ce-144	-0.01 +/- 0.32	0.57	pCi/g	U
Co-56	0.01 +/- 0.18	0.34	pCi/g	U
Co-57	0.025 +/- 0.039	0.065	pCi/g	U
Co-58	-0.009 +/- 0.073	0.15	pCi/g	U
Co-60	-0.012 +/- 0.077	0.16	pCi/g	U
Cr-51	0.28 +/- 0.58	1.00	pCi/g	U
Cs-134	0.036 +/- 0.080	0.14	pCi/g	U
Cs-137	0.09 +/- 0.11	0.18	pCi/g	U
Eu-152	0.12 +/- 0.40	0.76	pCi/g	U
Eu-154	0.05 +/- 0.39	0.76	pCi/g	U
Eu-155	0.21 +/- 0.18	0.27	pCi/g	U
Fe-59	-0.10 +/- 0.17	0.36	pCi/g	U
I-131	-0.01 +/- 0.12	0.22	pCi/g	U
K-40	14.3 +/- 3.6	1.7	pCi/g	
Mn-54	-0.001 +/- 0.072	0.14	pCi/g	U
Na-22	0.08 +/- 0.10	0.16	pCi/g	U
Nb-94	0.027 +/- 0.086	0.15	pCi/g	U
Nb-95	-0.029 +/- 0.084	0.17	pCi/g	U

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Thursday, July 10, 2003 11:19:03

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306155

Field ID: C-2

Lab ID: 0306155-11-D1

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 02-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030844D07A

Final Aliquot: 321.0
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Pa-234m	2 +/- 13	24	pCi/g	U
Pb-212	1.20 +/- 0.30	0.26	pCi/g	
Pb-214	0.58 +/- 0.20	0.24	pCi/g	
Ru-106	-0.43 +/- 0.69	1.4	pCi/g	U
Sb-124	0.026 +/- 0.085	0.15	pCi/g	U
Sb-125	-0.06 +/- 0.18	0.35	pCi/g	U
Sc-46	0.013 +/- 0.090	0.17	pCi/g	U
Th-227	-0.18 +/- 0.38	0.71	pCi/g	U
Th-234	1.49 +/- 0.88	1.8	pCi/g	U
Tl-208	0.50 +/- 0.16	0.15	pCi/g	
U-235	-0.17 +/- 0.34	0.63	pCi/g	U
Zn-65	-0.16 +/- 0.24	0.49	pCi/g	U

Gamma Spectroscopy Results

Method PAI 713R8

Sample Duplicate Results

Reported on: Thursday, July 10, 2003 11:19:03

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306155

Field ID: C-2

Lab ID: 0306155-11-D1

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 02-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030844D07A

Final Aliquot: 321.0
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 30

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier

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.

* - Duplicate DER not within control limits.

LT - Result is less than Requested MDC, greater than sample specific MDC.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Thursday, July 10, 2003 11:19:03

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306155

Field ID: E-2
Lab ID: 0306155-12

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 02-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030846D10A

Final Aliquot: 332.5 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.18 +/- 0.30	0.44	pCi/g	
Ag-110m	-0.066 +/- 0.061	0.11	pCi/g	U
Al-26	-0.006 +/- 0.053	0.10	pCi/g	U
Am-241	0.10 +/- 0.21	0.35	pCi/g	U
Be-7	0.33 +/- 0.45	0.73	pCi/g	U
Bi-212	1.8 +/- 1.0	1.5	pCi/g	
Bi-214	0.44 +/- 0.18	0.27	pCi/g	
Cd-109	1.5 +/- 1.5	2.5	pCi/g	U
Ce-139	0.002 +/- 0.041	0.070	pCi/g	U
Ce-144	0.12 +/- 0.29	0.49	pCi/g	U
Co-56	0.05 +/- 0.13	0.23	pCi/g	U
Co-57	-0.005 +/- 0.040	0.069	pCi/g	U
Co-58	-0.073 +/- 0.063	0.12	pCi/g	U
Co-60	-0.030 +/- 0.069	0.13	pCi/g	U
Cr-51	-0.15 +/- 0.44	0.79	pCi/g	U
Cs-134	0.16 +/- 0.54	0.90	pCi/g	U
Cs-137	0.080 +/- 0.066	0.10	pCi/g	U
Eu-152	-0.09 +/- 0.30	0.55	pCi/g	U
Eu-154	0.48 +/- 0.33	0.49	pCi/g	U
Eu-155	-0.01 +/- 0.16	0.28	pCi/g	U
Fe-59	0.09 +/- 0.12	0.19	pCi/g	U
I-131	0.015 +/- 0.083	0.14	pCi/g	U
K-40	18.9 +/- 3.6	1.8	pCi/g	
Mn-54	-0.028 +/- 0.060	0.11	pCi/g	U
Na-22	0.045 +/- 0.068	0.11	pCi/g	U
Nb-94	0.020 +/- 0.059	0.10	pCi/g	U

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Thursday, July 10, 2003 11:19:03

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306155

Field ID: E-2

Lab ID: 0306155-12

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 02-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030846D10A

Final Aliquot: 332.5 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.041 +/- 0.060	0.100	pCi/g	U
Pa-234m	4.0 +/- 9.7	17	pCi/g	U
Pb-212	1.58 +/- 0.30	0.16	pCi/g	
Pb-214	0.54 +/- 0.16	0.21	pCi/g	
Ru-106	0.25 +/- 0.56	0.95	pCi/g	U
Sb-124	0.024 +/- 0.065	0.11	pCi/g	U
Sb-125	-0.03 +/- 0.13	0.24	pCi/g	U
Sc-46	-0.022 +/- 0.057	0.10	pCi/g	U
Th-227	-0.94 +/- 0.56	1.00	pCi/g	U
Th-234	1.27 +/- 0.99	1.6	pCi/g	U
Tl-208	0.40 +/- 0.10	0.091	pCi/g	
U-235	0.02 +/- 0.31	0.53	pCi/g	U
Zn-65	0.08 +/- 0.24	0.40	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Thursday, July 10, 2003 11:19:04

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306155

Field ID: G-2
Lab ID: 0306155-13

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 02-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030929D08A

Final Aliquot: 283.6 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.20 +/- 0.39	0.50	pCi/g	
Ag-110m	0.022 +/- 0.073	0.13	pCi/g	U
Al-26	-0.063 +/- 0.064	0.18	pCi/g	U
Am-241	0.04 +/- 0.13	0.23	pCi/g	U
Be-7	0.00 +/- 0.56	1.0	pCi/g	U
Bi-212	0.9 +/- 1.4	2.4	pCi/g	U
Bi-214	0.46 +/- 0.22	0.27	pCi/g	
Cd-109	1.4 +/- 1.6	2.5	pCi/g	U
Ce-139	-0.040 +/- 0.060	0.11	pCi/g	U
Ce-144	-0.22 +/- 0.40	0.73	pCi/g	U
Co-56	0.17 +/- 0.19	0.30	pCi/g	U
Co-57	0.023 +/- 0.051	0.086	pCi/g	U
Co-58	0.008 +/- 0.067	0.13	pCi/g	U
Co-60	-0.011 +/- 0.087	0.18	pCi/g	U
Cr-51	0.17 +/- 0.62	1.1	pCi/g	U
Cs-134	-0.046 +/- 0.073	0.15	pCi/g	U
Cs-137	0.030 +/- 0.086	0.15	pCi/g	U
Eu-152	-0.16 +/- 0.31	0.74	pCi/g	U
Eu-154	-0.23 +/- 0.43	0.90	pCi/g	U
Eu-155	0.12 +/- 0.20	0.34	pCi/g	U
Fe-59	-0.08 +/- 0.18	0.37	pCi/g	U
I-131	-0.05 +/- 0.12	0.24	pCi/g	U
K-40	19.3 +/- 4.3	1.3	pCi/g	
Mn-54	-0.043 +/- 0.080	0.16	pCi/g	U
Na-22	0.064 +/- 0.075	0.12	pCi/g	U
Nb-94	0.019 +/- 0.082	0.15	pCi/g	U

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Thursday, July 10, 2003 11:19:04

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306155

Field ID: G-2
Lab ID: 0306155-13

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 02-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030929D08A

Final Aliquot: 283.6 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.023 +/- 0.088	0.16	pCi/g	U
Pa-234m	7 +/- 13	23	pCi/g	U
Pb-212	1.47 +/- 0.34	0.26	pCi/g	
Pb-214	0.63 +/- 0.21	0.27	pCi/g	
Ru-106	0.18 +/- 0.61	1.1	pCi/g	U
Sb-124	0.000 +/- 0.077	0.14	pCi/g	U
Sb-125	-0.05 +/- 0.18	0.34	pCi/g	U
Sc-46	0.032 +/- 0.088	0.16	pCi/g	U
Th-227	0.20 +/- 0.38	0.64	pCi/g	U
Th-234	1.3 +/- 1.1	1.8	pCi/g	U
Tl-208	0.46 +/- 0.16	0.16	pCi/g	
U-235	0.29 +/- 0.40	0.65	pCi/g	U
Zn-65	-0.12 +/- 0.19	0.39	pCi/g	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.
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.

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

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Thursday, July 10, 2003 11:19:04

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306155

Field ID: B-1
Lab ID: 0306155-14

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 02-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030847D10A

Final Aliquot: 359.8 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.35 +/- 0.33	0.42	pCi/g	
Ag-110m	-0.033 +/- 0.054	0.098	pCi/g	U
Al-26	-0.002 +/- 0.053	0.098	pCi/g	U
Am-241	0.19 +/- 0.19	0.31	pCi/g	U
Be-7	0.10 +/- 0.37	0.63	pCi/g	U
Bi-212	1.02 +/- 0.82	1.3	pCi/g	U
Bi-214	0.43 +/- 0.18	0.26	pCi/g	
Cd-109	1.4 +/- 1.4	2.3	pCi/g	U
Ce-139	-0.005 +/- 0.039	0.067	pCi/g	U
Ce-144	-0.05 +/- 0.30	0.51	pCi/g	U
Co-56	0.12 +/- 0.12	0.20	pCi/g	U
Co-57	0.005 +/- 0.037	0.063	pCi/g	U
Co-58	-0.032 +/- 0.053	0.098	pCi/g	U
Co-60	0.039 +/- 0.067	0.11	pCi/g	U
Cr-51	0.19 +/- 0.37	0.63	pCi/g	U
Cs-134	0.18 +/- 0.50	0.82	pCi/g	U
Cs-137	0.036 +/- 0.058	0.097	pCi/g	U
Eu-152	0.01 +/- 0.31	0.55	pCi/g	U
Eu-154	-0.05 +/- 0.31	0.55	pCi/g	U
Eu-155	0.06 +/- 0.14	0.24	pCi/g	U
Fe-59	-0.06 +/- 0.12	0.23	pCi/g	U
I-131	-0.017 +/- 0.077	0.14	pCi/g	U
K-40	18.1 +/- 3.4	1.3	pCi/g	
Mn-54	0.050 +/- 0.058	0.093	pCi/g	U
Na-22	0.030 +/- 0.067	0.11	pCi/g	U
Nb-94	0.046 +/- 0.052	0.083	pCi/g	U

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Thursday, July 10, 2003 11:19:04

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306155

Field ID: B-1

Lab ID: 0306155-14

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 02-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030847D10A

Final Aliquot: 359.8 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.013 +/- 0.054	0.092	pCi/g	U
Pa-234m	0.6 +/- 8.8	16	pCi/g	U
Pb-212	1.34 +/- 0.26	0.15	pCi/g	
Pb-214	0.60 +/- 0.16	0.20	pCi/g	
Ru-106	-0.11 +/- 0.47	0.84	pCi/g	U
Sb-124	0.026 +/- 0.063	0.11	pCi/g	U
Sb-125	0.04 +/- 0.12	0.22	pCi/g	U
Sc-46	-0.049 +/- 0.058	0.11	pCi/g	U
Th-227	2.0 +/- 5.6	9.2	pCi/g	U
Th-234	0.42 +/- 0.79	1.3	pCi/g	U
Tl-208	0.51 +/- 0.12	0.100	pCi/g	
U-235	-0.01 +/- 0.29	0.50	pCi/g	U
Zn-65	0.39 +/- 0.22	0.33	pCi/g	Tl

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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Thursday, July 10, 2003 11:19:04

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306155

Field ID: D-1
Lab ID: 0306155-15

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 02-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030845D07A

Final Aliquot: 229.9 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	0.93 +/- 0.40	0.79	pCi/g	
Ag-110m	0.029 +/- 0.083	0.15	pCi/g	U
Al-26	0.018 +/- 0.078	0.17	pCi/g	U
Am-241	0.05 +/- 0.13	0.23	pCi/g	U
Be-7	-0.03 +/- 0.79	1.5	pCi/g	U
Bi-212	2.4 +/- 2.0	2.9	pCi/g	U
Bi-214	0.35 +/- 0.29	0.44	pCi/g	U
Cd-109	2.2 +/- 1.8	2.8	pCi/g	U
Ce-139	-0.026 +/- 0.050	0.099	pCi/g	U
Ce-144	-0.17 +/- 0.37	0.70	pCi/g	U
Co-56	0.18 +/- 0.19	0.27	pCi/g	U
Co-57	0.014 +/- 0.050	0.088	pCi/g	U
Co-58	-0.03 +/- 0.12	0.24	pCi/g	U
Co-60	-0.016 +/- 0.097	0.21	pCi/g	U
Cr-51	-0.06 +/- 0.73	1.4	pCi/g	U
Cs-134	0.042 +/- 0.094	0.16	pCi/g	U
Cs-137	0.18 +/- 0.14	0.21	pCi/g	U
Eu-152	0.32 +/- 0.56	0.97	pCi/g	U
Eu-154	0.28 +/- 0.63	1.1	pCi/g	U
Eu-155	0.22 +/- 0.19	0.29	pCi/g	U
Fe-59	-0.16 +/- 0.22	0.49	pCi/g	U
I-131	0.08 +/- 0.13	0.22	pCi/g	U
K-40	13.0 +/- 3.7	2.1	pCi/g	
Mn-54	0.036 +/- 0.092	0.17	pCi/g	U
Na-22	0.020 +/- 0.080	0.16	pCi/g	U
Nb-94	0.066 +/- 0.091	0.15	pCi/g	U

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Thursday, July 10, 2003 11:19:04

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306155

Field ID: D-1

Lab ID: 0306155-15

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 02-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030845D07A

Final Aliquot: 229.9 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.05 +/- 0.11	0.19	pCi/g	U
Pa-234m	2 +/- 17	32	pCi/g	U
Pb-212	1.20 +/- 0.33	0.29	pCi/g	
Pb-214	0.40 +/- 0.22	0.29	pCi/g	
Ru-106	-0.17 +/- 0.81	1.6	pCi/g	U
Sb-124	0.009 +/- 0.100	0.19	pCi/g	U
Sb-125	0.00 +/- 0.23	0.44	pCi/g	U
Sc-46	-0.027 +/- 0.082	0.18	pCi/g	U
Th-227	0.12 +/- 0.49	0.86	pCi/g	U
Th-234	1.2 +/- 1.1	1.8	pCi/g	U
Tl-208	0.33 +/- 0.15	0.18	pCi/g	
U-235	0.10 +/- 0.39	0.68	pCi/g	U
Zn-65	-0.15 +/- 0.28	0.58	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Thursday, July 10, 2003 11:19:05

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306155

Field ID: F-1

Lab ID: 0306155-16

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 02-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030930D08A

Final Aliquot: 247.2 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.35 +/- 0.43	0.57	pCi/g	
Ag-110m	-0.01 +/- 0.11	0.21	pCi/g	U
Al-26	0.023 +/- 0.093	0.18	pCi/g	U
Am-241	-0.06 +/- 0.16	0.28	pCi/g	U
Be-7	0.60 +/- 0.73	1.2	pCi/g	U
Bi-212	0.8 +/- 1.2	2.0	pCi/g	U
Bi-214	0.69 +/- 0.28	0.30	pCi/g	
Cd-109	1.1 +/- 1.2	2.0	pCi/g	U
Ce-139	-0.088 +/- 0.064	0.12	pCi/g	U
Ce-144	-0.29 +/- 0.40	0.76	pCi/g	U
Co-56	0.16 +/- 0.19	0.31	pCi/g	U
Co-57	0.037 +/- 0.058	0.095	pCi/g	U
Co-58	0.010 +/- 0.077	0.15	pCi/g	U
Co-60	-0.012 +/- 0.100	0.20	pCi/g	U
Cr-51	-0.37 +/- 0.67	1.3	pCi/g	U
Cs-134	-0.013 +/- 0.074	0.14	pCi/g	U
Cs-137	0.27 +/- 0.13	0.16	pCi/g	
Eu-152	0.36 +/- 0.42	0.65	pCi/g	U
Eu-154	-0.11 +/- 0.56	1.1	pCi/g	U
Eu-155	0.13 +/- 0.22	0.36	pCi/g	U
Fe-59	-0.19 +/- 0.21	0.45	pCi/g	U
I-131	0.04 +/- 0.13	0.23	pCi/g	U
K-40	16.1 +/- 4.0	2.0	pCi/g	
Mn-54	0.053 +/- 0.090	0.15	pCi/g	U
Na-22	-0.003 +/- 0.092	0.18	pCi/g	U
Nb-94	0.037 +/- 0.094	0.16	pCi/g	U

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Thursday, July 10, 2003 11:19:04

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306155

Field ID: F-1

Lab ID: 0306155-16

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 02-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030930D08A

Final Aliquot: 247.2 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.038 +/- 0.092	0.16	pCi/g	U
Pa-234m	-5 +/- 17	34	pCi/g	U
Pb-212	1.25 +/- 0.33	0.31	pCi/g	
Pb-214	0.76 +/- 0.23	0.27	pCi/g	
Ru-106	-0.07 +/- 0.75	1.4	pCi/g	U
Sb-124	-0.028 +/- 0.079	0.16	pCi/g	U
Sb-125	0.01 +/- 0.20	0.36	pCi/g	U
Sc-46	-0.028 +/- 0.076	0.16	pCi/g	U
Th-227	-0.03 +/- 0.40	0.73	pCi/g	U
Th-234	1.2 +/- 1.1	2.3	pCi/g	U
Tl-208	0.54 +/- 0.18	0.16	pCi/g	
U-235	0.31 +/- 0.44	0.72	pCi/g	U
Zn-65	-0.22 +/- 0.28	0.56	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Thursday, July 10, 2003 11:19:05

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306155

Field ID: G-1
Lab ID: 0306155-17

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 02-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030848D10A

Final Aliquot: 342.2 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.32 +/- 0.33	0.44	pCi/g	
Ag-110m	-0.032 +/- 0.052	0.095	pCi/g	U
Al-26	-0.011 +/- 0.058	0.11	pCi/g	U
Am-241	0.14 +/- 0.21	0.35	pCi/g	U
Be-7	0.24 +/- 0.43	0.72	pCi/g	U
Bi-212	1.3 +/- 1.2	1.8	pCi/g	U
Bi-214	0.58 +/- 0.20	0.25	pCi/g	
Cd-109	2.4 +/- 1.1	1.6	pCi/g	SI
Ce-139	0.022 +/- 0.039	0.065	pCi/g	U
Ce-144	-0.15 +/- 0.30	0.52	pCi/g	U
Co-56	0.19 +/- 0.13	0.20	pCi/g	U
Co-57	-0.018 +/- 0.037	0.065	pCi/g	U
Co-58	-0.062 +/- 0.061	0.11	pCi/g	U
Co-60	-0.064 +/- 0.069	0.13	pCi/g	U
Cr-51	-0.04 +/- 0.41	0.71	pCi/g	U
Cs-134	0.023 +/- 0.082	0.14	pCi/g	U
Cs-137	0.055 +/- 0.062	0.100	pCi/g	U
Eu-152	-0.16 +/- 0.32	0.59	pCi/g	U
Eu-154	0.00 +/- 0.36	0.64	pCi/g	U
Eu-155	0.11 +/- 0.15	0.24	pCi/g	U
Fe-59	-0.09 +/- 0.12	0.22	pCi/g	U
I-131	-0.021 +/- 0.076	0.14	pCi/g	U
K-40	20.6 +/- 3.9	1.6	pCi/g	
Mn-54	-0.021 +/- 0.057	0.10	pCi/g	U
Na-22	0.012 +/- 0.073	0.13	pCi/g	U
Nb-94	-0.005 +/- 0.051	0.090	pCi/g	U

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Thursday, July 10, 2003 11:19:05

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306155

Field ID: G-1
Lab ID: 0306155-17

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 02-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030848D10A

Final Aliquot: 342.2 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.012 +/- 0.060	0.11	pCi/g	U
Pa-234m	15 +/- 10	15	pCi/g	TI
Pb-212	1.37 +/- 0.27	0.17	pCi/g	
Pb-214	0.75 +/- 0.18	0.22	pCi/g	
Ru-106	0.06 +/- 0.51	0.88	pCi/g	U
Sb-124	0.037 +/- 0.064	0.11	pCi/g	U
Sb-125	0.05 +/- 0.12	0.23	pCi/g	U
Sc-46	-0.013 +/- 0.058	0.10	pCi/g	U
Th-227	-0.84 +/- 0.54	0.97	pCi/g	U
Th-234	3.4 +/- 1.4	2.1	pCi/g	TI
Tl-208	0.41 +/- 0.11	0.11	pCi/g	
U-235	0.07 +/- 0.31	0.52	pCi/g	U
Zn-65	0.11 +/- 0.21	0.34	pCi/g	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.
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.

Abbreviations:

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

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Thursday, July 10, 2003 11:19:05

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306155

Field ID: A-0
Lab ID: 0306155-18

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 02-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 031003D01A

Final Aliquot: 258.3 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.04 +/- 0.32	0.51	pCi/g	
Ag-110m	-0.02 +/- 0.11	0.19	pCi/g	U
Al-26	0.028 +/- 0.072	0.13	pCi/g	U
Am-241	-0.15 +/- 0.30	0.54	pCi/g	U
Be-7	-0.02 +/- 0.51	0.90	pCi/g	U
Bi-212	0.9 +/- 1.0	1.7	pCi/g	U
Bi-214	0.66 +/- 0.22	0.27	pCi/g	
Cd-109	2.4 +/- 1.9	3.0	pCi/g	U
Ce-139	0.021 +/- 0.046	0.077	pCi/g	U
Ce-144	0.01 +/- 0.31	0.54	pCi/g	U
Co-56	0.06 +/- 0.14	0.24	pCi/g	U
Co-57	0.014 +/- 0.041	0.070	pCi/g	U
Co-58	0.014 +/- 0.069	0.12	pCi/g	U
Co-60	-0.024 +/- 0.064	0.12	pCi/g	U
Cr-51	0.32 +/- 0.52	0.87	pCi/g	U
Cs-134	0.03 +/- 0.10	0.17	pCi/g	U
Cs-137	0.68 +/- 0.16	0.13	pCi/g	
Eu-152	-0.05 +/- 0.33	0.60	pCi/g	U
Eu-154	0.21 +/- 0.37	0.61	pCi/g	U
Eu-155	-0.04 +/- 0.19	0.34	pCi/g	U
Fe-59	0.04 +/- 0.12	0.21	pCi/g	U
I-131	-0.025 +/- 0.097	0.17	pCi/g	U
K-40	16.3 +/- 3.3	1.7	pCi/g	
Mn-54	0.005 +/- 0.073	0.13	pCi/g	U
Na-22	0.039 +/- 0.081	0.14	pCi/g	U
Nb-94	-0.029 +/- 0.065	0.12	pCi/g	U

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Thursday, July 10, 2003 11:19:05

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306155

Field ID: A-0

Lab ID: 0306155-18

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 02-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 031003D01A

Final Aliquot: 258.3 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.057 +/- 0.071	0.12	pCi/g	U
Pa-234m	5 +/- 12	20	pCi/g	U
Pb-212	1.26 +/- 0.28	0.25	pCi/g	
Pb-214	0.59 +/- 0.17	0.23	pCi/g	
Ru-106	-0.02 +/- 0.64	1.1	pCi/g	U
Sb-124	0.033 +/- 0.071	0.12	pCi/g	U
Sb-125	0.02 +/- 0.16	0.29	pCi/g	U
Sc-46	0.014 +/- 0.063	0.11	pCi/g	U
Th-227	-1.32 +/- 0.74	1.3	pCi/g	U
Th-234	1.3 +/- 1.4	2.3	pCi/g	U
Tl-208	0.32 +/- 0.12	0.14	pCi/g	
U-235	-0.23 +/- 0.32	0.58	pCi/g	U
Zn-65	-0.02 +/- 0.18	0.31	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Thursday, July 10, 2003 11:19:06

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306155

Field ID: C-0
Lab ID: 0306155-19

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 02-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 031004D01A

Final Aliquot: 317.2 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.32 +/- 0.32	0.47	pCi/g	
Ag-110m	-0.036 +/- 0.083	0.15	pCi/g	U
Al-26	0.025 +/- 0.046	0.079	pCi/g	U
Am-241	-0.03 +/- 0.27	0.47	pCi/g	U
Be-7	0.60 +/- 0.46	0.70	pCi/g	U
Bi-212	0.90 +/- 0.90	1.4	pCi/g	U
Bi-214	0.64 +/- 0.20	0.25	pCi/g	
Cd-109	2.2 +/- 1.4	2.0	pCi/g	SI
Ce-139	-0.013 +/- 0.042	0.074	pCi/g	U
Ce-144	-0.33 +/- 0.29	0.53	pCi/g	U
Co-56	0.11 +/- 0.13	0.21	pCi/g	U
Co-57	0.010 +/- 0.037	0.064	pCi/g	U
Co-58	-0.026 +/- 0.055	0.10	pCi/g	U
Co-60	0.002 +/- 0.053	0.096	pCi/g	U
Cr-51	0.17 +/- 0.45	0.77	pCi/g	U
Cs-134	0.14 +/- 0.62	1.0	pCi/g	U
Cs-137	0.092 +/- 0.071	0.11	pCi/g	U
Eu-152	0.14 +/- 0.27	0.46	pCi/g	U
Eu-154	-0.29 +/- 0.33	0.61	pCi/g	U
Eu-155	0.12 +/- 0.18	0.30	pCi/g	U
Fe-59	0.00 +/- 0.12	0.21	pCi/g	U
I-131	0.064 +/- 0.088	0.14	pCi/g	U
K-40	16.2 +/- 3.1	1.5	pCi/g	
Mn-54	0.021 +/- 0.061	0.10	pCi/g	U
Na-22	-0.002 +/- 0.064	0.11	pCi/g	U
Nb-94	0.037 +/- 0.054	0.089	pCi/g	U

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Thursday, July 10, 2003 11:19:05

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306155

Field ID: C-0

Lab ID: 0306155-19

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 02-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 031004D01A

Final Aliquot: 317.2 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	0.026 +/- 0.059	0.10	pCi/g	U
Pa-234m	2.0 +/- 9.3	16	pCi/g	U
Pb-212	1.48 +/- 0.29	0.17	pCi/g	
Pb-214	0.47 +/- 0.15	0.23	pCi/g	
Ru-106	0.39 +/- 0.56	0.92	pCi/g	U
Sb-124	0.029 +/- 0.063	0.11	pCi/g	U
Sb-125	0.02 +/- 0.13	0.25	pCi/g	U
Sc-46	0.007 +/- 0.049	0.087	pCi/g	U
Th-227	-2.13 +/- 0.73	1.3	pCi/g	U
Th-234	1.7 +/- 1.3	2.1	pCi/g	U
Tl-208	0.40 +/- 0.11	0.12	pCi/g	
U-235	-0.04 +/- 0.30	0.52	pCi/g	U
Zn-65	0.17 +/- 0.24	0.39	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Thursday, July 10, 2003 11:19:06

Client Name: New World Technology
Client Project Name: Bethesda
Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0306155

Field ID: E-0
Lab ID: 0306155-20

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 02-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030846D07A

Final Aliquot: 228.0 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Ac-228	1.16 +/- 0.54	0.98	pCi/g	
Ag-110m	-0.02 +/- 0.13	0.24	pCi/g	U
Al-26	0.018 +/- 0.078	0.17	pCi/g	U
Am-241	0.12 +/- 0.13	0.22	pCi/g	U
Be-7	0.38 +/- 0.68	1.2	pCi/g	U
Bi-212	0.4 +/- 1.5	2.6	pCi/g	U
Bi-214	0.63 +/- 0.31	0.37	pCi/g	
Cd-109	0.98 +/- 0.99	1.6	pCi/g	U
Ce-139	-0.029 +/- 0.056	0.11	pCi/g	U
Ce-144	0.01 +/- 0.33	0.62	pCi/g	U
Co-56	0.03 +/- 0.20	0.38	pCi/g	U
Co-57	-0.030 +/- 0.051	0.098	pCi/g	U
Co-58	0.08 +/- 0.11	0.17	pCi/g	U
Co-60	-0.05 +/- 0.13	0.27	pCi/g	U
Cr-51	0.00 +/- 0.69	1.3	pCi/g	U
Cs-134	-0.034 +/- 0.093	0.19	pCi/g	U
Cs-137	0.24 +/- 0.15	0.20	pCi/g	
Eu-152	0.08 +/- 0.43	0.88	pCi/g	U
Eu-154	-0.07 +/- 0.55	1.1	pCi/g	U
Eu-155	0.13 +/- 0.19	0.31	pCi/g	U
Fe-59	-0.03 +/- 0.25	0.49	pCi/g	U
I-131	0.06 +/- 0.14	0.25	pCi/g	U
K-40	14.3 +/- 4.0	2.1	pCi/g	
Mn-54	0.07 +/- 0.12	0.21	pCi/g	U
Na-22	-0.05 +/- 0.11	0.25	pCi/g	U
Nb-94	-0.029 +/- 0.079	0.17	pCi/g	U

Data Package ID: *GSS0306155-1*

Gamma Spectroscopy Results

Method PAI 713R8

Sample Results

Reported on: Thursday, July 10, 2003 11:19:06

Client Name: New World Technology

Client Project Name: Bethesda

Client Project Number: GA00419

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0306155

Field ID: E-0

Lab ID: 0306155-20

Sample Matrix: Soil
Date Prepared: 30-Jun-03
Prep SOP: PAI 739R6
Prep Batch: GS02122

Date Collected: 25-Jun-03
Date Analyzed: 02-Jul-03
Analytical SOP: PAI 713R8
Spectrum Code: 030846D07A

Final Aliquot: 228.0 g
Report Basis: Dry Weight
Count Time (min.): 30
Library: FANP.LIB

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
Nb-95	-0.091 +/- 0.093	0.21	pCi/g	U
Pa-234m	0 +/- 17	34	pCi/g	U
Pb-212	1.02 +/- 0.31	0.31	pCi/g	
Pb-214	0.57 +/- 0.26	0.31	pCi/g	
Ru-106	0.43 +/- 0.87	1.5	pCi/g	U
Sb-124	0.054 +/- 0.099	0.17	pCi/g	U
Sb-125	0.02 +/- 0.23	0.43	pCi/g	U
Sc-46	-0.035 +/- 0.097	0.21	pCi/g	U
Th-227	-0.19 +/- 0.46	0.88	pCi/g	U
Th-234	0.6 +/- 1.4	2.3	pCi/g	U
Tl-208	0.31 +/- 0.16	0.20	pCi/g	
U-235	0.04 +/- 0.43	0.77	pCi/g	U
Zn-65	-0.06 +/- 0.27	0.54	pCi/g	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.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0306155-1*

APPENDIX Z

Radiological Survey Instrument Descriptions

MODEL 239-1F Floor Monitor

INDICATED USE: Floor monitoring for alpha, and beta-gamma
DETECTOR: Gas proportional
RECOMMENDED COUNTING GAS: P-10 (*10% methane; 90% argon*)
BOTTLE SIZE: Typically used with Matheson size 2 or Linde Q bottles (*provided by customer*)
DETECTOR WINDOW: 0.8 mg/square cm aluminized mylar (*window thickness of 0.4, 1.2, 3.9, or 7.9 mg/square cm available*)
WINDOW AREA:
ACTIVE - Approximately 582 square cm
OPEN - Approximately 425 square cm
EFFICIENCY(4pi geometry): Approximately 25% - Sr-90/Y-90; 17% - Pu-239; gamma - less than 1%
GAS RECHARGE: Will operate on static charge for over 2 hours
COMPATIBLE INSTRUMENTS: Typically used with Model 12, 2221, 2224, or 2350-1
DETECTOR HEIGHT: Adjustable from 0.125"(0.32cm) - 3"(7.6cm) from surface
DETECTOR OPERATING VOLTAGE:
ALPHA - Typically 1000 - 1200 volts
BETA-GAMMA: Typically 1600 - 1800 volts
THRESHOLD: Typically 2 - 4 mV
FLOW METER:
IN - Adjustable from 0 - 100 cc/min
OUT - Flow indicator from 0 - 100 cc/min
GAS CONNECTORS: Double end quick disconnect for 0.25"(0.6cm) OD tubing
GAS CONSUMPTION: Typically 50 cc/min
CONSTRUCTION:

DETECTOR - Anodized aluminum housing with stainless steel hex protective screen (*79% open*)
CART - 1" square tubular steel and aluminum with beige polyurethane enamel paint, 7.5"(19.1cm) diameter rear wheels, and 4"(10.2cm) diameter swivel casters
TEMPERATURE RANGE: -4° F(-20° C) to 122° F(50° C)
May be certified for operation from -40° F(-40° C) to 150° F(65° C)
SIZE:
DETECTOR - 0.8"(2cm)H X 6.3"(16cm)W X 18.3"(46.5cm)L
CART - 42"(106.7cm)H X 16"(40.6cm)W X 27.5"(69.9cm)L (*excluding detector*)
WEIGHT: 25 lbs (11.4kg) (*excluding gas bottle and counting instrument*)

MODEL 2929 Alpha/Beta Scaler

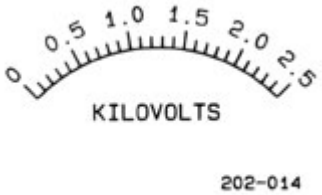
PART NUMBER:48-1245

- ***Dual Alpha/Beta Scaler***
- ***Maximum Sample Size of 2" Diameter X 0.4" thick***

INDICATED USE: Alpha beta sample counting
DETECTOR: Model 43-10-1 Alpha beta sample counter (*included*)
SCINTILLATOR: ZnS(Ag) adhered to plastic scintillation material
TUBE: 2"(5.1cm) diameter magnetically shielded photomultiplier
WINDOW: 0.4 mg/ square cm aluminized mylar
ACTIVE AND OPEN AREA: 20.3 square cm
SAMPLE HOLDER: Anodized aluminum tray with 1" diameter sample ring to allow for 1" or 2" diameter samples
SAMPLE SIZE (maximum):2"(5.1cm) diameter X 0.4"(0.9cm) thick
EFFICIENCY (4pi geometry):
ALPHA: 37% - Th-230; 39% - U-238; 37% - Pu-239
BETA: 8% - C-14; 27% - Tc-99, 29% - Cs-137; 26% - Sr-90/Y-90
CROSS TALK:
Alpha to beta - 10% or less
Beta to alpha - 1% or less
BACKGROUND:ALPHA - 3 cpm or less
BETA - Typically 100 cpm or less (*10microR/hr field*)
AUDIO: Built in unimorph type speakers with volume controls to provide a dual tone (*1 per channel*) click-per-event audio
SCALERS: 2 ea. 6 digit LED displays providing a range of 0 - 999999 counts (*controlled by COUNT and HOLD buttons*)
SCALER LINEARITY: Reading within plus or minus 2% of true value
TIMER: Thumbwheel adjustment from 0 - 99 minutes with selectable divisions of X0.1, X1, X10, or EXT for manual timing
METER DIAL: 0 - 2.5 kV; BAT TEST
LINEARITY: Reading within plus or minus 10% of true value
HIGH VOLTAGE: Adjustable from 200 - 2500 volts (*will support 60 megohm scintillation loads*)
THRESHOLD:
Alpha - 175 mV
Beta - 4 mV
BETA WINDOW: 50 mV

DATA OUTPUT: Two 15 pin connectors allowing for recorder, printer, or software interface (*one for alpha, one for beta*)
AMP OUT: "BNC" connector provides amplified detector pulse
POWER: 95 - 135 VAC (*178 - 240 VAC available*), 50 - 60 Hz single phase (*less than 100 mA*)
METER: 2.5"(6.4cm) arc, 1 mA analog type
CONSTRUCTION: Aluminum housing with beige polyurethane enamel paint
TEMPERATURE RANGE: -4° F(-20° C) to 122° F(50° C)
May be certified for operation from -40° F(-40° C) to 150° F(65° C)
SIZE: 8.5"(21.6cm)H X 14.5"(36.8cm)W X 9"(22.9cm)D (*including detector*)
WEIGHT: 12.6 lbs (5.7kg) (*including detector*)

Meter Dial



202-014

0 - 2.5 kV

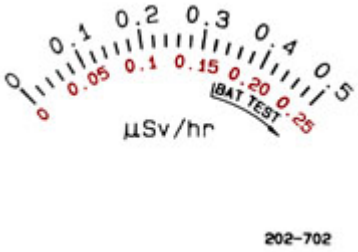
MODEL 19 MicroR Meter

PART NUMBER:48-1615

- ***Built-In 1" X 1" NaI(Tl) Gamma Scintillator***
- ***5 Ranges***
- ***Splashproof Shields***
- ***Total Range from 0 - 5,000 µR/hr***

WORKING ENVIRONMENT: Splash proof shields for outdoor use
INDICATED USE: Low level (microR) gamma survey
DETECTOR: 1" X 1" sodium iodide (NaI)Tl scintillator
SENSITIVITY: Typically 175 cpm/microR/hr (*137Cs gamma*)
ENERGY RESPONSE: Energy dependent
METER DIAL:0 - 25 microR/hr, 0 - 50 microR/hr, BAT TEST
RANGE SELECTIONS: 0 - 25, 0 - 50, 0 - 250, 0 - 500, 0 - 5000 microR/hr
LIGHT: Push-button to activate
LINEARITY: Reading within plus or minus 10% of true value
AUDIO: Built in unimorph speaker with ON/OFF switch (*greater than 60 dB at 2 feet*)
CALIBRATION CONTROLS: Accessible from front of instrument (*protective cover provided*)
RESPONSE: Toggle switch for FAST (4 seconds) or SLOW (22 seconds) from 10% to 90% of final reading
RESET: Push-button to zero meter
POWER: 2 each "D" cell batteries (*housed in sealed compartment that is externally accessible*)
BATTERY LIFE: Typically 600 hours with alkaline batteries (*battery condition can be checked on meter*)
METER: 2.5" (6.4cm) arc, 1 mA analog type
CONSTRUCTION: Cast and drawn aluminum with beige polyurethane enamel paint
TEMPERATURE RANGE: -4° F(-20° C) to 122° F(50° C)
May be certified for operation from -40° F(-40° C) to 150° F(65° C)
SIZE: 7.8"(19.8 cm)H X 3.5"(8.9 cm)W X 8.5"(21.6 cm)L
WEIGHT: 4.5 lbs(2.1 kg) including batteries

Common Meter Dial



202-016

0 - 50 µR/hr; 0 - 25 µR/hr

202-702

0 - 0.5 µSv/h; 0 - 0.25 µSv/h

MODEL 43-68 Gas Proportional Detector

PART NUMBER:47-2005

The Model 43-68 is a large area gas proportional detector for use in simultaneous alpha/beta surveys as well as alpha or beta surveys

INDICATED USE: Alpha-beta survey
RECOMMENDED COUNTING GAS: P-10 (*10% methane, 90% argon*)
GAS RECHARGE: Will operate on a static charge for over 15 hours with a 39" cable
WINDOW: Typically 0.8 mg/cm² aluminized mylar (*other thickness available*)
WINDOW AREA:
Active - 126 cm²
Open - 100 cm²
EFFICIENCY (4pi geometry): Typically 20% - Pu-239; 30% - Tc-99; 15% - C-14; less than 1% - gamma
BACKGROUND:
Alpha - Less than 5 cpm (*when operating on the alpha only plateau region*)
Beta - Typically 400 cpm or less (*10 microR/hr field*)
COMPATIBLE INSTRUMENTS: Model 12, 16, 18, 2000, 2200, 2221, 2224, 2225, 2241, 2350-1
OPERATING VOLTAGE:
Alpha - Typically 1000 - 1500 volts
Beta-gamma - Typically 1600 - 1800 volts
COUNTER THRESHOLD SETTING: Typically 2 - 5 mV
GAS CONNECTORS: Double end quick disconnect
CONNECTOR: Series "C" (*others available*)
CONSTRUCTION: Anodized aluminum housing
TEMPERATURE RANGE: -4° F(-20° C) to 122° F(50° C)
May be certified for operation from -40° F(-40° C) to 150° F(65° C)
SIZE: 3.9"(10cm)H X 4.6"(11.7cm)W X 7.8"(19.8cm)L
WEIGHT: 2 lbs (0.9kg)

MODEL 2224 Alpha/Beta Scaler/Ratemeter

PART NUMBER:48-2494

- ***Simultaneous Alpha/Beta Counting***
- ***Built-In 6 Digit LCD Scaler***
- ***Display Alpha Only, Beta Only, or Alpha/Beta Counts***
- ***Total Counting Range from 0 - 500,000 cpm***

INDICATED USE: Simultaneous alpha, beta counting and discrimination
COMPATIBLE DETECTORS: Proportional and dual phosphor scintillation detectors
CONNECTOR: Series "C" (*others available*)
AUDIO: Built in unimorph speaker with volume control (*greater than 60 dB at 2 feet, full volume*)
AUDIO DIVIDE: Selectable dual or individual click-per-event for alpha and beta counts and divisions of 1, 10, 100, or 1000 events-per-click (*beta counts only*)
METER: 2.5"(6.4cm) arc, 1 mA analog type
METER DIAL: 0 - 500 cpm, 0 - 2 kV, BAT OK, OL(*overload*)
MULTIPLIERS: X1, X10, X100, X1000
LINEARITY: Reading within plus or minus 10% of true value with detector connected
SCALER: 6 digit LCD display with 0.25"(0.64cm) digits, overflow arrow, and colons to indicate when a count is in process
COUNT: Push-button to initiate scaler count
COUNT TIME: Internally selected times of 0.1, 0.5, 1, 2 or 5 minutes
SELECTOR SWITCH: Toggle switch to select alpha and beta, alpha only, or beta only
HIGH VOLTAGE: Adjustable from 200 - 2000 volts (*can be read on meter*)
HIGH VOLTAGE ADJUST: Accessible from front of instrument (*protective cover provided*)
THRESHOLD: Internal control allows adjustment from 2 - 15 mV for beta, and 40 - 700 mV for alpha
WINDOW (Beta only): Internal control allows adjustment from beta threshold up to the alpha threshold setting
OVERLOAD: Senses detector saturation. Indicated by red lamp on meter and meter going to full scale (*adjustable depending on detector selected*)
RESPONSE: Will vary according to number of counts present. Typically 2 - 11 seconds from 10% to 90% of final reading
POWER: 2 each "D" cell batteries (*housed in sealed compartment that is externally accessible*)
BATTERY LIFE: Greater than 350 hours with alkaline batteries (*battery condition can be checked on meter*)
CONSTRUCTION: Cast and drawn aluminum with beige polyurethane enamel paint
TEMPERATURE RANGE: -4° F(-20° C) to 122° F(50° C)
May be certified for operation from -40° F(-40° C) to 150° F(65° C)
SIZE: 6.5"(16.5cm)H X 3.5"(8.9cm)W X 8.5"(21.6cm)L
WEIGHT: 3.5 lbs(1.6kg) including batteries

MODEL 2350-1 Data Logger

- *Data Logger*
- *16 Independent Detector Setups*
- *Microprocessor Based Electronics*
- *RS-232 Output*
- *Optional Keypad for Setup*
- *LCD Display with backlight*
- *Scaler*
- *Ratemeter*
- *Integrated Dose*
- *5 decade Logarithmic Trend Indicator*
- *Bar Code Reader*

PART NUMBER:48-2751

INDICATED USE: Field analysis and data logging

COMPATIBLE DETECTORS: G-M, proportional, scintillation

CONNECTOR: Series "C" (*others available on request*)

DISPLAY: 8 line LCD display with 15 characters per line

BACKLIGHT: A two position toggle switch to turn backlight ON or OFF

SCALER: 6 digit display

TIMER: Used in conjunction with scaler. Count time can be set from 1 - 65,535 seconds in 1 second intervals

RATEMETER: Digital ratemeter, corrected for dead time and calibration constant

TREND INDICATOR: 5 decade logarithmic bar graph

LINEARITY: Reading within plus or minus 10% of true value with detector connected

SCALE: Can display in rem/hr, Sv/hr, R/hr, cpm, cps, dpm, dps, rad(r), Gray(G), C/kg, Ci/cm squared, or Bq/cm squared

INTEGRATED DOSE: Counter provided to give total accumulated dose for up to 45

days (*Will display in same units as ratemeter*)

AUDIO: Built in unimorph speaker with volume control (*greater than 60 dB at 2 feet, full volume*)

AUDIO DIVIDE: Operator selected divisions of 1, 10, or 100 events-per-click

ALARM: Separate alarms for digital ratemeter, scaler, and integrated dose can be set at any point (*audible and visual indicators*)

ACK/SCROLL: Push-button to silence audio after alarm has been indicated and/or scroll through the various displays

DATA LOGGER: Capable of logging up to 1000 individual data points with the following identifiers for each point

8 Location codes (5 character)	Time of day
Month, Day, and Year	Count rate/scaler count/integrated dose
Count time	Detector number
Logging mode	Sample number

DETECTOR PARAMETERS: Capable of storing the following parameters for 16 different detectors

Model number	Serial number
Calibration constant	Dead time correction
High voltage	Threshold
Window	Display range multiplier
Display time base	Display units
Overload current	Ratemeter alarm setting
Scaler alarm setting	Low ratemeter alarm setting
Integrated dose alarm setting	Scaler count time

RS-232 PORT: A full duplex communication port that allows for instrument setup by optional keypad or PC. Also allows for data to be transferred to a PC file.

BAR CODE READER (optional): Allows for setup of instrument by computer generated bar codes

HIGH VOLTAGE: Adjustable from 200 - 2500 volts

THRESHOLD: Adjustable from 100 - 1000

WINDOW: Adjustable from 0 - 1000 above threshold

GAIN: Adjustable from 2 - 350 mV at threshold setting of 100

DEAD TIME: Adjustable to compensate for dead time of detector and electronics

RESPONSE:

Fixed - Adjustable from 1 - 127 seconds in 1 second intervals

Variable - Will vary according to number of counts present.

Typical times FAST: 4 - 25 seconds, SLOW: 4 - 60 seconds from 10% to 90% of final reading

POWER: 4 each "D" cell batteries (*housed in sealed compartment that is accessible from back of instrument*)

BATTERY LIFE: Greater than 75 hours (*low battery condition is automatically indicated*)

CONSTRUCTION: Milled and drawn aluminum with beige polyurethane enamel paint

TEMPERATURE RANGE: 32° F(0° C) to 122° F(50° C) (*LCD limits temperature range*)

SIZE: 6"(15cm)H X 4.3"(11cm)W X 8.8"(22cm)L

WEIGHT: 5 lbs (2.3kg) including batteries

MODEL 44-10 Gamma Scintillator

PART NUMBER:47-1540

The Model 44-10 is a 2" X 2" NaI(Tl) Gamma Scintillator that can be used with several different instruments including survey meters, scalers, ratemeters, and alarm ratemeters

INDICATED USE: High energy gamma detection
SCINTILLATOR: 2" (5.1 cm) diameter X 2" (5.1 cm) thick sodium iodide (NaI)Tl scintillator
SENSITIVITY: Typically 900 cpm/microR/hr (*Cs-137*)
ENERGY RESPONSE: Energy dependent
COMPATIBLE INSTRUMENTS: General purpose survey meters, ratemeters, and scalers
TUBE: 2"(5.1cm) diameter magnetically shielded photomultiplier
OPERATING VOLTAGE: Typically 500 - 1200 volts
DYNODE STRING RESISTANCE: 60 megohm
CONNECTOR: Series "C" (*others available*)
CONSTRUCTION: Aluminum housing with beige polyurethane enamel paint
TEMPERATURE RANGE: -4° F(-20° C) to 122° F(50° C)
May be certified to operate from -40° F(-40° C) to 150° F(65° C)
SIZE: 2.6" (6.6 cm) diameter X 11" (27.9 cm)L
WEIGHT: 2.3 lb (1.1kg)

Appendix AA

Instrument Calibration Data

1. Calibration Procedure

Each Model 43-47 probe was divided into eight overlapping regions over the entire face of the detector. Figure 1 below presents a diagram of the probe. Figure 2 presents a diagram of the eight probe regions.

Using Th-230 (Alpha), and Tc-99 (Beta) NIST traceable 4" by 4" plate sources, a series of five, one minute instrument responses were obtained over each of the eight detector regions and recorded for a total of forty readings. The source was placed at a distance of approximately ¼" from the detector. The total counts of the forty readings were summed and averaged to obtain an instrument efficiency for the entire active window of the detector which is 582 cm^2.

Diagram 1. Model 43-37 Detector Dimension Diagram

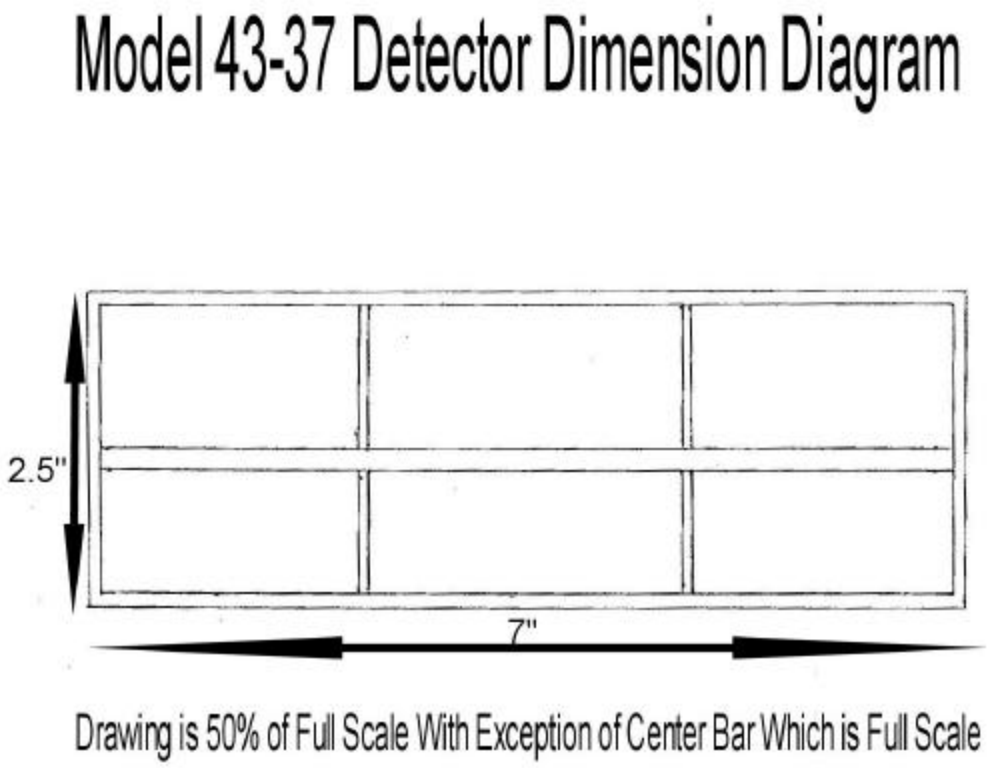
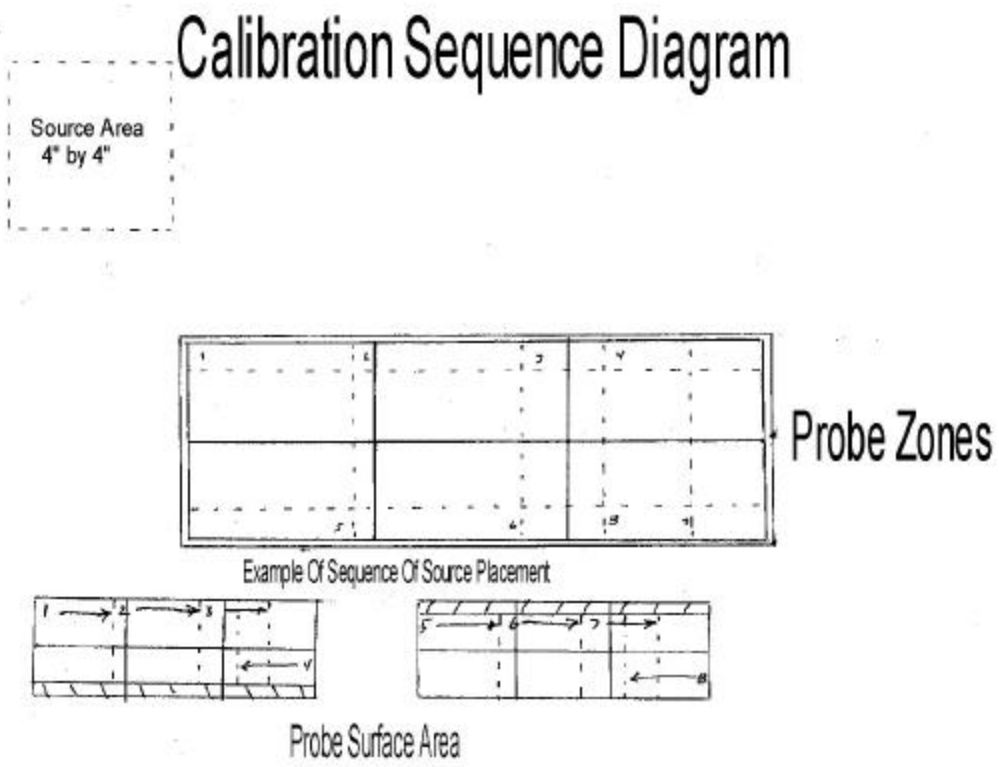


Diagram 2. Model 43-37 Detector Region Diagram



Calibration Data

Designer and Manufacturer of Scientific and Industrial Instruments

CERTIFICATE OF CALIBRATION

LUDLUM MEASUREMENTS, INC.
POST OFFICE BOX 810 PH. 325-235-5494
501 OAK STREET FAX NO. 325-235-4672
SWEETWATER, TEXAS 79556, U.S.A.

CUSTOMER NEW WORLD TECHNOLOGY ORDER NO. 297609/272540

Mfg. Ludlum Measurements, Inc. Model 2224 Serial No. 146713

Mfg. Ludlum Measurements, Inc. Model 43-37 Serial No. PR147964

Cal. Date 30 May 03 Cal Due Date 30 May 04 Cal. Interval 1 Year Meterface 202-694

Check mark ☑ applies to applicable instr. and/or detector IAW mfg. spec. T. 72 °F RH 50 % Alt 708.8 mm Hg

☐ New Instrument Instrument Received ☑ Within Toler. +-10% ☐ 10-20% ☐ Out of Tol. ☐ Requiring Repair ☐ Other-See comments

☑ Mechanical ck. ☑ Meter Zeroed ☐ Background Subtract ☐ Input Sens. Linearity
☐ F/S Resp. ck ☑ Reset ck. ☑ Window Operation ☑ Geotropism
☑ Audio ck. ☐ Alarm Setting ck. ☑ Batt. ck. (Min. Volt) 2.2 VDC

☑ Calibrated in accordance with LMI SOP 14.8 rev 12/05/89. ☐ Calibrated in accordance with LMI SOP 14.9 rev 02/07/97.

Instrument Volt Set Comments V Input Sens. Comments mV Det. Oper. Comments V at Comments mV Threshold Dial Ratio = mV

☑ HV Readout (2 points) Ref./Inst. 500 / 500 V Ref./Inst. 1500 / 1500 V

COMMENTS:

Firmware: 390063
44-68 SN PR160688 HV = 1575V.
44-37 SN PR147964 HV = 1675V.
Alpha threshold = 100mV.
Beta threshold = 4mV.
Beta window = 50mV.
Cal'd with a 39" cable.

Gamma Calibration: GM detectors positioned perpendicular to source except for M 44-9 in which the front of probe faces source.

RANGE/MULTIPLIER	REFERENCE CAL. POINT	INSTRUMENT REC'D "AS FOUND READING"	INSTRUMENT METER READING*
x1000	400Kcpm	400	400
x1000	100Kcpm	100	100
x100	40Kcpm	400	400
x100	10Kcpm	100	100
x10	4Kcpm	400	400
x10	1Kcpm	100	100
x1	400cpm	400	400
x1	100cpm	100	100

*Uncertainty within ± 10% C.F. within ± 20% ALL **Range(s) Calibrated Electronically**

	REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*		REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*
Digital Readout	400Kcpm	40071(0)	40071 (0)	Log Scale			
	40Kcpm	4007	4007				
	4Kcpm	402	402				
	400cpm	40	40				
	40cpm	4	4				

Ludlum Measurements, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology, or to the calibration facilities of other International Standards Organization members, or have been derived from accepted values of natural physical constants or have been derived by the ratio type of calibration techniques. The calibration system conforms to the requirements of ANSI/NCSL Z540-1-1994 and ANSI N323-1978 State of Texas Calibration License No. LO-1963

Reference Instruments and/or Sources:

Cs-137 Gamma S/N ☐ 1162 ☐ G112 ☐ M565 ☐ 5105 ☐ T1008 ☐ T879 ☐ E552 ☐ E551 ☐ Neutron Am-241 Be S/N T-304

☐ Alpha S/N ☐ Beta S/N ☐ Other

☑ m 500 S/N 57881 ☐ Oscilloscope S/N ☑ Multimeter S/N 82080087

Calibrated By: Josh Boston Date 30 May 03

Reviewed By: W O Robison Date 30 May 03

FORM C22A 04/09/2003

AC Inst. Only ☐ Passed Dielectric (Hi-Pot) and Continuity Test ☐ Failed:

Designer and Manufacturer
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LUDLUM MEASUREMENTS, INC.
POST OFFICE BOX 810 PH. 325-235-5494
501 OAK STREET FAX NO. 325-235-4672
SWEETWATER, TEXAS 79556, U.S.A.

Bench Test Data For Detector

Detector 43-37 Serial No. PR147964 Order #. 297609/272540

Customer NEW WORLD TECHNOLOGY Alpha Input Sensitivity 100 mV

Counter 2224 Serial No. 146713 Beta Input Sensitivity 4 mV

Count Time 1Minute Beta Window 50 mV

Other Optimum voltage = 1675 V Distance Source to Detector Surface

High Voltage	Background		Isotope Pu-239 Size 12600 cpm		Isotope Tc-99 Size 14100 cpm		Isotope Sr-90 Size 44582 cpm	
	Alpha	Beta	Alpha	Beta	Alpha	Beta	Alpha	Beta
1575	2	287	4140	725	6	5333	3	10142
1600	1	436	4748	829	3	6779	7	13424
1625	4	634	4854	914	5	7693	7	16578
1650	6	796	5230	1104	5	8399	7	19379
1675	5	1011	5099	1250	6	8572	15	21264
1700	10	1163	5565	1501	49	8484	100	22827
1725	14	1401	5682	1661	229	7887	441	23287

☐ Gas Proportional detector count rate decreased ≤ 10% after 15 hour static test using 39" cable.

☑ Gas proportional detector count rate decreased ≤ 10% after 5 hour static test using 39" cable and alpha/beta counter.

Signature Josh Boston Date 30 May 03

FORM C4B 04/08/2003

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LUDLUM MEASUREMENTS, INC.
POST OFFICE BOX 810 PH. 325-235-5494
501 OAK STREET FAX NO. 325-235-4672
SWEETWATER, TEXAS 79556, U.S.A.

Bench Test Data For Detector

Detector 43-68 Serial No. PR160688 Order #. 297609/272540

Customer NEW WORLD TECHNOLOGY Alpha Input Sensitivity 100 mV

Counter 2224 Serial No. 146713 Beta Input Sensitivity 4 mV

Count Time 1 Minute Beta Window 50 mV

Other Optimum HV = 1575 Distance Source to Detector Surface

High Voltage	Background Alpha	Background Beta	Isotope Pu-239 Size 12600 cpm Alpha	Isotope Pu-239 Size 12600 cpm Beta	Isotope Tc-99 Size 14100 cpm Alpha	Isotope Tc-99 Size 14100 cpm Beta	Isotope Sr Y-90 Size 44582 cpm Alpha	Isotope Sr Y-90 Size 44582 cpm Beta
1500	0	81	5015	472	1	6340	1	10872
1525	1	156	5202	511	1	7323	0	14573
1550	0	199	5322	505	4	7772	3	15663
1575	0	235	5770	617	14	8146	11	19145
1600	5	306	5872	635	93	7511	128	20818
1625	8	309	6028	606	365	6628	488	21023

JB ☑ Gas Proportional detector count rate decreased ≤ 10% after 15 hour static test using 39" cable.

☑ Gas proportional detector count rate decreased ≤ 10% after 5 hour static test using 39" cable and alpha/beta counter.

Signature Josh Boston Date 30 May 03

FORM C4B 04/08/2003

Designer and Manufacturer of Scientific and Industrial Instruments

CERTIFICATE OF CALIBRATION

LUDLUM MEASUREMENTS, INC.
POST OFFICE BOX 810 PH. 325-235-5494
501 OAK STREET FAX NO. 325-235-4672
SWEETWATER, TEXAS 79556, U.S.A.

CUSTOMER NEW WORLD TECHNOLOGY ORDER NO. 297609/272540

Mfg. Ludlum Measurements, Inc. Model 2224 Serial No. 118242

Mfg. Ludlum Measurements, Inc. Model 43-37 Serial No. PR148504

Cal. Date 30 May 03 Cal Due Date 30 May 04 Cal. Interval 1 Year Meterface 202-694

Check mark ☑ applies to applicable instr. and/or detector IAW mfg. spec. T. 72 °F RH 50 % Alt 708.8 mm Hg

☐ New Instrument Instrument Received ☑ Within Toler. +-10% ☐ 10-20% ☐ Out of Tol. ☐ Requiring Repair ☐ Other-See comments

☑ Mechanical ck. ☑ Meter Zeroed ☐ Background Subtract ☐ Input Sens. Linearity
☐ F/S Resp. ck ☑ Reset ck. ☑ Window Operation ☑ Geotropism
☑ Audio ck. ☐ Alarm Setting ck. ☑ Batt. ck. (Min. Volt) 2.2 VDC
☑ Calibrated in accordance with LMI SOP 14.8 rev 12/05/89. ☐ Calibrated in accordance with LMI SOP 14.9 rev 02/07/97.

Instrument Volt Set Comments V Input Sens. Comments mV Det. Oper. Comments V at Comments mV Threshold Dial Ratio _____ = _____ mV

☑ HV Readout (2 points) Ref./Inst. 500 / 500 V Ref./Inst. 1500 / 1500 V

COMMENTS:

Firmware: 390063
44-68 SN PR147403 HV = 1600V.
44-37 SN PR148504 HV = 1650V.
Alpha threshold = 100 mV.
Beta threshold = 4 mV.
Beta window = 50 mV.
Cal'd with a 39" cable.

Gamma Calibration: GM detectors positioned perpendicular to source except for M 44-9 in which the front of probe faces source.

RANGE/MULTIPLIER	REFERENCE CAL. POINT	INSTRUMENT REC'D "AS FOUND READING"	INSTRUMENT METER READING*
x1000	400Kcpm	400	400
x1000	100Kcpm	100	100
x100	40Kcpm	400	400
x100	10Kcpm	100	100
x10	4Kcpm	400	400
x10	1Kcpm	100	100
x1	400cpm	400	400
x1	100cpm	100	100

*Uncertainty within ± 10% C.F. within ± 20% ALL **Range(s) Calibrated Electronically**

	REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*		REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*
Digital Readout	400Kcpm	40133 (0)	40133 (0)	Log Scale			
	40Kcpm	4006	4006				
	4Kcpm	401	401				
	400cpm	40	40				
	40cpm	4	4				

Ludlum Measurements, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology, or to the calibration facilities of other International Standards Organization members, or have been derived from accepted values of natural physical constants or have been derived by the ratio type of calibration techniques. The calibration system conforms to the requirements of ANSI/NCSL Z540-1-1994 and ANSI N323-1978 State of Texas Calibration License No. LO-1963

Reference Instruments and/or Sources:

Cs-137 Gamma S/N ☐ 1162 ☐ G112 ☐ M565 ☐ 5105 ☐ T1008 ☐ T879 ☐ E552 ☐ E551 ☐ Neutron Am-241 Be S/N T-304

☐ Alpha S/N _____ ☐ Beta S/N _____ ☐ Other _____

☑ m 500 S/N 57881 ☐ Oscilloscope S/N _____ ☑ Multimeter S/N 82080087

Calibrated By: Josh Boston Date 30 May 03

Reviewed By: [signature] Date 30 May 03

FORM C22A 04/09/2003

AC Inst. Only ☐ Passed Dielectric (Hi-Pot) and Continuity Test ☐ Failed: _____

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LUDLUM MEASUREMENTS, INC.
POST OFFICE BOX 810 PH. 325-235-5494
501 OAK STREET FAX NO. 325-235-4672
SWEETWATER, TEXAS 79556, U.S.A.

Bench Test Data For Detector

Detector 43-68 Serial No. PR147403 Order #. 297609/272540

Customer NEW WORLD TECHNOLOGY Alpha Input Sensitivity 100 mV

Counter 2224 Serial No. 118242 Beta Input Sensitivity 4 mV

Count Time 1Minute Beta Window 50 mV

Other Optimum HV=1600V Distance Source to Detector Surface

High Voltage	Background Alpha	Background Beta	Isotope Pu-239 Size 12600 cpm Alpha	Isotope Pu-239 Size 12600 cpm Beta	Isotope Tc-99 Size 14,100 cpm Alpha	Isotope Tc-99 Size 14,100 cpm Beta	Isotope Sr Y-90 Size 44582 cpm Alpha	Isotope Sr Y-90 Size 44582 cpm Beta
1500	2	111	4459	416	3	5253	2	7869
1525	1	110	5092	425	4	6051	3	10945
1550	1	133	5122	482	3	7005	4	13539
1575	3	191	5400	530	3	7585	12	17387
1600	3	269	5627	584	12	7597	26	18750
1625	0	328	5659	628	69	7306	89	20045
1650	4	301	5808	594	306	6194	440	20536
1675	11	358	5927	599	936	4840	1468	18630

JB ☑ Gas Proportional detector count rate decreased ≤ 10% after 15 hour static test using 39" cable.

☑ Gas proportional detector count rate decreased ≤ 10% after 5 hour static test using 39" cable and alpha/beta counter.

Signature Josh Boston Date 30 May 03

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LUDLUM MEASUREMENTS, INC.
POST OFFICE BOX 810 PH. 325-235-5494
501 OAK STREET FAX NO. 325-235-4672
SWEETWATER, TEXAS 79556, U.S.A.

Bench Test Data For Detector

Detector 43-37 Serial No. PR148504 Order #. 297609/272540

Customer NEW WORLD TECHNOLOGY Alpha Input Sensitivity 100 mV

Counter 2224 Serial No. 118242 Beta Input Sensitivity 4 mV

Count Time 1Minute Beta Window 50 mV

Other Optimum HV = 1650V Distance Source to Detector Surface

High Voltage	Background Alpha	Background Beta	Isotope Pu-239 Size 12600cpm Alpha	Isotope Pu-239 Size 12600cpm Beta	Isotope Tc-99 Size 14,100cpm Alpha	Isotope Tc-99 Size 14,100cpm Beta	Isotope Sr Y-90 Size 44582cpm Alpha	Isotope Sr Y-90 Size 44582cpm Beta
1575	3	406	4499	710	3	6140	3	13781
1600	2	571	4805	815	1	6678	6	16385
1625	3	679	5075	953	10	8034	5	18976
1650	6	849	5379	1179	5	8233	12	21729
1675	5	1096	5408	1330	54	7855	106	23351
1700	18	1122	5485	1465	190	7333	310	22202

JB ☑ Gas Proportional detector count rate decreased ≤ 10% after 15 hour static test using 39" cable.

☑ Gas proportional detector count rate decreased ≤ 10% after 5 hour static test using 39" cable and alpha/beta counter.

Signature Josh Boston Date 30 May 03

FORM C4B 04/09/2003

Designer and Manufacturer of Scientific and Industrial Instruments

CERTIFICATE OF CALIBRATION

LUDLUM MEASUREMENTS, INC.
POST OFFICE BOX 810 PH. 325-235-5494
501 OAK STREET FAX NO. 325-235-4672
SWEETWATER, TEXAS 79556, U.S.A.

CUSTOMER NEW WORLD TECHNOLOGY ORDER NO. 297609 / 272540

Mfg. Ludlum Measurements, Inc. Model 2350-1 Serial No. 95353

Cal. Date 29-May-03 Cal Due Date 29-May-04 Cal. Interval 1 Year Meterface n/a

Check mark ☑ applies to applicable instr. and/or detector IAW mfg. spec. T. 72 °F RH 47 % Alt 705.8 mm Hg

☐ New Instrument Instrument Received ☑ Within Toler. +-10% ☐ 10-20% ☐ Out of Tol. ☐ Requiring Repair ☐ Other-See comments

☑ Mechanical check ☑ Input Sens. Linearity

☑ F/S Resp. check ☑ Reset check ☑ Window Operation

☑ Audio check ☑ Alarm Setting check ☑ Battery check (Min. Volt) 4.4 VDC

☑ Ratemeter Linearity check ☑ Integrated Dose check ☑ Recycle Mode check

☑ Data Log check ☑ Overload check ☑ Scaler Readout check Threshold Dial Ratio 100 = 10 mV

☑ Calibrated in accordance with LMI SOP 14.8 rev 12/05/89. ☐ Calibrated in accordance with LMI SOP 14.9 rev 02/07/97.

☑ HV Readout (2 points) Ref./Inst. 500 / 499 V Ref./Inst. 2000 / 1993 V

COMMENTS: *Firmware: 37122N28*

I/O Firmware: 37123N05
Calibrated with 50ft cable.

Gamma Calibration: GM detectors positioned perpendicular to source except for M 44-9 in which the front of probe faces source.

	Probe Model	Serial #	High Voltage	Threshold	Units/ Time Base	Dead Time Correction Factor	Calibration Constant	Linearity ±10%*
Detector # 1	LMI44-10	PR020437	1200	100	4 / 2	1.567052E-05	5.076470E+10	✓
Detector # 2	LMI44-10	PR020437	1200	100	7 / 1	1.567052E-05	1.000000E+00	
Detector # 3	PK/CS-137	PR020437	922	642	7 / 1	0.000000E+00	1.000000E+00	
Detector # 4	LMI44-2	PR035611	850	100	4 / 2	1.644561E-05	1.065852E+10	✓
Detector # 5	LMI44-2	PR035611	850	100	7 / 1	1.644561E-05	1.000000E+00	
Detector # 6	LMI44-62	PR147601	1000	100	4 / 2	9.833808E-06	2.711808E+09	✓
Detector # 7	LMI44-62	PR147601	1000	100	7 / 1	9.833808E-06	1.000000E+00	
Detector #								
Detector #								
Detector #								

Units: 0 -- rad, 1 -- Gray, 2 -- rem, 3 -- Sv, 4 -- R, 5 -- C/Kg, 6 -- Disintegrations, 7 -- Counts, 8 -- Ci/cm sq., 9 -- Bq/cm sq.
Time Base: 0 -- Seconds, 1 -- Minutes, 2 -- Hours

* See attached detector documentation, if applicable.

Digital Readout	REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*	REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*
	400 K cpm	39982 (0)	39982 (0)	400 cpm	40 (0)	40 (0)
	40 K cpm	3998	3998	40 cpm	4 "	4 "
	4 K cpm	400	400			

Ludlum Measurements, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology, or to the calibration facilities of other International Standards Organization members, or have been derived from accepted values of natural physical constants or have been derived by the ratio type of calibration techniques. The calibration system conforms to the requirements of ANSI/NCSL Z540-1-1994 and ANSI N323-1978. State of Texas Calibration License No. LO-1963

Reference Instruments and/or Sources: Cs-137 Gamma S/N

☐ 1162 ☐ G112 ☐ M565 ☐ 5105 ☐ T1008 ☐ T879 ☐ E552 ☐ E551 ☐ Neutron Am-241 Be S/N T-304

☐ Alpha S/N ☐ Beta S/N ☐ Other

☑ m 500 S/N 134709 ☑ Multimeter S/N 57390613

Calibrated By: Conrad Galindo Date 29 May 03

Reviewed By: [illegible] Date 30 May 03

Designer and Manufacturer
of
Scientific and Industrial
Instruments

LUDLUM MEASUREMENTS, INC.
POST OFFICE BOX 810 PH. 325-235-5494
501 OAK STREET FAX NO. 325-235-4672
SWEETWATER, TEXAS 79556, U.S.A.

Model 2350 Bench Test Data

Customer NEW WORLD TECHNOLOGY Date 29-May-03 Order #. 297609 / 272540

Model 2350-1 Serial No. 95353 Detector 44-10 Serial No. PR020437

Source Cs-137 1.9mci

High Voltage 1200 V As Found N/A V. Input 10.00 mV As Found ____ mV.

Cal. Constant 5.076470E+10 as found ____

Dead Time 1.567052E-05 as found ____

Alarm Setting: Ratemeter 1000000000.000000 as found N/A

Scaler 1000000.000000 as found ____

Integrated dose 1000000000.0000 as found ____

Overload ☐ On ☐ Off as found ☐ On ☐ Off Window 1000 uR as found ____

Detector Received: ☐ Within Toler. +-10% ☐ 10-20% ☐ Out of Tol. ☐ Requiring Repair ☑ Other-See comments

Reference Point	"As Found" Readings: Meter Reading	After Adjustment Readings: Meter Reading
2000 uR/hr	N/A	1.92 mR/hr
1000 uR/hr		1.07 "
500 uR/hr		520 uR/hr
200 uR/hr		208
100 uR/hr		104

Other No detector setup

Signature Conrad Salinas Date 29 May 03

FORM C&-1 04/08/2003

Designer and Manufacturer
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Instruments

LUDLUM MEASUREMENTS, INC.
POST OFFICE BOX 810 PH. 325-235-5494
501 OAK STREET FAX NO. 325-235-4672
SWEETWATER, TEXAS 79556, U.S.A.

Bench Test Data For Detector

Detector 44-10 Serial No. PR020437

Customer NEW WORLD TECHNOLOGY Order #. 297609 / 272540

Counter 2350-1 Serial No. 95353 Counter Input Sensitivity 10.00 mV

Count Time 6 Seconds Distance Source to Detector Surface

Other Cal Constant = 1.000000E+00 Dead Time = 1.567052E-05

High Voltage	Background	Isotope Am-241 Size ~ 0.92uci	Isotope Size	Isotope Size	Isotope Size
950	736	916			
1000	916	7763			
1050	865	12048			
1100	839	12469			
1150	925	13542			
1200	835	13750			
1250	900	14115			
1300	946	13792			
1350	935	14137			
1400	964	14056			
1450	971	14102			
1500	1296	14961			

Signature Conrad Galindo Date 29 May 03

FORM C4A 04/08/2003

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LUDLUM MEASUREMENTS, INC.
POST OFFICE BOX 810 PH. 325-235-5494
501 OAK STREET FAX NO. 325-235-4672
SWEETWATER, TEXAS 79556, U.S.A.

Model 2350 Bench Test Data

Customer NEW WORLD TECHNOLOGY Date 29-May-03 Order #. 297609 / 272540

Model 2350-1 Serial No. 95353 Detector 44-2 Serial No. PR035611

Source Cs-137 20mCi Cs-137 1.9mCi

High Voltage 850 V As Found NA V. Input 10.00 mV As Found ____ mV.

Cal. Constant 1.065852E+10 as found ____

Dead Time 1.644561E-05 as found ____

Alarm Setting: Ratemeter 1000000000.000000 as found NA

Scaler 1000000.000000 as found ____

Integrated dose 1000000000.0000 as found ____

Overload ☐ On ☐ Off as found ☐ On ☐ Off Window 1000 off as found ____

Detector Received: ☐ Within Toler. +-10% ☐ 10-20% ☐ Out of Tol. ☐ Requiring Repair ☑ Other-See comments

Reference Point	"As Found" Readings: Meter Reading	After Adjustment Readings: Meter Reading
20mR/hr	NA	19.1 mR/hr
15mR/hr		14.9
10mR/hr		10.4
4mR/hr		4.23
2mR/hr		2.09
1mR/hr		1.05
500uR/hr		491uR/hr
200uR/hr		193
100uR/hr		99.1

Other No detector Setup

Signature Conrad Salinas Date 29 May 03

FORM C&-1 04/09/2003

Designer and Manufacturer
of
Scientific and Industrial
Instruments

LUDLUM MEASUREMENTS, INC.
POST OFFICE BOX 810 PH. 325-235-5494
501 OAK STREET FAX NO. 325-235-4672
SWEETWATER, TEXAS 79556, U.S.A.

Bench Test Data For Detector

Detector 44-2 Serial No. PR035611

Customer NEW WORLD TECHNOLOGY Order #. 297609 / 272540

Counter 2350-1 Serial No. 95353 Counter Input Sensitivity 10.00 mV

Count Time 6 seconds Distance Source to Detector Surface

Other Cal Constant = 1.000000E+00 Dead Time = 1.644561E-05

High Voltage	Background	Isotope Am-241 Size ≈ 0.92uCi	Isotope Size	Isotope Size	Isotope Size
650	141	5011			
700	163	10364			
750	180	12968			
800	177	12827			
850	200	12777			
900	169	12741			
950	218	12795			
1000	244	13025			
1050	250	13056			

Signature Conrad Galindo Date 29 May 03

FORM C4A 04/09/2003

Designer and Manufacturer
of
Scientific and Industrial
Instruments

LUDLUM MEASUREMENTS, INC.
POST OFFICE BOX 810 PH. 325-235-5494
501 OAK STREET FAX NO. 325-235-4672
SWEETWATER, TEXAS 79556, U.S.A.

Model 2350 Bench Test Data

Customer NEW WORLD TECHNOLOGY Date 29-May-03 Order #. 297609 / 272540

Model 2350-1 Serial No. 95353 Detector 44-62 Serial No. PR147601

Source Cs-137 20mCi Cs-137 1.9mCi

High Voltage 1000 V As Found NA V. Input 10.00 mV As Found ____ mV.

Cal. Constant 2.711808E+09 as found ____

Dead Time 9.833808E-06 as found ____

Alarm Setting: Ratemeter 1000000000.000000 as found NA

Scaler 1000000.000000 as found ____

Integrated dose 1000000000.0000 as found ____

Overload ☐ On ☐ Off as found ☐ On ☐ Off Window 1000 off as found ____

Detector Received: ☐ Within Toler. +-10% ☐ 10-20% ☐ Out of Tol. ☐ Requiring Repair ☑ Other-See comments

Reference Point	"As Found" Readings: Meter Reading	After Adjustment Readings: Meter Reading
50 mR/hr	NA	46.1 mR/hr
25 mR/hr		23.8
15 mR/hr		15.2
5 mR/hr		5.22
2 mR/hr		2.07
1 mR/hr		1.10
500 uR/hr		492 uR/hr
100 uR/hr		1.09

Other No detector setup

Signature Conrad Salinas Date 29 May 03

Designer and Manufacturer
of
Scientific and Industrial
Instruments

LUDLUM MEASUREMENTS, INC.
POST OFFICE BOX 810 PH. 325-235-5494
501 OAK STREET FAX NO. 325-235-4672
SWEETWATER, TEXAS 79556, U.S.A.

Bench Test Data For Detector

Detector 44-62 Serial No. PR147601

Customer NEW WORLD TECHNOLOGY Order #. 297609 / 272540

Counter 2350-1 Serial No. 95353 Counter Input Sensitivity 10.00 mV

Count Time 6 seconds Distance Source to Detector Surface

Other Cal Constant = 1.000000E+00 Dead Time = 9.833808E-06

High Voltage	Background	Isotope Am-241 Size ~0.92uCi	Isotope Size	Isotope Size	Isotope Size
800	67	1855			
850	73	4503			
900	60	4888			
950	77	5278			
1000	74	5322			
1050	79	5131			
1100	66	5250			
1150	80	5268			
1200	89	5411			

Signature Conrad Salinas Date 29 May 03

FORM C4A 04/09/2003

Isotope Products Laboratories
An Eckert & Ziegler Company

24937 Avenue Tibbitts
Valencia, California 91355

Tel 661•309•1010
Fax 661•257•8303

CERTIFICATE OF CALIBRATION
BETA STANDARD SOURCE

Radionuclide:	Tc-99	**Customer:**	NEW WORLD TECHNOLOGY			
Half-life:	(2.13 ± 0.05)E+05 years	**P.O. No.:**	20400			
Catalog No.:	EAB-099-47LB	**Reference Date:**	1-Sep-02	12:00	PST	
Source No.:	A7-272	**Contained Radioactivity:**	50.66	**nCi**	1874	**Bq**
		Contained Radioactivity:	112500	**dpm**		

Physical description:

A. Capsule type:	EAB-LB (47 mm OD x 3.18 mm THK)
B. Nature of active deposit:	Electroplated and diffusion bonded oxide
C. Active Diameter:	41 mm
D. Backing:	Stainless steel
E. Cover:	None

Radioimpurities:

None detected

CAUTION!
DELICATE SURFACE
DO NOT WIPE
ACTIVE AREA

Method of Calibration:

This source was assayed using a windowless internal gas flow proportional counter.

Uncertainty of Measurement:

A. Type A (random) uncertainty:	± 0.4 %
B. Type B (systematic) uncertainty:	± 3.0 %
C. Uncertainty in aliquot weighing:	± 0.0 %
D. Total uncertainty at the 99% confidence level:	± 3.0 %

Notes:

- See reverse side for leak test(s) performed on this source.
- IPL participates in a NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (As in NRC Regulatory Guide 4.15).
- Nuclear data was taken from "Table of Radioactive Isotopes", edited by Virginia Shirley, 1986.
- This source has a working life of 2 years.
- This source had surface emission rate of 59610 β/min in 2π on 20 Aug 02.

Quality Control

21-Aug-02
Date Signed

IPL Ref. No.: 943-61

Isotope Products Laboratories
An Eckert & Ziegler Company

24937 Avenue Tibbitts
Valencia, California 91355

Tel 661•309•1010
Fax 661•257•8303

CERTIFICATE OF CALIBRATION
BETA STANDARD SOURCE

Radionuclide:	Tc-99	**Customer:**	NEW WORLD TECHNOLOGY			
Half-life:	(2.13 ± 0.05)E+05 years	**P.O. No.:**	20400			
Catalog No.:	LDS-099-100MM	**Reference Date:**	1-Sep-02	12:00	PST	
Source No.:	A7-269	**Contained Radioactivity:**	46.93	**nCi**	1736	**Bq**
		Contained Radioactivity:	104200	**dpm**		

Physical description:

A. Capsule type:	LDS (12.1 cm x 12.1 cm)
B. Nature of active deposit:	Electrodeposited and diffusion bonded oxide
C. Active Diameter:	10 cm x 10 cm
D. Backing:	Stainless steel
E. Cover:	None

Radioimpurities:

None detected

CAUTION!
DELICATE SURFACE
DO NOT WIPE
ACTIVE AREA

Method of Calibration:

This source was assayed using a windowless internal gas flow proportional counter.

Uncertainty of Measurement:

A. Type A (random) uncertainty:	± 0.6 %
B. Type B (systematic) uncertainty:	± 3.0 %
C. Uncertainty in aliquot weighing:	± 0.0 %
D. Total uncertainty at the 99% confidence level:	± 3.1 %

Notes:

- See reverse side for leak test(s) performed on this source.
- IPL participates in a NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (As in NRC Regulatory Guide 4.15).
- Nuclear data was taken from "Table of Radioactive Isotopes", edited by Virginia Shirley, 1986.
- This source has a working life of 2 years.
- This source had a surface emission rate of 56250 β/min in 2π on 20 Aug 02.

Quality Control

21-Aug-02
Date Signed

IPL Ref. No.: 943-61

Isotope Products Laboratories
An Eckert & Ziegler Company

24937 Avenue Tibbitts
Valencia, California 91355

Tel 661•309•1010
Fax 661•257•8303

CERTIFICATE OF CALIBRATION
ALPHA STANDARD SOURCE

Radionuclide:	Th-230	**Customer:**	NEW WORLD TECHNOLOGY			
Half-life:	(7.54 ± 0.03)E+04 years	**P.O. No.:**	20400			
Catalog No.:	EAB-230-47LB	**Reference Date:**	1-Sep-02	12:00	PST	
Source No.:	A7-270	**Contained Radioactivity:**	49.32	**nCi**	1825	**Bq**
		Contained Radioactivity: (Total Alpha)	109500	**dpm**		

Physical description:

A. Capsule type:	EAB-LB (47 mm OD x 3.18 mm THK)
B. Nature of active deposit:	Electrodeposited and diffusion bonded oxide
C. Active Diameter:	41 mm
D. Backing:	Stainless steel
E. Cover:	None

Radioimpurities:

Ra-226 = 0.400% and Am-241 = 0.110% on 1 Sep 02.

CAUTION!
DELICATE SURFACE
DO NOT WIPE
ACTIVE AREA

Method of Calibration:

This source was assayed using a windowless internal gas flow proportional counter.

Uncertainty of Measurement:

A. Type A (random) uncertainty:	± 0.4 %
B. Type B (systematic) uncertainty:	± 3.0 %
C. Uncertainty in aliquot weighing:	± 0.0 %
D. Total uncertainty at the 99% confidence level:	± 3.0 %

Notes:

- See reverse side for leak test(s) performed on this source.
- IPL participates in a NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (As in NRC Regulatory Guide 4.15).
- Nuclear data was taken from "Table of Radioactive Isotopes", edited by Virginia Shirley, 1986.
- This source has a working life of 2 years.
- This source had a total alpha surface emission rate of 54750 α/min in 2π on 20 Aug 02.

Quality Control

21-Aug-02
Date Signed

IPL Ref. No.: 943-61

Isotope Products Laboratories
An Eckert & Ziegler Company

24937 Avenue Tibbitts
Valencia, California 91355

Tel 661•309•1010
Fax 661•257•8303

CERTIFICATE OF CALIBRATION
ALPHA STANDARD SOURCE

Radionuclide:	Th-230	**Customer:**	NEW WORLD TECHNOLOGY			
Half-life:	(7.54 ± 0.03)E+04 years	**P.O. No.:**	20400			
Catalog No.:	EAB-230-47LB	**Reference Date:**	1-Sep-02	12:00	PST	
Source No.:	A7-271	**Contained Radioactivity:**	45.32	**nCi**	1677	**Bq**
		Contained Radioactivity: (Total Alpha)	100600	**dpm**		

Physical description:

A. Capsule type:	EAB-LB (47 mm OD x 3.18 mm THK)
B. Nature of active deposit:	Electrodeposited and diffusion bonded oxide
C. Active Diameter:	41 mm
D. Backing:	Stainless steel
E. Cover:	None

Radioimpurities:

Ra-226 = 0.400% and Am-241 = 0.110% on 1 Sep 02.

CAUTION!
DELICATE SURFACE
DO NOT WIPE
ACTIVE AREA

Method of Calibration:

This source was assayed using a windowless internal gas flow proportional counter.

Uncertainty of Measurement:

A. Type A (random) uncertainty:	± 0.3 %
B. Type B (systematic) uncertainty:	± 3.0 %
C. Uncertainty in aliquot weighing:	± 0.0 %
D. Total uncertainty at the 99% confidence level:	± 3.0 %

Notes:

- See reverse side for leak test(s) performed on this source.
- IPL participates in a NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (As in NRC Regulatory Guide 4.15).
- Nuclear data was taken from "Table of Radioactive Isotopes", edited by Virginia Shirley, 1986.
- This source has a working life of 2 years.
- This source had a total alpha surface emission rate of 50300 α/min in 2π on 20 Aug 02.

Quality Control

21-Aug 02
Date Signed

IPL Ref. No.: 943-61

Designer and Manufacturer of Scientific and Industrial Instruments

CERTIFICATE OF CALIBRATION

LUDLUM MEASUREMENTS, INC.
POST OFFICE BOX 810 PH. 915-235-5494
501 OAK STREET FAX NO. 915-235-4672
SWEETWATER, TEXAS 79556, U.S.A.

CUSTOMER NEW WORLD TECHNOLOGY ORDER NO. 287000/267340

Mfg. Ludlum Measurements, Inc. Model 2224 Serial No. 118242

Mfg. Ludlum Measurements, Inc. Model 43-37 Serial No. PR147964

Cal. Date 16-Oct-02 Cal Due Date 16-Oct-03 Cal. Interval 1 Year Meterface 202-783

Check mark ☑ applies to applicable instr. and/or detector IAW mfg. spec. T. 74 °F RH 28 % Alt 702.8 mm Hg

☐ New Instrument Instrument Received ☑ Within Toler. +-10% ☐ 10-20% ☐ Out of Tol. ☐ Requiring Repair ☐ Other-See comments

☑ Mechanical ck. ☑ Meter Zeroed ☐ Background Subtract ☐ Input Sens. Linearity
☐ F/S Resp. ck ☑ Reset ck. ☑ Window Operation ☑ Geotropism
☑ Audio ck. ☐ Alarm Setting ck. ☑ Batt. ck. (Min. Volt) 2.2 VDC
☑ Calibrated in accordance with LMI SOP 14.8 rev 12/05/89. ☐ Calibrated in accordance with LMI SOP 14.9 rev 02/07/97.

Instrument Volt Set 1725 V Input Sens. Comment mV Det. Oper. 1725 V at Comment mV Threshold Dial Ratio = mV

☑ HV Readout (2 points) Ref./Inst. 517 / 500 V Ref./Inst. 1523 / 1500 V

COMMENTS:

Instrument calibrated with 5' cable.
Hv set with detector disconnected
Eff. for SrY-90 s/n 92SR1001808 104300 CPM
41841 cpm sc. - 978 cpm bg. = 40863 cpm
Eff. = 39.1% (2 Pi)
Eff. for Th-230 s/n 9TH1000497 5950 CPM
2038 cpm sc. - 2 cpm bg. = 2036 cpm
Eff. = 34.2% (2 Pi)
Alpha Threshold: 100 mV Beta Threshold: 4 mV Beta Window: 40 mV

Firmware # 390063
01 Checked but not set

Gamma Calibration: GM detectors positioned perpendicular to source except for M 44-9 in which the front of probe faces source.

RANGE/MULTIPLIER	REFERENCE CAL. POINT	INSTRUMENT REC'D "AS FOUND READING"	INSTRUMENT METER READING*
x1000	400Kcpm	400	400
x1000	100Kcpm	100	100
x100	40Kcpm	400	400
x100	10Kcpm	100	100
x10	4Kcpm	400	400
x10	1Kcpm	100	100
x1	400cpm	400	400
x1	100cpm	100	100

*Uncertainty within ± 10% C.F. within ± 20% ALL Range(s) Calibrated Electronically

	REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*		REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*
Digital Readout	400Kcpm	400651	400651	Log Scale			
	40Kcpm	40093	40093				
	4Kcpm	4007	4007				
	400cpm	400	400				
	40cpm	40	40				

Ludlum Measurements, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology, or to the calibration facilities of other International Standards Organization members, or have been derived from accepted values of natural physical constants or have been derived by the ratio type of calibration techniques. The calibration system conforms to the requirements of ANSI/NCSL Z540-1-1994 and ANSI N323-1978 State of Texas Calibration License No. LO-1963

Reference Instruments and/or Sources:

Cs-137 Gamma S/N ☐ 1162 ☐ G112 ☐ M565 ☐ 5105 ☐ T1008 ☐ T879 ☐ E552 ☐ E551 ☐ Neutron Am-241 Be S/N T-304

☑ Alpha S/N Pu-239 2928-01 ☑ Beta S/N Tc-99 635/83 SrY90 4016 ☐ Other

☑ m 500 S/N 132899 ☐ Oscilloscope S/N ☑ Multimeter S/N 75460209

Calibrated By: Domingo Garza Date 16 Octo2

Reviewed By: Rhonda Hamin Date 17 Oct 02

FORM C22A 10/31/2001

AC Inst. Only ☐ Passed Dielectric (Hi-Pot) and Continuity Test ☐ Failed:

Designer and Manufacturer
of
Scientific and Industrial
Instruments

LUDLUM MEASUREMENTS, INC.
POST OFFICE BOX 810 PH. 915-235-5494
501 OAK STREET FAX NO. 915-235-4672
SWEETWATER, TEXAS 79556, U.S.A.

Bench Test Data For Detector

Detector 43-37 Serial No. PR147964 Order #. 287000/267340

Customer NEW WORLD TECHNOLOGY Alpha Input Sensitivity 100 mV

Counter 2224 Serial No. 118242 Beta Input Sensitivity 4 mV

Count Time 1Minute Beta Window 40 mV

Other Distance Source to Detector Surface

High Voltage	Background Alpha	Background Beta	Isotope Pu-239 Size 12.6kcpm Alpha	Isotope Pu-239 Size 12.6kcpm Beta	Isotope Tc-99 Size 14.3kcpm Alpha	Isotope Tc-99 Size 14.3kcpm Beta	Isotope Sr/Y 90 Size 45255 Alpha	Isotope Sr/Y 90 Size 45255 Beta
1700	6	815	5273	1216	14	7818	16	30000
1725	2	978	5416	1273	45	7327	91	30640
1750	19	886	5584	1274	193	6619	465	30815

☐ Gas Proportional detector count rate decreased ≤ 10% after 15 hour static test using 39" cable.

☐ Gas proportional detector count rate decreased ≤ 10% after 5 hour static test using 39" cable and alpha/beta counter.

Signature Domingo Garza Date 16 Octo2

FORM C4B 12/08/97

Designer and Manufacturer
of
Scientific and Industrial
Instruments

LUDLUM MEASUREMENTS, INC.
POST OFFICE BOX 810 PH. 915-235-5494
501 OAK STREET FAX NO. 915-235-4672
SWEETWATER, TEXAS 79556, U.S.A.

Bench Test Data For Detector

Detector 43-37 Serial No. PR147964 Order #. 287000/267340

Customer NEW WORLD TECHNOLOGY Alpha Input Sensitivity 100 mV

Counter 2224 Serial No. 118242 Beta Input Sensitivity 4 mV

Count Time 1Minute Beta Window 40 mV

Other Distance Source to Detector Surface

High Voltage	Background Alpha	Background Beta	Isotope Pu-239 Size 12.6kcpm Alpha	Isotope Pu-239 Size 12.6kcpm Beta	Isotope Tc-99 Size 14.3kcpm Alpha	Isotope Tc-99 Size 14.3kcpm Beta	Isotope Sr/Y 90 Size 45255 Alpha	Isotope Sr/Y 90 Size 45255 Beta
1700	6	815	5273	1216	14	7818	16	30000
1725	2	978	5416	1273	45	7327	91	30640
1750	19	886	5584	1274	193	6619	465	30815

☐ Gas Proportional detector count rate decreased ≤ 10% after 15 hour static test using 39" cable.

☐ Gas proportional detector count rate decreased ≤ 10% after 5 hour static test using 39" cable and alpha/beta counter.

Signature Domingo Garza Date 16 Octo2

FORM C4B 12/08/97

Designer and Manufacturer
of
Scientific and Industrial
Instruments

LUDLUM MEASUREMENTS, INC.
POST OFFICE BOX 810 PH. 915-235-5494
501 OAK STREET FAX NO. 915-235-4672
SWEETWATER, TEXAS 79556, U.S.A.

Bench Test Data For Detector

Detector 43-37 Serial No. PR147964 Order #. 287000/267340

Customer NEW WORLD TECHNOLOGY Alpha Input Sensitivity 100 mV

Counter 2224 Serial No. 118242 Beta Input Sensitivity 4 mV

Count Time 1Minute Beta Window 40 mV

Other Distance Source to Detector Surface

High Voltage	Background Alpha	Background Beta	Isotope Pu-239 Size 12.6kcpm Alpha	Isotope Pu-239 Size 12.6kcpm Beta	Isotope Tc-99 Size 14.3kcpm Alpha	Isotope Tc-99 Size 14.3kcpm Beta	Isotope Sr/Y 90 Size 45255 Alpha	Isotope Sr/Y 90 Size 45255 Beta
1700	6	815	5273	1216	14	7818	16	30000
1725	2	978	5416	1273	45	7327	91	30640
1750	19	886	5584	1274	193	6619	465	30815

☐ Gas Proportional detector count rate decreased ≤ 10% after 15 hour static test using 39" cable.

☐ Gas proportional detector count rate decreased ≤ 10% after 5 hour static test using 39" cable and alpha/beta counter.

Signature Domingo Garza Date 16 Octo2

FORM C4B 12/08/97

Designer and Manufacturer of Scientific and Industrial Instruments

CERTIFICATE OF CALIBRATION

LUDLUM MEASUREMENTS, INC.
POST OFFICE BOX 810 PH. 915-235-5494
501 OAK STREET FAX NO. 915-235-4672
SWEETWATER, TEXAS 79556, U.S.A.

CUSTOMER NEW WORLD TECHNOLOGY ORDER NO. 287000/267340

Mfg. Ludlum Measurements, Inc. Model 2224 Serial No. 146713

Mfg. Ludlum Measurements, Inc. Model 43-37 Serial No. PR149713

Cal. Date 16-Oct-02 Cal Due Date 16-Oct-03 Cal. Interval 1 Year Meterface 202-783

Check mark ☑ applies to applicable instr. and/or detector IAW mfg. spec. T. 74 °F RH 28 % Alt 702.8 mm Hg

☐ New Instrument Instrument Received ☑ Within Toler. +-10% ☐ 10-20% ☐ Out of Tol. ☐ Requiring Repair ☐ Other-See comments

☑ Mechanical ck. ☑ Meter Zeroed ☐ Background Subtract ☐ Input Sens. Linearity
☐ F/S Resp. ck ☑ Reset ck. ☑ Window Operation ☑ Geotropism
☑ Audio ck. ☐ Alarm Setting ck. ☑ Batt. ck. (Min. Volt) 2.2 VDC
☑ Calibrated in accordance with LMI SOP 14.8 rev 12/05/89. ☐ Calibrated in accordance with LMI SOP 14.9 rev 02/07/97.

Instrument Volt Set 1700 V Input Sens. Comment mV Det. Oper. 1700 V at Comment mV Threshold Dial Ratio = mV

☑ HV Readout (2 points) Ref./Inst. 510 / 500 V Ref./Inst. 1488 / 1500 V

COMMENTS:

Instrument calibrated with 5' cable.
Hv set with detector disconnected
Eff. for SrY-90 s/n 92SR1001808 104300 CPM
43018 cpm sc. - 885 cpm bg. = 42133 cpm
Eff. = 40.3% (2 Pi)
Eff. for Th-230 s/n 9TH1000497 5950 CPM
1987 cpm sc. - 9 cpm bg. = 1978 cpm
Eff. = 33.2% (2 Pi)
Alpha Threshold: 100 mV Beta Threshold: 4 mV Beta Window: 40 mV

Firmware: 390063

01 checked but not set

Gamma Calibration: GM detectors positioned perpendicular to source except for M 44-9 in which the front of probe faces source.

RANGE/MULTIPLIER	REFERENCE CAL. POINT	INSTRUMENT REC'D "AS FOUND READING"	INSTRUMENT METER READING*
x1000	400Kcpm	400	400
x1000	100Kcpm	100	100
x100	40Kcpm	400	400
x100	10Kcpm	100	100
x10	4Kcpm	400	400
x10	1Kcpm	100	100
x1	400cpm	400	400
x1	100cpm	100	100

*Uncertainty within ± 10% C.F. within ± 20% ALL **Range(s) Calibrated Electronically**

	REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*		REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*
Digital Readout	400Kcpm	400803	400803	Log Scale			
	40Kcpm	40081	40081				
	4Kcpm	4009	4009				
	400cpm	400	400				
	40cpm	40	40				

Ludlum Measurements, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology, or to the calibration facilities of other International Standards Organization members, or have been derived from accepted values of natural physical constants or have been derived by the ratio type of calibration techniques. The calibration system conforms to the requirements of ANSI/NCSL Z540-1-1994 and ANSI N323-1978 State of Texas Calibration License No. LO-1963

Reference Instruments and/or Sources:

Cs-137 Gamma S/N ☐ 1162 ☐ G112 ☐ M565 ☐ 5105 ☐ T1008 ☐ T879 ☐ E552 ☐ E551 ☐ Neutron Am-241 Be S/N T-304

☑ Alpha S/N Pu-239 2928-01 ☑ Beta S/N Tc-99 635/83 SrY90 4016 ☐ Other

☑ m 500 S/N 132899 ☐ Oscilloscope S/N ☑ Multimeter S/N 75460209

Calibrated By: Domingo Garza Date 16 Octo2

Reviewed By: Rhonda Harris Date 17 Octo2

FORM C22A 10/31/2001

AC Inst. Only ☐ Passed Dielectric (Hi-Pot) and Continuity Test ☐ Failed:

Designer and Manufacturer
of
Scientific and Industrial
Instruments

LUDLUM MEASUREMENTS, INC.
POST OFFICE BOX 810 PH. 915-235-5494
501 OAK STREET FAX NO. 915-235-4672
SWEETWATER, TEXAS 79556, U.S.A.

Bench Test Data For Detector

Detector 43-37 Serial No. PR149713

Order #. 287000/267340

Customer NEW WORLD TECHNOLOGY

Alpha Input Sensitivity 100 mV

Counter 2224 Serial No. 146713

Beta Input Sensitivity 4 mV

Count Time 1Minute

Beta Window 40 mV

Other

Distance Source to Detector Surface

High Voltage	Background Alpha	Background Beta	Isotope Pu-239 Size 12.6K CPM Alpha	Isotope Pu-239 Size 12.6K CPM Beta	Isotope Tc-99 Size 14.3 KCPM Alpha	Isotope Tc-99 Size 14.3 KCPM Beta	Isotope Sr-90 Size 45255CPM Alpha	Isotope Sr-90 Size 45255CPM Beta
1675	3	848	5229	1166	16	7868	34	19557
1700	9	885	5853	1481	68	7068	156	20151
1725	19	887	5496	1217	235	6035	595	19021

☐ Gas Proportional detector count rate decreased ≤ 10% after 15 hour static test using 39" cable.

☐ Gas proportional detector count rate decreased ≤ 10% after 5 hour static test using 39" cable and alpha/beta counter.

Signature Domingo Barrya Date 16 Octo2

FORM C4B 12/09/97
FORM C4B 12/09/97

Designer and Manufacturer of Scientific and Industrial Instruments

CERTIFICATE OF CALIBRATION

LUDLUM MEASUREMENTS, INC.
POST OFFICE BOX 810 PH. 915-235-5494
501 OAK STREET FAX NO. 915-235-4672
SWEETWATER, TEXAS 79556, U.S.A.

CUSTOMER NEW WORLD TECHNOLOGY ORDER NO. 287000/267340

Mfg. Ludlum Measurements, Inc. Model 2224 Serial No. 143041

Mfg. Ludlum Measurements, Inc. Model 43-37 Serial No. PR148504

Cal. Date 16-Oct-02 Cal Due Date 16-Oct-03 Cal. Interval 1 Year Meterface 202-783

Check mark ☑ applies to applicable instr. and/or detector IAW mfg. spec. T. 74 °F RH 28 % Alt 702.8 mm Hg

☐ New Instrument Instrument Received ☑ Within Toler. +-10% ☐ 10-20% ☐ Out of Tol. ☐ Requiring Repair ☐ Other-See comments

☑ Mechanical ck. ☑ Meter Zeroed ☐ Background Subtract ☐ Input Sens. Linearity
☐ F/S Resp. ck ☑ Reset ck. ☑ Window Operation ☑ Geotropism
☑ Audio ck. ☐ Alarm Setting ck. ☑ Batt. ck. (Min. Volt) 2.2 VDC
☑ Calibrated in accordance with LMI SOP 14.8 rev 12/05/89. ☐ Calibrated in accordance with LMI SOP 14.9 rev 02/07/97.

Instrument Volt Set 1725 V Input Sens. Comment mV Det. Oper. 1725 V at Comment mV Threshold Dial Ratio = mV

☑ HV Readout (2 points) Ref./Inst. 511 / 500 V Ref./Inst. 1518 / 1500 V

COMMENTS:

Instrument calibrated with 5' cable.
Hv set with detector disconnected
Eff. for SrY-90 s/n 92SR1001808 104300 CPM
42533 cpm sc. - 914 cpm bg. = 41619 cpm
Eff. = 39.9% (2 Pi)
Eff. for Th-230 s/n 9TH1000497 5950 CPM
1959 cpm sc. - 3 cpm bg. = 1956 cpm
Eff. = 32.8% (2 Pi)
Alpha Threshold: 100 mV Beta Threshold: 4 mV Beta Window: 40 mV

Firmware : 390063
01 checked but not set.

Gamma Calibration: GM detectors positioned perpendicular to source except for M 44-9 in which the front of probe faces source.

RANGE/MULTIPLIER	REFERENCE CAL. POINT	INSTRUMENT REC'D "AS FOUND READING"	INSTRUMENT METER READING*
x1000	400Kcpm	400	400
x1000	100Kcpm	100	100
x100	40Kcpm	400	400
x100	10Kcpm	100	100
x10	4Kcpm	400	400
x10	1Kcpm	100	100
x1	400cpm	400	400
x1	100cpm	100	100

*Uncertainty within ± 10% C.F. within ± 20% ALL Range(s) Calibrated Electronically

	REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*		REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*
Digital Readout	400Kcpm	400049	400049	Log Scale			
	40Kcpm	40009	40009				
	4Kcpm	4003	4003				
	400cpm	400	400				
	40cpm	40	40				

Ludlum Measurements, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology, or to the calibration facilities of other International Standards Organization members, or have been derived from accepted values of natural physical constants or have been derived by the ratio type of calibration techniques. The calibration system conforms to the requirements of ANSI/NCSL Z540-1-1994 and ANSI N323-1978 State of Texas Calibration License No. LO-1963

Reference Instruments and/or Sources:

Cs-137 Gamma S/N ☐ 1162 ☐ G112 ☐ M565 ☐ 5105 ☐ T1008 ☐ T879 ☐ E552 ☐ E551 ☐ Neutron Am-241 Be S/N T-304

☑ Alpha S/N Pu-239 2928-01 ☑ Beta S/N Tc-99 635/83 SrY90 4016 ☐ Other

☑ m 500 S/N 132899 ☐ Oscilloscope S/N ☑ Multimeter S/N 75460209

Calibrated By: Domingo Garza Date 16 Oct 02

Reviewed By: Ronnie Harris Date 17 Oct 02

FORM C22A 10/31/2001

AC Inst. Only ☐ Passed Dielectric (Hi-Pot) and Continuity Test ☐ Failed:

Designer and Manufacturer of Scientific and Industrial Instruments

CERTIFICATE OF CALIBRATION

LUDLUM MEASUREMENTS, INC.
POST OFFICE BOX 810 PH. 915-235-5494
501 OAK STREET FAX NO. 915-235-4672
SWEETWATER, TEXAS 79556, U.S.A.

CUSTOMER NEW WORLD TECHNOLOGY ORDER NO. 287000/267340

Mfg. Ludlum Measurements, Inc. Model 2224 Serial No. 143041

Mfg. Ludlum Measurements, Inc. Model 43-37 Serial No. PR148504

Cal. Date 16-Oct-02 Cal Due Date 16-Oct-03 Cal. Interval 1 Year Meterface 202-783

Check mark ☑ applies to applicable instr. and/or detector IAW mfg. spec. T. 74 °F RH 28 % Alt 702.8 mm Hg

☐ New Instrument Instrument Received ☑ Within Toler. +-10% ☐ 10-20% ☐ Out of Tol. ☐ Requiring Repair ☐ Other-See comments

☑ Mechanical ck. ☑ Meter Zeroed ☐ Background Subtract ☐ Input Sens. Linearity
☐ F/S Resp. ck ☑ Reset ck. ☑ Window Operation ☑ Geotropism
☑ Audio ck. ☐ Alarm Setting ck. ☑ Batt. ck. (Min. Volt) 2.2 VDC
☑ Calibrated in accordance with LMI SOP 14.8 rev 12/05/89. ☐ Calibrated in accordance with LMI SOP 14.9 rev 02/07/97.

Instrument Volt Set 1725 V Input Sens. Comment mV Det. Oper. 1725 V at Comment mV Threshold Dial Ratio = mV

☑ HV Readout (2 points) Ref./Inst. 511 / 500 V Ref./Inst. 1518 / 1500 V

COMMENTS:

Instrument calibrated with 5' cable.
Hv set with detector disconnected
Eff. for SrY-90 s/n 92SR1001808 104300 CPM
42533 cpm sc. - 914 cpm bg. = 41619 cpm
Eff. = 39.9% (2 Pi)
Eff. for Th-230 s/n 9TH1000497 5950 CPM
1959 cpm sc. - 3 cpm bg. = 1956 cpm
Eff. = 32.8% (2 Pi)
Alpha Threshold: 100 mV Beta Threshold: 4 mV Beta Window: 40 mV

Firmware : 390063
01 checked but not set.

Gamma Calibration: GM detectors positioned perpendicular to source except for M 44-9 in which the front of probe faces source.

RANGE/MULTIPLIER	REFERENCE CAL. POINT	INSTRUMENT REC'D "AS FOUND READING"	INSTRUMENT METER READING*
x1000	400Kcpm	400	400
x1000	100Kcpm	100	100
x100	40Kcpm	400	400
x100	10Kcpm	100	100
x10	4Kcpm	400	400
x10	1Kcpm	100	100
x1	400cpm	400	400
x1	100cpm	100	100

*Uncertainty within ± 10% C.F. within ± 20% ALL Range(s) Calibrated Electronically

	REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*		REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*
Digital Readout	400Kcpm	400049	400049	Log Scale			
	40Kcpm	40009	40009				
	4Kcpm	4003	4003				
	400cpm	400	400				
	40cpm	40	40				

Ludlum Measurements, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology, or to the calibration facilities of other International Standards Organization members, or have been derived from accepted values of natural physical constants or have been derived by the ratio type of calibration techniques. The calibration system conforms to the requirements of ANSI/NCSL Z540-1-1994 and ANSI N323-1978 State of Texas Calibration License No. LO-1963

Reference Instruments and/or Sources:

Cs-137 Gamma S/N ☐ 1162 ☐ G112 ☐ M565 ☐ 5105 ☐ T1008 ☐ T879 ☐ E552 ☐ E551 ☐ Neutron Am-241 Be S/N T-304

☑ Alpha S/N Pu-239 2928-01 ☑ Beta S/N Tc-99 635/83 SrY90 4016 ☐ Other

☑ m 500 S/N 132899 ☐ Oscilloscope S/N ☑ Multimeter S/N 75460209

Calibrated By: Domingo Garza Date 16 Oct 02

Reviewed By: Ronnie Harris Date 17 Oct 02

FORM C22A 10/31/2001

AC Inst. Only ☐ Passed Dielectric (Hi-Pot) and Continuity Test ☐ Failed:

Designer and Manufacturer
of
Scientific and Industrial
Instruments

LUDLUM MEASUREMENTS, INC.
POST OFFICE BOX 810 PH. 915-235-5494
501 OAK STREET FAX NO. 915-235-4672
SWEETWATER, TEXAS 79556, U.S.A.

Bench Test Data For Detector

Detector 43-37 Serial No. PR 148504 Order #. 287000/267340

Customer NEW WORLD TECHNOLOGY Alpha Input Sensitivity 100 mV

Counter 2224 Serial No. 143041 Beta Input Sensitivity 4 mV

Count Time 1Minute Beta Window 40 mV

Other Distance Source to Detector surface

High Voltage	Background Alpha	Background Beta	Isotope Pu-239 Size 12.6kCPM Alpha	Beta	Isotope Tc-99 Size 14.3kCPM Alpha	Beta	Isotope Sr/Y 90 Size 45255 CPM Alpha	Beta
1700	3	812	5509	1243	10	8739	18	20804
1725	3	914	5785	1421	25	8417	69	21706
1750	16	965	5947	1437	129	7678	252	21138

☐ Gas Proportional detector count rate decreased ≤ 10% after 15 hour static test using 39" cable.

☐ Gas proportional detector count rate decreased ≤ 10% after 5 hour static test using 39" cable and alpha/beta counter.

Signature Domingo Garza Date 16 Octo

FORM C4B 12/08/87

Designer and Manufacturer
of
Scientific and Industrial
Instruments

LUDLUM MEASUREMENTS, INC.
POST OFFICE BOX 810 PH. 915-235-5494
501 OAK STREET FAX NO. 915-235-4672
SWEETWATER, TEXAS 79556, U.S.A.

Bench Test Data For Detector

Detector 43-37 Serial No. PR 148504 Order #. 287000/267340

Customer NEW WORLD TECHNOLOGY Alpha Input Sensitivity 100 mV

Counter 2224 Serial No. 143041 Beta Input Sensitivity 4 mV

Count Time 1Minute Beta Window 40 mV

Other Distance Source to Detector surface

High Voltage	Background Alpha	Background Beta	Isotope Pu-239 Size 12.6kCPM Alpha	Beta	Isotope Tc-99 Size 14.3kCPM Alpha	Beta	Isotope Sr/Y 90 Size 45255 CPM Alpha	Beta
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1725	3	914	5785	1421	25	8417	69	21706
1750	16	965	5947	1437	129	7678	252	21138

☐ Gas Proportional detector count rate decreased ≤ 10% after 15 hour static test using 39" cable.

☐ Gas proportional detector count rate decreased ≤ 10% after 5 hour static test using 39" cable and alpha/beta counter.

Signature Domingo Garza Date 16 Octo

FORM C4B 12/08/87

Designer and Manufacturer
of
Scientific and Industrial
Instruments

LUDLUM MEASUREMENTS, INC.
POST OFFICE BOX 810 PH. 915-235-5494
501 OAK STREET FAX NO. 915-235-4672
SWEETWATER, TEXAS 79556, U.S.A.

Bench Test Data For Detector

Detector 43-37 Serial No. PR 148504 Order #. 287000/267340

Customer NEW WORLD TECHNOLOGY Alpha Input Sensitivity 100 mV

Counter 2224 Serial No. 143041 Beta Input Sensitivity 4 mV

Count Time 1Minute Beta Window 40 mV

Other Distance Source to Detector surface

High Voltage	Background Alpha	Background Beta	Isotope Pu-239 Size 12.6kCPM Alpha	Beta	Isotope Tc-99 Size 14.3kCPM Alpha	Beta	Isotope Sr/Y 90 Size 45255 CPM Alpha	Beta
1700	3	812	5509	1243	10	8739	18	20804
1725	3	914	5785	1421	25	8417	69	21706
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☐ Gas Proportional detector count rate decreased ≤ 10% after 15 hour static test using 39" cable.

☐ Gas proportional detector count rate decreased ≤ 10% after 5 hour static test using 39" cable and alpha/beta counter.

Signature Domingo Garza Date 16 Octo

FORM C4B 12/08/87

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: GTS INSTRUMENT SERVICES
Customer Address: 2045 Rt. 286
Pittsburgh, PA 15239

Customer P.O.#
Work Order #

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 19 Serial Number 109970 (230)
External Probe(s) Serial #

Calibration Method Pulser s/n 101500 8-23-02
137Cs s/n 10263 200mCi 9-24-02

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	25	2.3K CPM		10 uR/hr	All Calibrations Btn. + & - 10%
2		4.6K		20	
3					Battery: OK
4	50	2.3K		10	
5		9.2K		40	Mechanical Zero: OK
6					
7	250	0.05 mR/hr		55	Response: OK
8		0.1		100	
9		0.2		190	Reset: OK
10					
11	500	0.1		100	Audio: OK
12		0.2		190	
13		0.4		370	Light: OK
14					
15	5000	1		1,000	High Voltage = 750 Volts
16		2		1,950	
17		4		3,800	1000 uR/hr = 230K CPM
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)

Calibration Date: 11-21-01
Next Calibration Due: 11-21-02

I certify that the above information is correct:

Administrative Coordinator

11-21-01
Date

GTS Instrument Services
2045 Route 286
Pittsburgh, PA 15239-2839
724/733-1900 Fax: 724/327-8189

CALIBRATION CERTIFICATE

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION

Customer Name: GTS INSTRUMENT SERVICES
Customer Address: 2045 Rt. 286
Pittsburgh, PA 15239

Customer P.O.#
Work Order #

INSTRUMENT INFORMATION

Instrument Manufacturer Ludlum
Model 19 Serial Number 109970 (230)
External Probe(s) Serial #

Calibration Method Pulser s/n 101500 8-23-02
137Cs s/n 10263 200mCi 9-24-02

INSTRUMENT CALIBRATION INFORMATION

	Instrument Range	Calibration Standard Value	Instrument Response Before Calib.	Instrument Response After Calib.	Comment
1	25	2.3K CPM		10 uR/hr	All Calibrations Btn. + & - 10%
2		4.6K		20	
3					Battery: OK
4	50	2.3K		10	
5		9.2K		40	Mechanical Zero: OK
6					
7	250	0.05 mR/hr		55	Response: OK
8		0.1		100	
9		0.2		190	Reset: OK
10					
11	500	0.1		100	Audio: OK
12		0.2		190	
13		0.4		370	Light: OK
14					
15	5000	1		1,000	High Voltage = 750 Volts
16		2		1,950	
17		4		3,800	1000 uR/hr = 230K CPM
18					
19					
20					
21					
22					
23					

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all of the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated by: (Signed)

Calibration Date: 11-21-01
Next Calibration Due: 11-21-02

I certify that the above information is correct:

Administrative Coordinator

11-21-01
Date

Duratek

CALIBRATION CERTIFICATE

Duratek Instrument Services
628 Gallaher Road
Kingston, TN 37763
Phone: (865) 376-8337
Fax: (865) 376-8331

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION		DETECTOR INFORMATION
Customer Name: Duratek Instrument Services		Manufacturer: Ludlum
Address: 628 Gallaher Rd Kingston, TN 37763		Detector Model: 44-10
Contact Name: Thomas Scott		Serial Number: 157372
Customer Purchase Order Number: N/A	Work Order Number: 2002-00790	Evaluation Method: Source

DETECTOR EFFICIENCY/RESPONSE/PRECISION INFORMATION

1) Source Nuclide: Cs^{137}	Serial Number: 019454	Activity: 5μCi	Certification Date: N/A (Used for Plateau Only)
2) Source Nuclide: Cs^{137}	Serial Number: 049711	Activity: Variable	Certification Date: 03/27/02

Parameter		Precision Test	mR/Hr (Source #2)	
Count 1	N/A	Count 1	2.00	
Count 2	N/A	Count 2	2.01	
Count 3	N/A	Count 3	1.99	
Average	N/A	Average	2.00	
Background	N/A	Pass/Fail	Pass	
Net Counts	N/A		Tolerance ±10%	
Efficiency	N/A		Min: 1.800	Max: 2.200

Low Sample Activity: Source #2: 93,624	High Sample Activity: Source #2: 267,455	Dead Time (DT): $2.404115E^{-5}$	Calibration Constant (CC): $8.642952E^{+10}$

ATTACHMENTS			Detector Data: Dose Rate Probes (mR/Hr)			
Detector Setup Report	YES ✓	NO	Desired Exposure	Tolerance ±10%	As Found	As Left
Barcode Report	YES ✓	NO	0.400	0.360-0.440	N/A	0.407
Voltage Plateau:	YES ✓	NO	1.0	0.90-1.10	N/A	0.966
High Voltage: 1150V			2.0	1.8-2.2	N/A	1.98

COMMENTS

Calibrated with 5ft. Cable

STATEMENT OF CERTIFICATION

We Certify that the detector listed above was evaluated for proper operation prior to shipment and that it met all the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology. (We are not responsible for damage incurred during shipment or use of this detector).

Detector	I certify that the above information is correct:	
Certified By: [signature]	Reviewed By: Thomas F. Scott	Date: 7-10-02
Certification Date: 07/09/02		Certification Due: 07/09/03

Background Plateau 44-10 #157372 5ft cable 7-8-02

700	77
750	212
800	387
850	630
900	920
950	1147
1000	1196
1050	1284
1100	1351
1150	1304
1200	1301
1250	1277
1300	1394
1350	1389

Source Plateau Cs137 #019454 @ 5uCi

700	1945
750	3037
800	3986
850	4968
900	5465
950	5886
1000	6037
1050	6306
1100	6599
1150	6416
1200	6503
1250	6619
1300	6618
1350	6603

Thomas F. Dratt

7-10-02

DETECTOR SETUP CHECK LIST REPORT

The following list is stored as detector setup D1 in the Model 2350.
Today's date is 07/09/2002.
The current time of day is: 11:00:56.

I have verified the list below
has NO discrepancies with the DETECTOR SETTINGS TABLE: TK

Comments:

Model 2350 Serial # =	98638.
User I.D. =	
High Voltage =	1150 volts.
Threshold =	250.
Window =	1000,Off.
Overload Current =	40.0 micro amperes.
Scaler Count Time =	12 seconds.
Readout Units =	R.
Readout Time Base =	hr.
Readout Range Multiplier =	auto.
Detector Dead Time =	2.404115E-05.
Detector Calibration Constant =	8.642952E+10.
Detector Model =	44-10.
Detector Serial # =	157372.
Ratemeter Alarm Setting =	1.000000E+09.
Scaler Alarm Setting =	1000000.
Integrated Dose Alarm Setting =	1.000000E+09.
Low Count Alarm Setting =	X.
Operating Battery Voltage =	5.8 volts.

DETECTOR SETUP CHECK LIST REPORT

The following list is stored as detector setup D1 in the Model 2350.
Today's date is 07/09/2002.
The current time of day is: 11:00:56.

I have verified the list below
has NO discrepancies with the DETECTOR SETTINGS TABLE: TK

Comments:

Model 2350 Serial # =	98638.
User I.D. =	
High Voltage =	1150 volts.
Threshold =	250.
Window =	1000,Off.
Overload Current =	40.0 micro amperes.
Scaler Count Time =	12 seconds.
Readout Units =	R.
Readout Time Base =	hr.
Readout Range Multiplier =	auto.
Detector Dead Time =	2.404115E-05.
Detector Calibration Constant =	8.642952E+10.
Detector Model =	44-10.
Detector Serial # =	157372.
Ratemeter Alarm Setting =	1.000000E+09.
Scaler Alarm Setting =	1000000.
Integrated Dose Alarm Setting =	1.000000E+09.
Low Count Alarm Setting =	X.
Operating Battery Voltage =	5.8 volts.

Duratek

CALIBRATION CERTIFICATE

Duratek Instrument Services
628 Gallaher Road
Kingston, TN 37763
Phone: (865) 376-8337
Fax: (865) 376-8331

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION		INSTRUMENT INFORMATION	
Customer Name: Duratek Instrument Services		**Manufacturer:** Ludlum	
Address: 628 Gallaher Rd Kingston, TN 37763		**Model:** 19	**Serial Number:** 107400
Contact Name: Thomas F. Scott		**Probe:** N/A	**Serial Number:** N/A
Customer Purchase Order Number: N/A	**Work Order Number:** 2002-00677	**Calibration Method:** Electronic And Source	

INSTRUMENT CALIBRATION INFORMATION

Instrument Range (Micro R/Hr)	Calibration Standard Value	Instrument Response		Comments
		Before Calibration	After Calibration	
5000	4000µ R/Hr	4,400	3,800	Pulser: 101500 Cal Due: 08/23/02
5000	2500µ R/Hr	2,850	2,500	D-812: 2551 Cal Due: 09/12/02
5000	1000µ R/Hr	1,100	1,000	DVM: TW12663 Cal Due: 03/18/03
500	400 (Pulse Calibrated)	330	395	Psychron: 5546 Cal Due: 06/12/02
500	250 (Pulse Calibrated)	210	250	Temp: 22.7°C Humidity: 44%
500	100 (Pulse Calibrated)	85	100	Pressure: 747mmHg
250	200 (Pulse Calibrated)	160	200	Caled in accordance with RP-INS-I-231.
250	120 (Pulse Calibrated)	95	120	Geotropism: SAT Over Range: SAT
250	50 (Pulse Calibrated)	38	50	Batteries: SAT Mech. Zero: SAT
50	40 (Pulse Calibrated)	32.5	39.5	F/S Response: SAT Audio: SAT
50	25 (Pulse Calibrated)	20	25	Light: SAT
50	10 (Pulse Calibrated)	8	10	Source: Cs-137 049711 Cert. Date: 03/27/02
25	20 (Pulse Calibrated)	16	20	High Voltage As Found -745V As Left -675V
25	12 (Pulse Calibrated)	9.5	12	
25	5 (Pulse Calibrated)	4	5	cpm/µR/hr: As Found –207 As Left – 214
				Special Remarks: cpm/µR/hr = 214 HV = 675V

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology. (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument	I certify that the above information is correct:	
Calibrated By: Mike Paul	Reviewed By: Thomas F. Scott	Date: 6-12-02
Calibration Date: 06/12/02	Calibration Due: 12/12/02	

LUDLUM 19 HIGH VOLTAGE PLATEAU DATA SHEET

Date: 06/12/02 Serial Number: 107400

High Voltage	uR/hr
625	1100
650	1175
675 (SET)	1200
700	1200
725	1400
750	1625
800	4100

* Source Geometry on contact with Detector-Cs137 #019463 @ 5uCi*

Performed By: Mike Paul Date: 6/12/02

Reviewed By: [illegible] Date: 6-12-02

Duratek™

CALIBRATION CERTIFICATE

Duratek Instrument Services
628 Gallaher Road
Kingston, TN 37763
Phone: (865) 376-8337
Fax: (865) 376-8331

This Certificate will be accompanied by Calibration Charts or Readings where applicable

CUSTOMER INFORMATION		INSTRUMENT INFORMATION	
Customer Name: Duratek - Instrument Services Facility		Manufacturer: Ludlum	
Address: 628 Gallaher Road, Kingston, TN 37763		Model: 2350-1	Serial Number: 126192
Contact Name: Thomas Scott		Probe: N/A	Serial Number: N/A
Customer Purchase Order Number: N/A	Work Order Number: 2002-00902	Calibration Method: Electronic	

INSTRUMENT CALIBRATION INFORMATION

Instrument Range (CPM)	Calibration Standard Value (CPM)	Instrument Response		Comments
		Before Calibration	After Calibration	Calibrated in accordance with RP-INS-I-245
400K	400,000	404,305	404,305	Pulser: 120935 Cal Due: 03/18/03
40K	40,000	40,384	40,384	D-814: 2551 Cal Due: 09/12/02
4K	4,000	4,038	4,038	Psychron: 7480 Cal Due: 05/17/03
400	400	404	404	
HV Cal Values (M2350 HV Entry)	Desired HV (Voltmeter) (VDC)	As Found (VDC)	As Left (VDC)	
600	600	606	606	Temp: 24.1°C
1,200	1,200	1,201	1,201	Pressure: 744mmHg
1,800	1,800	1,792	1,792	Humidity: 46%
Parameter	Tolerance (±10%)	As Found	As Left	
Low End Threshold	4 ± (3.6 to 4.4) mVDC	4.2	4.2	Geotropism: SAT ACK/Scroll: SAT
Midpoint Threshold	20 ± (18 to 22) mVDC	20	20	BAT>4.5: SAT Volume: SAT
High End Threshold	40 ± (36 to 44) mVDC	39	39	Count: SAT Audio Divide: SAT
Window Width	4 ± (3.6 to 4.6) mVDC	4	4	Alarms: SAT Lamp: SAT
Display-to-mV ratio:		100 to 4 mV	100 to 4 mV	Overload Test: SAT

STATEMENT OF CERTIFICATION

We Certify that the instrument listed above was calibrated and inspected prior to shipment and that it met all the Manufacturers published operating specifications. We further certify that our Calibration Measurements are traceable to the National Institute of Standards and Technology. (We are not responsible for damage incurred during shipment or use of this instrument).

Instrument Calibrated By:	Reviewed By:	Date: 7-25-02
Calibration Date: 07/25/02	Calibration Due: 07/25/03	

Isotope Products Laboratories
An Eckert & Ziegler Company

24937 Avenue Tibbitts
Valencia, California 91355

Tel 661·309·1010
Fax 661·257·8303

CERTIFICATE OF CALIBRATION
BETA STANDARD SOURCE

Radionuclide: Tc-99
Half-life: (2.13 ± 0.05)E+05 years
Catalog No.: LDS-099-100MM
Source No.: A7-268

Customer: NEW WORLD TECHNOLOGY
P.O. No.: 20400
Reference Date: 1-Sep-02 12:00 PST
Contained Radioactivity: 43.44 **nCi** 1607 **Bq**
Contained Radioactivity: 96440 **dpm**

Physical description:

A. Capsule type:	LDS (12.1 cm x 12.1 cm)
B. Nature of active deposit:	Electrodeposited and diffusion bonded oxide
C. Active Diameter:	10 cm x 10 cm
D. Backing:	Stainless steel
E. Cover:	None

Radioimpurities:

None detected

CAUTION!
DELICATE SURFACE
DO NOT WIPE
ACTIVE AREA

Method of Calibration:

This source was assayed using a windowless internal gas flow proportional counter.

Uncertainty of Measurement:

A. Type A (random) uncertainty:	± 0.6 %
B. Type B (systematic) uncertainty:	± 3.0 %
C. Uncertainty in aliquot weighing:	± 0.0 %
D. Total uncertainty at the 99% confidence level:	± 3.1 %

Notes:

- See reverse side for leak test(s) performed on this source.
- IPL participates in a NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (As in NRC Regulatory Guide 4.15).
- Nuclear data was taken from "Table of Radioactive Isotopes", edited by Virginia Shirley, 1986.
- This source has a working life of 2 years.
- This source had a surface emission rate of 52080 β/min in 2π on 20 Aug 02.

Quality Control

21-Aug-02
Date Signed

IPL Ref. No.: 943-61

Isotope Products
Laboratories
An Eckert & Ziegler Company

24937 Avenue Tibbitts
Valencia, California 91355

Tel 661·309·1010
Fax 661·257·8303

CERTIFICATE OF CALIBRATION
ALPHA STANDARD SOURCE

Radionuclide: Th-230
Half-life: (7.54 ± 0.03)E+04 years
Catalog No.: LDS-230-100MM
Source No.: A7-266

Customer: NEW WORLD TECHNOLOGY
P.O. No.: 20400
Reference Date: 1-Sep-02 12:00 PST
Contained Radioactivity: 51.71 nCi 1913 Bq
Contained Radioactivity: (Total Alpha) 114800 dpm

Physical description:

A. Capsule type: LDS (12.1 cm x 12.1 cm)
B. Nature of active deposit: Electroplated and diffusion bonded oxide
C. Active Diameter: 10 cm x 10 cm
D. Backing: Stainless steel
E. Cover: None

Radioimpurities:

Ra-226 = 0.400% and Am-241 = 0.110% on 1 Sep 02.

CAUTION!
DELICATE SURFACE
DO NOT WIPE
ACTIVE AREA

Method of Calibration:

This source was assayed using a windowless internal gas flow proportional counter.

Uncertainty of Measurement:

A. Type A (random) uncertainty: ± 0.5 %
B. Type B (systematic) uncertainty: ± 3.0 %
C. Uncertainty in aliquot weighing: ± 0.0 %
D. Total uncertainty at the 99% confidence level: ± 3.0 %

Notes:

- See reverse side for leak test(s) performed on this source.
- IPL participates in a NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (As in NRC Regulatory Guide 4.15).
- Nuclear data was taken from "Table of Radioactive Isotopes", edited by Virginia Shirley, 1986.
- This source has a working life of 2 years.
- This source had a total alpha surface emission rate of 55100 α/min in 2π on 20 Aug 02.

Quality Control

21-Aug-02
Date Signed

IPL Ref. No.: 943-61

Isotope Products Laboratories
An Eckert & Ziegler Company

24937 Avenue Tibbitts
Valencia, California 91355

Tel 661·309·1010
Fax 661·257·8303

CERTIFICATE OF CALIBRATION
ALPHA STANDARD SOURCE

Radionuclide: Th-230
Half-life: (7.54 ± 0.03)E+04 years
Catalog No.: EAB-230-47LB
Source No.: A7-270

Customer: NEW WORLD TECHNOLOGY
P.O. No.: 20400
Reference Date: 1-Sep-02 12:00 PST
Contained Radioactivity: 49.32 nCi 1825 Bq
Contained Radioactivity: (Total Alpha) 109500 dpm

Physical description:

A. Capsule type: EAB-LB (47 mm OD x 3.18 mm THK)
B. Nature of active deposit: Electrodeposited and diffusion bonded oxide
C. Active Diameter: 41 mm
D. Backing: Stainless steel
E. Cover: None

Radioimpurities:

Ra-226 = 0.400% and Am-241 = 0.110% on 1 Sep 02.

CAUTION!
DELICATE SURFACE
DO NOT WIPE
ACTIVE AREA

Method of Calibration:

This source was assayed using a windowless internal gas flow proportional counter.

Uncertainty of Measurement:

A. Type A (random) uncertainty: ± 0.4 %
B. Type B (systematic) uncertainty: ± 3.0 %
C. Uncertainty in aliquot weighing: ± 0.0 %
D. Total uncertainty at the 99% confidence level: ± 3.0 %

Notes:

- See reverse side for leak test(s) performed on this source.
- IPL participates in a NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (As in NRC Regulatory Guide 4.15).
- Nuclear data was taken from "Table of Radioactive Isotopes", edited by Virginia Shirley, 1986.
- This source has a working life of 2 years.
- This source had a total alpha surface emission rate of 54750 α/min in 2π on 20 Aug 02.

Quality Control

21-Aug-02
Date Signed

IPL Ref. No.: 943-61

Isotope Products Laboratories
An Eckert & Ziegler Company
24937 Avenue Tibbitts
Valencia, California 91355
Tel 661·309·1010
Fax 661·257·8303

CERTIFICATE OF CALIBRATION
BETA STANDARD SOURCE

Radionuclide:	Tc-99	**Customer:**	NEW WORLD TECHNOLOGY			
Half-life:	(2.13 ± 0.05)E+05 years	**P.O. No.:**	20400			
Catalog No.:	EAB-099-47LB	**Reference Date:**	1-Sep-02	12:00	PST	
Source No.:	A7-272	**Contained Radioactivity:**	50.66	**nCi**	1874	**Bq**
		Contained Radioactivity:	112500	**dpm**		

Physical description:

A. Capsule type:	EAB-LB (47 mm OD x 3.18 mm THK)
B. Nature of active deposit:	Electroplated and diffusion bonded oxide
C. Active Diameter:	41 mm
D. Backing:	Stainless steel
E. Cover:	None

Radioimpurities:

None detected

CAUTION!
DELICATE SURFACE
DO NOT WIPE
ACTIVE AREA

Method of Calibration:

This source was assayed using a windowless internal gas flow proportional counter.

Uncertainty of Measurement:

A. Type A (random) uncertainty:	± 0.4 %
B. Type B (systematic) uncertainty:	± 3.0 %
C. Uncertainty in aliquot weighing:	± 0.0 %
D. Total uncertainty at the 99% confidence level:	± 3.0 %

Notes:

- See reverse side for leak test(s) performed on this source.
- IPL participates in a NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (As in NRC Regulatory Guide 4.15).
- Nuclear data was taken from "Table of Radioactive Isotopes", edited by Virginia Shirley, 1986.
- This source has a working life of 2 years.
- This source had surface emission rate of 59610 β/min in 2π on 20 Aug 02.

Quality Control

21-Aug-02
Date Signed

IPL Ref. No.: 943-61

Isotope Products Laboratories
An Eckert & Ziegler Company

24937 Avenue Tibbitts
Valencia, California 91355

Tel 661·309·1010
Fax 661·257·8303

CERTIFICATE OF CALIBRATION
BETA STANDARD SOURCE

Radionuclide: Cs-137
Half-life: 30.17 ± 0.16 years
Catalog No.: EAB-137-47LB
Source No.: A7-275

Customer: NEW WORLD TECHNOLOGY
P.O. No.: 20400
Reference Date: 15-Sep-02 12:00 PST
Contained Radioactivity: 44.86 **nCi** 1660 **Bq**
99590 **dpm**

Physical description:

A. Capsule type: EAB-LB (47 mm OD x 3.18 mm THK)
B. Nature of active deposit: Distributed and evaporated metallic salt on polymeric membrane
C. Active Diameter: 41 mm
D. Backing: Stainless steel
E. Cover: 0.9 mg/cm² aluminized mylar

Radioimpurities:

None detected

Method of Calibration:

This source was prepared from a weighed aliquot of solution whose activity in µCi/g was determined using gamma ray spectrometry.

Peak energy used for integration: 661.7 keV
Branching ratio used: 0.851 gammas per decay

Uncertainty of Measurement:

A. Type A (random) uncertainty: ± 0.5 %
B. Type B (systematic) uncertainty: ± 3.0 %
C. Uncertainty in aliquot weighing: ± 0.6 %
D. Total uncertainty at the 99% confidence level: ± 3.1 %

Notes:

- See reverse side for leak test(s) performed on this source.
- IPL participates in a NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (As in NRC Regulatory Guide 4.15).
- Nuclear data was taken from IAEA-TECDOC-619, 1991.
- This source has a working life of 2 years.
- This source had a surface emission rate of 56650 β/min in 2π on 20 Aug 02.

Tiffany Cattrum
Quality Control

26 Aug 02
Date Signed

IPL Ref. No.: 941-83

New World Environmental Inc., d.b.a.

New World Technology *Bringing you the Technology of the New World*

Phone: 925-443-7967 Fax: 925-443-0119

Certificate of Calibration

Customer: NEW WORLD TECHNOLOGY P.O. VERBAL - CHINA LAKE

Mfg. LUDLUM Model 2929 DUAL SCALER Ser. No. 138710

Mfg LUDLUM Det. Model 43-10-1 Ser. No. PR140481

Cal Date: 04 · 29 · 02 Due Date: 04 · 29 · 03 Cal Interval 1 YEAR

Det. Bkg. X1 B' X 48 CPM Det. Operating Voltage

Temp. 68 Hum. 39 % F/S resp ck N/A Zero Reset Ck N/A Audio Ck

Bat. Ck OK Bat. Voltage LINE VOLTAGE Inst. Voltage Set 900 VOLTS

Threshold MV Input voltage

HV readout (2 pts) Ref/Inst / Ref/ Inst /

Alarm Setting Ck N/A Window Operation N/A Background subtract N/A Mechanical Ck OK

Field Status Change SIDE MOUNT BRACKET FOR PROBE NOT PRESENT

Instrument Rec'd.: Within Tolerance(+/- 10%) X 10 to 20% ____ Out of Tolerance ____ Requires repair ____

Comments: A Th-230 IN HOLDER ≃ 22 % EFF. (4π)
B Tc-99 IN HOLDE ≃ 26% EFF. (4π)

Range Multiplier	Reference Point	As Received	As Calibrated
0.1	10	10	10
	50	50	50
1	100	100	100
	500	498	500
10	1,000	1007	1000
	5000	4983	5000

Sources & Instruments:

Gamma s/n Beta s/n Tc-99 246/70 Other

Alpha s/n 101673 / Th-230

Pulser s/n Oscilloscope s/n Multimeter

Calibrated by: Date: 4-24-02

NWT certifies the above instrument has been calibrated by instruments and standards traceable to NIST or to the calibration facilities of other international Standards Organization members or have been derived from accepted values of natural physical constants, or have been derived by the ratio type of calibration techniques. The calibration system conforms to the requirements of MIL-STD-45662A and ANSI N323-1978.

New World Environmental Inc., d.b.a.

New World Technology *Bringing you the Technology of the New World*

Phone: 925-443-7967 Fax: 925-443-0119

Certificate of Calibration

Customer: NEW WORLD TECHNOLOGY P.O. VERBAL - CHINA LAKE

Mfg. LUDLUM Model 2929 DUAL SCALER Ser. No. 138710

Mfg LUDLUM Det. Model 43-10-1 Ser. No. PR140481

Cal Date: 04 · 29 · 02 Due Date: 04 · 29 · 03 Cal Interval 1 YEAR

Det. Bkg. X1 B' X 48 CPM Det. Operating Voltage

Temp. 68 Hum. 39 % F/S resp ck N/A Zero Reset Ck N/A Audio Ck

Bat. Ck OK Bat. Voltage LINE VOLTAGE Inst. Voltage Set 900 VOLTS

Threshold MV Input voltage

HV readout (2 pts) Ref/Inst / Ref/ Inst /

Alarm Setting Ck N/A Window Operation N/A Background subtract N/A Mechanical Ck OK

Field Status Change SIDE MOUNT BRACKET FOR PROBE NOT PRESENT

Instrument Rec'd.: Within Tolerance(+/- 10%) X 10 to 20% ____ Out of Tolerance ____ Requires repair ____

Comments: A Th-230 IN HOLDER ≃ 22 % EFF. (4π)
B Tc-99 IN HOLDE ≃ 26% EFF. (4π)

Range Multiplier	Reference Point	As Received	As Calibrated
0.1	10	10	10
	50	50	50
1	100	100	100
	500	498	500
10	1,000	1007	1000
	5000	4983	5000

Sources & Instruments:

Gamma s/n Beta s/n Tc-99 246/70 Other

Alpha s/n 101673 / Th-230

Pulser s/n Oscilloscope s/n Multimeter

Calibrated by: Date: 4-24-02

NWT certifies the above instrument has been calibrated by instruments and standards traceable to NIST or to the calibration facilities of other international Standards Organization members or have been derived from accepted values of natural physical constants, or have been derived by the ratio type of calibration techniques. The calibration system conforms to the requirements of MIL-STD-45662A and ANSI N323-1978.

New World Environmental Inc., d.b.a.

New World Technology *Bringing you the Technology of the New World*

Phone: 925-443-7967 **Fax**: 925-443-0119

Certificate of Calibration

Customer: New World Technology P.O. _____

Mfg. Ludlum Model MOD 3 Ser. No. 25989

Mfg Eberline Det. Model HP-260 Ser. No. 103

Cal Date: 6-18-02 Due Date: 6-18-03 Cal Interval 1 year

Det. Bkg. ≈100 cpm Det. Operating Voltage _____

Temp. 73 Hum. 41% F/S resp ck OK Zero Reset Ck OK Audio Ck OK

Bat. Ck OK Bat. Voltage 3V Inst. Voltage Set _____

Threshold _____ Input voltage _____

HV readout (2 pts) Ref/Inst _____/_____ Ref/ Inst _____/_____

Alarm Setting Ck N/A Window Operation N/A Background subtract N/A Mechanical Ck OK

Field Status Change NONE

Instrument Rec'd.: Within Tolerance(+/- 10%) X 10 to 20% ____ Out of Tolerance ____ Requires repair ____

Comments: Needs cable

Tc-99 @ 0.5cm from probe ≈17% eff

Range Multiplier	Reference Point	As Received	As Calibrated
0.1	100	100	100
	400	400	400
1	1000	1000	1000
	4000	4000	4000
10	10000	10000	10000
	40000	40000	40000
100	100000	100000	100000
	400000	400000	400000

Sources & Instruments:

Gamma s/n _____ Beta s/n 246/76 Other _____

Alpha s/n _____

Pulser s/n 81071 Oscilloscope s/n _____ Multimeter _____

Calibrated by: [signature] Date: 6-18-02

NWT certifies the above instrument has been calibrated by instruments and standards traceable to NIST or to the calibration facilities of other international Standards Organization members or have been derived from accepted values of natural physical constants, or have been derived by the ratio type of calibration techniques. The calibration system conforms to the requirements of MIL-STD-45662A and ANSI N323-1978.

New World Environmental Inc., d.b.a.
New World Technology *Bringing you the Technology of the New World*
Phone: 925-443-7967 Fax: 925-443-0119

Certificate of Calibration

Customer: NWT P.O. _____

Mfg. Ludlum Model 2929 Ser. No. 171594

Mfg Ludlum Det. Model 43-10-1 Ser. No. PR 179307

Cal Date: 10-21-02 Due Date: 10-21-03 Cal Interval Year

Det. Bkg. _____ Det. Operating Voltage 850

Temp. _____ Hum. _____ % F/S resp ck _____ Zero Reset Ck ok (count) Audio Ck ok

Bat. Ck NA Bat. Voltage NA Inst. Voltage Set _____

Threshold 4mV = β 175mV = α Input voltage 6 mV β, 180 mV α

HV readout (2 pts) Ref/Inst 500 / 1850 Ref/ Inst 500 / 1850

Alarm Setting Ck NA Window Operation _____ Background subtract NA Mechanical Ck ok

Field Status Change _____

Instrument Rec'd.: Within Tolerance(+/- 10%) X 10 to 20% ____ Out of Tolerance ____ Requires repair ____

Comments:

Range Multiplier β	Range Multiplier α	Reference Point ppm	As Received β	As Received α	As Calibrated
NA		10		10	C-14 - cpm 19235
		50	50	50	dpm 216,780
		100	100	100	
		500	500	500	eff β = 8.9%
		1000	1000	1000	
		5000	5000	5000	Pu-239 cpm = 37,256
		10,000	10,000	10000	dpm = 101,000
		50,000	50,000	50,000	
		100,000	100,000	100,000	α eff = 36.9%
		500,000	500,000	500,046	

Sources & Instruments:

Gamma s/n _____ Beta s/n HH-779 Other _____ Th-230 cpm 223

Alpha s/n 5911 dpm 745

Pulser s/n 81071 Oscilloscope s/n 01926 Multimeter 80740353

Calibrated by: [signature] Date: 10-21-02 α^{eff}_{Th-230} = 29.9

NWT certifies the above instrument has been calibrated by instruments and standards traceable to NIST or to the calibration facilities of other international Standards Organization members or have been derived from accepted values of natural physical constants, or have been derived by the ratio type of calibration techniques. The calibration system conforms to the requirements of MIL-STD-45662A and ANSI N323-1978.

Laboratories
An Eckert & Ziegler Company
Valencia, California 91355
Tel 661·309·1010
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CERTIFICATE OF CALIBRATION
BETA STANDARD SOURCE

Radionuclide:	C-14	**Customer:**	NEW WORLD TECHNOLOGY
Half-life:	5730 ± 40 years	**P.O. No.:**	20497
Catalog No.:	LDS-014-100MM	**Reference Date:**	15-Nov-02 12:00 PST
Source No.:	A8-074	**Contained Radioactivity:**	45.23 **nCi** 1674 **Bq**
			100400 **dpm**

Physical description:

A. Capsule type:	LDS (121 mm x 121 mm)
B. Nature of active deposit:	Distributed and evaporated carbon compound on polymeric membrane
C. Active diameter/volume:	100 mm x 100 mm
D. Backing:	Acrylic
E. Cover:	0.9 mg/cm² aluminized mylar

Radioimpurities:

None detected

Method of Calibration:

This source was prepared from a weighed aliquot of solution whose activity in µCi/g was determined using a liquid scintillation counter.

Uncertainty of Measurement:

A. Type A (random) uncertainty:	± 0.6 %
B. Type B (systematic) uncertainty:	± 3.0 %
C. Uncertainty in aliquot weighing:	± 0.9 %
D. Total uncertainty at the 99% confidence level:	± 3.2 %

Notes:

- See reverse side for leak test(s) performed on this source.
- IPL participates in a NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (As in NRC Regulatory Guide 4.15).
- Nuclear data was taken from NCRP Report No. 58, 1985.
- This source has a working life of 2 years.
- This source had a surface emission rate of 26320 β/min in 2π on 14 Oct 02.

Daniel James Van Dalsem
Quality Control

15-OCT-02
Date Signed

IPL Ref. No.: 948-52

Isotope Products Laboratories
An Eckert & Ziegler Company

24937 Avenue Tibbitts
Valencia, California 91355

Tel 661·309·1010
Fax 661·257·8303

CERTIFICATE OF CALIBRATION
GAMMA STANDARD SOURCE

Radionuclide:	Co-60	**Customer:**	NEW WORLD TECHNOLOGY
Half-life:	5.272 ± 0.001 years	**P.O. No.:**	30206
Catalog No.:	GF-060-M	**Reference Date:**	1-Jun-03 12:00 PST
Source No.:	971-154-1	**Contained Radioactivity:**	11.37 µCi 420.7 kBq

Physical description:

A. Capsule type:	M (25.4 mm OD x 3.18 mm THK)
B. Nature of active deposit:	Evaporated metallic salt
C. Active diameter/volume:	3 mm
D. Backing:	9.23 mg/cm² kapton
E. Cover:	0.254 mm aluminized mylar

Radioimpurities:

None detected

Method of Calibration:

This source was assayed using gamma ray spectrometry.

Peak energy used for integration:	1173, 1333 keV
Branching ratio used:	0.999, 0.999 gammas per decay

Uncertainty of Measurement:

A. Type A (random) uncertainty:	± 0.6 %
B. Type B (systematic) uncertainty:	± 3.0 %
C. Uncertainty in aliquot weighing:	± 0.0 %
D. Total uncertainty at the 99% confidence level:	± 3.1 %

Notes:

- See reverse side for leak test(s) performed on this source.
- IPL participates in a NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (As in NRC Regulatory Guide 4.15).
- Nuclear data was taken from IAEA-TECDOC-619, 1991.
- This source has a working life of 5 years.

Daniel James Van Dalsem
Quality Control

20-May-03
Date Signed

IPL Ref. No.: 971-154

Chi-Square Test Data Sheets

New World Technology
Chi-Squared Test of Reliability Data Sheet

Project/Location:		Bethesda NNMC					
Instrument Model:		2224			Instrument Serial No.	146713	
Last Calibration Date:		05/30/2003			Background Count Rate:	202	C_B
Detector Model:		43-68			Detector Serial No.:	160688	
Today's Date:		06/03/2003			Data Collected by:	Roger Freeman	
Source ID:	A7-268	Activity	52080	Betas/Min			
Radionuclide:	Tc-99	CPM	CPM				
Count Number		(Gross) C_G	(Net) C_I		$(C_I - \bar{c})$	$(C_I - \bar{c})^2$	
1		17212	17010		-46.2	2134.4	
2		17332	17130		73.8	5446.44	
3		17102	16900		-156.2	24398.44	
4		17022	16820		-236.2	55790.44	
5		17299	17097		40.8	1664.6	
6		17295	17093		36.8	1354.2	
7		17034	16832		-224.2	50265.6	
8		17543	17341		284.8	81111.0	
9		17213	17011		-45.2	2043.0	
10		17321	17119		62.8	3943.8	
11		17431	17229		172.8	29859.8	
12		17421	17219		162.8	26503.8	
13		17221	17019		-37.2	1383.8	
14		17346	17144		87.8	7708.8	
15		17234	17032		-24.2	585.6	
16		17203	17001		-55.2	3047.0	
17		17321	17119		62.8	3943.8	
18		17107	16905		-151.2	22861.4	
19		17202	17000		-56.2	3158.4	
20		17305	17103		46.8	2190.2	
Total		345164	341124		SUM	329395.2	$\Sigma(C_I - c)^2$
Mean Count: $\bar{c}$			17056.2				
Chi Squared Value (C^2):		19.31	10.11 - 30.14				
Calculations Completed by:			Roger Freeman			Date:	06/03/2003
Reviewed by:			Dan Spicuzza			Date:	06/03/2003

New World Technology
Chi-Squared Test of Reliability Data Sheet

Project/Location:		Bethesda NNMC					
Instrument Model:		2224			Instrument Serial No.	146713	
Last Calibration Date:		05/30/2003			Background Count Rate:	546	C_B
Detector Model:		43-37			Detector Serial No.:	147964	
Today's Date:		06/03/2003			Data Collected by:	Roger Freeman	
Source ID:	A7-268	Activity	52080	Betas/Min			
Radionuclide:	Tc-99	CPM	CPM				
Count Number		(Gross) C_G	(Net) C_I		$(C_I - \bar{c})$	$(C_I - \bar{c})^2$	
1		19919	19373		-153.6	23593.0	
2		20138	19592		65.4	4277.16	
3		20391	19845		318.4	101378.56	
4		19917	19371		-155.6	24211.36	
5		20132	19586		59.4	3528.4	
6		19888	19342		-184.6	34077.2	
7		20032	19486		-40.6	1648.4	
8		20079	19533		6.4	41.0	
9		20202	19656		129.4	16744.4	
10		20001	19455		-71.6	5126.6	
11		20107	19561		34.4	1183.4	
12		19989	19443		-83.6	6989.0	
13		19868	19322		-204.6	41861.2	
14		20288	19742		215.4	46397.2	
15		20394	19848		321.4	103298.0	
16		20189	19643		116.4	13549.0	
17		19923	19377		-149.6	22380.2	
18		19931	19385		-141.6	20050.6	
19		19961	19415		-111.6	12454.6	
20		20103	19557		30.4	924.2	
Total		401452	390532		SUM	483712.8	$\Sigma(C_I - c)^2$
Mean Count: $\bar{c}$			19526.6				
Chi Squared Value (C^2):		24.77	10.11 - 30.14				
Calculations Completed by:			Roger Freeman			Date:	06/03/2003
Reviewed by:			Dan Spicuzza			Date:	06/03/2003

New World Technology
Chi-Squared Test of Reliability Data Sheet

Project/Location:		Bethesda NNMC					
Instrument Model:		2224			Instrument Serial No.	146713	
Last Calibration Date:		05/30/2003			Background Count Rate:	4	C_B
Detector Model:		43-68			Detector Serial No.:	160688	
Today's Date:		06/03/2003			Data Collected by:	Roger Freeman	
Source ID:	A7-266	Activity	55100	Alphas/Min			
Radionuclide:	Th-230	CPM	CPM				
Count Number		(Gross) C_G	(Net) C_I		$(C_I - \bar{c})$	$(C_I - \bar{c})^2$	
1		16322	16318		-95.25	9072.6	
2		16235	16231		-182.25	33215.0625	
3		16534	16530		116.75	13630.5625	
4		16327	16323		-90.25	8145.0625	
5		16348	16344		-69.25	4795.6	
6		16422	16418		4.75	22.6	
7		16521	16517		103.75	10764.1	
8		16467	16463		49.75	2475.1	
9		16533	16529		115.75	13398.1	
10		16510	16506		92.75	8602.6	
11		16100	16096		-317.25	100647.6	
12		16344	16340		-73.25	5365.6	
13		16443	16439		25.75	663.1	
14		16378	16374		-39.25	1540.6	
15		16569	16565		151.75	23028.1	
16		16495	16491		77.75	6045.1	
17		16397	16393		-20.25	410.1	
18		16459	16455		41.75	1743.1	
19		16398	16394		-19.25	370.6	
20		16543	16539		125.75	15813.1	
Total		328345	328265		SUM	259747.75	$\Sigma(C_I - c)^2$
Mean Count: $\bar{c}$			16413.25				
Chi Squared Value (C^2):		15.83	10.11 - 30.14				
Calculations Completed by:			Roger Freeman			Date:	06/03/2003
Reviewed by:			Dan Spicuzza			Date:	06/03/2003

New World Technology
Chi-Squared Test of Reliability Data Sheet

Project/Location:		Bethesda NNMC					
Instrument Model:		2224			Instrument Serial No.	146713	
Last Calibration Date:		05/30/2003			Background Count Rate:	4	C_B
Detector Model:		43-37			Detector Serial No.:	147964	
Today's Date:		06/03/2003			Data Collected by:	Roger Freeman	
Source ID:	A7-266	Activity	55100	Alphas/Min			
Radionuclide:	Th-230	CPM	CPM				
Count Number		(Gross) C_G	(Net) C_I		$(C_I - \overline{c})$	$(C_I - \overline{c})^2$	
1		15125	15121		59.2	3504.6	
2		14963	14959		-102.8	10567.84	
3		14911	14907		-154.8	23963.04	
4		15177	15173		111.2	12365.44	
5		15002	14998		-63.8	4070.4	
6		15201	15197		135.2	18279.0	
7		15285	15281		219.2	48048.6	
8		15173	15169		107.2	11491.8	
9		15021	15017		-44.8	2007.0	
10		14925	14921		-140.8	19824.6	
11		15175	15171		109.2	11924.6	
12		14844	14840		-221.8	49195.2	
13		15001	14997		-64.8	4199.0	
14		15237	15233		171.2	29309.4	
15		15021	15017		-44.8	2007.0	
16		14890	14886		-175.8	30905.6	
17		15180	15176		114.2	13041.6	
18		14876	14872		-189.8	36024.0	
19		15182	15178		116.2	13502.4	
20		15127	15123		61.2	3745.4	
Total		301316	301236		SUM	347977.2	$\Sigma(C_I - c)^2$
Mean Count: $\overline{c}$			15061.8				
Chi Squared Value (C^2):		23.10	10.11 - 30.14				
Calculations Completed by:			Roger Freeman			Date:	06/03/2003
Reviewed by:			Dan Spicuzza			Date:	06/03/2003

New World Technology
Chi-Squared Test of Reliability Data Sheet

Project/Location:		Bethesda NNMC					
Instrument Model:		2224			Instrument Serial No.	118242	
Last Calibration Date:		05/30/2003			Background Count Rate:	207	C_B
Detector Model:		43-68			Detector Serial No.:	147403	
Today's Date:		06/03/2003			Data Collected by:	Roger Freeman	
Source ID:	A7-268	Activity	52080	Betas/Min			
Radionuclide:	Tc-99	CPM	CPM				
Count Number		(Gross) C_G	(Net) C_I		$(C_I - \overline{c})$	$(C_I - \overline{c})^2$	
1		18224	18017		108.55	11783.1	
2		18055	17848		-60.45	3654.2025	
3		18089	17882		-26.45	699.6025	
4		18109	17902		-6.45	41.6025	
5		18173	17966		57.55	3312.0	
6		18036	17829		-79.45	6312.3	
7		18368	18161		252.55	63781.5	
8		18067	17860		-48.45	2347.4	
9		18102	17895		-13.45	180.9	
10		18015	17808		-100.45	10090.2	
11		18040	17833		-75.45	5692.7	
12		18167	17960		51.55	2657.4	
13		17851	17644		-264.45	69933.8	
14		17949	17742		-166.45	27705.6	
15		18132	17925		16.55	273.9	
16		18159	17952		43.55	1896.6	
17		18255	18048		139.55	19474.2	
18		18190	17983		74.55	5557.7	
19		18223	18016		107.55	11567.0	
20		18105	17898		-10.45	109.2	
Total		362309	358169		SUM	247070.95	$\Sigma(C_I - c)^2$
Mean Count: $\overline{c}$			17908.45				
Chi Squared Value (C^2):		13.80	10.11 - 30.14				
Calculations Completed by:			Roger Freeman			Date:	06/03/2003
Reviewed by:			Dan Spicuzza			Date:	06/03/2003

New World Technology
Chi-Squared Test of Reliability Data Sheet

Project/Location:		Bethesda NNMC					
Instrument Model:		2224			Instrument Serial No.	118242	
Last Calibration Date:		05/30/2003			Background Count Rate:	546	C_B
Detector Model:		43-37			Detector Serial No.:	148504	
Today's Date:		06/03/2003			Data Collected by:	Roger Freeman	
Source ID:	A7-268	Activity	52080	Betas/Min			
Radionuclide:	Tc-99	CPM	CPM				
Count Number		(Gross) C_G	(Net) C_I		$(C_I - \bar{c})$	$(C_I - \bar{c})^2$	
1		19860	19314		-128.8	16589.4	
2		20061	19515		72.2	5212.84	
3		19850	19304		-138.8	19265.44	
4		20007	19461		18.2	331.24	
5		20354	19808		365.2	133371.0	
6		20013	19467		24.2	585.6	
7		20008	19462		19.2	368.6	
8		19964	19418		-24.8	615.0	
9		20020	19474		31.2	973.4	
10		19851	19305		-137.8	18988.8	
11		19895	19349		-93.8	8798.4	
12		19894	19348		-94.8	8987.0	
13		20125	19579		136.2	18550.4	
14		19990	19444		1.2	1.4	
15		19938	19392		-50.8	2580.6	
16		20076	19530		87.2	7603.8	
17		19944	19398		-44.8	2007.0	
18		19841	19295		-147.8	21844.8	
19		20071	19525		82.2	6756.8	
20		20014	19468		25.2	635.0	
Total		399776	388856		SUM	274067.2	$\Sigma(C_I - c)^2$
Mean Count: $\bar{c}$			19442.8				
Chi Squared Value (C^2):		14.10	10.11 - 30.14				
Calculations Completed by:			Roger Freeman			Date:	06/03/2003
Reviewed by:			Dan Spicuzza			Date:	06/03/2003

New World Technology
Chi-Squared Test of Reliability Data Sheet

Project/Location:		Bethesda NNMC					
Instrument Model:		2224			Instrument Serial No.	118242	
Last Calibration Date:		05/30/2003			Background Count Rate:	1.2	C_B
Detector Model:		43-68			Detector Serial No.:	147403	
Today's Date:		06/03/2003			Data Collected by:	Roger Freeman	
Source ID:	A7-266	Activity	55100	Alphas/Min			
Radionuclide:	Th-230	CPM	CPM				
Count Number		(Gross) C_G	(Net) C_I		$(C_I - \bar{c})$	$(C_I - \bar{c})^2$	
1		16341	16339.8		-41.05	1685.1	
2		16218	16216.8		-164.05	26912.4025	
3		16592	16590.8		209.95	44079.0025	
4		16475	16473.8		92.95	8639.7025	
5		16345	16343.8		-37.05	1372.7	
6		16346	16344.8		-36.05	1299.6	
7		16417	16415.8		34.95	1221.5	
8		16366	16364.8		-16.05	257.6	
9		16355	16353.8		-27.05	731.7	
10		16371	16369.8		-11.05	122.1	
11		16256	16254.8		-126.05	15888.6	
12		16318	16316.8		-64.05	4102.4	
13		16321	16319.8		-61.05	3727.1	
14		16291	16289.8		-91.05	8290.1	
15		16358	16356.8		-24.05	578.4	
16		16378	16376.8		-4.05	16.4	
17		16562	16560.8		179.95	32382.0	
18		16267	16265.8		-115.05	13236.5	
19		16598	16596.8		215.95	46634.4	
20		16466	16464.8		83.95	7047.6	
Total		327641	327617		SUM	218224.95	$\Sigma(C_I - c)^2$
Mean Count: $\bar{c}$			16380.85				
Chi Squared Value (C^2):		13.32	10.11 - 30.14				
Calculations Completed by:			Roger Freeman			Date:	06/03/2003
Reviewed by:			Dan Spicuzza			Date:	06/03/2003

New World Technology
Chi-Squared Test of Reliability Data Sheet

Project/Location:		Bethesda NNMC					
Instrument Model:		2224			Instrument Serial No.	118242	
Last Calibration Date:		05/30/2003			Background Count Rate:	4	C_B
Detector Model:		43-37			Detector Serial No.:	148504	
Today's Date:		06/03/2003			Data Collected by:	Roger Freeman	
Source ID:	A7-266	Activity	55100	Alphas/Min			
Radionuclide:	Th-230	CPM	CPM				
Count Number		(Gross) C_G	(Net) C_I		$(C_I - \overline{c})$	$(C_I - \overline{c})^2$	
1		16626	16622		-193.25	37345.6	
2		16549	16545		-270.25	73035.0625	
3		16667	16663		-152.25	23180.0625	
4		16752	16748		-67.25	4522.5625	
5		16913	16909		93.75	8789.1	
6		17017	17013		197.75	39105.1	
7		17060	17056		240.75	57960.6	
8		16889	16885		69.75	4865.1	
9		16781	16777		-38.25	1463.1	
10		16876	16872		56.75	3220.6	
11		16785	16781		-34.25	1173.1	
12		16849	16845		29.75	885.1	
13		16594	16590		-225.25	50737.6	
14		16634	16630		-185.25	34317.6	
15		16942	16938		122.75	15067.6	
16		16875	16871		55.75	3108.1	
17		17025	17021		205.75	42333.1	
18		16854	16850		34.75	1207.6	
19		16998	16994		178.75	31951.6	
20		16699	16695		-120.25	14460.1	
Total		336385	336305		SUM	448727.75	$\Sigma(C_I - c)^2$
Mean Count: $\overline{c}$			16815.25				
Chi Squared Value (C^2):		26.69	10.11 - 30.14				
Calculations Completed by:			Roger Freeman			Date:	06/03/2003
Reviewed by:			Dan Spicuzza			Date:	06/03/2003

New World Technology
Chi-Squared Test of Reliability Data Sheet

Project/Location:		Bethesda NNMC					
Instrument Model:		2929			Instrument Serial No.	143876	
Last Calibration Date:		11/06/2002			Background Count Rate:	100.8	C_B
Detector Model:		43-10-1			Detector Serial No.:	146481	
Today's Date:		06/03/2003			Data Collected by:	Dan Spicuzza	
Source ID:	Tc-99	Activity	112500	DPM			
	A7-272	CPM	CPM				
Count Number		(Gross) C_G	(Net) C_I		$(C_I - \overline{c})$	$(C_I - \overline{c})^2$	
1		23864	23763.2		218	47524.0	
2		23443	23342.2		-203	41209	
3		23561	23460.2		-85	7225	
4		23638	23537.2		-8	64	
5		23763	23662.2		117	13689.0	
6		23803	23702.2		157	24649.0	
7		23669	23568.2		23	529.0	
8		23412	23311.2		-234	54756.0	
9		23365	23264.2		-281	78961.0	
10		23421	23320.2		-225	50625.0	
11		23822	23721.2		176	30976.0	
12		23841	23740.2		195	38025.0	
13		23654	23553.2		8	64.0	
14		23651	23550.2		5	25.0	
15		23481	23380.2		-165	27225.0	
16		23652	23551.2		6	36.0	
17		23808	23707.2		162	26244.0	
18		23458	23357.2		-188	35344.0	
19		23836	23735.2		190	36100.0	
20		23778	23677.2		132	17424.0	
Total		472920	470904		SUM	530694	$\Sigma(C_I - c)^2$
Mean Count: $\overline{c}$			23545.2				
Chi Squared Value (C^2):		22.54	10.11-30.14				
Calculations Completed by:			Dan Spicuzza			Date:	06/03/2003
Reviewed by:			Dan Spicuzza			Date:	06/03/2003

New World Technology
Chi-Squared Test of Reliability Data Sheet

Project/Location:		Bethesda NNMC					
Instrument Model:		2929			Instrument Serial No.	143876	
Last Calibration Date:		11/06/2002			Background Count Rate:	0.9	C_B
Detector Model:		43-10-1			Detector Serial No.:	146481	
Today's Date:		06/03/2003			Data Collected by:	Dan Spicuzza	
Source ID:	Th-230	Activity	100,600	DPM			
	A7-271	CPM	CPM				
Count Number		(Gross) C_G	(Net) C_I		$(C_I - \overline{c})$	$(C_I - \overline{c})^2$	
1		41544	41543.1		147.8	21844.8	
2		41301	41300.1		-95.2	9063.04	
3		41456	41455.1		59.8	3576.04	
4		41565	41564.1		168.8	28493.44	
5		41295	41294.1		-101.2	10241.4	
6		41568	41567.1		171.8	29515.2	
7		41145	41144.1		-251.2	63101.4	
8		41249	41248.1		-147.2	21667.8	
9		41587	41586.1		190.8	36404.6	
10		41235	41234.1		-161.2	25985.4	
11		41492	41491.1		95.8	9177.6	
12		41404	41403.1		7.8	60.8	
13		41235	41234.1		-161.2	25985.4	
14		41416	41415.1		19.8	392.0	
15		41148	41147.1		-248.2	61603.2	
16		41123	41122.1		-273.2	74638.2	
17		41564	41563.1		167.8	28156.8	
18		41372	41371.1		-24.2	585.6	
19		41441	41440.1		44.8	2007.0	
20		41784	41783.1		387.8	150388.8	
Total		827924	827906		SUM	602889.2	$\Sigma(C_I - c)^2$
Mean Count: $\overline{c}$			41395.3				
Chi Squared Value (C^2):		14.56	10.11-30.14				
Calculations Completed by:			Dan Spicuzza			Date:	06/03/2003
Reviewed by:			Dan Spicuzza			Date:	06/03/2003

Instrument Response Check Logs

New World Technology
Background Determination Data Sheet

Project/Location:	Bethesda NNMC					
Instrument Model:	2929			Instrument Serial No.	143876	
Last Calibration Date:	11/06/2002					
Detector Model:	43-10-1			Detector Serial No.:	146481	
Today's Date:	06/02/2003			Data Collected by:	Daniel Spicuzza	
	Alpha	X	Beta-Gamma		Other	
Remarks:	Background Determination					
Count Number	Count (x)	$(x - \overline{x})$		$(x - \overline{x})^2$		
1	96	-12.5		156.25		
2	111	2.5		6.25		
3	115	6.5		42.25		
4	113	4.5		20.25		
5	109	0.5		0.25		
6	114	5.5		30.25		
7	120	11.5		132.25		
8	96	-12.5		156.25		
9	113	4.5		20.25		
10	112	3.5		12.25		
11	110	1.5		2.25		
12	106	-2.5		6.25		
13	116	7.5		56.25		
14	104	-4.5		20.25		
15	99	-9.5		90.25		
16	103	-5.5		30.25		
17	118	9.5		90.25		
18	108	-0.5		0.25		
19	97	-11.5		132.25		
20	110	1.5		2.25		
Total	2170		SUM	576.5		
Mean Count: $\overline{x}$	108.5		Variance:	30.34		
Standard Deviation (σ)	7.28					
Background Count Rate:		108.5	CPM + -	14.56	CPM	
Calculations Completed by:		Dan Spicuzza			Date:	06/02/2003

New World Technology
Background Determination Data Sheet

Project/Location:	Bethesda NNMC					
Instrument Model:	2929		Instrument Serial No.	143876		
Last Calibration Date:	11/06/2002					
Detector Model:	43-10-1		Detector Serial No.:	146481		
Today's Date:	06/02/2003		Data Collected by:	Daniel Spicuzza		
X	Alpha		Beta-Gamma		Other	
Remarks:	Background Determination					

Count Number	Count (x)	$(x - \overline{x})$		$(x - \overline{x})^2$
1	0	-0.45		0.2025
2	0	-0.45		0.2025
3	0	-0.45		0.2025
4	1	0.55		0.3025
5	2	1.55		2.4025
6	0	-0.45		0.2025
7	0	-0.45		0.2025
8	1	0.55		0.3025
9	0	-0.45		0.2025
10	0	-0.45		0.2025
11	1	0.55		0.3025
12	1	0.55		0.3025
13	0	-0.45		0.2025
14	0	-0.45		0.2025
15	1	0.55		0.3025
16	0	-0.45		0.2025
17	1	0.55		0.3025
18	1	0.55		0.3025
19	0	-0.45		0.2025
20	0	-0.45		0.2025
Total	9		SUM	4.425
Mean Count: $\overline{x}$	0.45		Variance:	0.23
Standard Deviation (σ)	0.60			
Background Count Rate:		0.45	CPM + -	1.21 CPM
Calculations Completed by:		Dan Spicuzza		Date: 06/02/2003

LUDLUM MODEL 2929
DAILY 10 MINUTE BACKGROUND AND EFFICIENCY

For: June, July 2003

Instrument ID: 143876 Detector ID: 146481

Cal Due Date: 11/06/2003

Sources Used: Alpha S/N: Th-230 A7-271 Activity: 100,600 DPM

Beta S/N: Tc-99 A7-272 Activity: 112,500 DPM

Acceptable Range of Background: 0 CPM to 1.5 CPM α

Background Count Time: 10 Minutes 94 CPM to 122 CPM βγ

Date	Total Counts α	Total Counts βγ	10-Minute Background (CPM) α	10-Minute Background (CPM) βγ	1-min α Source Counts	Eff. α	1- min βγ Source Counts	Eff. βγ	Initials
06/03/2003	9	1008	0.9	100.8	41008	41	24324	22	DMS
06/04/2003	5	1011	0.5	101.1	39913	40	23975	21	RLF
06/05/2003	2	941	0.2	94.1	41234	41	23825	21	RLF
06/06/2003	3	981	0.3	98.1	41562	41	23941	21	DMS
06/09/2003	4	955	0.4	95.5	41803	42	24076	21	DMS
06/10/2003	6	1017	0.6	101.7	41724	41	23620	21	DMS
06/11/2003	5	1012	0.5	101.2	41731	41	23731	21	DMS
06/12/2003	4	988	0.4	98.8	41561	41	24002	21	DMS
06/16/2003	13	1050	1.3	105.0	41532	41	23872	21	DMS
06/17/2003	2	1021	0.2	102.1	41347	41	24002	21	DMS
06/18/2003	3	1011	0.3	101.1	41298	41	23691	21	DMS
06/19/2003	3	981	0.3	98.1	41234	41	23753	21	DMS
06/20/2003	2	95	0.2	9.5	41264	41	23381	21	DMS
06/23/2003	7	981	0.7	98.1	41137	41	23170	21	DMS
06/24/2003	3	932	0.3	93.2	41165	41	23209	21	DMS
06/25/2003	3	949	0.3	94.9	41131	41	23198	21	DMS
06/26/2003	1	960	0.1	96.0	41121	41	23247	21	DMS
06/27/2003	7	985	0.7	98.5	41284	41	23261	21	DMS
06/30/2003	5	997	0.5	99.7	39768	40	21999	19	RLF
07/01/2003	1	914	0.1	91.4	40030	40	22345	20	RLF
07/02/2003	4	930	0.4	93.0	40338	40	22340	20	RLF
07/03/2003	5	917	0.5	91.7	41498	41	22923	20	RLF
07/07/2003	4	896	0.4	89.6	41225	41	23011	20	RLF
07/08/2003	2	913	0.2	91.3	41765	42	22579	20	RLF
07/09/2003	3	930	0.3	93.0	41232	41	22351	20	RLF
07/10/2003	4	880	0.4	88.0	41237	41	22586	20	RLF
07/11/2003	3	923	0.3	92.3	41045	41	22727	20	RLF
07/14/2003	4	934	0.4	93.4	41045	41	22727	20	RLF
07/15/2003	4	954	0.4	95.4	41034	41	22654	20	RLF
07/16/2003	3	937	0.3	93.7	41123	41	22432	20	RLF
07/17/2003	4	954	0.4	95.4	41042	41	22357	20	RLF

DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project: Bethesda NNMC

DATE	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	CAL. DUE DATE	SOURCE I.D Co-60	SOURCE ACTIVITY	BACKGROUND CPM	READING CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.
06/03/2003	2350-1/44-10	134735/170813	N	03/19/2004	971-154-1	11.37 µCi	300	12000	N/A	P	DMS
06/04/2003	2350-1/44-10	134735/170813	N	03/19/2004	971-154-1	11.37 µCi	250	12000	N/A	P	DMS
06/05/2003	2350-1/44-10	134735/170813	N	03/19/2004	971-154-1	11.37 µCi	250	12000	N/A	P	DMS
06/06/2003	2350-1/44-10	134735/170813	N	03/19/2004	971-154-1	11.37 µCi	300	12000	N/A	P	DMS
06/09/2003	2350-1/44-10	134735/170813	N	03/19/2004	971-154-1	11.37 µCi	250	12000	N/A	P	DMS
06/10/2003	2350-1/44-10	134735/170813	N	03/19/2004	971-154-1	11.37 µCi	300	12000	N/A	P	DMS
06/11/2003	2350-1/44-10	134735/170813	N	03/19/2004	971-154-1	11.37 µCi	300	12000	N/A	P	DMS
06/12/2003	2350-1/44-10	134735/170813	N	03/19/2004	971-154-1	11.37 µCi	250	12000	N/A	P	DMS
06/16/2003	2350-1/44-10	134735/170813	N	03/19/2004	971-154-1	11.37 µCi	250	12000	N/A	P	DMS
06/17/2003	2350-1/44-10	134735/170813	N	03/19/2004	971-154-1	11.37 µCi	250	12000	N/A	P	DMS
06/18/2003	2350-1/44-10	134735/170813	N	03/19/2004	971-154-1	11.37 µCi	300	12000	N/A	P	RLF
06/19/2003	2350-1/44-10	134735/170813	N	03/19/2004	971-154-1	11.37 µCi	250	12000	N/A	P	RLF
06/20/2003	2350-1/44-10	134735/170813	N	03/19/2004	971-154-1	11.37 µCi	250	12000	N/A	P	RLF
06/23/2003	2350-1/44-10	134735/170813	N	03/19/2004	971-154-1	11.37 µCi	250	12000	N/A	P	RLF
06/24/2003	2350-1/44-10	134735/170813	N	03/19/2004	971-154-1	11.37 µCi	250	12000	N/A	P	RLF
06/25/2003	2350-1/44-10	134735/170813	N	03/19/2004	971-154-1	11.37 µCi	250	12000	N/A	P	RLF
06/26/2003	2350-1/44-10	134735/170813	N	03/19/2004	971-154-1	11.37 µCi	300	12000	N/A	P	RLF
06/27/2003	2350-1/44-10	134735/170813	N	03/19/2004	971-154-1	11.37 µCi	250	12000	N/A	P	RLF
06/30/2003	2350-1/44-10	134735/170813	N	03/19/2004	971-154-1	11.37 µCi	260	12000	N/A	P	RLF
07/01/2003	2350-1/44-10	134735/170813	N	03/19/2004	971-154-1	11.37 µCi	250	12000	N/A	P	RLF
07/02/2003	2350-1/44-10	134735/170813	N	03/19/2004	971-154-1	11.37 µCi	250	12000	N/A	P	RLF
07/03/2003	2350-1/44-10	134735/170813	N	03/19/2004	971-154-1	11.37 µCi	260	12000	N/A	P	RLF
07/07/2003	2350-1/44-10	134735/170813	N	03/19/2004	971-154-1	11.37 µCi	250	12000	N/A	P	RLF
07/08/2003	2350-1/44-10	134735/170813	N	03/19/2004	971-154-1	11.37 µCi	300	12000	N/A	P	RLF
07/09/2003	2350-1/44-10	134735/170813	N	03/19/2004	971-154-1	11.37 µCi	250	12000	N/A	P	RLF
07/10/2003	2350-1/44-10	134735/170813	N	03/19/2004	971-154-1	11.37 µCi	250	12000	N/A	P	RLF
07/11/2003	2350-1/44-10	134735/170813	N	03/19/2004	971-154-1	11.37 µCi	280	12000	N/A	P	RLF
07/14/2003	2350-1/44-10	134735/170813	N	03/19/2004	971-154-1	11.37 µCi	250	12000	N/A	P	RLF
07/15/2003	2350-1/44-10	134735/170813	N	03/19/2004	971-154-1	11.37 µCi	280	12000	N/A	P	RLF
07/16/2003	2350-1/44-10	134735/170813	N	03/19/2004	971-154-1	11.37 µCi	250	12000	N/A	P	RLF
07/17/2003	2350-1/44-10	134735/170813	N	03/19/2004	971-154-1	11.37 µCi	280	12000	N/A	P	RLF

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DATE	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	CAL. DUE DATE	SOURCE I.D Tc-99	SOURCE ACTIVITY (Betas/Min)	BACKGROUND CPM	READING CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.
06/03/2003	3/44-9	131894/151134	N	03/25/2004	A7-272	59,610	50	10000	17	P	DMS
06/04/2003	3/44-9	131894/151134	N	03/25/2004	A7-272	59,610	50	10000	17	P	DMS
06/05/2003	3/44-9	131894/151134	N	03/25/2004	A7-272	59,610	50	10000	17	P	DMS
06/06/2003	3/44-9	131894/151134	N	03/25/2004	A7-272	59,610	50	10000	17	P	DMS
06/09/2003	3/44-9	131894/151134	N	03/25/2004	A7-272	59,610	50	10000	17	P	DMS
06/10/2003	3/44-9	131894/151134	N	03/25/2004	A7-272	59,610	50	10000	17	P	DMS
06/11/2003	3/44-9	131894/151134	N	03/25/2004	A7-272	59,610	50	10000	17	P	DMS
06/12/2003	3/44-9	131894/151134	N	03/25/2004	A7-272	59,610	50	10000	17	P	DMS
06/16/2003	3/44-9	131894/151134	N	03/25/2004	A7-272	59,610	50	10000	17	P	DMS
06/17/2003	3/44-9	131894/151134	N	03/25/2004	A7-272	59,610	50	10000	17	P	DMS
06/18/2003	3/44-9	131894/151134	N	03/25/2004	A7-272	59,610	50	10000	17	P	RLF
06/19/2003	3/44-9	131894/151134	N	03/25/2004	A7-272	59,610	50	10000	17	P	RLF
06/20/2003	3/44-9	131894/151134	N	03/25/2004	A7-272	59,610	50	10000	17	P	RLF
06/23/2003	3/44-9	131894/151134	N	03/25/2004	A7-272	59,610	50	10000	17	P	RLF
06/24/2003	3/44-9	131894/151134	N	03/25/2004	A7-272	59,610	50	10000	17	P	RLF
06/25/2003	3/44-9	131894/151134	N	03/25/2004	A7-272	59,610	50	10000	17	P	RLF
06/26/2003	3/44-9	131894/151134	N	03/25/2004	A7-272	59,610	50	10000	17	P	RLF
06/27/2003	3/44-9	131894/151134	N	03/25/2004	A7-272	59,610	50	10000	17	P	RLF
06/30/2003	3/44-9	131894/151134	N	03/25/2004	A7-272	59,610	50	10000	17	P	RLF
07/01/2003	3/44-9	131894/151134	N	03/25/2004	A7-272	59,610	50	10000	17	P	RLF
07/02/2003	3/44-9	131894/151134	N	03/25/2004	A7-272	59,610	50	10000	17	P	RLF
07/03/2003	3/44-9	131894/151134	N	03/25/2004	A7-272	59,610	50	10000	17	P	RLF
07/07/2003	3/44-9	131894/151134	N	03/25/2004	A7-272	59,610	50	10000	17	P	RLF
07/08/2003	3/44-9	131894/151134	N	03/25/2004	A7-272	59,610	50	10000	17	P	RLF
07/09/2003	3/44-9	131894/151134	N	03/25/2004	A7-272	59,610	50	10000	17	P	RLF
07/10/2003	3/44-9	131894/151134	N	03/25/2004	A7-272	59,610	50	10000	17	P	RLF
07/11/2003	3/44-9	131894/151134	N	03/25/2004	A7-272	59,610	50	10000	17	P	RLF
07/14/2003	3/44-9	131894/151134	N	03/25/2004	A7-272	59,610	50	10000	17	P	RLF
07/15/2003	3/44-9	131894/151134	N	03/25/2004	A7-272	59,610	50	10000	17	P	RLF
07/16/2003	3/44-9	131894/151134	N	03/25/2004	A7-272	59,610	50	10000	17	P	RLF
07/17/2003	3/44-9	131894/151134	N	03/25/2004	A7-272	59,610	50	10000	17	P	RLF

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DATE	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	CAL. DUE DATE	SOURCE I.D Tc-99	SOURCE ACTIVITY (Betas/Min)	BACKGROUND CPM	READING CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.
06/03/2003	3/44-9	64209/151135	N	10/15/2003	A7-272	59,610	50	10000	17	P	DMS
06/04/2003	3/44-9	64209/151135	N	10/15/2003	A7-272	59,610	50	10000	17	P	DMS
06/05/2003	3/44-9	64209/151135	N	10/15/2003	A7-272	59,610	50	10000	17	P	DMS
06/06/2003	3/44-9	64209/151135	N	10/15/2003	A7-272	59,610	50	10000	17	P	DMS
06/09/2003	3/44-9	64209/151135	N	10/15/2003	A7-272	59,610	50	10000	17	P	DMS
06/10/2003	3/44-9	64209/151135	N	10/15/2003	A7-272	59,610	50	10000	17	P	DMS
06/11/2003	3/44-9	64209/151135	N	10/15/2003	A7-272	59,610	50	10000	17	P	DMS
06/12/2003	3/44-9	64209/151135	N	10/15/2003	A7-272	59,610	50	10000	17	P	DMS
06/16/2003	3/44-9	64209/151135	N	10/15/2003	A7-272	59,610	50	10000	17	P	DMS
06/17/2003	3/44-9	64209/151135	N	10/15/2003	A7-272	59,610	50	10000	17	P	DMS
06/18/2003	3/44-9	64209/151135	N	10/15/2003	A7-272	59,610	50	10000	17	P	RLF
06/19/2003	3/44-9	64209/151135	N	10/15/2003	A7-272	59,610	50	10000	17	P	RLF
06/20/2003	3/44-9	64209/151135	N	10/15/2003	A7-272	59,610	50	10000	17	P	RLF
06/23/2003	3/44-9	64209/151135	N	10/15/2003	A7-272	59,610	50	10000	17	P	RLF
06/24/2003	3/44-9	64209/151135	N	10/15/2003	A7-272	59,610	50	10000	17	P	RLF
06/25/2003	3/44-9	64209/151135	N	10/15/2003	A7-272	59,610	50	10000	17	P	RLF
06/26/2003	3/44-9	64209/151135	N	10/15/2003	A7-272	59,610	50	10000	17	P	RLF
06/27/2003	3/44-9	64209/151135	N	10/15/2003	A7-272	59,610	50	10000	17	P	RLF
06/30/2003	3/44-9	64209/151135	N	10/15/2003	A7-272	59,610	50	10000	17	P	RLF
07/01/2003	3/44-9	64209/151135	N	10/15/2003	A7-272	59,610	50	10000	17	P	RLF
07/02/2003	3/44-9	64209/151135	N	10/15/2003	A7-272	59,610	50	10000	17	P	RLF
07/03/2003	3/44-9	64209/151135	N	10/15/2003	A7-272	59,610	50	10000	17	P	RLF
07/07/2003	3/44-9	64209/151135	N	10/15/2003	A7-272	59,610	50	10000	17	P	RLF
07/08/2003	3/44-9	64209/151135	N	10/15/2003	A7-272	59,610	50	10000	17	P	RLF
07/09/2003	3/44-9	64209/151135	N	10/15/2003	A7-272	59,610	50	10000	17	P	RLF
07/10/2003	3/44-9	64209/151135	N	10/15/2003	A7-272	59,610	50	10000	17	P	RLF
07/11/2003	3/44-9	64209/151135	N	10/15/2003	A7-272	59,610	50	10000	17	P	RLF
07/14/2003	3/44-9	64209/151135	N	10/15/2003	A7-272	59,610	50	10000	17	P	RLF
07/15/2003	3/44-9	64209/151135	N	10/15/2003	A7-272	59,610	50	10000	17	P	RLF
07/16/2003	3/44-9	64209/151135	N	10/15/2003	A7-272	59,610	50	10000	17	P	RLF
07/17/2003	3/44-9	64209/151135	N	10/15/2003	A7-272	59,610	50	10000	17	P	``

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DATE	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	CAL. DUE DATE	SOURCE I.D Tc-99	SOURCE ACTIVITY (Betas/Min)	BACKGROUND CPM	READING CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.
06/03/2003	2224/43-68	146713/160688	N	05/30/2004	A7-268	52,080	200	17106	32	P	DMS
06/04/2003	2224/43-68	146713/160688	N	05/30/2004	A7-268	52,080	240	17167	33	P	DMS
06/05/2003	2224/43-68	146713/160688	N	05/30/2004	A7-268	52,080	240	17110	32	P	DMS
06/06/2003	2224/43-68	146713/160688	N	05/30/2004	A7-268	52,080	220	17103	32	P	DMS
06/09/2003	2224/43-68	146713/160688	N	05/30/2004	A7-268	52,080	220	17182	33	P	DMS
06/10/2003	2224/43-68	146713/160688	N	05/30/2004	A7-268	52,080	223	17098	32	P	DMS
06/11/2003	2224/43-68	146713/160688	N	05/30/2004	A7-268	52,080	220	17121	32	P	DMS
06/12/2003	2224/43-68	146713/160688	N	05/30/2004	A7-268	52,080	220	17097	32	P	DMS
06/16/2003	2224/43-68	146713/160688	N	05/30/2004	A7-268	52,080	210	17159	33	P	DMS
06/17/2003	2224/43-68	146713/160688	N	05/30/2004	A7-268	52,080	230	17035	32	P	DMS
06/18/2003	2224/43-68	146713/160688	N	05/30/2004	A7-268	52,080	220	17152	33	P	RLF
06/19/2003	2224/43-68	146713/160688	N	05/30/2004	A7-268	52,080	230	17061	32	P	RLF
06/20/2003	2224/43-68	146713/160688	N	05/30/2004	A7-268	52,080	220	17066	32	P	RLF
06/23/2003	2224/43-68	146713/160688	N	05/30/2004	A7-268	52,080	230	17103	32	P	RLF
06/24/2003	2224/43-68	146713/160688	N	05/30/2004	A7-268	52,080	220	17104	32	P	RLF
06/25/2003	2224/43-68	146713/160688	N	05/30/2004	A7-268	52,080	210	17063	32	P	RLF
06/26/2003	2224/43-68	146713/160688	N	05/30/2004	A7-268	52,080	210	17062	32	P	RLF
06/27/2003	2224/43-68	146713/160688	N	05/30/2004	A7-268	52,080	220	17153	33	P	RLF
06/30/2003	2224/43-68	146713/160688	N	05/30/2004	A7-268	52,080	230	17032	32	P	RLF
07/01/2003	2224/43-68	146713/160688	N	05/30/2004	A7-268	52,080	230	17079	32	P	RLF
07/02/2003	2224/43-68	146713/160688	N	05/30/2004	A7-268	52,080	220	17148	33	P	RLF
07/03/2003	2224/43-68	146713/160688	N	05/30/2004	A7-268	52,080	230	17040	32	P	RLF
07/07/2003	2224/43-68	146713/160688	N	05/30/2004	A7-268	52,080	220	17033	32	P	RLF
07/08/2003	2224/43-68	146713/160688	N	05/30/2004	A7-268	52,080	210	17072	32	P	RLF
07/09/2003	2224/43-68	146713/160688	N	05/30/2004	A7-268	52,080	220	17084	32	P	RLF
07/10/2003	2224/43-68	146713/160688	N	05/30/2004	A7-268	52,080	230	17124	32	P	RLF
07/11/2003	2224/43-68	146713/160688	N	05/30/2004	A7-268	52,080	220	17100	32	P	RLF
07/14/2003	2224/43-68	146713/160688	N	05/30/2004	A7-268	52,080	210	17161	33	P	RLF
07/15/2003	2224/43-68	146713/160688	N	05/30/2004	A7-268	52,080	220	17087	32	P	RLF
07/16/2003	2224/43-68	146713/160688	N	05/30/2004	A7-268	52,080	230	17152	32	P	RLF
07/17/2003	2224/43-68	146713/160688	N	05/30/2004	A7-268	52,080	220	17154	33	P	RLF

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DATE	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	CAL. DUE DATE	SOURCE I.D Tc-99	SOURCE ACTIVITY (Betas/Min)	BACKGROUND CPM	READING CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.
06/03/2003	2224/43-37	146713/147964	N	05/30/2004	A7-268	52,080	590	20001	37	P	DMS
06/04/2003	2224/43-37	146713/147964	N	05/30/2004	A7-268	52,080	580	19504	36	P	DMS
06/05/2003	2224/43-37	146713/147964	N	05/30/2004	A7-268	52,080	600	19697	37	P	DMS
06/06/2003	2224/43-37	146713/147964	N	05/30/2004	A7-268	52,080	580	19735	37	P	DMS
06/09/2003	2224/43-37	146713/147964	N	05/30/2004	A7-268	52,080	590	19663	37	P	DMS
06/10/2003	2224/43-37	146713/147964	N	05/30/2004	A7-268	52,080	570	19918	37	P	DMS
06/11/2003	2224/43-37	146713/147964	N	05/30/2004	A7-268	52,080	560	19583	37	P	DMS
06/12/2003	2224/43-37	146713/147964	N	05/30/2004	A7-268	52,080	580	19551	36	P	DMS
06/16/2003	2224/43-37	146713/147964	N	05/30/2004	A7-268	52,080	580	19684	37	P	DMS
06/17/2003	2224/43-37	146713/147964	N	05/30/2004	A7-268	52,080	560	20018	37	P	DMS
06/18/2003	2224/43-37	146713/147964	N	05/30/2004	A7-268	52,080	550	19976	37	P	RLF
06/19/2003	2224/43-37	146713/147964	N	05/30/2004	A7-268	52,080	580	19979	37	P	RLF
06/20/2003	2224/43-37	146713/147964	N	05/30/2004	A7-268	52,080	570	19715	37	P	RLF
06/23/2003	2224/43-37	146713/147964	N	05/30/2004	A7-268	52,080	580	19971	37	P	RLF
06/24/2003	2224/43-37	146713/147964	N	05/30/2004	A7-268	52,080	590	19612	37	P	RLF
06/25/2003	2224/43-37	146713/147964	N	05/30/2004	A7-268	52,080	580	19857	37	P	RLF
06/26/2003	2224/43-37	146713/147964	N	05/30/2004	A7-268	52,080	600	19919	37	P	RLF
06/27/2003	2224/43-37	146713/147964	N	05/30/2004	A7-268	52,080	580	20016	37	P	RLF
06/30/2003	2224/43-37	146713/147964	N	05/30/2004	A7-268	52,080	580	20012	37	P	RLF
07/01/2003	2224/43-37	146713/147964	N	05/30/2004	A7-268	52,080	590	19637	37	P	RLF
07/02/2003	2224/43-37	146713/147964	N	05/30/2004	A7-268	52,080	570	19787	37	P	RLF
07/03/2003	2224/43-37	146713/147964	N	05/30/2004	A7-268	52,080	580	19473	36	P	RLF
07/07/2003	2224/43-37	146713/147964	N	05/30/2004	A7-268	52,080	590	19606	37	P	RLF
07/08/2003	2224/43-37	146713/147964	N	05/30/2004	A7-268	52,080	580	19901	37	P	RLF
07/09/2003	2224/43-37	146713/147964	N	05/30/2004	A7-268	52,080	580	19880	37	P	RLF
07/10/2003	2224/43-37	146713/147964	N	05/30/2004	A7-268	52,080	590	19665	37	P	RLF
07/11/2003	2224/43-37	146713/147964	N	05/30/2004	A7-268	52,080	580	19465	36	P	RLF
07/14/2003	2224/43-37	146713/147964	N	05/30/2004	A7-268	52,080	570	19657	37	P	RLF
07/15/2003	2224/43-37	146713/147964	N	05/30/2004	A7-268	52,080	580	19719	37	P	RLF
07/16/2003	2224/43-37	146713/147964	N	05/30/2004	A7-268	52,080	570	19508	36	P	RLF
07/17/2003	2224/43-37	146713/147964	N	05/30/2004	A7-268	52,080	580	19851	37	P	RLF

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DATE	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	CAL. DUE DATE	SOURCE I.D Tc-99	SOURCE ACTIVITY (Betas/Min)	BACKGROUND CPM	READING CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.
06/03/2003	2224/43-68	118242/147403	N	05/30/2004	A7-268	52,080	207	18102	34	P	DMS
06/04/2003	2224/43-68	118242/147403	N	05/30/2004	A7-268	52,080	210	18321	35	P	DMS
06/05/2003	2224/43-68	118242/147403	N	05/30/2004	A7-268	52,080	235	18346	35	P	DMS
06/06/2003	2224/43-68	118242/147403	N	05/30/2004	A7-268	52,080	240	18549	35	P	DMS
06/09/2003	2224/43-68	118242/147403	N	05/30/2004	A7-268	52,080	232	18241	35	P	DMS
06/10/2003	2224/43-68	118242/147403	N	05/30/2004	A7-268	52,080	236	18441	35	P	DMS
06/11/2003	2224/43-68	118242/147403	N	05/30/2004	A7-268	52,080	234	18474	35	P	DMS
06/12/2003	2224/43-68	118242/147403	N	05/30/2004	A7-268	52,080	235	18272	35	P	DMS
06/16/2003	2224/43-68	118242/147403	N	05/30/2004	A7-268	52,080	231	18123	34	P	DMS
06/17/2003	2224/43-68	118242/147403	N	05/30/2004	A7-268	52,080	230	18172	34	P	DMS
06/18/2003	2224/43-68	118242/147403	N	05/30/2004	A7-268	52,080	220	18119	34	P	RLF
06/19/2003	2224/43-68	118242/147403	N	05/30/2004	A7-268	52,080	210	18071	34	P	RLF
06/20/2003	2224/43-68	118242/147403	N	05/30/2004	A7-268	52,080	224	17910	34	P	RLF
06/23/2003	2224/43-68	118242/147403	N	05/30/2004	A7-268	52,080	230	17983	34	P	RLF
06/24/2003	2224/43-68	118242/147403	N	05/30/2004	A7-268	52,080	200	17962	34	P	RLF
06/25/2003	2224/43-68	118242/147403	N	05/30/2004	A7-268	52,080	210	17973	34	P	RLF
06/26/2003	2224/43-68	118242/147403	N	05/30/2004	A7-268	52,080	240	18001	34	P	RLF
06/27/2003	2224/43-68	118242/147403	N	05/30/2004	A7-268	52,080	235	18036	34	P	RLF
06/30/2003	2224/43-68	118242/147403	N	05/30/2004	A7-268	52,080	242	17905	34	P	RLF
07/01/2003	2224/43-68	118242/147403	N	05/30/2004	A7-268	52,080	221	17832	34	P	RLF
07/02/2003	2224/43-68	118242/147403	N	05/30/2004	A7-268	52,080	228	17868	34	P	RLF
07/03/2003	2224/43-68	118242/147403	N	05/30/2004	A7-268	52,080	229	17953	34	P	RLF
07/07/2003	2224/43-68	118242/147403	N	05/30/2004	A7-268	52,080	231	17835	34	P	RLF
07/08/2003	2224/43-68	118242/147403	N	05/30/2004	A7-268	52,080	203	17891	34	P	RLF
07/09/2003	2224/43-68	118242/147403	N	05/30/2004	A7-268	52,080	218	17822	34	P	RLF
07/10/2003	2224/43-68	118242/147403	N	05/30/2004	A7-268	52,080	223	17982	34	P	RLF
07/11/2003	2224/43-68	118242/147403	N	05/30/2004	A7-268	52,080	227	17837	34	P	RLF
07/14/2003	2224/43-68	118242/147403	N	05/30/2004	A7-268	52,080	285	18024	34	P	RLF
07/15/2003	2224/43-68	118242/147403	N	05/30/2004	A7-268	52,080	241	17853	34	P	RLF
07/16/2003	2224/43-68	118242/147403	N	05/30/2004	A7-268	52,080	209	17884	34	P	RLF
07/17/2003	2224/43-68	118242/147403	N	05/30/2004	A7-268	52,080	218	18021	34	P	RLF

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DATE	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	CAL. DUE DATE	SOURCE I.D Tc-99	SOURCE ACTIVITY (Betas/Min)	BACKGROUND CPM	READING CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.
06/03/2003	2224/43-37	118242/148504	N	05/30/2004	A7-268	52,080	450	19562	37	P	DMS
06/04/2003	2224/43-37	118242/148504	N	05/30/2004	A7-268	52,080	460	19383	36	P	DMS
06/05/2003	2224/43-37	118242/148504	N	05/30/2004	A7-268	52,080	480	19445	36	P	DMS
06/06/2003	2224/43-37	118242/148504	N	05/30/2004	A7-268	52,080	490	19414	36	P	DMS
06/09/2003	2224/43-37	118242/148504	N	05/30/2004	A7-268	52,080	460	19483	37	P	DMS
06/10/2003	2224/43-37	118242/148504	N	05/30/2004	A7-268	52,080	490	19406	36	P	DMS
06/11/2003	2224/43-37	118242/148504	N	05/30/2004	A7-268	52,080	520	19357	36	P	DMS
06/12/2003	2224/43-37	118242/148504	N	05/30/2004	A7-268	52,080	520	19239	36	P	DMS
06/16/2003	2224/43-37	118242/148504	N	05/30/2004	A7-268	52,080	500	19435	36	P	DMS
06/17/2003	2224/43-37	118242/148504	N	05/30/2004	A7-268	52,080	510	19570	37	P	DMS
06/18/2003	2224/43-37	118242/148504	N	05/30/2004	A7-268	52,080	480	19493	37	P	RLF
06/19/2003	2224/43-37	118242/148504	N	05/30/2004	A7-268	52,080	490	19578	37	P	RLF
06/20/2003	2224/43-37	118242/148504	N	05/30/2004	A7-268	52,080	500	19433	36	P	RLF
06/23/2003	2224/43-37	118242/148504	N	05/30/2004	A7-268	52,080	510	19417	36	P	RLF
06/24/2003	2224/43-37	118242/148504	N	05/30/2004	A7-268	52,080	520	19380	36	P	RLF
06/25/2003	2224/43-37	118242/148504	N	05/30/2004	A7-268	52,080	480	19423	36	P	RLF
06/26/2003	2224/43-37	118242/148504	N	05/30/2004	A7-268	52,080	490	19556	37	P	RLF
06/27/2003	2224/43-37	118242/148504	N	05/30/2004	A7-268	52,080	460	19459	36	P	RLF
06/30/2003	2224/43-37	118242/148504	N	05/30/2004	A7-268	52,080	480	19462	36	P	RLF
07/01/2003	2224/43-37	118242/148504	N	05/30/2004	A7-268	52,080	490	19463	36	P	RLF
07/02/2003	2224/43-37	118242/148504	N	05/30/2004	A7-268	52,080	480	19506	37	P	RLF
07/03/2003	2224/43-37	118242/148504	N	05/30/2004	A7-268	52,080	490	19580	37	P	RLF
07/07/2003	2224/43-37	118242/148504	N	05/30/2004	A7-268	52,080	480	19507	37	P	RLF
07/08/2003	2224/43-37	118242/148504	N	05/30/2004	A7-268	52,080	450	19358	36	P	RLF
07/09/2003	2224/43-37	118242/148504	N	05/30/2004	A7-268	52,080	460	19401	36	P	RLF
07/10/2003	2224/43-37	118242/148504	N	05/30/2004	A7-268	52,080	480	19433	36	P	RLF
07/11/2003	2224/43-37	118242/148504	N	05/30/2004	A7-268	52,080	470	19420	36	P	RLF
07/14/2003	2224/43-37	118242/148504	N	05/30/2004	A7-268	52,080	480	19356	36	P	RLF
07/15/2003	2224/43-37	118242/148504	N	05/30/2004	A7-268	52,080	490	19318	36	P	RLF
07/16/2003	2224/43-37	118242/148504	N	05/30/2004	A7-268	52,080	500	19271	36	P	RLF
07/17/2003	2224/43-37	118242/148504	N	05/30/2004	A7-268	52,080	490	19442	36	P	RLF

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DATE	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	CAL. DUE DATE	SOURCE I.D Th-230	SOURCE ACTIVITY (Alphas/Min)	BACKGROUND CPM	READING CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.
06/03/2003	2224/43-68	146713/160688	N	05/30/2004	A7-266	55,100	1	16322	30	P	DMS
06/04/2003	2224/43-68	146713/160688	N	05/30/2004	A7-266	55,100	0	16571	30	P	DMS
06/05/2003	2224/43-68	146713/160688	N	05/30/2004	A7-266	55,100	1	16441	30	P	DMS
06/06/2003	2224/43-68	146713/160688	N	05/30/2004	A7-266	55,100	1	16170	29	P	DMS
06/09/2003	2224/43-68	146713/160688	N	05/30/2004	A7-266	55,100	2	16234	29	P	DMS
06/10/2003	2224/43-68	146713/160688	N	05/30/2004	A7-266	55,100	1	15881	29	P	DMS
06/11/2003	2224/43-68	146713/160688	N	05/30/2004	A7-266	55,100	0	16126	29	P	DMS
06/12/2003	2224/43-68	146713/160688	N	05/30/2004	A7-266	55,100	2	16357	30	P	DMS
06/16/2003	2224/43-68	146713/160688	N	05/30/2004	A7-266	55,100	1	16479	30	P	DMS
06/17/2003	2224/43-68	146713/160688	N	05/30/2004	A7-266	55,100	2	16368	30	P	DMS
06/18/2003	2224/43-68	146713/160688	N	05/30/2004	A7-266	55,100	3	16469	30	P	RLF
06/19/2003	2224/43-68	146713/160688	N	05/30/2004	A7-266	55,100	1	16427	30	P	RLF
06/20/2003	2224/43-68	146713/160688	N	05/30/2004	A7-266	55,100	2	16418	30	P	RLF
06/23/2003	2224/43-68	146713/160688	N	05/30/2004	A7-266	55,100	3	16386	30	P	RLF
06/24/2003	2224/43-68	146713/160688	N	05/30/2004	A7-266	55,100	1	16379	30	P	RLF
06/25/2003	2224/43-68	146713/160688	N	05/30/2004	A7-266	55,100	2	16507	30	P	RLF
06/26/2003	2224/43-68	146713/160688	N	05/30/2004	A7-266	55,100	3	16351	30	P	RLF
06/27/2003	2224/43-68	146713/160688	N	05/30/2004	A7-266	55,100	0	16425	30	P	RLF
06/30/2003	2224/43-68	146713/160688	N	05/30/2004	A7-266	55,100	1	16332	30	P	RLF
07/01/2003	2224/43-68	146713/160688	N	05/30/2004	A7-266	55,100	2	16380	30	P	RLF
07/02/2003	2224/43-68	146713/160688	N	05/30/2004	A7-266	55,100	1	16374	30	P	RLF
07/03/2003	2224/43-68	146713/160688	N	05/30/2004	A7-266	55,100	1	16406	30	P	RLF
07/07/2003	2224/43-68	146713/160688	N	05/30/2004	A7-266	55,100	2	16476	30	P	RLF
07/08/2003	2224/43-68	146713/160688	N	05/30/2004	A7-266	55,100	2	16503	30	P	RLF
07/09/2003	2224/43-68	146713/160688	N	05/30/2004	A7-266	55,100	1	16348	30	P	RLF
07/10/2003	2224/43-68	146713/160688	N	05/30/2004	A7-266	55,100	2	16373	30	P	RLF
07/11/2003	2224/43-68	146713/160688	N	05/30/2004	A7-266	55,100	1	16375	30	P	RLF
07/14/2003	2224/43-68	146713/160688	N	05/30/2004	A7-266	55,100	2	16329	30	P	RLF
07/15/2003	2224/43-68	146713/160688	N	05/30/2004	A7-266	55,100	2	16342	30	P	RLF
07/16/2003	2224/43-68	146713/160688	N	05/30/2004	A7-266	55,100	1	16412	30	P	RLF
07/17/2003	2224/43-68	146713/160688	N	05/30/2004	A7-266	55,100	1	16381	30	P	RLF

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DATE	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	CAL. DUE DATE	SOURCE I.D Th-230	SOURCE ACTIVITY (Alphas/Min)	BACKGROUND CPM	READING CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.
06/03/2003	2224/43-37	146713/147964	N	05/30/2004	A7-266	55,100	5	15162	28	P	DMS
06/04/2003	2224/43-37	146713/147964	N	05/30/2004	A7-266	55,100	4	15085	27	P	DMS
06/05/2003	2224/43-37	146713/147964	N	05/30/2004	A7-266	55,100	3	15110	27	P	DMS
06/06/2003	2224/43-37	146713/147964	N	05/30/2004	A7-266	55,100	5	15166	28	P	DMS
06/09/2003	2224/43-37	146713/147964	N	05/30/2004	A7-266	55,100	6	15123	27	P	DMS
06/10/2003	2224/43-37	146713/147964	N	05/30/2004	A7-266	55,100	4	15049	27	P	DMS
06/11/2003	2224/43-37	146713/147964	N	05/30/2004	A7-266	55,100	5	15028	27	P	DMS
06/12/2003	2224/43-37	146713/147964	N	05/30/2004	A7-266	55,100	4	15105	27	P	DMS
06/16/2003	2224/43-37	146713/147964	N	05/30/2004	A7-266	55,100	3	15204	28	P	DMS
06/17/2003	2224/43-37	146713/147964	N	05/30/2004	A7-266	55,100	6	15070	27	P	DMS
06/18/2003	2224/43-37	146713/147964	N	05/30/2004	A7-266	55,100	3	15144	27	P	RLF
06/19/2003	2224/43-37	146713/147964	N	05/30/2004	A7-266	55,100	4	15300	28	P	RLF
06/20/2003	2224/43-37	146713/147964	N	05/30/2004	A7-266	55,100	5	15184	28	P	RLF
06/23/2003	2224/43-37	146713/147964	N	05/30/2004	A7-266	55,100	4	15213	28	P	RLF
06/24/2003	2224/43-37	146713/147964	N	05/30/2004	A7-266	55,100	6	15096	27	P	RLF
06/25/2003	2224/43-37	146713/147964	N	05/30/2004	A7-266	55,100	3	15141	27	P	RLF
06/26/2003	2224/43-37	146713/147964	N	05/30/2004	A7-266	55,100	4	15076	27	P	RLF
06/27/2003	2224/43-37	146713/147964	N	05/30/2004	A7-266	55,100	3	15093	27	P	RLF
06/30/2003	2224/43-37	146713/147964	N	05/30/2004	A7-266	55,100	5	15064	27	P	RLF
07/01/2003	2224/43-37	146713/147964	N	05/30/2004	A7-266	55,100	5	15224	28	P	RLF
07/02/2003	2224/43-37	146713/147964	N	05/30/2004	A7-266	55,100	4	15058	27	P	RLF
07/03/2003	2224/43-37	146713/147964	N	05/30/2004	A7-266	55,100	5	15191	28	P	RLF
07/07/2003	2224/43-37	146713/147964	N	05/30/2004	A7-266	55,100	3	15169	28	P	RLF
07/08/2003	2224/43-37	146713/147964	N	05/30/2004	A7-266	55,100	5	15202	28	P	RLF
07/09/2003	2224/43-37	146713/147964	N	05/30/2004	A7-266	55,100	6	15268	28	P	RLF
07/10/2003	2224/43-37	146713/147964	N	05/30/2004	A7-266	55,100	4	15042	27	P	RLF
07/11/2003	2224/43-37	146713/147964	N	05/30/2004	A7-266	55,100	5	15165	28	P	RLF
07/14/2003	2224/43-37	146713/147964	N	05/30/2004	A7-266	55,100	4	15034	27	P	RLF
07/15/2003	2224/43-37	146713/147964	N	05/30/2004	A7-266	55,100	3	15220	28	P	RLF
07/16/2003	2224/43-37	146713/147964	N	05/30/2004	A7-266	55,100	5	15228	28	P	RLF
07/17/2003	2224/43-37	146713/147964	N	05/30/2004	A7-266	55,100	4	15100	27	P	RLF

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DATE	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	CAL. DUE DATE	SOURCE I.D Th-230	SOURCE ACTIVITY (Alphas/Min)	BACKGROUND CPM	READING CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.
06/03/2003	2224/43-68	118242/147403	N	05/30/2004	A7-266	55,100	2	16214	29	P	DMS
06/04/2003	2224/43-68	118242/147403	N	05/30/2004	A7-266	55,100	1	16345	30	P	DMS
06/05/2003	2224/43-68	118242/147403	N	05/30/2004	A7-266	55,100	1	16301	30	P	DMS
06/06/2003	2224/43-68	118242/147403	N	05/30/2004	A7-266	55,100	1	16029	29	P	DMS
06/09/2003	2224/43-68	118242/147403	N	05/30/2004	A7-266	55,100	2	16231	29	P	DMS
06/10/2003	2224/43-68	118242/147403	N	05/30/2004	A7-266	55,100	2	16046	29	P	DMS
06/11/2003	2224/43-68	118242/147403	N	05/30/2004	A7-266	55,100	2	15971	29	P	DMS
06/12/2003	2224/43-68	118242/147403	N	05/30/2004	A7-266	55,100	1	16011	29	P	DMS
06/16/2003	2224/43-68	118242/147403	N	05/30/2004	A7-266	55,100	2	16222	29	P	DMS
06/17/2003	2224/43-68	118242/147403	N	05/30/2004	A7-266	55,100	2	15833	29	P	DMS
06/18/2003	2224/43-68	118242/147403	N	05/30/2004	A7-266	55,100	3	16341	30	P	RLF
06/19/2003	2224/43-68	118242/147403	N	05/30/2004	A7-266	55,100	2	16381	30	P	RLF
06/20/2003	2224/43-68	118242/147403	N	05/30/2004	A7-266	55,100	1	16274	30	P	RLF
06/23/2003	2224/43-68	118242/147403	N	05/30/2004	A7-266	55,100	1	16266	30	P	RLF
06/24/2003	2224/43-68	118242/147403	N	05/30/2004	A7-266	55,100	0	16267	30	P	RLF
06/25/2003	2224/43-68	118242/147403	N	05/30/2004	A7-266	55,100	2	16333	30	P	RLF
06/26/2003	2224/43-68	118242/147403	N	05/30/2004	A7-266	55,100	1	16326	30	P	RLF
06/27/2003	2224/43-68	118242/147403	N	05/30/2004	A7-266	55,100	2	16272	30	P	RLF
06/30/2003	2224/43-68	118242/147403	N	05/30/2004	A7-266	55,100	3	16398	30	P	RLF
07/01/2003	2224/43-68	118242/147403	N	05/30/2004	A7-266	55,100	1	16334	30	P	RLF
07/02/2003	2224/43-68	118242/147403	N	05/30/2004	A7-266	55,100	2	16275	30	P	RLF
07/03/2003	2224/43-68	118242/147403	N	05/30/2004	A7-266	55,100	2	16273	30	P	RLF
07/07/2003	2224/43-68	118242/147403	N	05/30/2004	A7-266	55,100	2	16329	30	P	RLF
07/08/2003	2224/43-68	118242/147403	N	05/30/2004	A7-266	55,100	3	16378	30	P	RLF
07/09/2003	2224/43-68	118242/147403	N	05/30/2004	A7-266	55,100	2	16305	30	P	RLF
07/10/2003	2224/43-68	118242/147403	N	05/30/2004	A7-266	55,100	2	16263	30	P	RLF
07/11/2003	2224/43-68	118242/147403	N	05/30/2004	A7-266	55,100	0	16269	30	P	RLF
07/14/2003	2224/43-68	118242/147403	N	05/30/2004	A7-266	55,100	1	16270	30	P	RLF
07/15/2003	2224/43-68	118242/147403	N	05/30/2004	A7-266	55,100	2	16303	30	P	RLF
07/16/2003	2224/43-68	118242/147403	N	05/30/2004	A7-266	55,100	3	16413	30	P	RLF
07/17/2003	2224/43-68	118242/147403	N	05/30/2004	A7-266	55,100	2	16294	30	P	RLF

DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project: Bethesda NNMC

DATE	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	CAL. DUE DATE	SOURCE I.D Th-230	SOURCE ACTIVITY (Alphas/Min)	BACKGROUND CPM	READING CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.
06/03/2003	2224/43-37	118242/148504	N	05/30/2004	A7-266	55,100	4	17253	31	P	DMS
06/04/2003	2224/43-37	118242/148504	N	05/30/2004	A7-266	55,100	3	16994	31	P	DMS
06/05/2003	2224/43-37	118242/148504	N	05/30/2004	A7-266	55,100	4	16940	31	P	DMS
06/06/2003	2224/43-37	118242/148504	N	05/30/2004	A7-266	55,100	5	17018	31	P	DMS
06/09/2003	2224/43-37	118242/148504	N	05/30/2004	A7-266	55,100	3	16936	31	P	DMS
06/10/2003	2224/43-37	118242/148504	N	05/30/2004	A7-266	55,100	4	16885	31	P	DMS
06/11/2003	2224/43-37	118242/148504	N	05/30/2004	A7-266	55,100	5	16939	31	P	DMS
06/12/2003	2224/43-37	118242/148504	N	05/30/2004	A7-266	55,100	3	16894	31	P	DMS
06/16/2003	2224/43-37	118242/148504	N	05/30/2004	A7-266	55,100	6	16920	31	P	DMS
06/17/2003	2224/43-37	118242/148504	N	05/30/2004	A7-266	55,100	4	17006	31	P	DMS
06/18/2003	2224/43-37	118242/148504	N	05/30/2004	A7-266	55,100	4	17068	31	P	RLF
06/19/2003	2224/43-37	118242/148504	N	05/30/2004	A7-266	55,100	5	17102	31	P	RLF
06/20/2003	2224/43-37	118242/148504	N	05/30/2004	A7-266	55,100	3	16951	31	P	RLF
06/23/2003	2224/43-37	118242/148504	N	05/30/2004	A7-266	55,100	2	16977	31	P	RLF
06/24/2003	2224/43-37	118242/148504	N	05/30/2004	A7-266	55,100	4	16843	31	P	RLF
06/25/2003	2224/43-37	118242/148504	N	05/30/2004	A7-266	55,100	5	16992	31	P	RLF
06/26/2003	2224/43-37	118242/148504	N	05/30/2004	A7-266	55,100	5	16942	31	P	RLF
06/27/2003	2224/43-37	118242/148504	N	05/30/2004	A7-266	55,100	6	16861	31	P	RLF
06/30/2003	2224/43-37	118242/148504	N	05/30/2004	A7-266	55,100	4	17098	31	P	RLF
07/01/2003	2224/43-37	118242/148504	N	05/30/2004	A7-266	55,100	3	17002	31	P	RLF
07/02/2003	2224/43-37	118242/148504	N	05/30/2004	A7-266	55,100	4	17032	31	P	RLF
07/03/2003	2224/43-37	118242/148504	N	05/30/2004	A7-266	55,100	4	16842	31	P	RLF
07/07/2003	2224/43-37	118242/148504	N	05/30/2004	A7-266	55,100	5	16929	31	P	RLF
07/08/2003	2224/43-37	118242/148504	N	05/30/2004	A7-266	55,100	5	17069	31	P	RLF
07/09/2003	2224/43-37	118242/148504	N	05/30/2004	A7-266	55,100	3	17013	31	P	RLF
07/10/2003	2224/43-37	118242/148504	N	05/30/2004	A7-266	55,100	4	16996	31	P	RLF
07/11/2003	2224/43-37	118242/148504	N	05/30/2004	A7-266	55,100	3	17096	31	P	RLF
07/14/2003	2224/43-37	118242/148504	N	05/30/2004	A7-266	55,100	4	17090	31	P	RLF
07/15/2003	2224/43-37	118242/148504	N	05/30/2004	A7-266	55,100	4	16939	31	P	RLF
07/16/2003	2224/43-37	118242/148504	N	05/30/2004	A7-266	55,100	3	16950	31	P	RLF
07/17/2003	2224/43-37	118242/148504	N	05/30/2004	A7-266	55,100	5	16854	31	P	RLF

DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project: Bethesda NNMC

DATE	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	CAL. DUE DATE	SOURCE I.D Co-60	SOURCE ACTIVITY	BACKGROUND CPM	READING CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.
06/03/2003	2350-1/44-10	142489/168673	N	03/19/2004	971-154-1	11.37 µCi	300	12000	N/A	P	DMS
06/04/2003	2350-1/44-10	142489/168673	N	03/19/2004	971-154-1	11.37 µCi	280	12000	N/A	P	DMS
06/05/2003	2350-1/44-10	142489/168673	N	03/19/2004	971-154-1	11.37 µCi	250	12000	N/A	P	DMS
06/06/2003	2350-1/44-10	142489/168673	N	03/19/2004	971-154-1	11.37 µCi	260	12000	N/A	P	DMS
06/09/2003	2350-1/44-10	142489/168673	N	03/19/2004	971-154-1	11.37 µCi	290	12000	N/A	P	DMS
06/10/2003	2350-1/44-10	142489/168673	N	03/19/2004	971-154-1	11.37 µCi	300	12000	N/A	P	DMS
06/11/2003	2350-1/44-10	142489/168673	N	03/19/2004	971-154-1	11.37 µCi	260	12000	N/A	P	DMS
06/12/2003	2350-1/44-10	142489/168673	N	03/19/2004	971-154-1	11.37 µCi	250	12000	N/A	P	DMS
06/16/2003	2350-1/44-10	142489/168673	N	03/19/2004	971-154-1	11.37 µCi	260	12000	N/A	P	DMS
06/17/2003	2350-1/44-10	142489/168673	N	03/19/2004	971-154-1	11.37 µCi	250	12000	N/A	P	DMS
06/18/2003	2350-1/44-10	142489/168673	N	03/19/2004	971-154-1	11.37 µCi	250	12000	N/A	P	RLF
06/19/2003	2350-1/44-10	142489/168673	N	03/19/2004	971-154-1	11.37 µCi	250	12000	N/A	P	RLF
06/20/2003	2350-1/44-10	142489/168673	N	03/19/2004	971-154-1	11.37 µCi	290	12000	N/A	P	RLF
06/23/2003	2350-1/44-10	142489/168673	N	03/19/2004	971-154-1	11.37 µCi	310	12000	N/A	P	RLF
06/24/2003	2350-1/44-10	142489/168673	N	03/19/2004	971-154-1	11.37 µCi	250	12000	N/A	P	RLF
06/25/2003	2350-1/44-10	142489/168673	N	03/19/2004	971-154-1	11.37 µCi	250	12000	N/A	P	RLF
06/26/2003	2350-1/44-10	142489/168673	N	03/19/2004	971-154-1	11.37 µCi	280	12000	N/A	P	RLF
06/27/2003	2350-1/44-10	142489/168673	N	03/19/2004	971-154-1	11.37 µCi	250	12000	N/A	P	RLF
06/30/2003	2350-1/44-10	142489/168673	N	03/19/2004	971-154-1	11.37 µCi	280	12000	N/A	P	RLF
07/01/2003	2350-1/44-10	142489/168673	N	03/19/2004	971-154-1	11.37 µCi	250	12000	N/A	P	RLF
07/02/2003	2350-1/44-10	142489/168673	N	03/19/2004	971-154-1	11.37 µCi	260	12000	N/A	P	RLF
07/03/2003	2350-1/44-10	142489/168673	N	03/19/2004	971-154-1	11.37 µCi	250	12000	N/A	P	RLF
07/07/2003	2350-1/44-10	142489/168673	N	03/19/2004	971-154-1	11.37 µCi	270	12000	N/A	P	RLF
07/08/2003	2350-1/44-10	142489/168673	N	03/19/2004	971-154-1	11.37 µCi	250	12000	N/A	P	RLF
07/09/2003	2350-1/44-10	142489/168673	N	03/19/2004	971-154-1	11.37 µCi	250	12000	N/A	P	RLF
07/10/2003	2350-1/44-10	142489/168673	N	03/19/2004	971-154-1	11.37 µCi	300	12000	N/A	P	RLF
07/11/2003	2350-1/44-10	142489/168673	N	03/19/2004	971-154-1	11.37 µCi	310	12000	N/A	P	RLF
07/14/2003	2350-1/44-10	142489/168673	N	03/19/2004	971-154-1	11.37 µCi	250	12000	N/A	P	RLF
07/15/2003	2350-1/44-10	142489/168673	N	03/19/2004	971-154-1	11.37 µCi	280	12000	N/A	P	RLF
07/16/2003	2350-1/44-10	142489/168673	N	03/19/2004	971-154-1	11.37 µCi	250	12000	N/A	P	RLF
07/17/2003	2350-1/44-10	142489/168673	N	03/19/2004	971-154-1	11.37 µCi	260	12000	N/A	P	RLF

DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project: Bethesda NNMC

DATE	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	CAL. DUE DATE	SOURCE I.D Co-60	SOURCE ACTIVITY	BACKGROUND CPM	READING CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.
06/03/2003	2350-1/44-10	95337/170810	N	03/19/2004	971-154-1	11.37 µCi	290	12000	N/A	P	DMS
06/04/2003	2350-1/44-10	95337/170810	N	03/19/2004	971-154-1	11.37 µCi	280	12000	N/A	P	DMS
06/05/2003	2350-1/44-10	95337/170810	N	03/19/2004	971-154-1	11.37 µCi	300	12000	N/A	P	DMS
06/06/2003	2350-1/44-10	95337/170810	N	03/19/2004	971-154-1	11.37 µCi	260	12000	N/A	P	DMS
06/09/2003	2350-1/44-10	95337/170810	N	03/19/2004	971-154-1	11.37 µCi	280	12000	N/A	P	DMS
06/10/2003	2350-1/44-10	95337/170810	N	03/19/2004	971-154-1	11.37 µCi	250	12000	N/A	P	DMS
06/11/2003	2350-1/44-10	95337/170810	N	03/19/2004	971-154-1	11.37 µCi	260	12000	N/A	P	DMS
06/12/2003	2350-1/44-10	95337/170810	N	03/19/2004	971-154-1	11.37 µCi	280	12000	N/A	P	DMS
06/16/2003	2350-1/44-10	95337/170810	N	03/19/2004	971-154-1	11.37 µCi	250	12000	N/A	P	DMS
06/17/2003	2350-1/44-10	95337/170810	N	03/19/2004	971-154-1	11.37 µCi	260	12000	N/A	P	DMS
06/18/2003	2350-1/44-10	95337/170810	N	03/19/2004	971-154-1	11.37 µCi	280	12000	N/A	P	RLF
06/19/2003	2350-1/44-10	95337/170810	N	03/19/2004	971-154-1	11.37 µCi	280	12000	N/A	P	RLF
06/20/2003	2350-1/44-10	95337/170810	N	03/19/2004	971-154-1	11.37 µCi	250	12000	N/A	P	RLF
06/23/2003	2350-1/44-10	95337/170810	N	03/19/2004	971-154-1	11.37 µCi	280	12000	N/A	P	RLF
06/24/2003	2350-1/44-10	95337/170810	N	03/19/2004	971-154-1	11.37 µCi	280	12000	N/A	P	RLF
06/25/2003	2350-1/44-10	95337/170810	N	03/19/2004	971-154-1	11.37 µCi	260	12000	N/A	P	RLF
06/26/2003	2350-1/44-10	95337/170810	N	03/19/2004	971-154-1	11.37 µCi	280	12000	N/A	P	RLF
06/27/2003	2350-1/44-10	95337/170810	N	03/19/2004	971-154-1	11.37 µCi	300	12000	N/A	P	RLF
06/30/2003	2350-1/44-10	95337/170810	N	03/19/2004	971-154-1	11.37 µCi	280	12000	N/A	P	RLF
07/01/2003	2350-1/44-10	95337/170810	N	03/19/2004	971-154-1	11.37 µCi	280	12000	N/A	P	RLF
07/02/2003	2350-1/44-10	95337/170810	N	03/19/2004	971-154-1	11.37 µCi	260	12000	N/A	P	RLF
07/03/2003	2350-1/44-10	95337/170810	N	03/19/2004	971-154-1	11.37 µCi	280	12000	N/A	P	RLF
07/07/2003	2350-1/44-10	95337/170810	N	03/19/2004	971-154-1	11.37 µCi	250	12000	N/A	P	RLF
07/08/2003	2350-1/44-10	95337/170810	N	03/19/2004	971-154-1	11.37 µCi	280	12000	N/A	P	RLF
07/09/2003	2350-1/44-10	95337/170810	N	03/19/2004	971-154-1	11.37 µCi	270	12000	N/A	P	RLF
07/10/2003	2350-1/44-10	95337/170810	N	03/19/2004	971-154-1	11.37 µCi	280	12000	N/A	P	RLF
07/11/2003	2350-1/44-10	95337/170810	N	03/19/2004	971-154-1	11.37 µCi	250	12000	N/A	P	RLF
07/14/2003	2350-1/44-10	95337/170810	N	03/19/2004	971-154-1	11.37 µCi	260	12000	N/A	P	RLF
07/15/2003	2350-1/44-10	95337/170810	N	03/19/2004	971-154-1	11.37 µCi	260	12000	N/A	P	RLF
07/16/2003	2350-1/44-10	95337/170810	N	03/19/2004	971-154-1	11.37 µCi	260	12000	N/A	P	RLF
07/17/2003	2350-1/44-10	95337/170810	N	03/19/2004	971-154-1	11.37 µCi	280	12000	N/A	P	RLF

Appendix BB

Building 150 Beta Direct Measurement Data

Elevator Shaft Room

Summary Data

Instrument Model	Model Serial No.	Instrument Detector	Probe Serial No.	Calibration Source	Instrument Efficiency (ε_i)	Surface Efficiency (ε_s)	Total Efficiency (ε_t)	Radionuclides of Concern	Static MDC	Gross DCGL	Data Points Required	Data Points Taken	Stat. Test
Ludlum 2224	118242	Gas Proportional 43-68	PR147403	Tc-99	0.34	0.25	0.09	Co-60	682	7100	16	30	Sign

Beta Measurement - Model # 118242 / Probe # PR147403

Beta Measurement Efficiencies - Model # 118242 / Probe # PR147403

Calibration Source Information			
Calibration Source	**Tc-99**		
Source Backing	SS		
Reference Date	R_{date}	09/01/2002	
Half-Life	$T_{1/2}$	2.13E+05	y
Contained Activity	A_o	43.44	nCi
Contained Activity Decay Corrected	A	43.44	nCi
Source Area	S_A	100	cm^2
Surface Emission Rate (2Π)	$q2\Pi_o$	52080	betas/min
Surface Emission Rate (2Π) - Decay Corrected	q2Π	52080	betas/min
Probe Characteristics			
Probe No.		PR147403	
Probe Area (Active)	W_A	126	cm^2
Probe Area (Open)	W_O	100	cm^2
Conversion Factors			
dpm per nanocurie		2.22E+03	dpm/nCi
Instrument Response - Fixed			
Measurement Counts	C_{S+B}	18115	c
Measurement Time	T_{S+B}	1	min
Gross Count Rate of the Measurement	R_{S+B}	18115	c/m
Background Counts	C_B	207	c
Background Time	T_B	1	min
Gross Count Rate of the Background	R_B	207.2	c/m
Instrument Response - Scan			
Background Counts In Observation Interval	B_i	7.75222222	c
Scan Interval Time	T_{SI}	2	s
Instrument Efficiency (e_i)			
(RS+B - Rb) / (q2P)	ε_i	0.34	c/beta
Surface Efficiency (e_s)			
ISO-7503	ε_s	0.25	beta/d
Total Efficiency (e_T)			
(ε_i * ε_s)	ε_T	**0.09**	c/d

Beta Efficiency Data - Model # 118242 / Probe # PR147403

Field Calibration using NIST traceable Tc-99 source.

Source Measuremets (Tc-99)

Count No.	C_{S+B}	T_{S+B}
1	18224	1
2	18055	1
3	18089	1
4	18109	1
5	18173	1
6	18036	1
7	18368	1
8	18067	1
9	18102	1
10	18015	1
11	18040	1
12	18167	1
13	17851	1
14	17949	1
15	18132	1
16	18159	1
17	18255	1
18	18190	1
19	18223	1
20	18105	1
mean	**18115**	
std dev	**114**	

Background Measurements

Count No.	C_B	T_B
1	205	1
2	209	1
3	214	1
4	204	1
5	209	1
6	208	1
7	204	1
8	205	1
9	202	1
10	212	1
mean	**207**	
std dev	**4**	

Performed by: NWT - Roger Freeman
Date: 6/3/03

Building 150 - Survey Unit Design - Beta Measurements

Plan

Classification:	Class 1	
DCGL Criterion		
Dose	25	mrem/y TEDE
Model	D&D, Ver. 2	Building Occupancy - Default Parameters
Radionuclide of Concern	Co-60	
$DCGL_{(w)}$:	7100	dpm 100 cm^{-2}
Area Factor:	5.5	
$DCGL_{(EMC)}$:	39050	dpm 100 cm^{-2}

Instrumentation

Model:	Ludlum 2224	Cal. Date:	30-May-03	Serial No.	118242
Detector:	Gas Proportional 43-68	Cal. Date:	30-May-03	Serial No.	PR147403

Type Survey:	Fixed				
Detector Efficiency (ε_i):	34.4%	cpm dpm^{-1}			
Surface Efficiency (ε_s):	25.0%	cpm dpm^{-1}			
Surveyor Factor (p):	50.0%				
Probe Area (Active):	126	cm^2			
Scan Interval:	2	s			
d':	3.28				
Static MDC:	**682**	dpm 100 cm^{-2}	50% of $DCGL_{(W)}$	Yes	10%
Scan MDC:	3577	dpm 100 cm^{-2}	50% of $DCGL_{(EMC)}$	Yes	
Scan MDCR:	274	cpm			

Number of Measurements

	Background			Sample	
Counting Time:	1	min	Counting Time:	1	min
Bkgd. Counts:	232.6	counts	Instrument Ambient Background:	200	cpm
Bkgd Sigma:	17.5	counts			
Bkgd Count Rate:	232.6	cpm			
LBGR = ½$DCGL_w$:	1583	dpm 100 cm^{-2}			
Delta = $DCGL_w$ - LBGR:	5517	dpm 100 cm^{-2}			
Calculated Sigma (If Applicalbe):	216				
Delta/Sigma:	25.54				
Type I - α:	0.05		Z1 - α	1.645	
Type II - β:	0.05		Z1 - β	1.645	
P_r (MARSSIM, Table 5.1)	N/A				
Sign P (MARSSIM, Table 5.4)	1				
N	**16**		N - taken	**30**	

Statistics

Test	Sign
H_o	The survey unit mean is equal to or exceeds the $DCGL_{(w)}$
H_a	The survey unit mean is less than the $DCGL_{(w)}$ - survey unit may be released

Reference Area (Beta) Measurements - Bldg. 176 - 118242 / PR147403

Count No.	Type of Surface	Date	Counts C_B	Count Time T_B	cpm	ε_T	dpm
1	C	06/12/2003	228	1	228.0	0.09	2105
2	C	06/12/2003	232	1	232.0	0.09	2142
3	C	06/12/2003	211	1	211.0	0.09	1948
4	C	06/12/2003	280	1	280.0	0.09	2585
5	C	06/12/2003	227	1	227.0	0.09	2096
6	C	06/12/2003	220	1	220.0	0.09	2031
7	C	06/12/2003	219	1	219.0	0.09	2022
8	C	06/12/2003	241	1	241.0	0.09	2225
9	C	06/12/2003	267	1	267.0	0.09	2465
10	C	06/12/2003	235	1	235.0	0.09	2170
11	C	06/12/2003	249	1	249.0	0.09	2299
12	C	06/12/2003	247	1	247.0	0.09	2280
13	C	06/12/2003	215	1	215.0	0.09	1985
14	C	06/12/2003	241	1	241.0	0.09	2225
15	C	06/12/2003	231	1	231.0	0.09	2133
16	C	06/12/2003	231	1	231.0	0.09	2133
17	C	06/12/2003	236	1	236.0	0.09	2179
18	C	06/12/2003	251	1	251.0	0.09	2317
19	C	06/12/2003	226	1	226.0	0.09	2086
20	C	06/12/2003	212	1	212.0	0.09	1957
21	C	06/12/2003	224	1	224.0	0.09	2068
22	C	06/12/2003	245	1	245.0	0.09	2262
23	C	06/12/2003	236	1	236.0	0.09	2179
24	C	06/12/2003	246	1	246.0	0.09	2271
25	C	06/12/2003	215	1	215.0	0.09	1985
26	C	06/12/2003	235	1	235.0	0.09	2170
27	C	06/12/2003	198	1	198.0	0.09	1828
28	C	06/12/2003	237	1	237.0	0.09	2188
29	C	06/12/2003	238	1	238.0	0.09	2197
30	C	06/12/2003	204	1	204.0	0.09	1883
			233	**mean**	**232.57**	**mean**	**2147**
			17.5	**std dev**	**17.47**	**std dev**	**161.3**
			234	**median**	**233.50**	**median**	**2156**

Surface Types:

- D: Drywall
- C: Concrete
- B: Brick
- M: Metal
- CT: Ceramic Tile
- SP: Static Pad
- AT: Asbestos Floor Tile
- W: Wood
- G: Glass

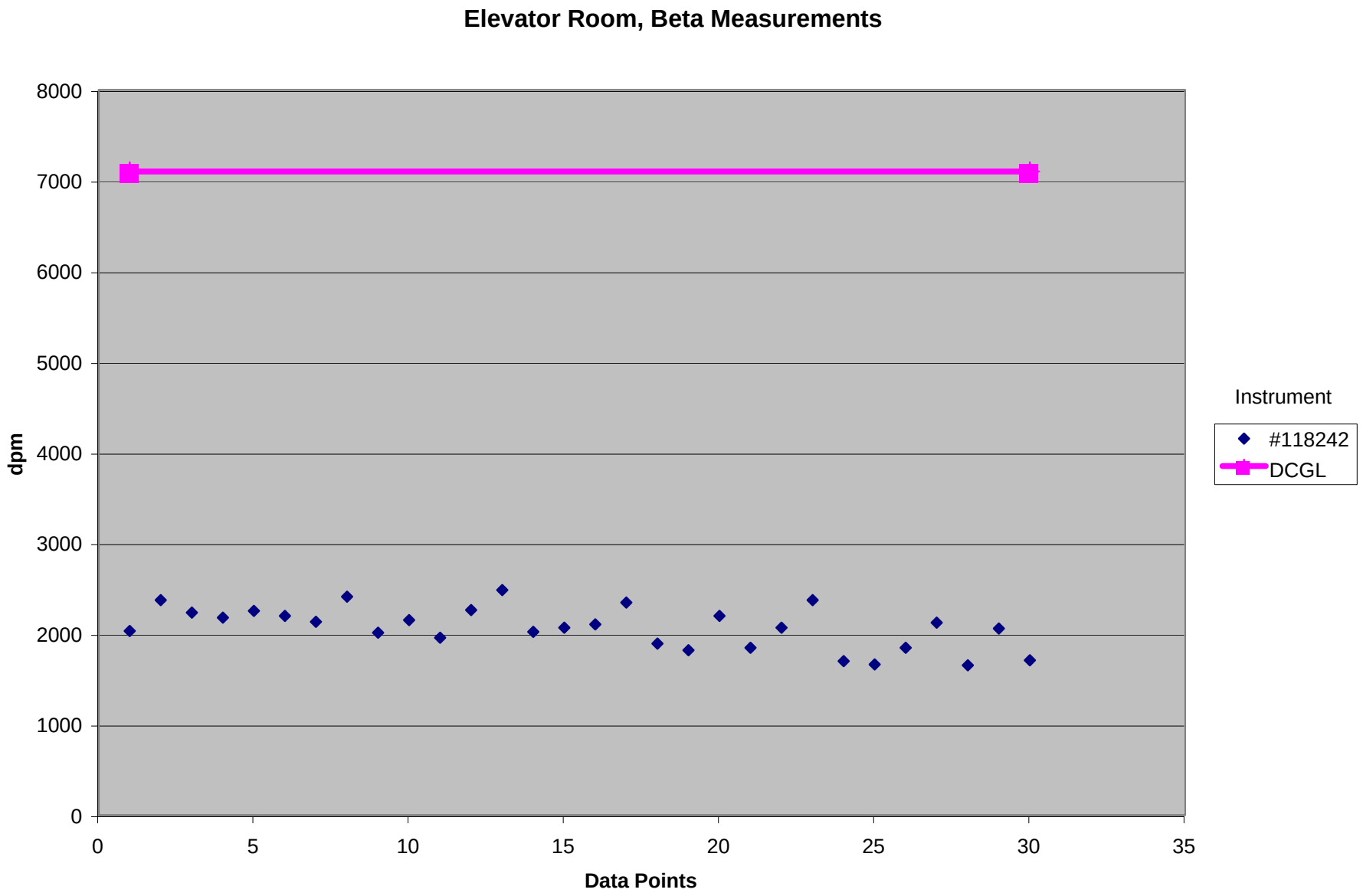
Elevator Room (Beta) Measurements - Bldg. 150 - 118242 / PR147403 & SignTest

Data Point ID#	Type of Surface	Date	Counts C_B	Count Time T_B	cpm	ε_T	dpm	DCGL-dpm	Sign Test Positive Difference
A1	C	06/30/2003	220	1	220.0	0.09	2031	5068.9	1
A2	C	06/30/2003	257	1	257.0	0.09	2373	4727.3	1
A3	C	06/30/2003	242	1	242.0	0.09	2234	4865.8	1
B1	C	06/30/2003	236	1	236.0	0.09	2179	4921.2	1
B2	C	06/30/2003	244	1	244.0	0.09	2253	4847.3	1
B3	C	06/30/2003	238	1	238.0	0.09	2197	4902.7	1
C0	C	06/30/2003	231	1	231.0	0.09	2133	4967.4	1
C1	C	06/30/2003	261	1	261.0	0.09	2410	4690.4	1
C2	C	06/30/2003	218	1	218.0	0.09	2013	5087.4	1
C3	C	06/30/2003	233	1	233.0	0.09	2151	4948.9	1
C4	C	06/30/2003	212	1	212.0	0.09	1957	5142.8	1
C5	C	06/30/2003	245	1	245.0	0.09	2262	4838.1	1
D0	C	06/30/2003	269	1	269.0	0.09	2483	4616.5	1
D1	C	06/30/2003	219	1	219.0	0.09	2022	5078.1	1
D2	C	06/30/2003	224	1	224.0	0.09	2068	5032.0	1
D3	C	06/30/2003	228	1	228.0	0.09	2105	4995.0	1
D4	C	06/30/2003	254	1	254.0	0.09	2345	4755.0	1
D5	C	06/30/2003	205	1	205.0	0.09	1893	5207.4	1
E0	C	06/30/2003	197	1	197.0	0.09	1819	5281.2	1
E1	C	06/30/2003	238	1	238.0	0.09	2197	4902.7	1
E2	C	06/30/2003	200	1	200.0	0.09	1846	5253.6	1
E3	C	06/30/2003	224	1	224.0	0.09	2068	5032.0	1
E4	C	06/30/2003	257	1	257.0	0.09	2373	4727.3	1
E5	C	06/30/2003	184	1	184.0	0.09	1699	5401.3	1
F1	C	06/30/2003	180	1	180.0	0.09	1662	5438.2	1
F2	C	06/30/2003	200	1	200.0	0.09	1846	5253.6	1
F3	C	06/30/2003	230	1	230.0	0.09	2123	4976.6	1
G1	C	06/30/2003	179	1	179.0	0.09	1653	5447.4	1
G2	C	06/30/2003	223	1	223.0	0.09	2059	5041.2	1
G3	C	06/30/2003	185	1	185.0	0.09	1708	5392.0	1
			224	**mean**	**224**	**mean**	**2072**	**N**	**30**
			24.8	**std dev**	**24.8**	**std dev**	**229.3**	**S+**	**30**
			226	**median**	**226**	**median**	**2086**	**Critical Value**	**19**

Reject null hypothesis: The survey unit mean is less than the DCGL(w) - the survey unit may be released

Surface Types:

D: Drywall
C: Concrete
B: Brick
M: Metal
CT: Ceramic Tile
SP: Static Pad
AT: Asbestos Floor Tile
W: Wood
G: Glass


Elevator Room, Beta Measurements
8000
7000
6000
5000
4000
3000
2000
1000
0
dpm
0
5
10
15
20
25
30
35
Data Points
Instrument
#118242
DCGL

Room #1 Floor

Summary Data

Instrument Model	Model Serial No.	Instrument Detector	Probe Serial No.	Calibration Source	Instrument Efficiency (ε_i)	Surface Efficiency (ε_s)	Total Efficiency (ε_t)	Radionuclides of Concern	Static MDC	Gross DCGL	Data Points Required	Data Points Taken	Stat. Test
Ludlum 2224	118242	Gas Proportional 43-68	PR147403	Tc-99	0.34	0.25	0.09	Co-60	682	7100	16	29	Sign

Beta Measurement - Model # 118242 / Probe # PR147403

Beta Measurement Efficiencies - Model # 118242 / Probe # PR147403

Calibration Source Information			
Calibration Source	**Tc-99**		
Source Backing	SS		
Reference Date	R_{date}	09/01/2002	
Half-Life	$T_{1/2}$	2.13E+05	y
Contained Activity	A_o	43.44	nCi
Contained Activity Decay Corrected	A	43.44	nCi
Source Area	S_A	100	cm^2
Surface Emission Rate (2Π)	$q2\Pi_o$	52080	betas/min
Surface Emission Rate (2Π) - Decay Corrected	q2Π	52080	betas/min
Probe Characteristics			
Probe No.		PR147403	
Probe Area (Active)	W_A	126	cm^2
Probe Area (Open)	W_O	100	cm^2
Conversion Factors			
dpm per nanocurie		2.22E+03	dpm/nCi
Instrument Response - Fixed			
Measurement Counts	C_{S+B}	18115	c
Measurement Time	T_{S+B}	1	min
Gross Count Rate of the Measurement	R_{S+B}	18115	c/m
Background Counts	C_B	207	c
Background Time	T_B	1	min
Gross Count Rate of the Background	R_B	207.2	c/m
Instrument Response - Scan			
Background Counts In Observation Interval	B_i	7.75222222	c
Scan Interval Time	T_{SI}	2	s
Instrument Efficiency (e_i)			
(RS+B - Rb) / (q2P)	ε_i	0.34	c/beta
Surface Efficiency (e_s)			
ISO-7503	ε_s	0.25	beta/d
Total Efficiency (e_T)			
(ε_i * ε_s)	ε_T	**0.09**	c/d

Beta Efficiency Data - Model # 118242 / Probe # PR147403

Field Calibration using NIST traceable Tc-99 source.

Source Measuremets (Tc-99)

Count No.	C_{S+B}	T_{S+B}
1	18224	1
2	18055	1
3	18089	1
4	18109	1
5	18173	1
6	18036	1
7	18368	1
8	18067	1
9	18102	1
10	18015	1
11	18040	1
12	18167	1
13	17851	1
14	17949	1
15	18132	1
16	18159	1
17	18255	1
18	18190	1
19	18223	1
20	18105	1
mean	**18115**	
std dev	**114**	

Background Measurements

Count No.	C_B	T_B
1	205	1
2	209	1
3	214	1
4	204	1
5	209	1
6	208	1
7	204	1
8	205	1
9	202	1
10	212	1
mean	**207**	
std dev	**4**	

Performed by: NWT - Roger Freeman
Date: 6/3/03

Building 150 - Survey Unit Design - Beta Measurements

Plan

Classification:	Class 1	
DCGL Criterion		
Dose	25	mrem/y TEDE
Model	D&D, Ver. 2	Building Occupancy - Default Parameters
Radionuclide of Concern	Co-60	
$DCGL_{(w)}$:	7100	dpm 100 cm^{-2}
Area Factor:	5.5	
$DCGL_{(EMC)}$:	39050	dpm 100 cm^{-2}

Instrumentation

Model:	Ludlum 2224	Cal. Date:	30-May-03	Serial No.	118242
Detector:	Gas Proportional 43-68	Cal. Date:	30-May-03	Serial No.	PR147403

Type Survey:	Fixed				
Detector Efficiency (ε_i):	34.4%	cpm dpm^{-1}			
Surface Efficiency (ε_s):	25.0%	cpm dpm^{-1}			
Surveyor Factor (p):	50.0%				
Probe Area (Active):	126	cm^2			
Scan Interval:	2	s			
d':	3.28				
Static MDC:	**682**	dpm 100 cm^{-2}	50% of $DCGL_{(W)}$	Yes	10%
Scan MDC:	3577	dpm 100 cm^{-2}	50% of $DCGL_{(EMC)}$	Yes	
Scan MDCR:	274	cpm			

Number of Measurements

	Background			Sample	
Counting Time:	1	min	Counting Time:	1	min
Bkgd. Counts:	232.6	counts	Instrument Ambient Background:	200	cpm
Bkgd Sigma:	17.5	counts			
Bkgd Count Rate:	232.6	cpm			
LBGR = ½$DCGL_w$:	1583	dpm 100 cm^{-2}			
Delta = $DCGL_w$ - LBGR:	5517	dpm 100 cm^{-2}			
Calculated Sigma (If Applicalbe):	216				
Delta/Sigma:	25.54				
Type I - α:	0.05		Z1 - α	1.645	
Type II - β:	0.05		Z1 - β	1.645	
P_r (MARSSIM, Table 5.1)	N/A				
Sign P (MARSSIM, Table 5.4)	1				
N	**16**		N - taken	**29**	

Statistics

Test	Sign
H_o	The survey unit mean is equal to or exceeds the $DCGL_{(w)}$
H_a	The survey unit mean is less than the $DCGL_{(w)}$ - survey unit may be released

Reference Area (Beta) Measurements - Bldg. 176 - 118242 / PR147403

Count No.	Type of Surface	Date	Counts C_B	Count Time T_B	cpm	ε_T	dpm
1	C	06/12/2003	228	1	228.0	0.09	2105
2	C	06/12/2003	232	1	232.0	0.09	2142
3	C	06/12/2003	211	1	211.0	0.09	1948
4	C	06/12/2003	280	1	280.0	0.09	2585
5	C	06/12/2003	227	1	227.0	0.09	2096
6	C	06/12/2003	220	1	220.0	0.09	2031
7	C	06/12/2003	219	1	219.0	0.09	2022
8	C	06/12/2003	241	1	241.0	0.09	2225
9	C	06/12/2003	267	1	267.0	0.09	2465
10	C	06/12/2003	235	1	235.0	0.09	2170
11	C	06/12/2003	249	1	249.0	0.09	2299
12	C	06/12/2003	247	1	247.0	0.09	2280
13	C	06/12/2003	215	1	215.0	0.09	1985
14	C	06/12/2003	241	1	241.0	0.09	2225
15	C	06/12/2003	231	1	231.0	0.09	2133
16	C	06/12/2003	231	1	231.0	0.09	2133
17	C	06/12/2003	236	1	236.0	0.09	2179
18	C	06/12/2003	251	1	251.0	0.09	2317
19	C	06/12/2003	226	1	226.0	0.09	2086
20	C	06/12/2003	212	1	212.0	0.09	1957
21	C	06/12/2003	224	1	224.0	0.09	2068
22	C	06/12/2003	245	1	245.0	0.09	2262
23	C	06/12/2003	236	1	236.0	0.09	2179
24	C	06/12/2003	246	1	246.0	0.09	2271
25	C	06/12/2003	215	1	215.0	0.09	1985
26	C	06/12/2003	235	1	235.0	0.09	2170
27	C	06/12/2003	198	1	198.0	0.09	1828
28	C	06/12/2003	237	1	237.0	0.09	2188
29	C	06/12/2003	238	1	238.0	0.09	2197
30	C	06/12/2003	204	1	204.0	0.09	1883
			233	**mean**	**232.57**	**mean**	**2147**
			17.5	**std dev**	**17.47**	**std dev**	**161.3**
			234	**median**	**233.50**	**median**	**2156**

Surface Types:

D: Drywall
C: Concrete
B: Brick
M: Metal
CT: Ceramic Tile
SP: Static Pad
AT: Asbestos Floor Tile
W: Wood
G: Glass

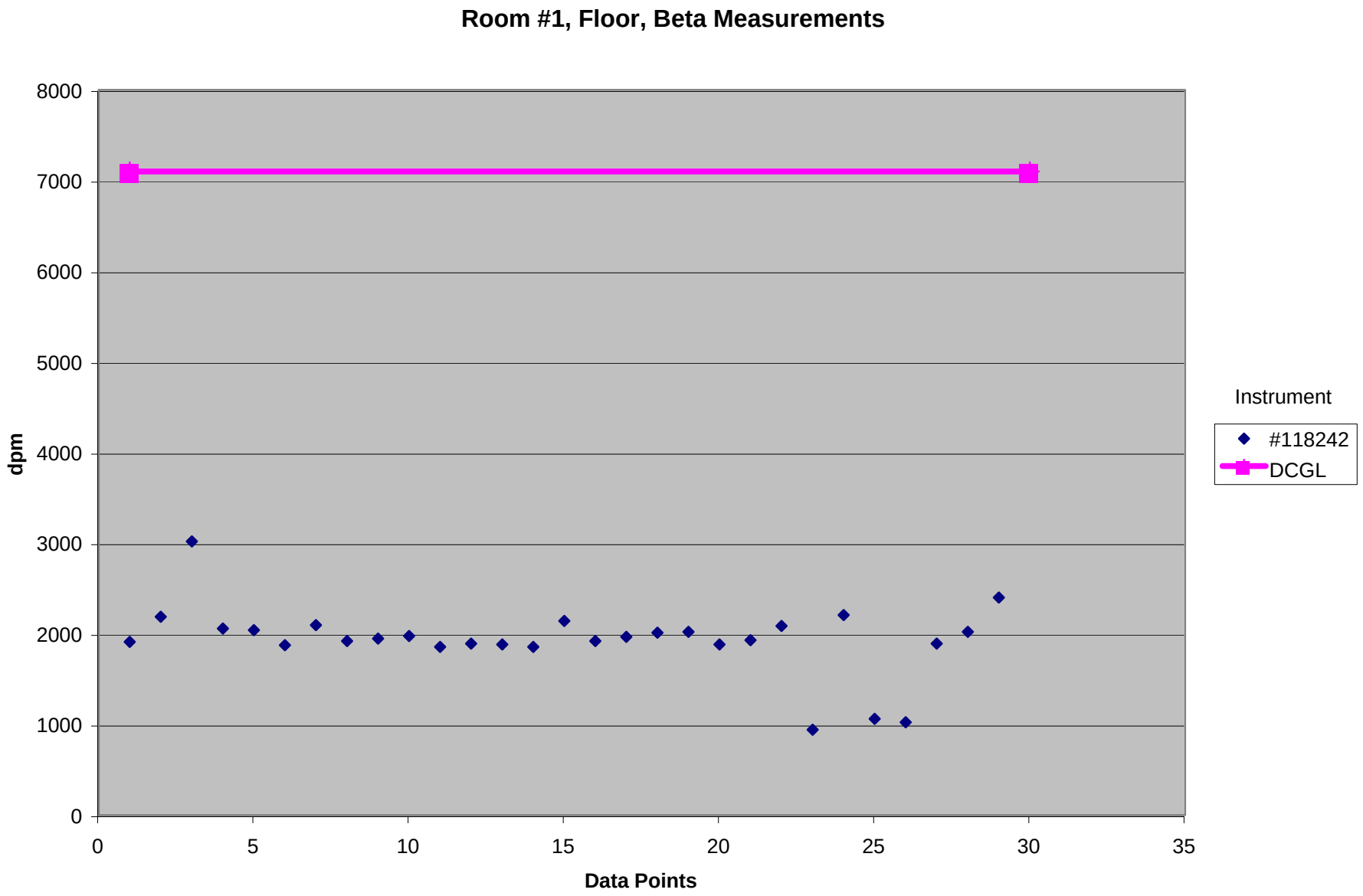
Room # 1, Ceiling (Beta) Measurements - Bldg. 150 - 118242 / PR147403 & SignTest

Data Point ID#	Type of Surface	Date	Counts C_B	Count Time T_B	cpm	ε_T	dpm	DCGL-dpm	Sign Test Positive Difference
A0	C	06/26/2003	207	1	207.0	0.09	1911	5188.9	1
A1	C	06/26/2003	237	1	237.0	0.09	2188	4912.0	1
A2	C	06/26/2003	327	1	327.0	0.09	3019	4081.1	1
B0	C	06/26/2003	223	1	223.0	0.09	2059	5041.2	1
B1	C	06/26/2003	221	1	221.0	0.09	2040	5059.7	1
B2	C	06/26/2003	203	1	203.0	0.09	1874	5225.9	1
C0	C	06/26/2003	227	1	227.0	0.09	2096	5004.3	1
C1	C	06/26/2003	208	1	208.0	0.09	1920	5179.7	1
C2	C	06/26/2003	211	1	211.0	0.09	1948	5152.0	1
C3	C	06/26/2003	214	1	214.0	0.09	1976	5124.3	1
D0	C	06/26/2003	201	1	201.0	0.09	1856	5244.3	1
D1	C	06/26/2003	205	1	205.0	0.09	1893	5207.4	1
D2	C	06/26/2003	204	1	204.0	0.09	1883	5216.6	1
D3	C	06/26/2003	201	1	201.0	0.09	1856	5244.3	1
E0	C	06/26/2003	232	1	232.0	0.09	2142	4958.1	1
E1	C	06/26/2003	208	1	208.0	0.09	1920	5179.7	1
E2	C	06/26/2003	213	1	213.0	0.09	1966	5133.5	1
E3	C	06/26/2003	218	1	218.0	0.09	2013	5087.4	1
F0	C	06/26/2003	219	1	219.0	0.09	2022	5078.1	1
F1	C	06/26/2003	204	1	204.0	0.09	1883	5216.6	1
F2	C	06/26/2003	209	1	209.0	0.09	1930	5170.5	1
F3	C	06/26/2003	226	1	226.0	0.09	2086	5013.5	1
G0	C	06/26/2003	102	1	102.0	0.09	942	6158.3	1
G1	C	06/26/2003	239	1	239.0	0.09	2207	4893.5	1
G2	C	06/26/2003	115	1	115.0	0.09	1062	6038.3	1
G3	C	06/26/2003	111	1	111.0	0.09	1025	6075.2	1
H0	C	06/26/2003	205	1	205.0	0.09	1893	5207.4	1
H1	C	06/26/2003	219	1	219.0	0.09	2022	5078.1	1
H2	C	06/26/2003	260	1	260.0	0.09	2400	4699.6	1
			209	**mean**	**209**	**mean**	**1932**	**N**	**29**
			42.3	**std dev**	**42.3**	**std dev**	**390.7**	**S+**	**29**
			211	**median**	**211**	**median**	**1948**	**Critical Value**	**19**

Reject null hypothesis: The survey unit mean is less than the DCGL(w) - the survey unit may be released

Surface Types:

- D: Drywall
- C: Concrete
- B: Brick
- M: Metal
- CT: Ceramic Tile
- SP: Static Pad
- AT: Asbestos Floor Tile
- W: Wood
- G: Glass


Room #1, Floor, Beta Measurements
8000
7000
6000
5000
4000
3000
2000
1000
0
dpm
0
5
10
15
20
25
30
35
Data Points
Instrument
#118242
DCGL

Room #1 Ceiling

Summary Data

Instrument Model	Model Serial No.	Instrument Detector	Probe Serial No.	Calibration Source	Instrument Efficiency (ε_i)	Surface Efficiency (ε_s)	Total Efficiency (ε_t)	Radionuclides of Concern	Static MDC	Gross DCGL	Data Points Rqrd	Data Points Taken	Stat. Test
Ludlum 2224	146713	Gas Proportional 43-68	PR160688	Tc-99	0.33	0.25	0.08	Co-60	775	7100	16	29	Sign

Beta Measurement - Model # 146713 / Probe # PR160688

Beta Measurement Efficiencies - Model # 146713 / Probe # PR160688

Calibration Source Information			
Calibration Source	**Tc-99**		
Source Backing	SS		
Reference Date	R_{date}	09/01/2002	
Half-Life	$T_{1/2}$	2.13E+05	y
Contained Activity	A_o	43.44	nCi
Contained Activity Decay Corrected	A	43.44	nCi
Source Area	S_A	100	cm^2
Surface Emission Rate (2Π)	$q2\Pi_o$	52080	betas/min
Surface Emission Rate (2Π) - Decay Corrected	q2Π	52080	betas/min
Probe Characteristics			
Probe No.		PR160688	
Probe Area (Active)	W_A	126	cm^2
Probe Area (Open)	W_O	100	cm^2
Conversion Factors			
dpm per nanocurie		2.22E+03	dpm/nCi
Instrument Response - Fixed			
Measurement Counts	C_{S+B}	17258	c
Measurement Time	T_{S+B}	1	min
Gross Count Rate of the Measurement	R_{S+B}	17258	c/m
Background Counts	C_B	202	c
Background Time	T_B	1	min
Gross Count Rate of the Background	R_B	201.8	c/m
Instrument Response - Scan			
Background Counts In Observation Interval	B_i	9.13888889	c
Scan Interval Time	T_{SI}	2	s
Instrument Efficiency (e_i)			
(RS+B - Rb) / (q2P)	ε_i	0.33	c/beta
Surface Efficiency (e_s)			
ISO-7503	ε_s	0.25	beta/d
Total Efficiency (e_T)			
(ε_i * ε_s)	ε_T	**0.08**	c/d

Beta Efficiency Data - Model # 146713 / Probe # PR160688

Field Calibration using NIST traceable Tc-99 source.

Source Measuremets (Tc-99)

Count No.	C_{S+B}	T_{S+B}
1	17212	1
2	17332	1
3	17102	1
4	17022	1
5	17299	1
6	17295	1
7	17034	1
8	17543	1
9	17213	1
10	17321	1
11	17431	1
12	17421	1
13	17221	1
14	17346	1
15	17234	1
16	17203	1
17	17321	1
18	17107	1
19	17202	1
20	17305	1
mean	**17258**	
std dev	**132**	

Background Measurements

Count No.	C_B	T_B
1	205	1
2	202	1
3	206	1
4	204	1
5	203	1
6	205	1
7	200	1
8	199	1
9	194	1
10	200	1
mean	**202**	
std dev	**4**	

Performed by: NWT - Roger Freeman
Date: 6/3/03

Building 150 - Survey Unit Design - Beta Measurements

Plan

Classification:	Class 1	
DCGL Criterion		
Dose	25	mrem/y TEDE
Model	D&D, Ver. 2	Building Occupancy - Default Parameters
Radionuclide of Concern	Co-60	
$DCGL_{(w)}$:	7100	dpm 100 cm^{-2}
Area Factor:	5.5	
$DCGL_{(EMC)}$:	39050	dpm 100 cm^{-2}

Instrumentation

Model:	Ludlum 2224	Cal. Date:	30-May-03	Serial No.	146713
Detector:	Gas Proportional 43-68	Cal. Date:	30-May-03	Serial No.	PR160688

Type Survey:	Fixed				
Detector Efficiency (ε_i):	32.8%	cpm dpm^{-1}			
Surface Efficiency (ε_s):	25.0%	cpm dpm^{-1}			
Surveyor Factor (p):	50.0%				
Probe Area (Active):	126	cm^2			
Scan Interval:	2	s			
d':	3.28				
Static MDC:	**775**	dpm 100 cm^{-2}	50% of $DCGL_{(W)}$	Yes	11%
Scan MDC:	4078	dpm 100 cm^{-2}	50% of $DCGL_{(EMC)}$	Yes	
Scan MDCR:	297	cpm			

Number of Measurements

	Background			Sample	
Counting Time:	1	min	Counting Time:	1	min
Bkgd. Counts:	274.2	counts	Instrument Ambient Background:	200	cpm
Bkgd Sigma:	18.7	counts			
Bkgd Count Rate:	274.2	cpm			
LBGR = ½$DCGL_w$:	1583	dpm 100 cm^{-2}			
Delta = $DCGL_w$ - LBGR:	5517	dpm 100 cm^{-2}			
Calculated Sigma (If Applicalbe):	216				
Delta/Sigma:	25.54				
Type I - α:	0.05		Z1 - α	1.645	
Type II - β:	0.05		Z1 - β	1.645	
P_r (MARSSIM, Table 5.1)	N/A				
Sign P (MARSSIM, Table 5.4)	1				
N	**16**		N - taken	**29**	

Statistics

Test	Sign
H_o	The survey unit mean is equal to or exceeds the $DCGL_{(w)}$
H_a	The survey unit mean is less than the $DCGL_{(w)}$ - survey unit may be released

Reference Area (Beta) Measurements - Bldg. 176 - 146713 / PR160688

Count No.	Type of Surface	Date	Counts C_B	Count Time T_B	cpm	ε_T	dpm
1	C	06/12/2003	273	1	273.0	0.08	2646
2	C	06/12/2003	248	1	248.0	0.08	2404
3	C	06/12/2003	272	1	272.0	0.08	2637
4	C	06/12/2003	233	1	233.0	0.08	2259
5	C	06/12/2003	294	1	294.0	0.08	2850
6	C	06/12/2003	258	1	258.0	0.08	2501
7	C	06/12/2003	304	1	304.0	0.08	2947
8	C	06/12/2003	260	1	260.0	0.08	2520
9	C	06/12/2003	289	1	289.0	0.08	2801
10	C	06/12/2003	273	1	273.0	0.08	2646
11	C	06/12/2003	288	1	288.0	0.08	2792
12	C	06/12/2003	296	1	296.0	0.08	2869
13	C	06/12/2003	288	1	288.0	0.08	2792
14	C	06/12/2003	262	1	262.0	0.08	2540
15	C	06/12/2003	306	1	306.0	0.08	2966
16	C	06/12/2003	247	1	247.0	0.08	2394
17	C	06/12/2003	293	1	293.0	0.08	2840
18	C	06/12/2003	287	1	287.0	0.08	2782
19	C	06/12/2003	235	1	235.0	0.08	2278
20	C	06/12/2003	275	1	275.0	0.08	2666
21	C	06/12/2003	257	1	257.0	0.08	2491
22	C	06/12/2003	284	1	284.0	0.08	2753
23	C	06/12/2003	283	1	283.0	0.08	2743
24	C	06/12/2003	280	1	280.0	0.08	2714
25	C	06/12/2003	264	1	264.0	0.08	2559
26	C	06/12/2003	285	1	285.0	0.08	2763
27	C	06/12/2003	266	1	266.0	0.08	2578
28	C	06/12/2003	284	1	284.0	0.08	2753
29	C	06/12/2003	263	1	263.0	0.08	2549
30	C	06/12/2003	278	1	278.0	0.08	2695
			274	**mean**	**274.17**	**mean**	**2658**
			18.7	**std dev**	**18.75**	**std dev**	**181.7**
			277	**median**	**276.50**	**median**	**2680**

Surface Types:

- D: Drywall
- C: Concrete
- B: Brick
- M: Metal
- CT: Ceramic Tile
- SP: Static Pad
- AT: Asbestos Floor Tile
- W: Wood
- G: Glass

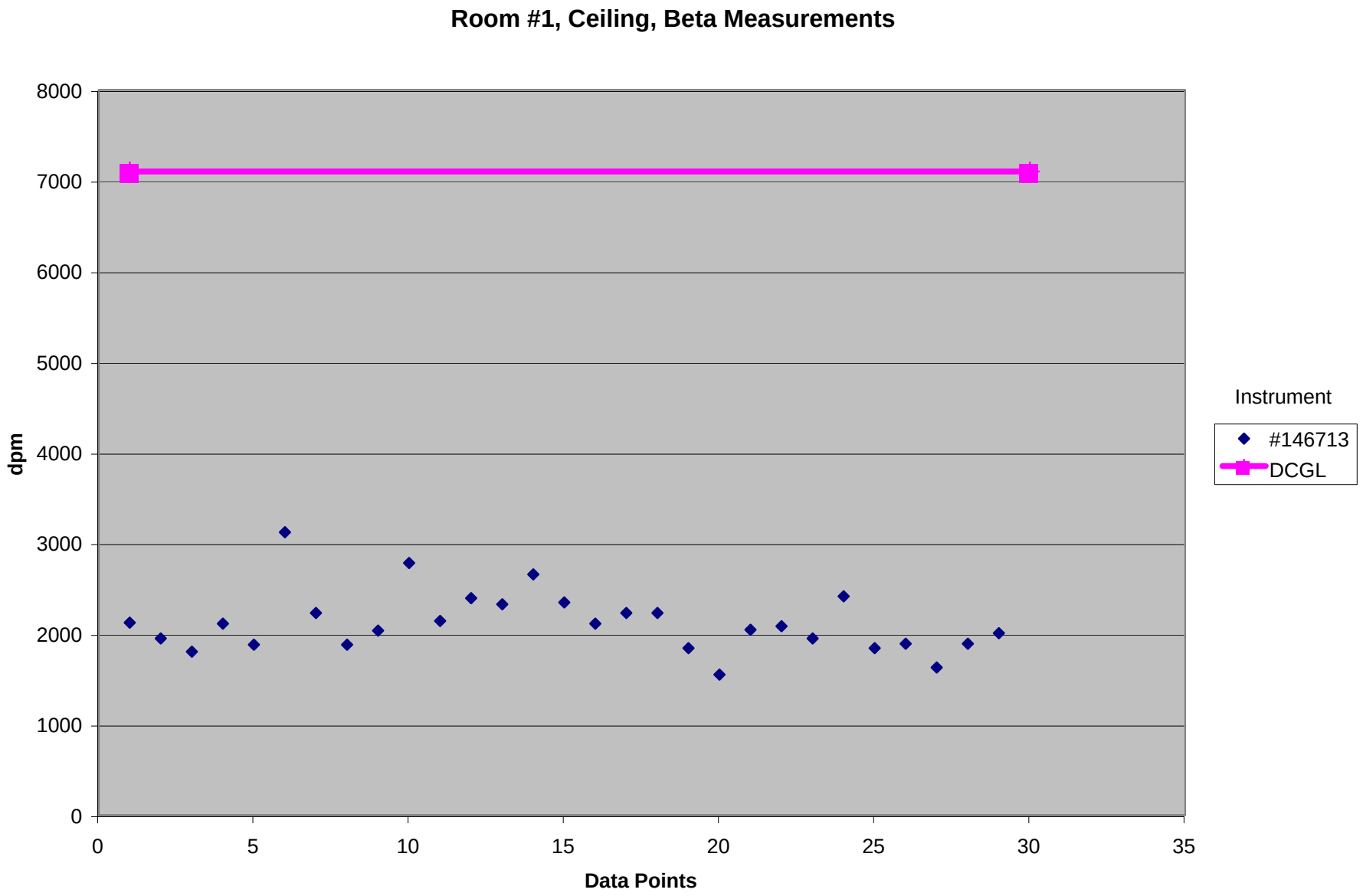
Room # 1, Ceiling (Beta) Measurements - Bldg. 150 - 146713 / PR160688 & SignTest

Data Point ID#	Type of Surface	Date	Counts C_B	Count Time T_B	cpm	ε_T	dpm	DCGL-dpm	Sign Test Positive Difference
A0	C	06/24/2003	219	1	219.0	0.08	2123	4977.2	1
A1	C	06/24/2003	201	1	201.0	0.08	1948	5151.6	1
A2	C	06/24/2003	186	1	186.0	0.08	1803	5297.0	1
B0	C	06/24/2003	218	1	218.0	0.08	2113	4986.9	1
B1	C	06/24/2003	194	1	194.0	0.08	1881	5219.5	1
B2	C	06/24/2003	322	1	322.0	0.08	3121	3978.7	1
C0	C	06/24/2003	230	1	230.0	0.08	2229	4870.5	1
C1	C	06/24/2003	194	1	194.0	0.08	1881	5219.5	1
C2	C	06/24/2003	210	1	210.0	0.08	2036	5064.4	1
C3	C	06/24/2003	287	1	287.0	0.08	2782	4318.0	1
D0	C	06/24/2003	221	1	221.0	0.08	2142	4957.8	1
D1	C	06/24/2003	247	1	247.0	0.08	2394	4705.7	1
D2	C	06/24/2003	240	1	240.0	0.08	2326	4773.6	1
D3	C	06/24/2003	274	1	274.0	0.08	2656	4444.0	1
E0	C	06/24/2003	242	1	242.0	0.08	2346	4754.2	1
E1	C	06/24/2003	218	1	218.0	0.08	2113	4986.9	1
E2	C	06/24/2003	230	1	230.0	0.08	2229	4870.5	1
E3	C	06/24/2003	230	1	230.0	0.08	2229	4870.5	1
F0	C	06/24/2003	190	1	190.0	0.08	1842	5258.3	1
F1	C	06/24/2003	160	1	160.0	0.08	1551	5549.1	1
F2	C	06/24/2003	211	1	211.0	0.08	2045	5054.7	1
F3	C	06/24/2003	215	1	215.0	0.08	2084	5015.9	1
G0	C	06/24/2003	201	1	201.0	0.08	1948	5151.6	1
G1	C	06/24/2003	249	1	249.0	0.08	2414	4686.4	1
G2	C	06/24/2003	190	1	190.0	0.08	1842	5258.3	1
G3	C	06/24/2003	195	1	195.0	0.08	1890	5209.8	1
H0	C	06/24/2003	168	1	168.0	0.08	1628	5471.5	1
H1	C	06/24/2003	195	1	195.0	0.08	1890	5209.8	1
H2	C	06/24/2003	207	1	207.0	0.08	2007	5093.5	1
			219	**mean**	**219**	**mean**	**2120**	**N**	**29**
			34.6	**std dev**	**34.6**	**std dev**	**335.2**	**S+**	**29**
			215	**median**	**215**	**median**	**2084**	**Critical Value**	**19**

Reject null hypothesis: The survey unit mean is less than the DCGL(w) - the survey unit may be released

Surface Types:

- D: Drywall
- C: Concrete
- B: Brick
- M: Metal
- CT: Ceramic Tile
- SP: Static Pad
- AT: Asbestos Floor Tile
- W: Wood
- G: Glass


Room #1, Ceiling, Beta Measurements
8000
7000
6000
5000
4000
3000
2000
1000
0
dpm
0
5
10
15
20
25
30
35
Data Points
Instrument
#146713
DCGL

Room #2 Floor

Summary Data

Instrument Model	Model Serial No.	Instrument Detector	Probe Serial No.	Calibration Source	Instrument Efficiency (ε_i)	Surface Efficiency (ε_s)	Total Efficiency (ε_t)	Radionuclides of Concern	Static MDC	Gross DCGL	Data Points Required	Data Points Taken	Stat. Test
Ludlum 2224	118242	Gas Proportional 43-68	PR147403	Tc-99	0.34	0.25	0.09	Co-60	682	7100	16	27	Sign

Beta Measurement - Model # 118242 / Probe # PR147403

Beta Measurement Efficiencies - Model # 118242 / Probe # PR147403

Calibration Source Information			
Calibration Source	**Tc-99**		
Source Backing	SS		
Reference Date	R_{date}	09/01/2002	
Half-Life	$T_{1/2}$	2.13E+05	y
Contained Activity	A_o	43.44	nCi
Contained Activity Decay Corrected	A	43.44	nCi
Source Area	S_A	100	cm^2
Surface Emission Rate (2Π)	$q2\Pi_o$	52080	betas/min
Surface Emission Rate (2Π) - Decay Corrected	q2Π	52080	betas/min
Probe Characteristics			
Probe No.		PR147403	
Probe Area (Active)	W_A	126	cm^2
Probe Area (Open)	W_O	100	cm^2
Conversion Factors			
dpm per nanocurie		2.22E+03	dpm/nCi
Instrument Response - Fixed			
Measurement Counts	C_{S+B}	18115	c
Measurement Time	T_{S+B}	1	min
Gross Count Rate of the Measurement	R_{S+B}	18115	c/m
Background Counts	C_B	207	c
Background Time	T_B	1	min
Gross Count Rate of the Background	R_B	207.2	c/m
Instrument Response - Scan			
Background Counts In Observation Interval	B_i	7.75222222	c
Scan Interval Time	T_{SI}	2	s
Instrument Efficiency (e_i)			
(RS+B - Rb) / (q2P)	ε_i	0.34	c/beta
Surface Efficiency (e_s)			
ISO-7503	ε_s	0.25	beta/d
Total Efficiency (e_T)			
(ε_i * ε_s)	ε_T	**0.09**	c/d

Beta Efficiency Data - Model # 118242 / Probe # PR147403

Field Calibration using NIST traceable Tc-99 source.

Source Measuremets (Tc-99)

Count No.	C_{S+B}	T_{S+B}
1	18224	1
2	18055	1
3	18089	1
4	18109	1
5	18173	1
6	18036	1
7	18368	1
8	18067	1
9	18102	1
10	18015	1
11	18040	1
12	18167	1
13	17851	1
14	17949	1
15	18132	1
16	18159	1
17	18255	1
18	18190	1
19	18223	1
20	18105	1
mean	**18115**	
std dev	**114**	

Background Measurements

Count No.	C_B	T_B
1	205	1
2	209	1
3	214	1
4	204	1
5	209	1
6	208	1
7	204	1
8	205	1
9	202	1
10	212	1
mean	**207**	
std dev	**4**	

Performed by: NWT - Roger Freeman
Date: 6/3/03

Building 150 - Survey Unit Design - Beta Measurements

Plan

Classification:	Class 1	
DCGL Criterion		
Dose	25	mrem/y TEDE
Model	D&D, Ver. 2	Building Occupancy - Default Parameters
Radionuclide of Concern	Co-60	
$DCGL_{(w)}$:	7100	dpm 100 cm^{-2}
Area Factor:	5.5	
$DCGL_{(EMC)}$:	39050	dpm 100 cm^{-2}

Instrumentation

Model:	Ludlum 2224	Cal. Date:	30-May-03	Serial No.	118242
Detector:	Gas Proportional 43-68	Cal. Date:	30-May-03	Serial No.	PR147403

Type Survey:	Fixed				
Detector Efficiency (ε_i):	34.4%	cpm dpm^{-1}			
Surface Efficiency (ε_s):	25.0%	cpm dpm^{-1}			
Surveyor Factor (p):	50.0%				
Probe Area (Active):	126	cm^2			
Scan Interval:	2	s			
d':	3.28				
Static MDC:	**682**	dpm 100 cm^{-2}	50% of $DCGL_{(W)}$	Yes	10%
Scan MDC:	3577	dpm 100 cm^{-2}	50% of $DCGL_{(EMC)}$	Yes	
Scan MDCR:	274	cpm			

Number of Measurements

	Background			Sample	
Counting Time:	1	min	Counting Time:	1	min
Bkgd. Counts:	232.6	counts	Instrument Ambient Background:	200	cpm
Bkgd Sigma:	17.5	counts			
Bkgd Count Rate:	232.6	cpm			
LBGR = ½$DCGL_w$:	1583	dpm 100 cm^{-2}			
Delta = $DCGL_w$ - LBGR:	5517	dpm 100 cm^{-2}			
Calculated Sigma (If Applicalbe):	216				
Delta/Sigma:	25.54				
Type I - α:	0.05		Z1 - α	1.645	
Type II - β:	0.05		Z1 - β	1.645	
P_r (MARSSIM, Table 5.1)	N/A				
Sign P (MARSSIM, Table 5.4)	1				
N	**16**		N - taken	**27**	

Statistics

Test	Sign
H_o	The survey unit mean is equal to or exceeds the $DCGL_{(w)}$
H_a	The survey unit mean is less than the $DCGL_{(w)}$ - survey unit may be released

Reference Area (Beta) Measurements - Bldg. 176 - 118242 / PR147403

Count No.	Type of Surface	Date	Counts C_B	Count Time T_B	cpm	ε_T	dpm
1	C	06/12/2003	228	1	228.0	0.09	2105
2	C	06/12/2003	232	1	232.0	0.09	2142
3	C	06/12/2003	211	1	211.0	0.09	1948
4	C	06/12/2003	280	1	280.0	0.09	2585
5	C	06/12/2003	227	1	227.0	0.09	2096
6	C	06/12/2003	220	1	220.0	0.09	2031
7	C	06/12/2003	219	1	219.0	0.09	2022
8	C	06/12/2003	241	1	241.0	0.09	2225
9	C	06/12/2003	267	1	267.0	0.09	2465
10	C	06/12/2003	235	1	235.0	0.09	2170
11	C	06/12/2003	249	1	249.0	0.09	2299
12	C	06/12/2003	247	1	247.0	0.09	2280
13	C	06/12/2003	215	1	215.0	0.09	1985
14	C	06/12/2003	241	1	241.0	0.09	2225
15	C	06/12/2003	231	1	231.0	0.09	2133
16	C	06/12/2003	231	1	231.0	0.09	2133
17	C	06/12/2003	236	1	236.0	0.09	2179
18	C	06/12/2003	251	1	251.0	0.09	2317
19	C	06/12/2003	226	1	226.0	0.09	2086
20	C	06/12/2003	212	1	212.0	0.09	1957
21	C	06/12/2003	224	1	224.0	0.09	2068
22	C	06/12/2003	245	1	245.0	0.09	2262
23	C	06/12/2003	236	1	236.0	0.09	2179
24	C	06/12/2003	246	1	246.0	0.09	2271
25	C	06/12/2003	215	1	215.0	0.09	1985
26	C	06/12/2003	235	1	235.0	0.09	2170
27	C	06/12/2003	198	1	198.0	0.09	1828
28	C	06/12/2003	237	1	237.0	0.09	2188
29	C	06/12/2003	238	1	238.0	0.09	2197
30	C	06/12/2003	204	1	204.0	0.09	1883
			233	**mean**	**232.57**	**mean**	**2147**
			17.5	**std dev**	**17.47**	**std dev**	**161.3**
			234	**median**	**233.50**	**median**	**2156**

Surface Types:

D: Drywall
C: Concrete
B: Brick
M: Metal
CT: Ceramic Tile
SP: Static Pad
AT: Asbestos Floor Tile
W: Wood
G: Glass

Room # 2, Floor (Beta) Measurements - Bldg. 150 - 118242 / PR147403 & SignTest

Data Point ID#	Type of Surface	Date	Counts C_B	Count Time T_B	cpm	ε_T	dpm	DCGL-dpm	Sign Test Positive Difference
A4	C	06/26/2003	218	1	218.0	0.09	2013	5087.4	1
B3	C	06/26/2003	220	1	220.0	0.09	2031	5068.9	1
B4	C	06/26/2003	191	1	191.0	0.09	1763	5336.6	1
B5	C	06/26/2003	257	1	257.0	0.09	2373	4727.3	1
C3	C	06/26/2003	208	1	208.0	0.09	1920	5179.7	1
C4	C	06/26/2003	203	1	203.0	0.09	1874	5225.9	1
C5	C	06/26/2003	234	1	234.0	0.09	2160	4939.7	1
D3	C	06/26/2003	230	1	230.0	0.09	2123	4976.6	1
D4	C	06/26/2003	220	1	220.0	0.09	2031	5068.9	1
D5	C	06/26/2003	245	1	245.0	0.09	2262	4838.1	1
E3	C	06/26/2003	225	1	225.0	0.09	2077	5022.7	1
E4	C	06/26/2003	208	1	208.0	0.09	1920	5179.7	1
E5	C	06/26/2003	310	1	310.0	0.09	2862	4238.0	1
E6	C	06/26/2003	224	1	224.0	0.09	2068	5032.0	1
F0	C	06/26/2003	208	1	208.0	0.09	1920	5179.7	1
F1	C	06/26/2003	300	1	300.0	0.09	2770	4330.3	1
F2	C	06/26/2003	209	1	209.0	0.09	1930	5170.5	1
F3	C	06/26/2003	237	1	237.0	0.09	2188	4912.0	1
F4	C	06/26/2003	235	1	235.0	0.09	2170	4930.4	1
F5	C	06/26/2003	238	1	238.0	0.09	2197	4902.7	1
F6	C	06/26/2003	243	1	243.0	0.09	2243	4856.6	1
G0	C	06/26/2003	298	1	298.0	0.09	2751	4348.8	1
G1	C	06/26/2003	244	1	244.0	0.09	2253	4847.3	1
G2	C	06/26/2003	256	1	256.0	0.09	2363	4736.5	1
G3	C	06/26/2003	241	1	241.0	0.09	2225	4875.0	1
G4	C	06/26/2003	258	1	258.0	0.09	2382	4718.1	1
G5	C	06/26/2003	263	1	263.0	0.09	2428	4671.9	1
			238	**mean**	**238**	**mean**	**2196**	**N**	**27**
			29.7	**std dev**	**29.7**	**std dev**	**274.2**	**S+**	**27**
			235	**median**	**235**	**median**	**2170**	**Critical Value**	**18**

Reject null hypothesis: The survey unit mean is less than the DCGL(w) - the survey unit may be released

Surface Types:

- D: Drywall
- C: Concrete
- B: Brick
- M: Metal
- CT: Ceramic Tile
- SP: Static Pad
- AT: Asbestos Floor Tile
- W: Wood
- G: Glass


Room #2, Floor, Beta Measurements
8000
7000
6000
5000
4000
3000
2000
1000
0
dpm
0
5
10
15
20
25
30
35
Data Points
Instrument
#118242
DCGL

Room #2 Ceiling

Summary Data

Instrument Model	Model Serial No.	Instrument Detector	Probe Serial No.	Calibration Source	Instrument Efficiency (ε_i)	Surface Efficiency (ε_s)	Total Efficiency (ε_t)	Radionuclides of Concern	Static MDC	Gross DCGL	Data Points Rqrd	Data Points Taken	Stat. Test
Ludlum 2224	146713	Gas Proportional 43-68	PR160688	Tc-99	0.33	0.25	0.08	Co-60	775	7100	16	27	Sign

Beta Measurement - Model # 146713 / Probe # PR160688

Beta Measurement Efficiencies - Model # 146713 / Probe # PR160688

Calibration Source Information			
Calibration Source	**Tc-99**		
Source Backing	SS		
Reference Date	R_{date}	09/01/2002	
Half-Life	$T_{1/2}$	2.13E+05	y
Contained Activity	A_o	43.44	nCi
Contained Activity Decay Corrected	A	43.44	nCi
Source Area	S_A	100	cm^2
Surface Emission Rate (2Π)	$q2\Pi_o$	52080	betas/min
Surface Emission Rate (2Π) - Decay Corrected	q2Π	52080	betas/min
Probe Characteristics			
Probe No.		PR160688	
Probe Area (Active)	W_A	126	cm^2
Probe Area (Open)	W_O	100	cm^2
Conversion Factors			
dpm per nanocurie		2.22E+03	dpm/nCi
Instrument Response - Fixed			
Measurement Counts	C_{S+B}	17258	c
Measurement Time	T_{S+B}	1	min
Gross Count Rate of the Measurement	R_{S+B}	17258	c/m
Background Counts	C_B	202	c
Background Time	T_B	1	min
Gross Count Rate of the Background	R_B	201.8	c/m
Instrument Response - Scan			
Background Counts In Observation Interval	B_i	9.13888889	c
Scan Interval Time	T_{SI}	2	s
Instrument Efficiency (e_i)			
(RS+B - Rb) / (q2P)	ε_i	0.33	c/beta
Surface Efficiency (e_s)			
ISO-7503	ε_s	0.25	beta/d
Total Efficiency (e_T)			
(ε_i * ε_s)	ε_T	**0.08**	c/d

Beta Efficiency Data - Model # 146713 / Probe # PR160688

Field Calibration using NIST traceable Tc-99 source.

Source Measuremets (Tc-99)

Count No.	C_{S+B}	T_{S+B}
1	17212	1
2	17332	1
3	17102	1
4	17022	1
5	17299	1
6	17295	1
7	17034	1
8	17543	1
9	17213	1
10	17321	1
11	17431	1
12	17421	1
13	17221	1
14	17346	1
15	17234	1
16	17203	1
17	17321	1
18	17107	1
19	17202	1
20	17305	1
mean	**17258**	
std dev	**132**	

Background Measurements

Count No.	C_B	T_B
1	205	1
2	202	1
3	206	1
4	204	1
5	203	1
6	205	1
7	200	1
8	199	1
9	194	1
10	200	1
mean	**202**	
std dev	**4**	

Performed by: NWT - Roger Freeman
Date: 6/3/03

Building 150 - Survey Unit Design - Beta Measurements

Plan

Classification:	Class 1	
DCGL Criterion		
Dose	25	mrem/y TEDE
Model	D&D, Ver. 2	Building Occupancy - Default Parameters
Radionuclide of Concern	Co-60	
$DCGL_{(w)}$:	7100	dpm 100 cm^{-2}
Area Factor:	5.5	
$DCGL_{(EMC)}$:	39050	dpm 100 cm^{-2}

Instrumentation

Model:	Ludlum 2224	Cal. Date:	30-May-03	Serial No.	146713
Detector:	Gas Proportional 43-68	Cal. Date:	30-May-03	Serial No.	PR160688

Type Survey:	Fixed				
Detector Efficiency (ε_i):	32.8%	cpm dpm^{-1}			
Surface Efficiency (ε_s):	25.0%	cpm dpm^{-1}			
Surveyor Factor (p):	50.0%				
Probe Area (Active):	126	cm^2			
Scan Interval:	2	s			
d':	3.28				
Static MDC:	**775**	dpm 100 cm^{-2}	50% of $DCGL_{(W)}$	Yes	11%
Scan MDC:	4078	dpm 100 cm^{-2}	50% of $DCGL_{(EMC)}$	Yes	
Scan MDCR:	297	cpm			

Number of Measurements

	Background			Sample	
Counting Time:	1	min	Counting Time:	1	min
Bkgd. Counts:	274.2	counts	Instrument Ambient Background:	200	cpm
Bkgd Sigma:	18.7	counts			
Bkgd Count Rate:	274.2	cpm			
LBGR = ½$DCGL_w$:	1583	dpm 100 cm^{-2}			
Delta = $DCGL_w$ - LBGR:	5517	dpm 100 cm^{-2}			
Calculated Sigma (If Applicalbe):	216				
Delta/Sigma:	25.54				
Type I - α:	0.05		Z1 - α	1.645	
Type II - β:	0.05		Z1 - β	1.645	
P_r (MARSSIM, Table 5.1)	N/A				
Sign P (MARSSIM, Table 5.4)	1				
N	**16**		N - taken	**27**	

Statistics

Test	Sign
H_o	The survey unit mean is equal to or exceeds the $DCGL_{(w)}$
H_a	The survey unit mean is less than the $DCGL_{(w)}$ - survey unit may be released

Reference Area (Beta) Measurements - Bldg. 176 - 146713 / PR160688

Count No.	Type of Surface	Date	Counts C_B	Count Time T_B	cpm	ε_T	dpm
1	C	06/12/2003	273	1	273.0	0.08	2646
2	C	06/12/2003	248	1	248.0	0.08	2404
3	C	06/12/2003	272	1	272.0	0.08	2637
4	C	06/12/2003	233	1	233.0	0.08	2259
5	C	06/12/2003	294	1	294.0	0.08	2850
6	C	06/12/2003	258	1	258.0	0.08	2501
7	C	06/12/2003	304	1	304.0	0.08	2947
8	C	06/12/2003	260	1	260.0	0.08	2520
9	C	06/12/2003	289	1	289.0	0.08	2801
10	C	06/12/2003	273	1	273.0	0.08	2646
11	C	06/12/2003	288	1	288.0	0.08	2792
12	C	06/12/2003	296	1	296.0	0.08	2869
13	C	06/12/2003	288	1	288.0	0.08	2792
14	C	06/12/2003	262	1	262.0	0.08	2540
15	C	06/12/2003	306	1	306.0	0.08	2966
16	C	06/12/2003	247	1	247.0	0.08	2394
17	C	06/12/2003	293	1	293.0	0.08	2840
18	C	06/12/2003	287	1	287.0	0.08	2782
19	C	06/12/2003	235	1	235.0	0.08	2278
20	C	06/12/2003	275	1	275.0	0.08	2666
21	C	06/12/2003	257	1	257.0	0.08	2491
22	C	06/12/2003	284	1	284.0	0.08	2753
23	C	06/12/2003	283	1	283.0	0.08	2743
24	C	06/12/2003	280	1	280.0	0.08	2714
25	C	06/12/2003	264	1	264.0	0.08	2559
26	C	06/12/2003	285	1	285.0	0.08	2763
27	C	06/12/2003	266	1	266.0	0.08	2578
28	C	06/12/2003	284	1	284.0	0.08	2753
29	C	06/12/2003	263	1	263.0	0.08	2549
30	C	06/12/2003	278	1	278.0	0.08	2695
			274	**mean**	**274.17**	**mean**	**2658**
			18.7	**std dev**	**18.75**	**std dev**	**181.7**
			277	**median**	**276.50**	**median**	**2680**

Surface Types:

- D: Drywall
- C: Concrete
- B: Brick
- M: Metal
- CT: Ceramic Tile
- SP: Static Pad
- AT: Asbestos Floor Tile
- W: Wood
- G: Glass

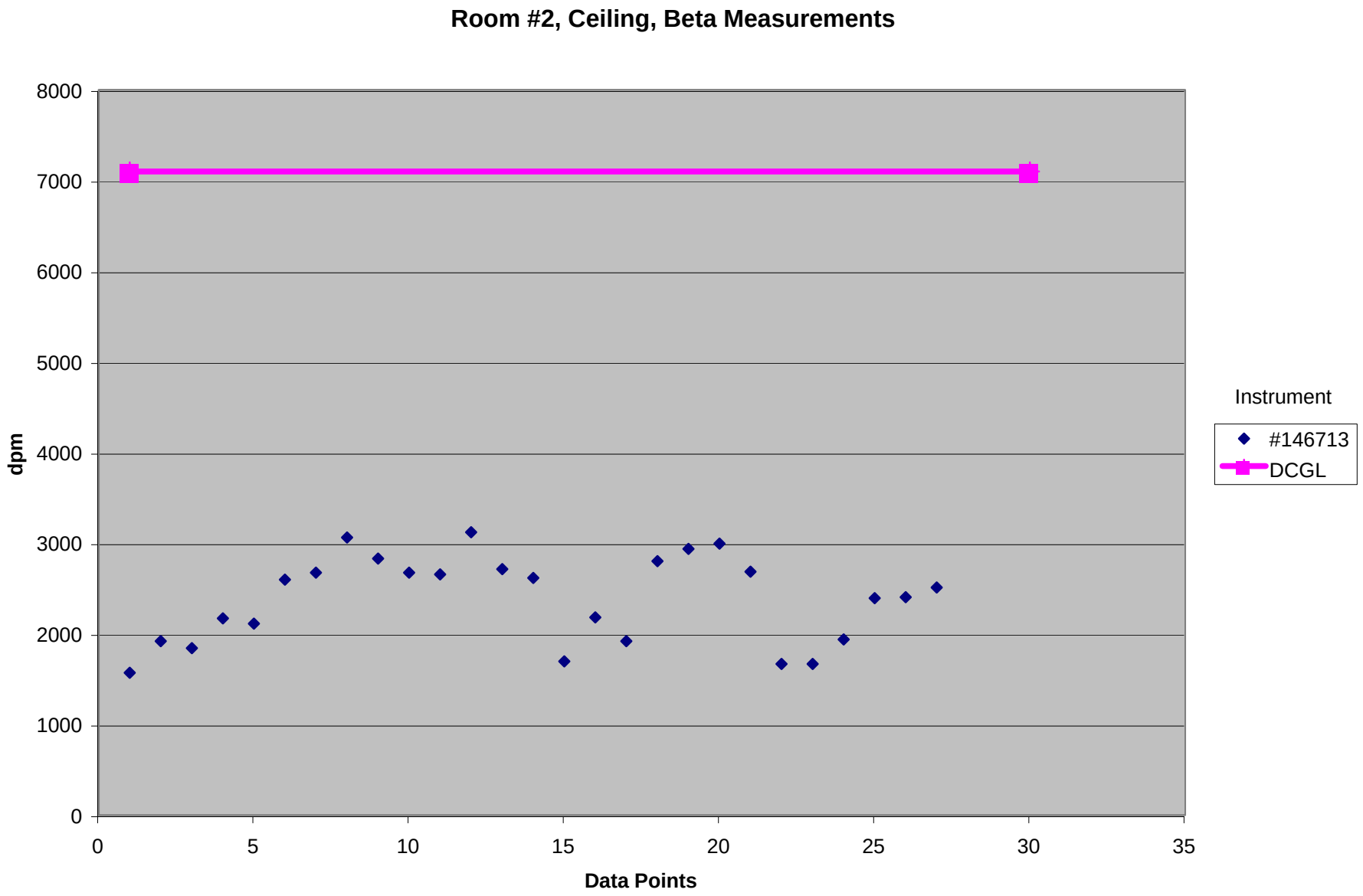
Room # 2, Ceiling (Beta) Measurements - Bldg. 150 - 146713 / PR160688 & SignTest

Data Point ID#	Type of Surface	Date	Counts C_B	Count Time T_B	cpm	ε_T	dpm	DCGL-dpm	Sign Test Positive Difference
A4	C	06/25/2003	162	1	162.0	0.08	1570	5529.7	1
B3	C	06/25/2003	198	1	198.0	0.08	1919	5180.7	1
B4	C	06/25/2003	190	1	190.0	0.08	1842	5258.3	1
B5	C	06/25/2003	224	1	224.0	0.08	2171	4928.7	1
C3	C	06/25/2003	218	1	218.0	0.08	2113	4986.9	1
C4	C	06/25/2003	268	1	268.0	0.08	2598	4502.2	1
C5	C	06/25/2003	276	1	276.0	0.08	2675	4424.6	1
D3	C	06/25/2003	316	1	316.0	0.08	3063	4036.9	1
D4	C	06/25/2003	292	1	292.0	0.08	2830	4269.5	1
D5	C	06/25/2003	276	1	276.0	0.08	2675	4424.6	1
E3	C	06/25/2003	274	1	274.0	0.08	2656	4444.0	1
E4	C	06/25/2003	322	1	322.0	0.08	3121	3978.7	1
E5	C	06/25/2003	280	1	280.0	0.08	2714	4385.9	1
E6	C	06/25/2003	270	1	270.0	0.08	2617	4482.8	1
F0	C	06/25/2003	175	1	175.0	0.08	1696	5403.7	1
F1	C	06/25/2003	225	1	225.0	0.08	2181	4919.0	1
F2	C	06/25/2003	198	1	198.0	0.08	1919	5180.7	1
F3	C	06/25/2003	289	1	289.0	0.08	2801	4298.6	1
F4	C	06/25/2003	303	1	303.0	0.08	2937	4162.9	1
F5	C	06/25/2003	309	1	309.0	0.08	2995	4104.8	1
F6	C	06/25/2003	277	1	277.0	0.08	2685	4414.9	1
G0	C	06/25/2003	172	1	172.0	0.08	1667	5432.7	1
G1	C	06/25/2003	172	1	172.0	0.08	1667	5432.7	1
G2	C	06/25/2003	200	1	200.0	0.08	1939	5161.3	1
G3	C	06/25/2003	247	1	247.0	0.08	2394	4705.7	1
G4	C	06/25/2003	248	1	248.0	0.08	2404	4696.1	1
G5	C	06/25/2003	259	1	259.0	0.08	2511	4589.4	1
			246	**mean**	**246**	**mean**	**2384**	**N**	**27**
			49.0	**std dev**	**49.0**	**std dev**	**474.9**	**S+**	**27**
			259	**median**	**259**	**median**	**2511**	**Critical Value**	**18**

Reject null hypothesis: The survey unit mean is less than the DCGL(w) - the survey unit may be released

Surface Types:

- D: Drywall
- C: Concrete
- B: Brick
- M: Metal
- CT: Ceramic Tile
- SP: Static Pad
- AT: Asbestos Floor Tile
- W: Wood
- G: Glass


Room #2, Ceiling, Beta Measurements
8000
7000
6000
5000
4000
3000
2000
1000
0
dpm
0
5
10
15
20
25
30
35
Data Points
Instrument
#146713
DCGL

Room #3 Floor

Summary Data

Instrument Model	Model Serial No.	Instrument Detector	Probe Serial No.	Calibration Source	Instrument Efficiency (ε_i)	Surface Efficiency (ε_s)	Total Efficiency (ε_τ)	Radionuclides of Concern	Static MDC	Gross DCGL	Data Points Required	Data Points Taken	Stat. Test
Ludlum 2224	118242	Gas Proportional 43-68	PR147403	Tc-99	0.34	0.25	0.09	Co-60	682	7100	16	29	Sign

Beta Measurement - Model # 118242 / Probe # PR147403

Beta Measurement Efficiencies - Model # 118242 / Probe # PR147403

Calibration Source Information			
Calibration Source	**Tc-99**		
Source Backing	SS		
Reference Date	R_{date}	09/01/2002	
Half-Life	$T_{1/2}$	2.13E+05	y
Contained Activity	A_o	43.44	nCi
Contained Activity Decay Corrected	A	43.44	nCi
Source Area	S_A	100	cm^2
Surface Emission Rate (2Π)	$q2\Pi_o$	52080	betas/min
Surface Emission Rate (2Π) - Decay Corrected	q2Π	52080	betas/min
Probe Characteristics			
Probe No.		PR147403	
Probe Area (Active)	W_A	126	cm^2
Probe Area (Open)	W_O	100	cm^2
Conversion Factors			
dpm per nanocurie		2.22E+03	dpm/nCi
Instrument Response - Fixed			
Measurement Counts	C_{S+B}	18115	c
Measurement Time	T_{S+B}	1	min
Gross Count Rate of the Measurement	R_{S+B}	18115	c/m
Background Counts	C_B	207	c
Background Time	T_B	1	min
Gross Count Rate of the Background	R_B	207.2	c/m
Instrument Response - Scan			
Background Counts In Observation Interval	B_i	7.752222222	c
Scan Interval Time	T_{SI}	2	s
Instrument Efficiency (e_i)			
(RS+B - Rb) / (q2P)	ε_i	0.34	c/beta
Surface Efficiency (e_s)			
ISO-7503	ε_s	0.25	beta/d
Total Efficiency (e_T)			
($\varepsilon_i * \varepsilon_s$)	ε_T	**0.09**	c/d

Beta Efficiency Data - Model # 118242 / Probe # PR147403

Field Calibration using NIST traceable Tc-99 source.

Source Measuremets (Tc-99)

Count No.	C_{S+B}	T_{S+B}
1	18224	1
2	18055	1
3	18089	1
4	18109	1
5	18173	1
6	18036	1
7	18368	1
8	18067	1
9	18102	1
10	18015	1
11	18040	1
12	18167	1
13	17851	1
14	17949	1
15	18132	1
16	18159	1
17	18255	1
18	18190	1
19	18223	1
20	18105	1
mean	**18115**	
std dev	**114**	

Background Measurements

Count No.	C_B	T_B
1	205	1
2	209	1
3	214	1
4	204	1
5	209	1
6	208	1
7	204	1
8	205	1
9	202	1
10	212	1
mean	**207**	
std dev	**4**	

Performed by: NWT - Roger Freeman
Date: 6/3/03

Building 150 - Survey Unit Design - Beta Measurements

Plan

Classification:	Class 1	
DCGL Criterion		
Dose	25	mrem/y TEDE
Model	D&D, Ver. 2	Building Occupancy - Default Parameters
Radionuclide of Concern	Co-60	
$DCGL_{(w)}$:	7100	dpm 100 cm^{-2}
Area Factor:	5.5	
$DCGL_{(EMC)}$:	39050	dpm 100 cm^{-2}

Instrumentation

Model:	Ludlum 2224	Cal. Date:	30-May-03	Serial No.	118242	
Detector:	Gas Proportional 43-68	Cal. Date:	30-May-03	Serial No.	PR147403	
Type Survey:	Fixed					
Detector Efficiency (ε_i):	34.4%	cpm dpm^{-1}				
Surface Efficiency (ε_s):	25.0%	cpm dpm^{-1}				
Surveyor Factor (p):	50.0%					
Probe Area (Active):	126	cm^2				
Scan Interval:	2	s				
d':	3.28					
Static MDC:	**682**	dpm 100 cm^{-2}	50% of $DCGL_{(W)}$	Yes		10%
Scan MDC:	3577	dpm 100 cm^{-2}	50% of $DCGL_{(EMC)}$	Yes		
Scan MDCR:	274	cpm				

Number of Measurements

	Background			Sample	
Counting Time:	1	min	Counting Time:	1	min
Bkgd. Counts:	232.6	counts	Instrument Ambient Background:	200	cpm
Bkgd Sigma:	17.5	counts			
Bkgd Count Rate:	232.6	cpm			
LBGR = ½$DCGL_w$:	1583	dpm 100 cm^{-2}			
Delta = $DCGL_w$ - LBGR:	5517	dpm 100 cm^{-2}			
Calculated Sigma (If Applicalbe):	216				
Delta/Sigma:	25.54				
Type I - α:	0.05		Z1 - α	1.645	
Type II - β:	0.05		Z1 - β	1.645	
P_r (MARSSIM, Table 5.1)	N/A				
Sign P (MARSSIM, Table 5.4)	1				
N	**16**		N - taken	**29**	

Statistics

Test	Sign
H_o	The survey unit mean is equal to or exceeds the $DCGL_{(w)}$
H_a	The survey unit mean is less than the $DCGL_{(w)}$ - survey unit may be released

Reference Area (Beta) Measurements - Bldg. 176 - 118242 / PR147403

Count No.	Type of Surface	Date	Counts C_B	Count Time T_B	cpm	ε_T	dpm
1	C	06/12/2003	228	1	228.0	0.09	2105
2	C	06/12/2003	232	1	232.0	0.09	2142
3	C	06/12/2003	211	1	211.0	0.09	1948
4	C	06/12/2003	280	1	280.0	0.09	2585
5	C	06/12/2003	227	1	227.0	0.09	2096
6	C	06/12/2003	220	1	220.0	0.09	2031
7	C	06/12/2003	219	1	219.0	0.09	2022
8	C	06/12/2003	241	1	241.0	0.09	2225
9	C	06/12/2003	267	1	267.0	0.09	2465
10	C	06/12/2003	235	1	235.0	0.09	2170
11	C	06/12/2003	249	1	249.0	0.09	2299
12	C	06/12/2003	247	1	247.0	0.09	2280
13	C	06/12/2003	215	1	215.0	0.09	1985
14	C	06/12/2003	241	1	241.0	0.09	2225
15	C	06/12/2003	231	1	231.0	0.09	2133
16	C	06/12/2003	231	1	231.0	0.09	2133
17	C	06/12/2003	236	1	236.0	0.09	2179
18	C	06/12/2003	251	1	251.0	0.09	2317
19	C	06/12/2003	226	1	226.0	0.09	2086
20	C	06/12/2003	212	1	212.0	0.09	1957
21	C	06/12/2003	224	1	224.0	0.09	2068
22	C	06/12/2003	245	1	245.0	0.09	2262
23	C	06/12/2003	236	1	236.0	0.09	2179
24	C	06/12/2003	246	1	246.0	0.09	2271
25	C	06/12/2003	215	1	215.0	0.09	1985
26	C	06/12/2003	235	1	235.0	0.09	2170
27	C	06/12/2003	198	1	198.0	0.09	1828
28	C	06/12/2003	237	1	237.0	0.09	2188
29	C	06/12/2003	238	1	238.0	0.09	2197
30	C	06/12/2003	204	1	204.0	0.09	1883
			233	**mean**	**232.57**	**mean**	**2147**
			17.5	**std dev**	**17.47**	**std dev**	**161.3**
			234	**median**	**233.50**	**median**	**2156**

Surface Types:

D: Drywall
C: Concrete
B: Brick
M: Metal
CT: Ceramic Tile
SP: Static Pad
AT: Asbestos Floor Tile
W: Wood
G: Glass

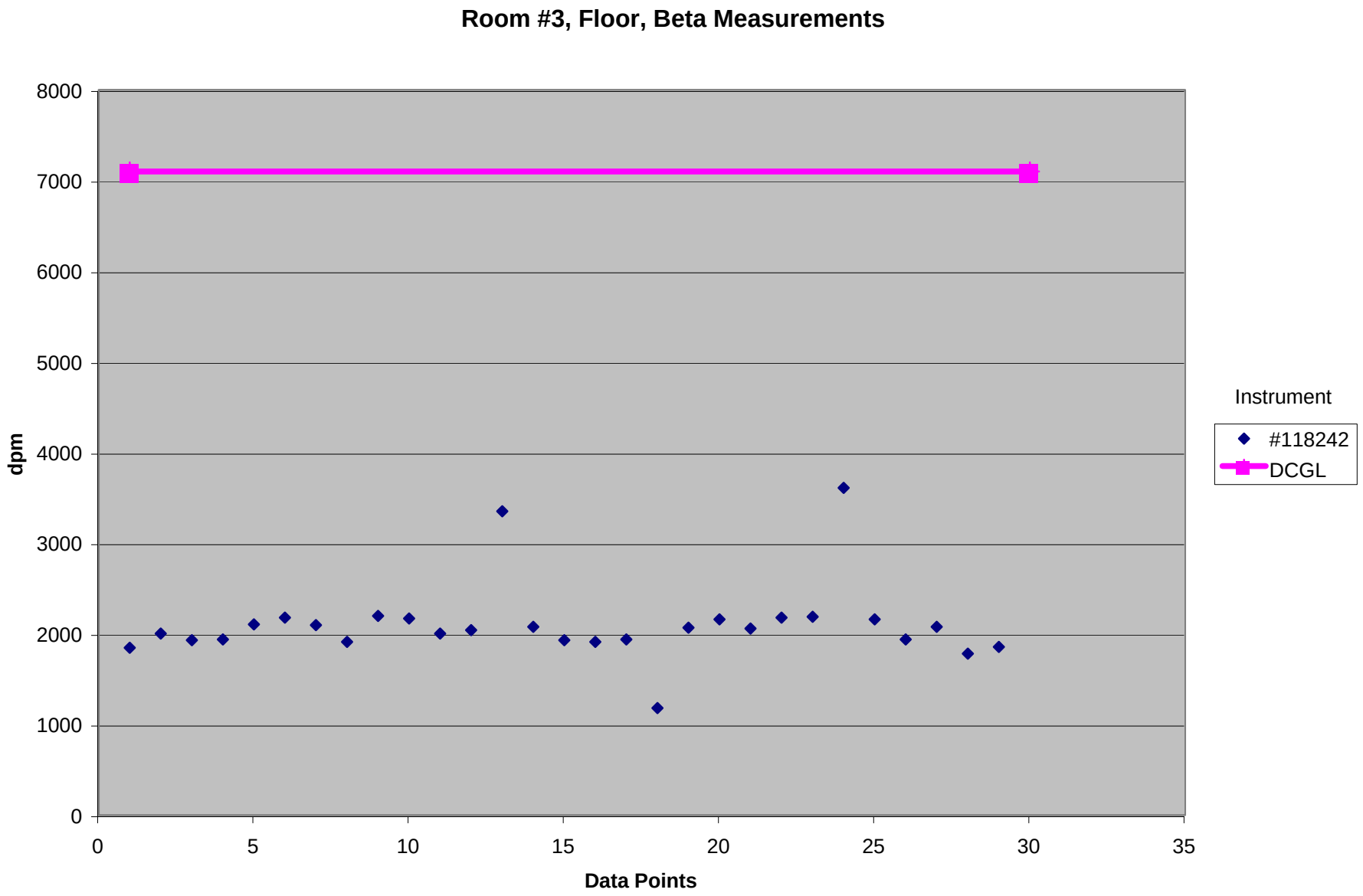
Room # 3, Floor (Beta) Measurements - Bldg. 150 - 118242 / PR147403 & SignTest

Data Point ID#	Type of Surface	Date	Counts C_B	Count Time T_B	cpm	ε_T	dpm	DCGL-dpm	Sign Test Positive Difference
A0	C	06/26/2003	200	1	200.0	0.09	1846	5253.6	1
A1	C	06/26/2003	217	1	217.0	0.09	2003	5096.6	1
A2	C	06/26/2003	209	1	209.0	0.09	1930	5170.5	1
A3	C	06/26/2003	210	1	210.0	0.09	1939	5161.2	1
A4	C	06/26/2003	228	1	228.0	0.09	2105	4995.0	1
A5	C	06/26/2003	236	1	236.0	0.09	2179	4921.2	1
A6	C	06/26/2003	227	1	227.0	0.09	2096	5004.3	1
B0	C	06/26/2003	207	1	207.0	0.09	1911	5188.9	1
B1	C	06/26/2003	238	1	238.0	0.09	2197	4902.7	1
B2	C	06/26/2003	235	1	235.0	0.09	2170	4930.4	1
B3	C	06/26/2003	217	1	217.0	0.09	2003	5096.6	1
B4	C	06/26/2003	221	1	221.0	0.09	2040	5059.7	1
B5	C	06/26/2003	363	1	363.0	0.09	3351	3748.7	1
B6	C	06/26/2003	225	1	225.0	0.09	2077	5022.7	1
C0	C	06/26/2003	209	1	209.0	0.09	1930	5170.5	1
C1	C	06/26/2003	207	1	207.0	0.09	1911	5188.9	1
C2	C	06/26/2003	210	1	210.0	0.09	1939	5161.2	1
C3	C	06/26/2003	128	1	128.0	0.09	1182	5918.3	1
C4	C	06/26/2003	224	1	224.0	0.09	2068	5032.0	1
C5	C	06/26/2003	234	1	234.0	0.09	2160	4939.7	1
C6	C	06/26/2003	223	1	223.0	0.09	2059	5041.2	1
D3	C	06/26/2003	236	1	236.0	0.09	2179	4921.2	1
D4	C	06/26/2003	237	1	237.0	0.09	2188	4912.0	1
D5	C	06/26/2003	391	1	391.0	0.09	3610	3490.2	1
D6	C	06/26/2003	234	1	234.0	0.09	2160	4939.7	1
E3	C	06/26/2003	210	1	210.0	0.09	1939	5161.2	1
E4	C	06/26/2003	225	1	225.0	0.09	2077	5022.7	1
E5	C	06/26/2003	193	1	193.0	0.09	1782	5318.2	1
E6	C	06/26/2003	201	1	201.0	0.09	1856	5244.3	1
			227	**mean**	**227**	**mean**	**2100**	**N**	**29**
			46.6	**std dev**	**46.6**	**std dev**	**430.5**	**S+**	**29**
			223	**median**	**223**	**median**	**2059**	**Critical Value**	**19**

Reject null hypothesis: The survey unit mean is less than the DCGL(w) - the survey unit may be released

Surface Types:

D: Drywall
C: Concrete
B: Brick
M: Metal
CT: Ceramic Tile
SP: Static Pad
AT: Asbestos Floor Tile
W: Wood
G: Glass


Room #3, Floor, Beta Measurements
8000
7000
6000
5000
4000
3000
2000
1000
0
dpm
0
5
10
15
20
25
30
35
Data Points
Instrument
#118242
DCGL

Room #3 Ceiling

Summary Data

Instrument Model	Model Serial No.	Instrument Detector	Probe Serial No.	Calibration Source	Instrument Efficiency (ε_i)	Surface Efficiency (ε_s)	Total Efficiency (ε_t)	Radionuclides of Concern	Static MDC	Gross DCGL	Data Points Rqrd	Data Points Taken	Stat. Test
Ludlum 2224	146713	Gas Proportional 43-68	PR160688	Tc-99	0.33	0.25	0.08	Co-60	775	7100	16	29	Sign

Beta Measurement - Model # 146713 / Probe # PR160688

Beta Measurement Efficiencies - Model # 146713 / Probe # PR160688

Calibration Source Information			
Calibration Source	**Tc-99**		
Source Backing	SS		
Reference Date	R_{date}	09/01/2002	
Half-Life	$T_{1/2}$	2.13E+05	y
Contained Activity	A_o	43.44	nCi
Contained Activity Decay Corrected	A	43.44	nCi
Source Area	S_A	100	cm^2
Surface Emission Rate (2Π)	$q2\Pi_o$	52080	betas/min
Surface Emission Rate (2Π) - Decay Corrected	q2Π	52080	betas/min
Probe Characteristics			
Probe No.		PR160688	
Probe Area (Active)	W_A	126	cm^2
Probe Area (Open)	W_O	100	cm^2
Conversion Factors			
dpm per nanocurie		2.22E+03	dpm/nCi
Instrument Response - Fixed			
Measurement Counts	C_{S+B}	17258	c
Measurement Time	T_{S+B}	1	min
Gross Count Rate of the Measurement	R_{S+B}	17258	c/m
Background Counts	C_B	202	c
Background Time	T_B	1	min
Gross Count Rate of the Background	R_B	201.8	c/m
Instrument Response - Scan			
Background Counts In Observation Interval	B_i	9.13888889	c
Scan Interval Time	T_{SI}	2	s
Instrument Efficiency (e_i)			
(RS+B - Rb) / (q2P)	ε_i	0.33	c/beta
Surface Efficiency (e_s)			
ISO-7503	ε_s	0.25	beta/d
Total Efficiency (e_T)			
(ε_i * ε_s)	ε_T	**0.08**	c/d

Beta Efficiency Data - Model # 146713 / Probe # PR160688

Field Calibration using NIST traceable Tc-99 source.

Source Measuremets (Tc-99)

Count No.	C_{S+B}	T_{S+B}
1	17212	1
2	17332	1
3	17102	1
4	17022	1
5	17299	1
6	17295	1
7	17034	1
8	17543	1
9	17213	1
10	17321	1
11	17431	1
12	17421	1
13	17221	1
14	17346	1
15	17234	1
16	17203	1
17	17321	1
18	17107	1
19	17202	1
20	17305	1
mean	**17258**	
std dev	**132**	

Background Measurements

Count No.	C_B	T_B
1	205	1
2	202	1
3	206	1
4	204	1
5	203	1
6	205	1
7	200	1
8	199	1
9	194	1
10	200	1
mean	**202**	
std dev	**4**	

Performed by: NWT - Roger Freeman
Date: 6/3/03

Building 150 - Survey Unit Design - Beta Measurements

Plan

Classification:	Class 1	
DCGL Criterion		
Dose	25	mrem/y TEDE
Model	D&D, Ver. 2	Building Occupancy - Default Parameters
Radionuclide of Concern	Co-60	
$DCGL_{(w)}$:	7100	dpm 100 cm^{-2}
Area Factor:	5.5	
$DCGL_{(EMC)}$:	39050	dpm 100 cm^{-2}

Instrumentation

Model:	Ludlum 2224	Cal. Date:	30-May-03	Serial No.	146713
Detector:	Gas Proportional 43-68	Cal. Date:	30-May-03	Serial No.	PR160688

Type Survey:	Fixed				
Detector Efficiency (ε_i):	32.8%	cpm dpm^{-1}			
Surface Efficiency (ε_s):	25.0%	cpm dpm^{-1}			
Surveyor Factor (p):	50.0%				
Probe Area (Active):	126	cm^2			
Scan Interval:	2	s			
d':	3.28				
Static MDC:	**775**	dpm 100 cm^{-2}	50% of $DCGL_{(W)}$	Yes	11%
Scan MDC:	4078	dpm 100 cm^{-2}	50% of $DCGL_{(EMC)}$	Yes	
Scan MDCR:	297	cpm			

Number of Measurements

	Background			Sample	
Counting Time:	1	min	Counting Time:	1	min
Bkgd. Counts:	274.2	counts	Instrument Ambient Background:	200	cpm
Bkgd Sigma:	18.7	counts			
Bkgd Count Rate:	274.2	cpm			
LBGR = ½$DCGL_w$:	1583	dpm 100 cm^{-2}			
Delta = $DCGL_w$ - LBGR:	5517	dpm 100 cm^{-2}			
Calculated Sigma (If Applicalbe):	216				
Delta/Sigma:	25.54				
Type I - α:	0.05		Z1 - α	1.645	
Type II - β:	0.05		Z1 - β	1.645	
P_r (MARSSIM, Table 5.1)	N/A				
Sign P (MARSSIM, Table 5.4)	1				
N	**16**		N - taken	**29**	

Statistics

Test	Sign
H_o	The survey unit mean is equal to or exceeds the $DCGL_{(w)}$
H_a	The survey unit mean is less than the $DCGL_{(w)}$ - survey unit may be released

Reference Area (Beta) Measurements - Bldg. 176 - 146713 / PR160688

Count No.	Type of Surface	Date	Counts C_B	Count Time T_B	cpm	ε_T	dpm
1	C	06/12/2003	273	1	273.0	0.08	2646
2	C	06/12/2003	248	1	248.0	0.08	2404
3	C	06/12/2003	272	1	272.0	0.08	2637
4	C	06/12/2003	233	1	233.0	0.08	2259
5	C	06/12/2003	294	1	294.0	0.08	2850
6	C	06/12/2003	258	1	258.0	0.08	2501
7	C	06/12/2003	304	1	304.0	0.08	2947
8	C	06/12/2003	260	1	260.0	0.08	2520
9	C	06/12/2003	289	1	289.0	0.08	2801
10	C	06/12/2003	273	1	273.0	0.08	2646
11	C	06/12/2003	288	1	288.0	0.08	2792
12	C	06/12/2003	296	1	296.0	0.08	2869
13	C	06/12/2003	288	1	288.0	0.08	2792
14	C	06/12/2003	262	1	262.0	0.08	2540
15	C	06/12/2003	306	1	306.0	0.08	2966
16	C	06/12/2003	247	1	247.0	0.08	2394
17	C	06/12/2003	293	1	293.0	0.08	2840
18	C	06/12/2003	287	1	287.0	0.08	2782
19	C	06/12/2003	235	1	235.0	0.08	2278
20	C	06/12/2003	275	1	275.0	0.08	2666
21	C	06/12/2003	257	1	257.0	0.08	2491
22	C	06/12/2003	284	1	284.0	0.08	2753
23	C	06/12/2003	283	1	283.0	0.08	2743
24	C	06/12/2003	280	1	280.0	0.08	2714
25	C	06/12/2003	264	1	264.0	0.08	2559
26	C	06/12/2003	285	1	285.0	0.08	2763
27	C	06/12/2003	266	1	266.0	0.08	2578
28	C	06/12/2003	284	1	284.0	0.08	2753
29	C	06/12/2003	263	1	263.0	0.08	2549
30	C	06/12/2003	278	1	278.0	0.08	2695
			274	**mean**	**274.17**	**mean**	**2658**
			18.7	**std dev**	**18.75**	**std dev**	**181.7**
			277	**median**	**276.50**	**median**	**2680**

Surface Types:

- D: Drywall
- C: Concrete
- B: Brick
- M: Metal
- CT: Ceramic Tile
- SP: Static Pad
- AT: Asbestos Floor Tile
- W: Wood
- G: Glass

Room # 3, Ceiling (Beta) Measurements - Bldg. 150 - 146713 / PR160688 & SignTest

Data Point ID#	Type of Surface	Date	Counts C_B	Count Time T_B	cpm	ε_T	dpm	DCGL-dpm	Sign Test Positive Difference
A0	C	06/26/2003	174	1	174.0	0.08	1687	5413.4	1
A1	C	06/26/2003	212	1	212.0	0.08	2055	5045.0	1
A2	C	06/26/2003	228	1	228.0	0.08	2210	4889.9	1
A3	C	06/26/2003	234	1	234.0	0.08	2268	4831.8	1
A4	C	06/26/2003	213	1	213.0	0.08	2065	5035.3	1
A5	C	06/26/2003	230	1	230.0	0.08	2229	4870.5	1
A6	C	06/26/2003	194	1	194.0	0.08	1881	5219.5	1
B0	C	06/26/2003	174	1	174.0	0.08	1687	5413.4	1
B1	C	06/26/2003	220	1	220.0	0.08	2133	4967.5	1
B2	C	06/26/2003	206	1	206.0	0.08	1997	5103.2	1
B3	C	06/26/2003	253	1	253.0	0.08	2452	4647.6	1
B4	C	06/26/2003	240	1	240.0	0.08	2326	4773.6	1
B5	C	06/26/2003	221	1	221.0	0.08	2142	4957.8	1
B6	C	06/26/2003	207	1	207.0	0.08	2007	5093.5	1
C0	C	06/26/2003	205	1	205.0	0.08	1987	5112.9	1
C1	C	06/26/2003	191	1	191.0	0.08	1851	5248.6	1
C2	C	06/26/2003	180	1	180.0	0.08	1745	5355.2	1
C3	C	06/26/2003	187	1	187.0	0.08	1813	5287.3	1
C4	C	06/26/2003	211	1	211.0	0.08	2045	5054.7	1
C5	C	06/26/2003	176	1	176.0	0.08	1706	5394.0	1
C6	C	06/26/2003	212	1	212.0	0.08	2055	5045.0	1
D3	C	06/26/2003	240	1	240.0	0.08	2326	4773.6	1
D4	C	06/26/2003	203	1	203.0	0.08	1968	5132.3	1
D5	C	06/26/2003	248	1	248.0	0.08	2404	4696.1	1
D6	C	06/26/2003	228	1	228.0	0.08	2210	4889.9	1
E3	C	06/26/2003	226	1	226.0	0.08	2191	4909.3	1
E4	C	06/26/2003	175	1	175.0	0.08	1696	5403.7	1
E5	C	06/26/2003	190	1	190.0	0.08	1842	5258.3	1
E6	C	06/26/2003	175	1	175.0	0.08	1696	5403.7	1
			209	**mean**	**209**	**mean**	**2023**	**N**	**29**
			23.8	**std dev**	**23.8**	**std dev**	**231.0**	**S+**	**29**
			211	**median**	**211**	**median**	**2045**	**Critical Value**	**19**

Reject null hypothesis: The survey unit mean is less than the DCGL(w) - the survey unit may be released

Surface Types:

- D: Drywall
- C: Concrete
- B: Brick
- M: Metal
- CT: Ceramic Tile
- SP: Static Pad
- AT: Asbestos Floor Tile
- W: Wood
- G: Glass


Room #3, Ceiling, Beta Measurements
8000
7000
6000
5000
4000
3000
2000
1000
0
dpm
0
5
10
15
20
25
30
35
Data Points
Instrument
#146713
DCGL

North Outer Wall

Summary Data

Instrument Model	Model Serial No.	Instrument Detector	Probe Serial No.	Calibration Source	Instrument Efficiency (ε_i)	Surface Efficiency (ε_s)	Total Efficiency (ε_t)	Radionuclides of Concern	Static MDC	Gross DCGL	Data Points Required	Data Points Taken	Stat. Test
Ludlum 2224	118242	Gas Proportional 43-68	PR147403	Tc-99	0.34	0.25	0.09	Co-60	682	7100	16	18	Sign

Beta Measurement - Model # 118242 / Probe # PR147403

Beta Measurement Efficiencies - Model # 118242 / Probe # PR147403

Calibration Source Information			
Calibration Source	**Tc-99**		
Source Backing	SS		
Reference Date	R_{date}	09/01/2002	
Half-Life	$T_{1/2}$	2.13E+05	y
Contained Activity	A_o	43.44	nCi
Contained Activity Decay Corrected	A	43.44	nCi
Source Area	S_A	100	cm^2
Surface Emission Rate (2Π)	$q2\Pi_o$	52080	betas/min
Surface Emission Rate (2Π) - Decay Corrected	q2Π	52080	betas/min
Probe Characteristics			
Probe No.		PR147403	
Probe Area (Active)	W_A	126	cm^2
Probe Area (Open)	W_O	100	cm^2
Conversion Factors			
dpm per nanocurie		2.22E+03	dpm/nCi
Instrument Response - Fixed			
Measurement Counts	C_{S+B}	18115	c
Measurement Time	T_{S+B}	1	min
Gross Count Rate of the Measurement	R_{S+B}	18115	c/m
Background Counts	C_B	207	c
Background Time	T_B	1	min
Gross Count Rate of the Background	R_B	207.2	c/m
Instrument Response - Scan			
Background Counts In Observation Interval	B_i	7.75222222	c
Scan Interval Time	T_{SI}	2	s
Instrument Efficiency (e_i)			
(RS+B - Rb) / (q2P)	ε_i	0.34	c/beta
Surface Efficiency (e_s)			
ISO-7503	ε_s	0.25	beta/d
Total Efficiency (e_T)			
(ε_i * ε_s)	ε_T	**0.09**	c/d

Beta Efficiency Data - Model # 118242 / Probe # PR147403

Field Calibration using NIST traceable Tc-99 source.

Source Measuremets (Tc-99)

Count No.	C_{S+B}	T_{S+B}
1	18224	1
2	18055	1
3	18089	1
4	18109	1
5	18173	1
6	18036	1
7	18368	1
8	18067	1
9	18102	1
10	18015	1
11	18040	1
12	18167	1
13	17851	1
14	17949	1
15	18132	1
16	18159	1
17	18255	1
18	18190	1
19	18223	1
20	18105	1
mean	**18115**	
std dev	**114**	

Background Measurements

Count No.	C_B	T_B
1	205	1
2	209	1
3	214	1
4	204	1
5	209	1
6	208	1
7	204	1
8	205	1
9	202	1
10	212	1
mean	**207**	
std dev	**4**	

Performed by: NWT - Roger Freeman
Date: 6/3/03

Building 150 - Survey Unit Design - Beta Measurements

Plan

Classification:	Class 1	
DCGL Criterion		
Dose	25	mrem/y TEDE
Model	D&D, Ver. 2	Building Occupancy - Default Parameters
Radionuclide of Concern	Co-60	
$DCGL_{(w)}$:	7100	dpm 100 cm^{-2}
Area Factor:	5.5	
$DCGL_{(EMC)}$:	39050	dpm 100 cm^{-2}

Instrumentation

Model:	Ludlum 2224	Cal. Date:	30-May-03	Serial No.	118242
Detector:	Gas Proportional 43-68	Cal. Date:	30-May-03	Serial No.	PR147403

Type Survey:	Fixed				
Detector Efficiency (ε_i):	34.4%	cpm dpm^{-1}			
Surface Efficiency (ε_s):	25.0%	cpm dpm^{-1}			
Surveyor Factor (p):	50.0%				
Probe Area (Active):	126	cm^2			
Scan Interval:	2	s			
d':	3.28				
Static MDC:	**682**	dpm 100 cm^{-2}	50% of $DCGL_{(W)}$	Yes	10%
Scan MDC:	3577	dpm 100 cm^{-2}	50% of $DCGL_{(EMC)}$	Yes	
Scan MDCR:	274	cpm			

Number of Measurements

	Background			Sample	
Counting Time:	1	min	Counting Time:	1	min
Bkgd. Counts:	232.6	counts	Instrument Ambient Background:	200	cpm
Bkgd Sigma:	17.5	counts			
Bkgd Count Rate:	232.6	cpm			
LBGR = ½$DCGL_w$:	1583	dpm 100 cm^{-2}			
Delta = $DCGL_w$ - LBGR:	5517	dpm 100 cm^{-2}			
Calculated Sigma (If Applicalbe):	216				
Delta/Sigma:	25.54				
Type I - α:	0.05		Z1 - α	1.645	
Type II - β:	0.05		Z1 - β	1.645	
P_r (MARSSIM, Table 5.1)	N/A				
Sign P (MARSSIM, Table 5.4)	1				
N	**16**		N - taken	**18**	

Statistics

Test	Sign
H_o	The survey unit mean is equal to or exceeds the $DCGL_{(w)}$
H_a	The survey unit mean is less than the $DCGL_{(w)}$ - survey unit may be released

Reference Area (Beta) Measurements - Bldg. 176 - 118242 / PR147403

Count No.	Type of Surface	Date	Counts C_B	Count Time T_B	cpm	ε_T	dpm
1	C	06/12/2003	228	1	228.0	0.09	2105
2	C	06/12/2003	232	1	232.0	0.09	2142
3	C	06/12/2003	211	1	211.0	0.09	1948
4	C	06/12/2003	280	1	280.0	0.09	2585
5	C	06/12/2003	227	1	227.0	0.09	2096
6	C	06/12/2003	220	1	220.0	0.09	2031
7	C	06/12/2003	219	1	219.0	0.09	2022
8	C	06/12/2003	241	1	241.0	0.09	2225
9	C	06/12/2003	267	1	267.0	0.09	2465
10	C	06/12/2003	235	1	235.0	0.09	2170
11	C	06/12/2003	249	1	249.0	0.09	2299
12	C	06/12/2003	247	1	247.0	0.09	2280
13	C	06/12/2003	215	1	215.0	0.09	1985
14	C	06/12/2003	241	1	241.0	0.09	2225
15	C	06/12/2003	231	1	231.0	0.09	2133
16	C	06/12/2003	231	1	231.0	0.09	2133
17	C	06/12/2003	236	1	236.0	0.09	2179
18	C	06/12/2003	251	1	251.0	0.09	2317
19	C	06/12/2003	226	1	226.0	0.09	2086
20	C	06/12/2003	212	1	212.0	0.09	1957
21	C	06/12/2003	224	1	224.0	0.09	2068
22	C	06/12/2003	245	1	245.0	0.09	2262
23	C	06/12/2003	236	1	236.0	0.09	2179
24	C	06/12/2003	246	1	246.0	0.09	2271
25	C	06/12/2003	215	1	215.0	0.09	1985
26	C	06/12/2003	235	1	235.0	0.09	2170
27	C	06/12/2003	198	1	198.0	0.09	1828
28	C	06/12/2003	237	1	237.0	0.09	2188
29	C	06/12/2003	238	1	238.0	0.09	2197
30	C	06/12/2003	204	1	204.0	0.09	1883
			233	**mean**	**232.57**	**mean**	**2147**
			17.5	**std dev**	**17.47**	**std dev**	**161.3**
			234	**median**	**233.50**	**median**	**2156**

Surface Types:

D: Drywall
C: Concrete
B: Brick
M: Metal
CT: Ceramic Tile
SP: Static Pad
AT: Asbestos Floor Tile
W: Wood
G: Glass

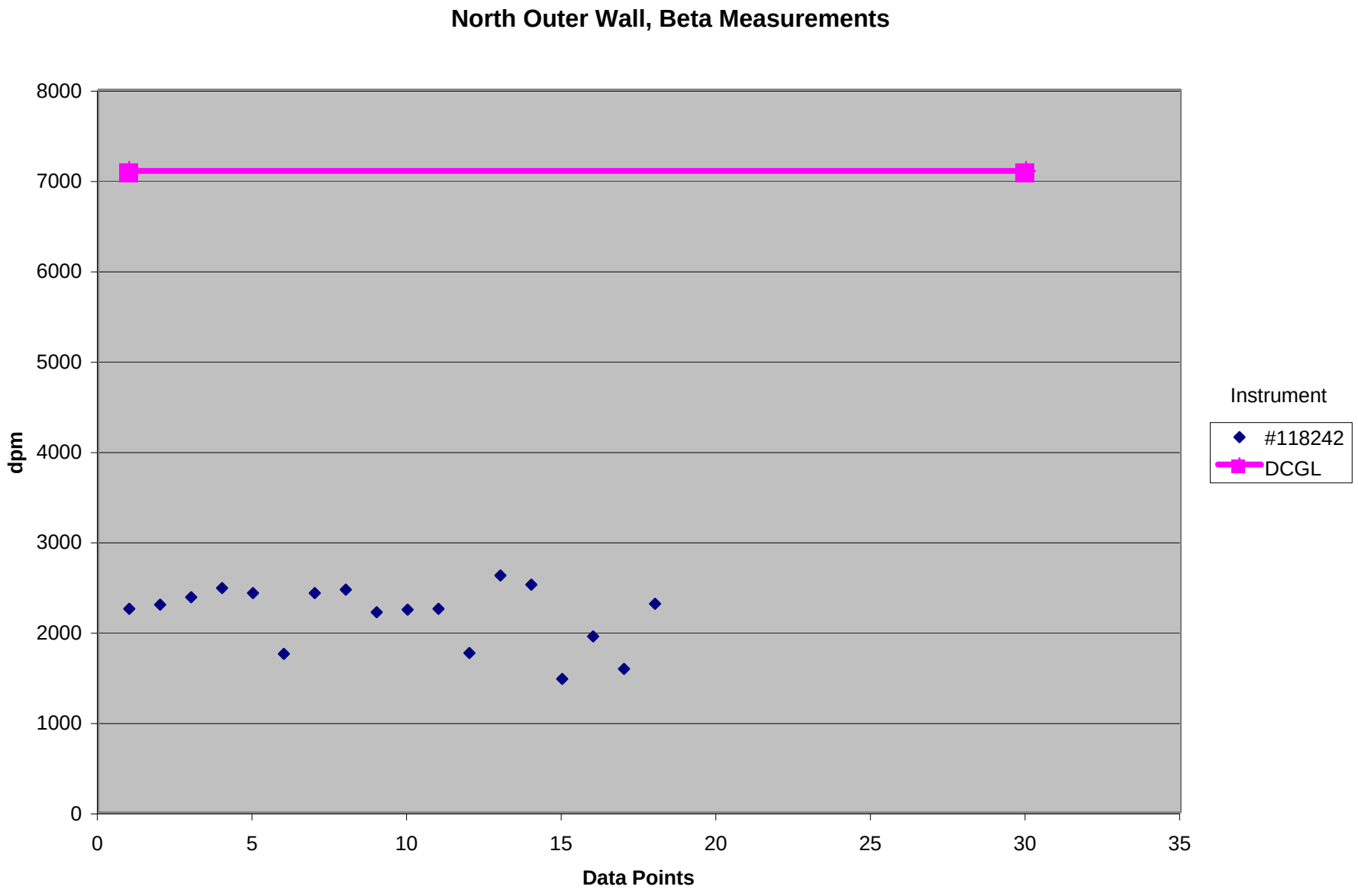
North Outer Wall (Beta) Measurements - Bldg. 150 - 118242 / PR147403 & SignTest

Data Point ID#	Type of Surface	Date	Counts C_B	Count Time T_B	cpm	ε_T	dpm	DCGL-dpm	Sign Test Positive Difference
A0	C	06/17/2003	244	1	244.0	0.09	2253	4847.3	1
A1	C	06/17/2003	249	1	249.0	0.09	2299	4801.2	1
A2	C	06/17/2003	258	1	258.0	0.09	2382	4718.1	1
B0	C	06/17/2003	269	1	269.0	0.09	2483	4616.5	1
B1	C	06/17/2003	263	1	263.0	0.09	2428	4671.9	1
B2	C	06/17/2003	190	1	190.0	0.09	1754	5345.9	1
C0	C	06/17/2003	263	1	263.0	0.09	2428	4671.9	1
C1	C	06/17/2003	267	1	267.0	0.09	2465	4635.0	1
C2	C	06/17/2003	240	1	240.0	0.09	2216	4884.3	1
D0	C	06/17/2003	243	1	243.0	0.09	2243	4856.6	1
D1	C	06/17/2003	244	1	244.0	0.09	2253	4847.3	1
D2	C	06/17/2003	191	1	191.0	0.09	1763	5336.6	1
E0	C	06/17/2003	284	1	284.0	0.09	2622	4478.0	1
E1	C	06/17/2003	273	1	273.0	0.09	2520	4579.6	1
E2	C	06/17/2003	160	1	160.0	0.09	1477	5622.8	1
F0	C	06/17/2003	211	1	211.0	0.09	1948	5152.0	1
F1	C	06/17/2003	172	1	172.0	0.09	1588	5512.1	1
F2	C	06/17/2003	250	1	250.0	0.09	2308	4791.9	1
			237	**mean**	**237**	**mean**	**2191**	**N**	**18**
			36.6	**std dev**	**36.6**	**std dev**	**338.3**	**S+**	**18**
			247	**median**	**247**	**median**	**2276**	**Critical Value**	**12**

Reject null hypothesis: The survey unit mean is less than the DCGL(w) - the survey unit may be released

Surface Types:

- D: Drywall
- C: Concrete
- B: Brick
- M: Metal
- CT: Ceramic Tile
- SP: Static Pad
- AT: Asbestos Floor Tile
- W: Wood
- G: Glass


North Outer Wall, Beta Measurements
8000
7000
6000
5000
4000
3000
2000
1000
0
dpm
0
5
10
15
20
25
30
35
Data Points
Instrument
#118242
DCGL

East Outer Wall

Summary Data

Instrument Model	Model Serial No.	Instrument Detector	Probe Serial No.	Calibration Source	Instrument Efficiency (ε_i)	Surface Efficiency (ε_s)	Total Efficiency (ε_t)	Radionuclides of Concern	Static MDC	Gross DCGL	Data Points Required	Data Points Taken	Stat. Test
Ludlum 2224	118242	Gas Proportional 43-68	PR147403	Tc-99	0.34	0.25	0.09	Co-60	682	7100	16	30	Sign

Beta Measurement - Model # 118242 / Probe # PR147403

Beta Measurement Efficiencies - Model # 118242 / Probe # PR147403

Calibration Source Information			
Calibration Source	**Tc-99**		
Source Backing	SS		
Reference Date	R_{date}	09/01/2002	
Half-Life	$T_{1/2}$	2.13E+05	y
Contained Activity	A_o	43.44	nCi
Contained Activity Decay Corrected	A	43.44	nCi
Source Area	S_A	100	cm^2
Surface Emission Rate (2Π)	$q2\Pi_o$	52080	betas/min
Surface Emission Rate (2Π) - Decay Corrected	q2Π	52080	betas/min
Probe Characteristics			
Probe No.		PR147403	
Probe Area (Active)	W_A	126	cm^2
Probe Area (Open)	W_O	100	cm^2
Conversion Factors			
dpm per nanocurie		2.22E+03	dpm/nCi
Instrument Response - Fixed			
Measurement Counts	C_{S+B}	18115	c
Measurement Time	T_{S+B}	1	min
Gross Count Rate of the Measurement	R_{S+B}	18115	c/m
Background Counts	C_B	207	c
Background Time	T_B	1	min
Gross Count Rate of the Background	R_B	207.2	c/m
Instrument Response - Scan			
Background Counts In Observation Interval	B_i	7.75222222	c
Scan Interval Time	T_{SI}	2	s
Instrument Efficiency (e_i)			
(RS+B - Rb) / (q2P)	ε_i	0.34	c/beta
Surface Efficiency (e_s)			
ISO-7503	ε_s	0.25	beta/d
Total Efficiency (e_T)			
(ε_i * ε_s)	ε_T	**0.09**	c/d

Beta Efficiency Data - Model # 118242 / Probe # PR147403

Field Calibration using NIST traceable Tc-99 source.

Source Measuremets (Tc-99)

Count No.	C_{S+B}	T_{S+B}
1	18224	1
2	18055	1
3	18089	1
4	18109	1
5	18173	1
6	18036	1
7	18368	1
8	18067	1
9	18102	1
10	18015	1
11	18040	1
12	18167	1
13	17851	1
14	17949	1
15	18132	1
16	18159	1
17	18255	1
18	18190	1
19	18223	1
20	18105	1
mean	**18115**	
std dev	**114**	

Background Measurements

Count No.	C_B	T_B
1	205	1
2	209	1
3	214	1
4	204	1
5	209	1
6	208	1
7	204	1
8	205	1
9	202	1
10	212	1
mean	**207**	
std dev	**4**	

Performed by: NWT - Roger Freeman
Date: 6/3/03

Building 150 - Survey Unit Design - Beta Measurements

Plan

Classification:	Class 1	
DCGL Criterion		
Dose	25	mrem/y TEDE
Model	D&D, Ver. 2	Building Occupancy - Default Parameters
Radionuclide of Concern	Co-60	
$DCGL_{(w)}$:	7100	dpm 100 cm^{-2}
Area Factor:	5.5	
$DCGL_{(EMC)}$:	39050	dpm 100 cm^{-2}

Instrumentation

Model:	Ludlum 2224	Cal. Date:	30-May-03	Serial No.	118242
Detector:	Gas Proportional 43-68	Cal. Date:	30-May-03	Serial No.	PR147403

Type Survey:	Fixed				
Detector Efficiency (ε_i):	34.4%	cpm dpm^{-1}			
Surface Efficiency (ε_s):	25.0%	cpm dpm^{-1}			
Surveyor Factor (p):	50.0%				
Probe Area (Active):	126	cm^2			
Scan Interval:	2	s			
d':	3.28				
Static MDC:	**682**	dpm 100 cm^{-2}	50% of $DCGL_{(W)}$	Yes	10%
Scan MDC:	3577	dpm 100 cm^{-2}	50% of $DCGL_{(EMC)}$	Yes	
Scan MDCR:	274	cpm			

Number of Measurements

	Background			Sample	
Counting Time:	1	min	Counting Time:	1	min
Bkgd. Counts:	232.6	counts	Instrument Ambient Background:	200	cpm
Bkgd Sigma:	17.5	counts			
Bkgd Count Rate:	232.6	cpm			
LBGR = ½$DCGL_w$:	1583	dpm 100 cm^{-2}			
Delta = $DCGL_w$ - LBGR:	5517	dpm 100 cm^{-2}			
Calculated Sigma (If Applicalbe):	216				
Delta/Sigma:	25.54				
Type I - α:	0.05		Z1 - α	1.645	
Type II - β:	0.05		Z1 - β	1.645	
P_r (MARSSIM, Table 5.1)	N/A				
Sign P (MARSSIM, Table 5.4)	1				
N	**16**		N - taken	**30**	

Statistics

Test	Sign
H_o	The survey unit mean is equal to or exceeds the $DCGL_{(w)}$
H_a	The survey unit mean is less than the $DCGL_{(w)}$ - survey unit may be released

Reference Area (Beta) Measurements - Bldg. 176 - 118242 / PR147403

Count No.	Type of Surface	Date	Counts C_B	Count Time T_B	cpm	ε_T	dpm
1	C	06/12/2003	228	1	228.0	0.09	2105
2	C	06/12/2003	232	1	232.0	0.09	2142
3	C	06/12/2003	211	1	211.0	0.09	1948
4	C	06/12/2003	280	1	280.0	0.09	2585
5	C	06/12/2003	227	1	227.0	0.09	2096
6	C	06/12/2003	220	1	220.0	0.09	2031
7	C	06/12/2003	219	1	219.0	0.09	2022
8	C	06/12/2003	241	1	241.0	0.09	2225
9	C	06/12/2003	267	1	267.0	0.09	2465
10	C	06/12/2003	235	1	235.0	0.09	2170
11	C	06/12/2003	249	1	249.0	0.09	2299
12	C	06/12/2003	247	1	247.0	0.09	2280
13	C	06/12/2003	215	1	215.0	0.09	1985
14	C	06/12/2003	241	1	241.0	0.09	2225
15	C	06/12/2003	231	1	231.0	0.09	2133
16	C	06/12/2003	231	1	231.0	0.09	2133
17	C	06/12/2003	236	1	236.0	0.09	2179
18	C	06/12/2003	251	1	251.0	0.09	2317
19	C	06/12/2003	226	1	226.0	0.09	2086
20	C	06/12/2003	212	1	212.0	0.09	1957
21	C	06/12/2003	224	1	224.0	0.09	2068
22	C	06/12/2003	245	1	245.0	0.09	2262
23	C	06/12/2003	236	1	236.0	0.09	2179
24	C	06/12/2003	246	1	246.0	0.09	2271
25	C	06/12/2003	215	1	215.0	0.09	1985
26	C	06/12/2003	235	1	235.0	0.09	2170
27	C	06/12/2003	198	1	198.0	0.09	1828
28	C	06/12/2003	237	1	237.0	0.09	2188
29	C	06/12/2003	238	1	238.0	0.09	2197
30	C	06/12/2003	204	1	204.0	0.09	1883
			233	**mean**	**232.57**	**mean**	**2147**
			17.5	**std dev**	**17.47**	**std dev**	**161.3**
			234	**median**	**233.50**	**median**	**2156**

Surface Types:

D: Drywall
C: Concrete
B: Brick
M: Metal
CT: Ceramic Tile
SP: Static Pad
AT: Asbestos Floor Tile
W: Wood
G: Glass

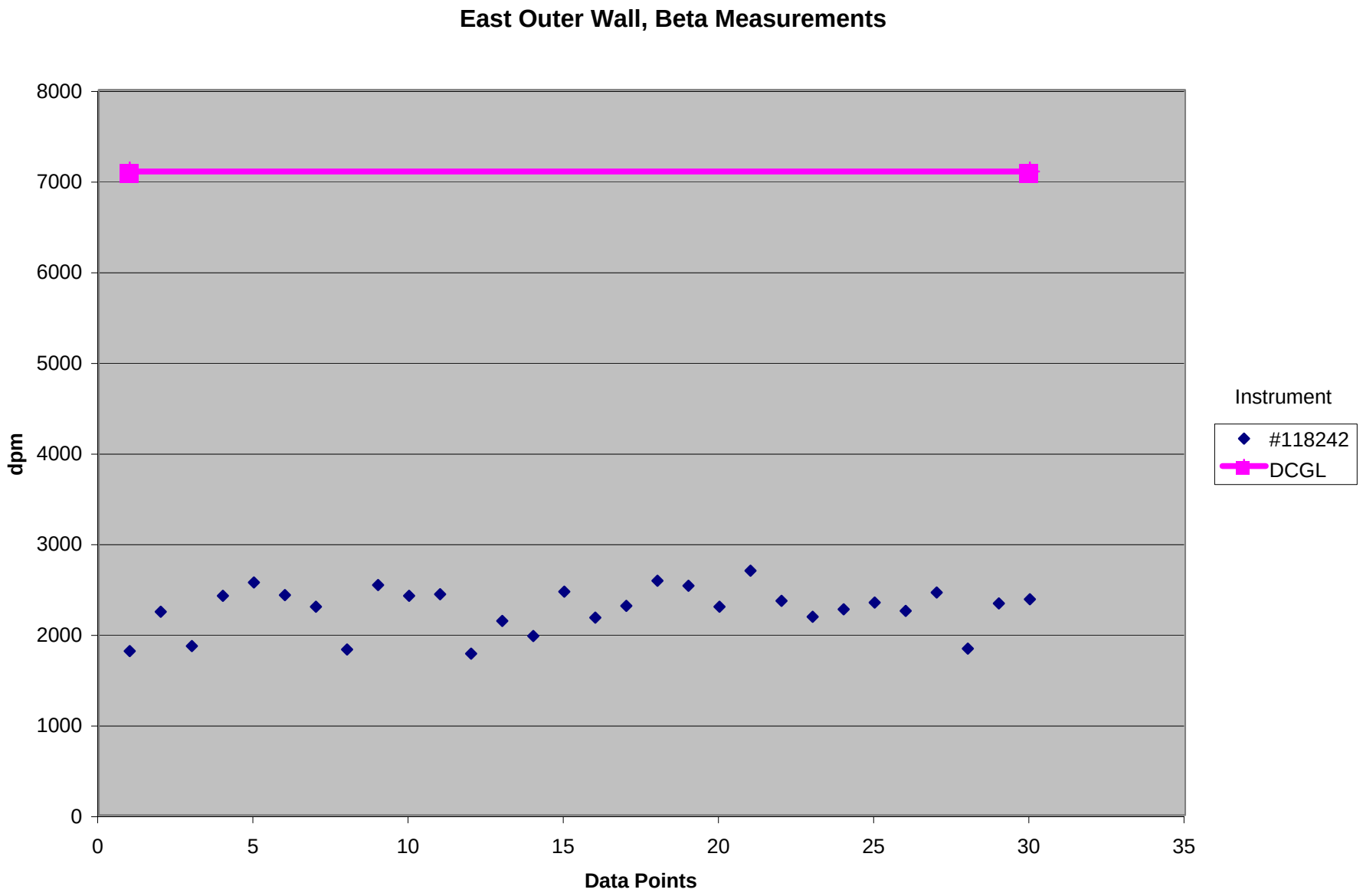
East Outer Wall (Beta) Measurements - Bldg. 150 - 118242 / PR147403 & SignTest

Data Point ID#	Type of Surface	Date	Counts C_B	Count Time T_B	cpm	ε_T	dpm	DCGL-dpm	Sign Test Positive Difference
A0	C	06/19/2003	196	1	196.0	0.09	1810	5290.5	1
A1	C	06/19/2003	243	1	243.0	0.09	2243	4856.6	1
A2	C	06/19/2003	202	1	202.0	0.09	1865	5235.1	1
B0	C	06/19/2003	262	1	262.0	0.09	2419	4681.2	1
B1	C	06/19/2003	278	1	278.0	0.09	2567	4533.4	1
B2	C	06/19/2003	263	1	263.0	0.09	2428	4671.9	1
C0	C	06/19/2003	249	1	249.0	0.09	2299	4801.2	1
C1	C	06/19/2003	198	1	198.0	0.09	1828	5272.0	1
C2	C	06/19/2003	275	1	275.0	0.09	2539	4561.1	1
D0	C	06/19/2003	262	1	262.0	0.09	2419	4681.2	1
D1	C	06/19/2003	264	1	264.0	0.09	2437	4662.7	1
D2	C	06/19/2003	193	1	193.0	0.09	1782	5318.2	1
E0	C	06/19/2003	232	1	232.0	0.09	2142	4958.1	1
E1	C	06/19/2003	214	1	214.0	0.09	1976	5124.3	1
E2	C	06/19/2003	267	1	267.0	0.09	2465	4635.0	1
F0	C	06/19/2003	236	1	236.0	0.09	2179	4921.2	1
F1	C	06/19/2003	250	1	250.0	0.09	2308	4791.9	1
F2	C	06/19/2003	280	1	280.0	0.09	2585	4515.0	1
G0	C	06/19/2003	274	1	274.0	0.09	2530	4570.4	1
G1	C	06/19/2003	249	1	249.0	0.09	2299	4801.2	1
G2	C	06/19/2003	292	1	292.0	0.09	2696	4404.2	1
H0	C	06/19/2003	256	1	256.0	0.09	2363	4736.5	1
H1	C	06/19/2003	237	1	237.0	0.09	2188	4912.0	1
H2	C	06/19/2003	246	1	246.0	0.09	2271	4828.9	1
I0	C	06/19/2003	254	1	254.0	0.09	2345	4755.0	1
I1	C	06/19/2003	244	1	244.0	0.09	2253	4847.3	1
I2	C	06/19/2003	266	1	266.0	0.09	2456	4644.2	1
J0	C	06/19/2003	199	1	199.0	0.09	1837	5262.8	1
J1	C	06/19/2003	253	1	253.0	0.09	2336	4764.2	1
J2	C	06/19/2003	258	1	258.0	0.09	2382	4718.1	1
			246	**mean**	**246**	**mean**	**2275**	**N**	**30**
			27.2	**std dev**	**27.2**	**std dev**	**251.1**	**S+**	**30**
			252	**median**	**252**	**median**	**2322**	**Critical Value**	**19**

Reject null hypothesis: The survey unit mean is less than the DCGL(w) - the survey unit may be released

Surface Types:

- D: Drywall
- C: Concrete
- B: Brick
- M: Metal
- CT: Ceramic Tile
- SP: Static Pad
- AT: Asbestos Floor Tile
- W: Wood
- G: Glass


East Outer Wall, Beta Measurements
8000
7000
6000
5000
4000
3000
2000
1000
0
dpm
0
5
10
15
20
25
30
35
Data Points
Instrument
#118242
DCGL

South Outer Wall

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Summary Data

Instrument Model	Model Serial No.	Instrument Detector	Probe Serial No.	Calibration Source	Instrument Efficiency (ε_i)	Surface Efficiency (ε_s)	Total Efficiency (ε_t)	Radionuclides of Concern	Static MDC	Gross DCGL	Data Points Required	Data Points Taken	Stat. Test
Ludlum 2224	118242	Gas Proportional 43-68	PR147403	Tc-99	0.34	0.25	0.09	Co-60	682	7100	16	21	Sign

Beta Measurement - Model # 118242 / Probe # PR147403

Beta Measurement Efficiencies - Model # 118242 / Probe # PR147403

Calibration Source Information			
Calibration Source	**Tc-99**		
Source Backing	SS		
Reference Date	R_{date}	09/01/2002	
Half-Life	$T_{1/2}$	2.13E+05	y
Contained Activity	A_o	43.44	nCi
Contained Activity Decay Corrected	A	43.44	nCi
Source Area	S_A	100	cm^2
Surface Emission Rate (2Π)	$q2\Pi_o$	52080	betas/min
Surface Emission Rate (2Π) - Decay Corrected	q2Π	52080	betas/min
Probe Characteristics			
Probe No.		PR147403	
Probe Area (Active)	W_A	126	cm^2
Probe Area (Open)	W_O	100	cm^2
Conversion Factors			
dpm per nanocurie		2.22E+03	dpm/nCi
Instrument Response - Fixed			
Measurement Counts	C_{S+B}	18115	c
Measurement Time	T_{S+B}	1	min
Gross Count Rate of the Measurement	R_{S+B}	18115	c/m
Background Counts	C_B	207	c
Background Time	T_B	1	min
Gross Count Rate of the Background	R_B	207.2	c/m
Instrument Response - Scan			
Background Counts In Observation Interval	B_i	7.75222222	c
Scan Interval Time	T_{SI}	2	s
Instrument Efficiency (e_i)			
(RS+B - Rb) / (q2P)	ε_i	0.34	c/beta
Surface Efficiency (e_s)			
ISO-7503	ε_s	0.25	beta/d
Total Efficiency (e_T)			
(ε_i * ε_s)	ε_T	**0.09**	c/d

Beta Efficiency Data - Model # 118242 / Probe # PR147403

Field Calibration using NIST traceable Tc-99 source.

Source Measuremets (Tc-99)

Count No.	C_{S+B}	T_{S+B}
1	18224	1
2	18055	1
3	18089	1
4	18109	1
5	18173	1
6	18036	1
7	18368	1
8	18067	1
9	18102	1
10	18015	1
11	18040	1
12	18167	1
13	17851	1
14	17949	1
15	18132	1
16	18159	1
17	18255	1
18	18190	1
19	18223	1
20	18105	1
mean	**18115**	
std dev	**114**	

Background Measurements

Count No.	C_B	T_B
1	205	1
2	209	1
3	214	1
4	204	1
5	209	1
6	208	1
7	204	1
8	205	1
9	202	1
10	212	1
mean	**207**	
std dev	**4**	

Performed by: NWT - Roger Freeman
Date: 6/3/03

Building 150 - Survey Unit Design - Beta Measurements

Plan

Classification:	Class 1	
DCGL Criterion		
Dose	25	mrem/y TEDE
Model	D&D, Ver. 2	Building Occupancy - Default Parameters
Radionuclide of Concern	Co-60	
$DCGL_{(w)}$:	7100	dpm 100 cm^{-2}
Area Factor:	5.5	
$DCGL_{(EMC)}$:	39050	dpm 100 cm^{-2}

Instrumentation

Model:	Ludlum 2224	Cal. Date:	30-May-03	Serial No.	118242
Detector:	Gas Proportional 43-68	Cal. Date:	30-May-03	Serial No.	PR147403

Type Survey:	Fixed				
Detector Efficiency (ε_i):	34.4%	cpm dpm^{-1}			
Surface Efficiency (ε_s):	25.0%	cpm dpm^{-1}			
Surveyor Factor (p):	50.0%				
Probe Area (Active):	126	cm^2			
Scan Interval:	2	s			
d':	3.28				
Static MDC:	**682**	dpm 100 cm^{-2}	50% of $DCGL_{(W)}$	Yes	10%
Scan MDC:	3577	dpm 100 cm^{-2}	50% of $DCGL_{(EMC)}$	Yes	
Scan MDCR:	274	cpm			

Number of Measurements

	Background			Sample	
Counting Time:	1	min	Counting Time:	1	min
Bkgd. Counts:	232.6	counts	Instrument Ambient Background:	200	cpm
Bkgd Sigma:	17.5	counts			
Bkgd Count Rate:	232.6	cpm			
LBGR = ½$DCGL_w$:	1583	dpm 100 cm^{-2}			
Delta = $DCGL_w$ - LBGR:	5517	dpm 100 cm^{-2}			
Calculated Sigma (If Applicalbe):	216				
Delta/Sigma:	25.54				
Type I - α:	0.05		Z1 - α	1.645	
Type II - β:	0.05		Z1 - β	1.645	
P_r (MARSSIM, Table 5.1)	N/A				
Sign P (MARSSIM, Table 5.4)	1				
N	**16**		N - taken	**21**	

Statistics

Test	Sign
H_o	The survey unit mean is equal to or exceeds the $DCGL_{(w)}$
H_a	The survey unit mean is less than the $DCGL_{(w)}$ - survey unit may be released

Reference Area (Beta) Measurements - Bldg. 176 - 118242 / PR147403

Count No.	Type of Surface	Date	Counts C_B	Count Time T_B	cpm	ε_T	dpm
1	C	06/12/2003	228	1	228.0	0.09	2105
2	C	06/12/2003	232	1	232.0	0.09	2142
3	C	06/12/2003	211	1	211.0	0.09	1948
4	C	06/12/2003	280	1	280.0	0.09	2585
5	C	06/12/2003	227	1	227.0	0.09	2096
6	C	06/12/2003	220	1	220.0	0.09	2031
7	C	06/12/2003	219	1	219.0	0.09	2022
8	C	06/12/2003	241	1	241.0	0.09	2225
9	C	06/12/2003	267	1	267.0	0.09	2465
10	C	06/12/2003	235	1	235.0	0.09	2170
11	C	06/12/2003	249	1	249.0	0.09	2299
12	C	06/12/2003	247	1	247.0	0.09	2280
13	C	06/12/2003	215	1	215.0	0.09	1985
14	C	06/12/2003	241	1	241.0	0.09	2225
15	C	06/12/2003	231	1	231.0	0.09	2133
16	C	06/12/2003	231	1	231.0	0.09	2133
17	C	06/12/2003	236	1	236.0	0.09	2179
18	C	06/12/2003	251	1	251.0	0.09	2317
19	C	06/12/2003	226	1	226.0	0.09	2086
20	C	06/12/2003	212	1	212.0	0.09	1957
21	C	06/12/2003	224	1	224.0	0.09	2068
22	C	06/12/2003	245	1	245.0	0.09	2262
23	C	06/12/2003	236	1	236.0	0.09	2179
24	C	06/12/2003	246	1	246.0	0.09	2271
25	C	06/12/2003	215	1	215.0	0.09	1985
26	C	06/12/2003	235	1	235.0	0.09	2170
27	C	06/12/2003	198	1	198.0	0.09	1828
28	C	06/12/2003	237	1	237.0	0.09	2188
29	C	06/12/2003	238	1	238.0	0.09	2197
30	C	06/12/2003	204	1	204.0	0.09	1883
			233	**mean**	**232.57**	**mean**	**2147**
			17.5	**std dev**	**17.47**	**std dev**	**161.3**
			234	**median**	**233.50**	**median**	**2156**

Surface Types:

- D: Drywall
- C: Concrete
- B: Brick
- M: Metal
- CT: Ceramic Tile
- SP: Static Pad
- AT: Asbestos Floor Tile
- W: Wood
- G: Glass

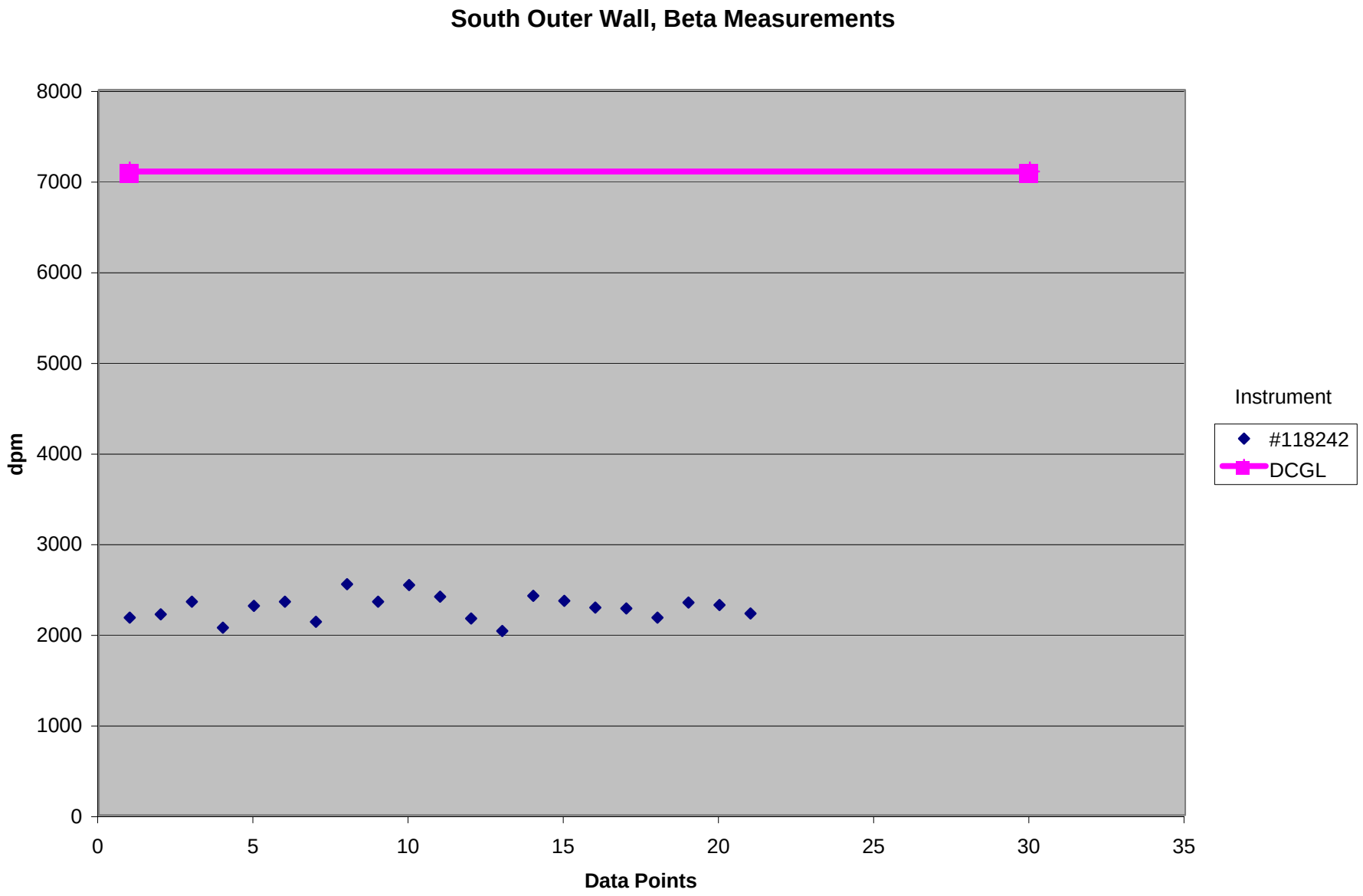
South Outer Wall (Beta) Measurements - Bldg. 150 - 118242 / PR147403 & SignTest

Data Point ID#	Type of Surface	Date	Counts C_B	Count Time T_B	cpm	ε_T	dpm	DCGL-dpm	Sign Test Positive Difference
A0	C	06/17/2003	236	1	236.0	0.09	2179	4921.2	1
A1	C	06/17/2003	240	1	240.0	0.09	2216	4884.3	1
A2	C	06/17/2003	255	1	255.0	0.09	2354	4745.8	1
B0	C	06/17/2003	224	1	224.0	0.09	2068	5032.0	1
B1	C	06/17/2003	250	1	250.0	0.09	2308	4791.9	1
B2	C	06/17/2003	255	1	255.0	0.09	2354	4745.8	1
C0	C	06/17/2003	231	1	231.0	0.09	2133	4967.4	1
C1	C	06/17/2003	276	1	276.0	0.09	2548	4551.9	1
C2	C	06/17/2003	255	1	255.0	0.09	2354	4745.8	1
D0	C	06/17/2003	275	1	275.0	0.09	2539	4561.1	1
D1	C	06/17/2003	261	1	261.0	0.09	2410	4690.4	1
D2	C	06/17/2003	235	1	235.0	0.09	2170	4930.4	1
E0	C	06/17/2003	220	1	220.0	0.09	2031	5068.9	1
E1	C	06/17/2003	262	1	262.0	0.09	2419	4681.2	1
E2	C	06/17/2003	256	1	256.0	0.09	2363	4736.5	1
F0	C	06/17/2003	248	1	248.0	0.09	2290	4810.4	1
F1	C	06/17/2003	247	1	247.0	0.09	2280	4819.6	1
F2	C	06/17/2003	236	1	236.0	0.09	2179	4921.2	1
G0	C	06/17/2003	254	1	254.0	0.09	2345	4755.0	1
G1	C	06/17/2003	251	1	251.0	0.09	2317	4782.7	1
G2	C	06/17/2003	241	1	241.0	0.09	2225	4875.0	1
			248	**mean**	**248**	**mean**	**2290**	**N**	**21**
			14.8	**std dev**	**14.8**	**std dev**	**136.3**	**S+**	**21**
			250	**median**	**250**	**median**	**2308**	**Critical Value**	**14**

Reject null hypothesis: The survey unit mean is less than the DCGL(w) - the survey unit may be released

Surface Types:

- D: Drywall
- C: Concrete
- B: Brick
- M: Metal
- CT: Ceramic Tile
- SP: Static Pad
- AT: Asbestos Floor Tile
- W: Wood
- G: Glass


South Outer Wall, Beta Measurements
8000
7000
6000
5000
4000
3000
2000
1000
0
dpm
0
5
10
15
20
25
30
35
Data Points
Instrument
#118242
DCGL

West Outer Wall

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Summary Data

Instrument Model	Model Serial No.	Instrument Detector	Probe Serial No.	Calibration Source	Instrument Efficiency (ε_i)	Surface Efficiency (ε_s)	Total Efficiency (ε_τ)	Radionuclides of Concern	Static MDC	Gross DCGL	Data Points Required	Data Points Taken	Stat. Test
Ludlum 2224	118242	Gas Proportional 43-68	PR147403	Tc-99	0.34	0.25	0.09	Co-60	682	7100	16	27	Sign

Beta Measurement - Model # 118242 / Probe # PR147403

Beta Measurement Efficiencies - Model # 118242 / Probe # PR147403

Calibration Source Information			
Calibration Source	**Tc-99**		
Source Backing	SS		
Reference Date	R_{date}	09/01/2002	
Half-Life	$T_{1/2}$	2.13E+05	y
Contained Activity	A_o	43.44	nCi
Contained Activity Decay Corrected	A	43.44	nCi
Source Area	S_A	100	cm^2
Surface Emission Rate (2Π)	$q2\Pi_o$	52080	betas/min
Surface Emission Rate (2Π) - Decay Corrected	q2Π	52080	betas/min
Probe Characteristics			
Probe No.		PR147403	
Probe Area (Active)	W_A	126	cm^2
Probe Area (Open)	W_O	100	cm^2
Conversion Factors			
dpm per nanocurie		2.22E+03	dpm/nCi
Instrument Response - Fixed			
Measurement Counts	C_{S+B}	18115	c
Measurement Time	T_{S+B}	1	min
Gross Count Rate of the Measurement	R_{S+B}	18115	c/m
Background Counts	C_B	207	c
Background Time	T_B	1	min
Gross Count Rate of the Background	R_B	207.2	c/m
Instrument Response - Scan			
Background Counts In Observation Interval	B_i	7.75222222	c
Scan Interval Time	T_{SI}	2	s
Instrument Efficiency (e_i)			
(RS+B - Rb) / (q2P)	ε_i	0.34	c/beta
Surface Efficiency (e_s)			
ISO-7503	ε_s	0.25	beta/d
Total Efficiency (e_T)			
(ε_i * ε_s)	ε_T	**0.09**	c/d

Beta Efficiency Data - Model # 118242 / Probe # PR147403

Field Calibration using NIST traceable Tc-99 source.

Source Measuremets (Tc-99)

Count No.	C_{S+B}	T_{S+B}
1	18224	1
2	18055	1
3	18089	1
4	18109	1
5	18173	1
6	18036	1
7	18368	1
8	18067	1
9	18102	1
10	18015	1
11	18040	1
12	18167	1
13	17851	1
14	17949	1
15	18132	1
16	18159	1
17	18255	1
18	18190	1
19	18223	1
20	18105	1
mean	**18115**	
std dev	**114**	

Background Measurements

Count No.	C_B	T_B
1	205	1
2	209	1
3	214	1
4	204	1
5	209	1
6	208	1
7	204	1
8	205	1
9	202	1
10	212	1
mean	**207**	
std dev	**4**	

Performed by: NWT - Roger Freeman
Date: 6/3/03

Building 150 - Survey Unit Design - Beta Measurements

Plan

Classification:	Class 1	
DCGL Criterion		
Dose	25	mrem/y TEDE
Model	D&D, Ver. 2	Building Occupancy - Default Parameters
Radionuclide of Concern	Co-60	
$DCGL_{(w)}$:	7100	dpm 100 cm^{-2}
Area Factor:	5.5	
$DCGL_{(EMC)}$:	39050	dpm 100 cm^{-2}

Instrumentation

Model:	Ludlum 2224	Cal. Date:	30-May-03	Serial No.	118242
Detector:	Gas Proportional 43-68	Cal. Date:	30-May-03	Serial No.	PR147403

Type Survey:	Fixed				
Detector Efficiency (ε_i):	34.4%	cpm dpm^{-1}			
Surface Efficiency (ε_s):	25.0%	cpm dpm^{-1}			
Surveyor Factor (p):	50.0%				
Probe Area (Active):	126	cm^2			
Scan Interval:	2	s			
d':	3.28				
Static MDC:	**682**	dpm 100 cm^{-2}	50% of $DCGL_{(W)}$	Yes	10%
Scan MDC:	3577	dpm 100 cm^{-2}	50% of $DCGL_{(EMC)}$	Yes	
Scan MDCR:	274	cpm			

Number of Measurements

	Background			Sample	
Counting Time:	1	min	Counting Time:	1	min
Bkgd. Counts:	232.6	counts	Instument Ambient Background:	200	cpm
Bkgd Sigma:	17.5	counts			
Bkgd Count Rate:	232.6	cpm			
LBGR = ½$DCGL_w$:	1583	dpm 100 cm^{-2}			
Delta = $DCGL_w$ - LBGR:	5517	dpm 100 cm^{-2}			
Calculated Sigma (If Applicalbe):	216				
Delta/Sigma:	25.54				
Type I - α:	0.05		Z1 - α	1.645	
Type II - β:	0.05		Z1 - β	1.645	
P_r (MARSSIM, Table 5.1)	N/A				
Sign P (MARSSIM, Table 5.4)	1				
N	**16**		N - taken	**27**	

Statistics

Test	Sign
H_o	The survey unit mean is equal to or exceeds the $DCGL_{(w)}$
H_a	The survey unit mean is less than the $DCGL_{(w)}$ - survey unit may be released

Reference Area (Beta) Measurements - Bldg. 176 - 118242 / PR147403

Count No.	Type of Surface	Date	Counts C_B	Count Time T_B	cpm	ε_T	dpm
1	C	06/12/2003	228	1	228.0	0.09	2105
2	C	06/12/2003	232	1	232.0	0.09	2142
3	C	06/12/2003	211	1	211.0	0.09	1948
4	C	06/12/2003	280	1	280.0	0.09	2585
5	C	06/12/2003	227	1	227.0	0.09	2096
6	C	06/12/2003	220	1	220.0	0.09	2031
7	C	06/12/2003	219	1	219.0	0.09	2022
8	C	06/12/2003	241	1	241.0	0.09	2225
9	C	06/12/2003	267	1	267.0	0.09	2465
10	C	06/12/2003	235	1	235.0	0.09	2170
11	C	06/12/2003	249	1	249.0	0.09	2299
12	C	06/12/2003	247	1	247.0	0.09	2280
13	C	06/12/2003	215	1	215.0	0.09	1985
14	C	06/12/2003	241	1	241.0	0.09	2225
15	C	06/12/2003	231	1	231.0	0.09	2133
16	C	06/12/2003	231	1	231.0	0.09	2133
17	C	06/12/2003	236	1	236.0	0.09	2179
18	C	06/12/2003	251	1	251.0	0.09	2317
19	C	06/12/2003	226	1	226.0	0.09	2086
20	C	06/12/2003	212	1	212.0	0.09	1957
21	C	06/12/2003	224	1	224.0	0.09	2068
22	C	06/12/2003	245	1	245.0	0.09	2262
23	C	06/12/2003	236	1	236.0	0.09	2179
24	C	06/12/2003	246	1	246.0	0.09	2271
25	C	06/12/2003	215	1	215.0	0.09	1985
26	C	06/12/2003	235	1	235.0	0.09	2170
27	C	06/12/2003	198	1	198.0	0.09	1828
28	C	06/12/2003	237	1	237.0	0.09	2188
29	C	06/12/2003	238	1	238.0	0.09	2197
30	C	06/12/2003	204	1	204.0	0.09	1883
			233	**mean**	**232.57**	**mean**	**2147**
			17.5	**std dev**	**17.47**	**std dev**	**161.3**
			234	**median**	**233.50**	**median**	**2156**

Surface Types:

- D: Drywall
- C: Concrete
- B: Brick
- M: Metal
- CT: Ceramic Tile
- SP: Static Pad
- AT: Asbestos Floor Tile
- W: Wood
- G: Glass

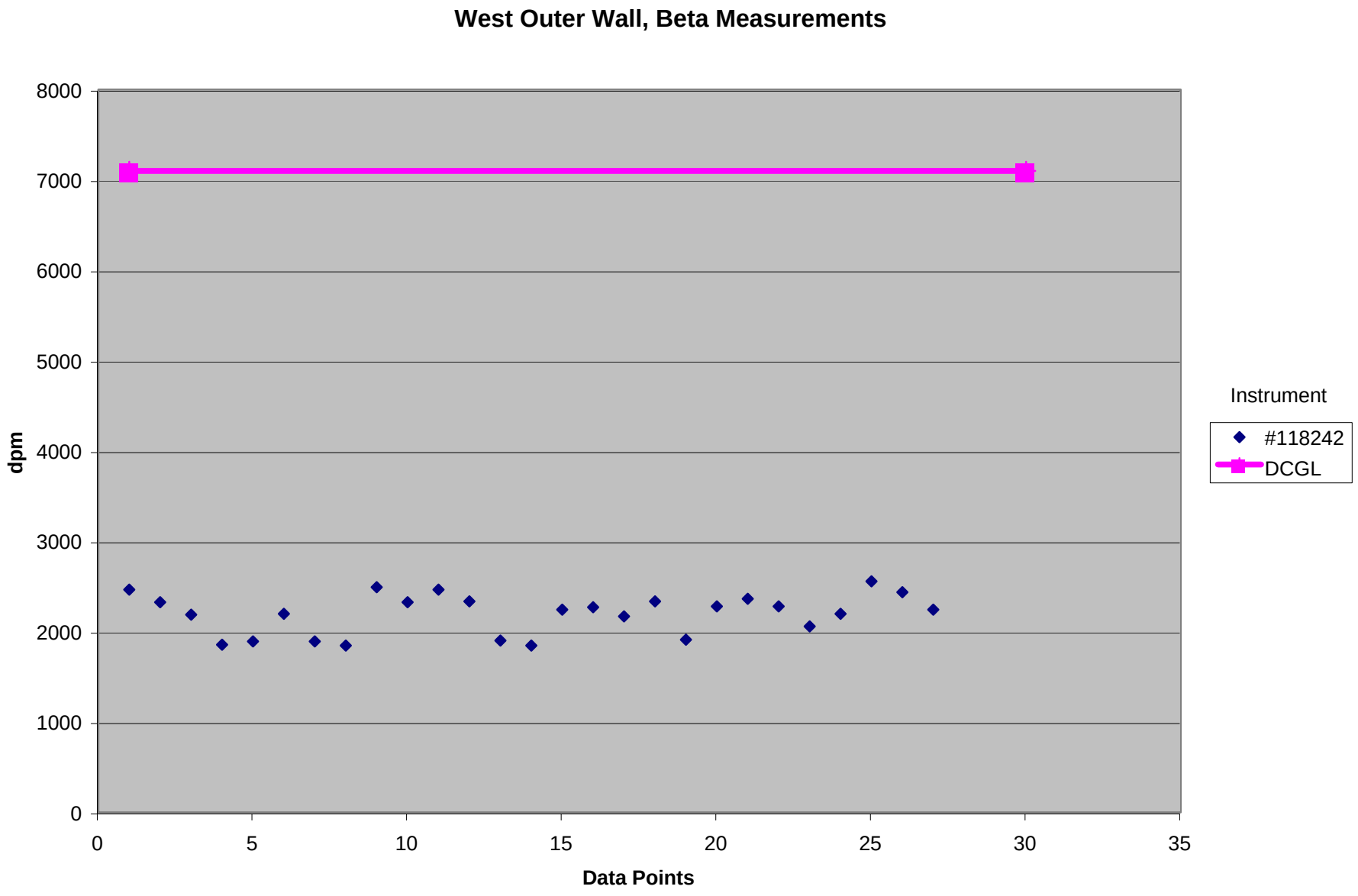
West Outer Wall (Beta) Measurements - Bldg. 150 - 118242 / PR147403 & SignTest

Data Point ID#	Type of Surface	Date	Counts C_B	Count Time T_B	cpm	ε_T	dpm	DCGL-dpm	Sign Test Positive Difference
A0	C	06/17/2003	267	1	267.0	0.09	2465	4635.0	1
A1	C	06/17/2003	252	1	252.0	0.09	2327	4773.5	1
A2	C	06/17/2003	237	1	237.0	0.09	2188	4912.0	1
B0	C	06/17/2003	201	1	201.0	0.09	1856	5244.3	1
B1	C	06/17/2003	205	1	205.0	0.09	1893	5207.4	1
B2	C	06/17/2003	238	1	238.0	0.09	2197	4902.7	1
C0	C	06/17/2003	205	1	205.0	0.09	1893	5207.4	1
C1	C	06/17/2003	200	1	200.0	0.09	1846	5253.6	1
C2	C	06/17/2003	270	1	270.0	0.09	2493	4607.3	1
D0	C	06/17/2003	252	1	252.0	0.09	2327	4773.5	1
D1	C	06/17/2003	267	1	267.0	0.09	2465	4635.0	1
D2	C	06/17/2003	253	1	253.0	0.09	2336	4764.2	1
E0	C	06/17/2003	206	1	206.0	0.09	1902	5198.2	1
E1	C	06/17/2003	200	1	200.0	0.09	1846	5253.6	1
E2	C	06/17/2003	243	1	243.0	0.09	2243	4856.6	1
F0	C	06/17/2003	246	1	246.0	0.09	2271	4828.9	1
F1	C	06/17/2003	235	1	235.0	0.09	2170	4930.4	1
F2	C	06/17/2003	253	1	253.0	0.09	2336	4764.2	1
G0	C	06/17/2003	207	1	207.0	0.09	1911	5188.9	1
G1	C	06/17/2003	247	1	247.0	0.09	2280	4819.6	1
G2	C	06/17/2003	256	1	256.0	0.09	2363	4736.5	1
H0	C	06/17/2003	247	1	247.0	0.09	2280	4819.6	1
H1	C	06/17/2003	223	1	223.0	0.09	2059	5041.2	1
H2	C	06/17/2003	238	1	238.0	0.09	2197	4902.7	1
I0	C	06/17/2003	277	1	277.0	0.09	2557	4542.7	1
I1	C	06/17/2003	264	1	264.0	0.09	2437	4662.7	1
I2	C	06/17/2003	243	1	243.0	0.09	2243	4856.6	1
			238	**mean**	**238**	**mean**	**2199**	**N**	**27**
			24.0	**std dev**	**24.0**	**std dev**	**221.7**	**S+**	**27**
			243	**median**	**243**	**median**	**2243**	**Critical Value**	**18**

Reject null hypothesis: The survey unit mean is less than the DCGL(w) - the survey unit may be released

Surface Types:

- D: Drywall
- C: Concrete
- B: Brick
- M: Metal
- CT: Ceramic Tile
- SP: Static Pad
- AT: Asbestos Floor Tile
- W: Wood
- G: Glass


West Outer Wall, Beta Measurements
8000
7000
6000
5000
4000
3000
2000
1000
0
dpm
0
5
10
15
20
25
30
35
Data Points
Instrument
#118242
DCGL

North/East Inner Wall

Summary Data

Instrument Model	Model Serial No.	Instrument Detector	Probe Serial No.	Calibration Source	Instrument Efficiency (ε_i)	Surface Efficiency (ε_s)	Total Efficiency (ε_t)	Radionuclides of Concern	Static MDC	Gross DCGL	Data Points Required	Data Points Taken	Stat. Test
Ludlum 2224	118242	Gas Proportional 43-68	PR147403	Tc-99	0.34	0.25	0.09	Co-60	682	7100	16	30	Sign

Beta Measurement - Model # 118242 / Probe # PR147403

Beta Measurement Efficiencies - Model # 118242 / Probe # PR147403

Calibration Source Information			
Calibration Source	**Tc-99**		
Source Backing	SS		
Reference Date	R_{date}	09/01/2002	
Half-Life	$T_{1/2}$	2.13E+05	y
Contained Activity	A_o	43.44	nCi
Contained Activity Decay Corrected	A	43.44	nCi
Source Area	S_A	100	cm^2
Surface Emission Rate (2Π)	$q2\Pi_o$	52080	betas/min
Surface Emission Rate (2Π) - Decay Corrected	q2Π	52080	betas/min
Probe Characteristics			
Probe No.		PR147403	
Probe Area (Active)	W_A	126	cm^2
Probe Area (Open)	W_O	100	cm^2
Conversion Factors			
dpm per nanocurie		2.22E+03	dpm/nCi
Instrument Response - Fixed			
Measurement Counts	C_{S+B}	18115	c
Measurement Time	T_{S+B}	1	min
Gross Count Rate of the Measurement	R_{S+B}	18115	c/m
Background Counts	C_B	207	c
Background Time	T_B	1	min
Gross Count Rate of the Background	R_B	207.2	c/m
Instrument Response - Scan			
Background Counts In Observation Interval	B_i	7.75222222	c
Scan Interval Time	T_{SI}	2	s
Instrument Efficiency (e_i)			
(RS+B - Rb) / (q2P)	ε_i	0.34	c/beta
Surface Efficiency (e_s)			
ISO-7503	ε_s	0.25	beta/d
Total Efficiency (e_T)			
(ε_i * ε_s)	ε_T	**0.09**	c/d

Beta Efficiency Data - Model # 118242 / Probe # PR147403

Field Calibration using NIST traceable Tc-99 source.

Source Measuremets (Tc-99)

Count No.	C_{S+B}	T_{S+B}
1	18224	1
2	18055	1
3	18089	1
4	18109	1
5	18173	1
6	18036	1
7	18368	1
8	18067	1
9	18102	1
10	18015	1
11	18040	1
12	18167	1
13	17851	1
14	17949	1
15	18132	1
16	18159	1
17	18255	1
18	18190	1
19	18223	1
20	18105	1
mean	**18115**	
std dev	**114**	

Background Measurements

Count No.	C_B	T_B
1	205	1
2	209	1
3	214	1
4	204	1
5	209	1
6	208	1
7	204	1
8	205	1
9	202	1
10	212	1
mean	**207**	
std dev	**4**	

Performed by: NWT - Roger Freeman
Date: 6/3/03

Building 150 - Survey Unit Design - Beta Measurements

Plan

Classification:	Class 1	
DCGL Criterion		
Dose	25	mrem/y TEDE
Model	D&D, Ver. 2	Building Occupancy - Default Parameters
Radionuclide of Concern	Co-60	
$DCGL_{(w)}$:	7100	dpm 100 cm^{-2}
Area Factor:	5.5	
$DCGL_{(EMC)}$:	39050	dpm 100 cm^{-2}

Instrumentation

Model:	Ludlum 2224	Cal. Date:	30-May-03	Serial No.	118242
Detector:	Gas Proportional 43-68	Cal. Date:	30-May-03	Serial No.	PR147403

Type Survey:	Fixed				
Detector Efficiency (ε_i):	34.4%	cpm dpm^{-1}			
Surface Efficiency (ε_s):	25.0%	cpm dpm^{-1}			
Surveyor Factor (p):	50.0%				
Probe Area (Active):	126	cm^2			
Scan Interval:	2	s			
d':	3.28				
Static MDC:	**682**	dpm 100 cm^{-2}	50% of $DCGL_{(W)}$	Yes	10%
Scan MDC:	3577	dpm 100 cm^{-2}	50% of $DCGL_{(EMC)}$	Yes	
Scan MDCR:	274	cpm			

Number of Measurements

	Background			Sample	
Counting Time:	1	min	Counting Time:	1	min
Bkgd. Counts:	232.6	counts	Instrument Ambient Background:	200	cpm
Bkgd Sigma:	17.5	counts			
Bkgd Count Rate:	232.6	cpm			
LBGR = ½$DCGL_w$:	1583	dpm 100 cm^{-2}			
Delta = $DCGL_w$ - LBGR:	5517	dpm 100 cm^{-2}			
Calculated Sigma (If Applicalbe):	216				
Delta/Sigma:	25.54				
Type I - α:	0.05		Z1 - α	1.645	
Type II - β:	0.05		Z1 - β	1.645	
P_r (MARSSIM, Table 5.1)	N/A				
Sign P (MARSSIM, Table 5.4)	1				
N	**16**		N - taken	**30**	

Statistics

Test	Sign
H_o	The survey unit mean is equal to or exceeds the $DCGL_{(w)}$
H_a	The survey unit mean is less than the $DCGL_{(w)}$ - survey unit may be released

Reference Area (Beta) Measurements - Bldg. 176 - 118242 / PR147403

Count No.	Type of Surface	Date	Counts C_B	Count Time T_B	cpm	ε_T	dpm
1	C	06/12/2003	228	1	228.0	0.09	2105
2	C	06/12/2003	232	1	232.0	0.09	2142
3	C	06/12/2003	211	1	211.0	0.09	1948
4	C	06/12/2003	280	1	280.0	0.09	2585
5	C	06/12/2003	227	1	227.0	0.09	2096
6	C	06/12/2003	220	1	220.0	0.09	2031
7	C	06/12/2003	219	1	219.0	0.09	2022
8	C	06/12/2003	241	1	241.0	0.09	2225
9	C	06/12/2003	267	1	267.0	0.09	2465
10	C	06/12/2003	235	1	235.0	0.09	2170
11	C	06/12/2003	249	1	249.0	0.09	2299
12	C	06/12/2003	247	1	247.0	0.09	2280
13	C	06/12/2003	215	1	215.0	0.09	1985
14	C	06/12/2003	241	1	241.0	0.09	2225
15	C	06/12/2003	231	1	231.0	0.09	2133
16	C	06/12/2003	231	1	231.0	0.09	2133
17	C	06/12/2003	236	1	236.0	0.09	2179
18	C	06/12/2003	251	1	251.0	0.09	2317
19	C	06/12/2003	226	1	226.0	0.09	2086
20	C	06/12/2003	212	1	212.0	0.09	1957
21	C	06/12/2003	224	1	224.0	0.09	2068
22	C	06/12/2003	245	1	245.0	0.09	2262
23	C	06/12/2003	236	1	236.0	0.09	2179
24	C	06/12/2003	246	1	246.0	0.09	2271
25	C	06/12/2003	215	1	215.0	0.09	1985
26	C	06/12/2003	235	1	235.0	0.09	2170
27	C	06/12/2003	198	1	198.0	0.09	1828
28	C	06/12/2003	237	1	237.0	0.09	2188
29	C	06/12/2003	238	1	238.0	0.09	2197
30	C	06/12/2003	204	1	204.0	0.09	1883
			233	**mean**	**232.57**	**mean**	**2147**
			17.5	**std dev**	**17.47**	**std dev**	**161.3**
			234	**median**	**233.50**	**median**	**2156**

Surface Types:

D: Drywall
C: Concrete
B: Brick
M: Metal
CT: Ceramic Tile
SP: Static Pad
AT: Asbestos Floor Tile
W: Wood
G: Glass

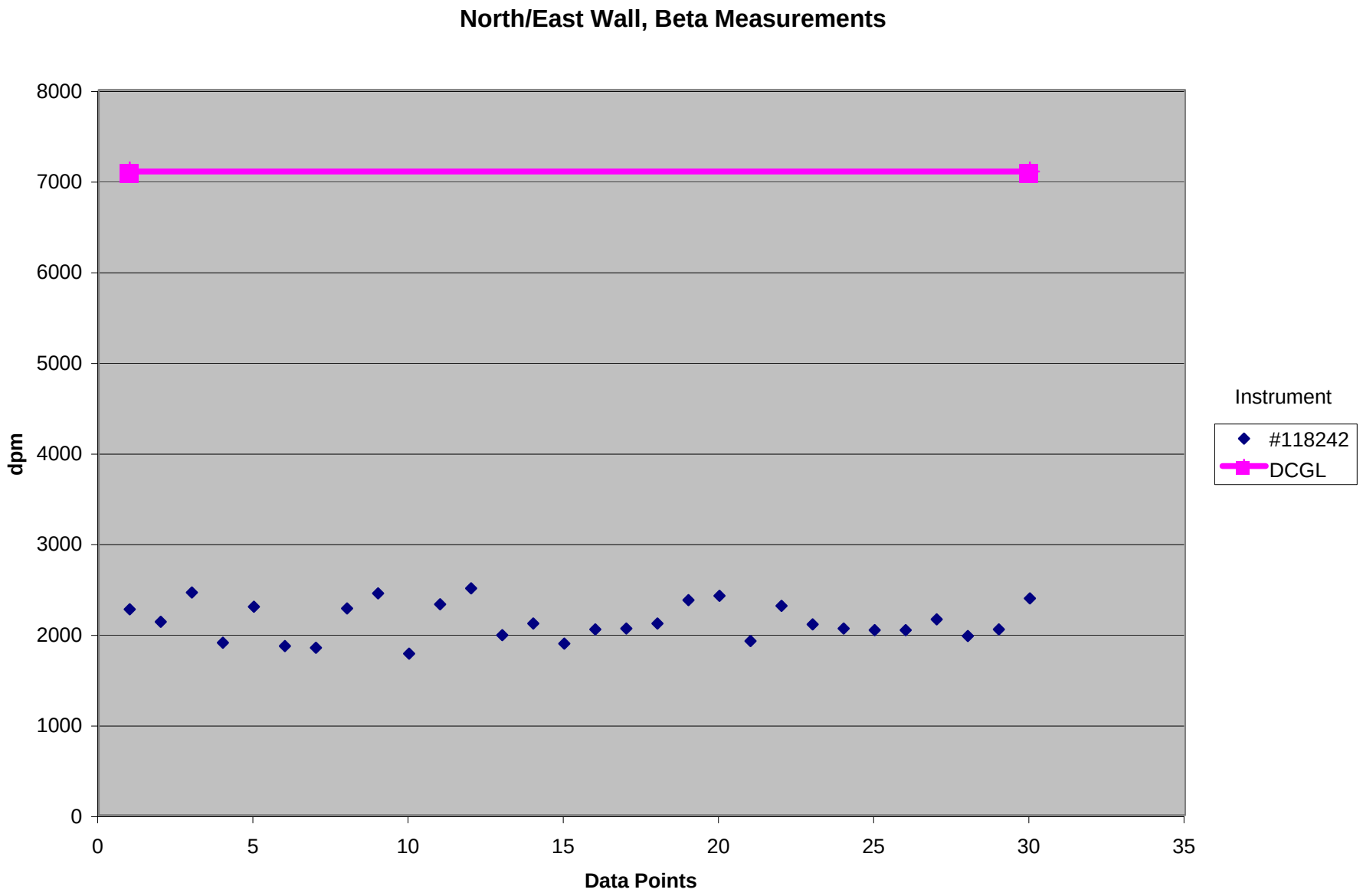
North/East Inner Wall (Beta) Measurements - Bldg. 150 - 118242 / PR147403 & SignTest

Data Point ID#	Type of Surface	Date	Counts C_B	Count Time T_B	cpm	ε_T	dpm	DCGL-dpm	Sign Test Positive Difference
A0	C	06/16/2003	246	1	246.0	0.09	2271	4828.9	1
A1	C	06/16/2003	231	1	231.0	0.09	2133	4967.4	1
A2	C	06/16/2003	266	1	266.0	0.09	2456	4644.2	1
B0	C	06/16/2003	206	1	206.0	0.09	1902	5198.2	1
B1	C	06/16/2003	249	1	249.0	0.09	2299	4801.2	1
B2	C	06/16/2003	202	1	202.0	0.09	1865	5235.1	1
C0	C	06/16/2003	200	1	200.0	0.09	1846	5253.6	1
C1	C	06/16/2003	247	1	247.0	0.09	2280	4819.6	1
C2	C	06/16/2003	265	1	265.0	0.09	2447	4653.5	1
D0	C	06/16/2003	193	1	193.0	0.09	1782	5318.2	1
D1	C	06/16/2003	252	1	252.0	0.09	2327	4773.5	1
D2	C	06/16/2003	271	1	271.0	0.09	2502	4598.1	1
E0	C	06/16/2003	215	1	215.0	0.09	1985	5115.1	1
E1	C	06/16/2003	229	1	229.0	0.09	2114	4985.8	1
E2	C	06/16/2003	205	1	205.0	0.09	1893	5207.4	1
F0	C	06/16/2003	222	1	222.0	0.09	2050	5050.4	1
F1	C	06/16/2003	223	1	223.0	0.09	2059	5041.2	1
F2	C	06/16/2003	229	1	229.0	0.09	2114	4985.8	1
G0	C	06/16/2003	257	1	257.0	0.09	2373	4727.3	1
G1	C	06/16/2003	262	1	262.0	0.09	2419	4681.2	1
G2	C	06/16/2003	208	1	208.0	0.09	1920	5179.7	1
H0	C	06/16/2003	250	1	250.0	0.09	2308	4791.9	1
H1	C	06/16/2003	228	1	228.0	0.09	2105	4995.0	1
H2	C	06/16/2003	223	1	223.0	0.09	2059	5041.2	1
I0	C	06/16/2003	221	1	221.0	0.09	2040	5059.7	1
I1	C	06/16/2003	221	1	221.0	0.09	2040	5059.7	1
I2	C	06/16/2003	234	1	234.0	0.09	2160	4939.7	1
J0	C	06/16/2003	214	1	214.0	0.09	1976	5124.3	1
J1	C	06/16/2003	222	1	222.0	0.09	2050	5050.4	1
J2	C	06/16/2003	259	1	259.0	0.09	2391	4708.8	1
			232	**mean**	**232**	**mean**	**2139**	**N**	**30**
			22.1	**std dev**	**22.1**	**std dev**	**203.8**	**S+**	**30**
			229	**median**	**229**	**median**	**2110**	**Critical Value**	**19**

Reject null hypothesis: The survey unit mean is less than the DCGL(w) - the survey unit may be released

Surface Types:

- D: Drywall
- C: Concrete
- B: Brick
- M: Metal
- CT: Ceramic Tile
- SP: Static Pad
- AT: Asbestos Floor Tile
- W: Wood
- G: Glass


North/East Wall, Beta Measurements
8000
7000
6000
5000
4000
3000
2000
1000
0
dpm
0
5
10
15
20
25
30
35
Data Points
Instrument
#118242
DCGL

South/West Inner Wall

Summary Data

Instrument Model	Model Serial No.	Instrument Detector	Probe Serial No.	Calibration Source	Instrument Efficiency (ε_i)	Surface Efficiency (ε_s)	Total Efficiency (ε_t)	Radionuclides of Concern	Static MDC	Gross DCGL	Data Points Required	Data Points Taken	Stat. Test
Ludlum 2224	118242	Gas Proportional 43-68	PR147403	Tc-99	0.34	0.25	0.09	Co-60	682	7100	16	27	Sign

Beta Measurement - Model # 118242 / Probe # PR147403

Beta Measurement Efficiencies - Model # 118242 / Probe # PR147403

Calibration Source Information			
Calibration Source	**Tc-99**		
Source Backing	SS		
Reference Date	R_{date}	09/01/2002	
Half-Life	$T_{1/2}$	2.13E+05	y
Contained Activity	A_o	43.44	nCi
Contained Activity Decay Corrected	A	43.44	nCi
Source Area	S_A	100	cm^2
Surface Emission Rate (2Π)	$q2\Pi_o$	52080	betas/min
Surface Emission Rate (2Π) - Decay Corrected	q2Π	52080	betas/min
Probe Characteristics			
Probe No.		PR147403	
Probe Area (Active)	W_A	126	cm^2
Probe Area (Open)	W_O	100	cm^2
Conversion Factors			
dpm per nanocurie		2.22E+03	dpm/nCi
Instrument Response - Fixed			
Measurement Counts	C_{S+B}	18115	c
Measurement Time	T_{S+B}	1	min
Gross Count Rate of the Measurement	R_{S+B}	18115	c/m
Background Counts	C_B	207	c
Background Time	T_B	1	min
Gross Count Rate of the Background	R_B	207.2	c/m
Instrument Response - Scan			
Background Counts In Observation Interval	B_i	7.75222222	c
Scan Interval Time	T_{SI}	2	s
Instrument Efficiency (e_i)			
(RS+B - Rb) / (q2P)	ε_i	0.34	c/beta
Surface Efficiency (e_s)			
ISO-7503	ε_s	0.25	beta/d
Total Efficiency (e_T)			
(ε_i * ε_s)	ε_T	**0.09**	c/d

Beta Efficiency Data - Model # 118242 / Probe # PR147403

Field Calibration using NIST traceable Tc-99 source.

Source Measuremets (Tc-99)

Count No.	C_{S+B}	T_{S+B}
1	18224	1
2	18055	1
3	18089	1
4	18109	1
5	18173	1
6	18036	1
7	18368	1
8	18067	1
9	18102	1
10	18015	1
11	18040	1
12	18167	1
13	17851	1
14	17949	1
15	18132	1
16	18159	1
17	18255	1
18	18190	1
19	18223	1
20	18105	1
mean	**18115**	
std dev	**114**	

Background Measurements

Count No.	C_B	T_B
1	205	1
2	209	1
3	214	1
4	204	1
5	209	1
6	208	1
7	204	1
8	205	1
9	202	1
10	212	1
mean	**207**	
std dev	**4**	

Performed by: NWT - Roger Freeman
Date: 6/3/03

Building 150 - Survey Unit Design - Beta Measurements

Plan

Classification:	Class 1	
DCGL Criterion		
Dose	25	mrem/y TEDE
Model	D&D, Ver. 2	Building Occupancy - Default Parameters
Radionuclide of Concern	Co-60	
$DCGL_{(w)}$:	7100	dpm 100 cm^{-2}
Area Factor:	5.5	
$DCGL_{(EMC)}$:	39050	dpm 100 cm^{-2}

Instrumentation

Model:	Ludlum 2224	Cal. Date:	30-May-03	Serial No.	118242
Detector:	Gas Proportional 43-68	Cal. Date:	30-May-03	Serial No.	PR147403

Type Survey:	Fixed				
Detector Efficiency (ε_i):	34.4%	cpm dpm^{-1}			
Surface Efficiency (ε_s):	25.0%	cpm dpm^{-1}			
Surveyor Factor (p):	50.0%				
Probe Area (Active):	126	cm^2			
Scan Interval:	2	s			
d':	3.28				
Static MDC:	**682**	dpm 100 cm^{-2}	50% of $DCGL_{(W)}$	Yes	10%
Scan MDC:	3577	dpm 100 cm^{-2}	50% of $DCGL_{(EMC)}$	Yes	
Scan MDCR:	274	cpm			

Number of Measurements

	Background			Sample	
Counting Time:	1	min	Counting Time:	1	min
Bkgd. Counts:	232.6	counts	Instrument Ambient Background:	200	cpm
Bkgd Sigma:	17.5	counts			
Bkgd Count Rate:	232.6	cpm			
LBGR = ½$DCGL_w$:	1583	dpm 100 cm^{-2}			
Delta = $DCGL_w$ - LBGR:	5517	dpm 100 cm^{-2}			
Calculated Sigma (If Applicalbe):	216				
Delta/Sigma:	25.54				
Type I - α:	0.05		Z1 - α	1.645	
Type II - β:	0.05		Z1 - β	1.645	
P_r (MARSSIM, Table 5.1)	N/A				
Sign P (MARSSIM, Table 5.4)	1				
N	**16**		N - taken	**27**	

Statistics

Test	Sign
H_o	The survey unit mean is equal to or exceeds the $DCGL_{(w)}$
H_a	The survey unit mean is less than the $DCGL_{(w)}$ - survey unit may be released

Reference Area (Beta) Measurements - Bldg. 176 - 118242 / PR147403

Count No.	Type of Surface	Date	Counts C_B	Count Time T_B	cpm	ε_T	dpm
1	C	06/12/2003	228	1	228.0	0.09	2105
2	C	06/12/2003	232	1	232.0	0.09	2142
3	C	06/12/2003	211	1	211.0	0.09	1948
4	C	06/12/2003	280	1	280.0	0.09	2585
5	C	06/12/2003	227	1	227.0	0.09	2096
6	C	06/12/2003	220	1	220.0	0.09	2031
7	C	06/12/2003	219	1	219.0	0.09	2022
8	C	06/12/2003	241	1	241.0	0.09	2225
9	C	06/12/2003	267	1	267.0	0.09	2465
10	C	06/12/2003	235	1	235.0	0.09	2170
11	C	06/12/2003	249	1	249.0	0.09	2299
12	C	06/12/2003	247	1	247.0	0.09	2280
13	C	06/12/2003	215	1	215.0	0.09	1985
14	C	06/12/2003	241	1	241.0	0.09	2225
15	C	06/12/2003	231	1	231.0	0.09	2133
16	C	06/12/2003	231	1	231.0	0.09	2133
17	C	06/12/2003	236	1	236.0	0.09	2179
18	C	06/12/2003	251	1	251.0	0.09	2317
19	C	06/12/2003	226	1	226.0	0.09	2086
20	C	06/12/2003	212	1	212.0	0.09	1957
21	C	06/12/2003	224	1	224.0	0.09	2068
22	C	06/12/2003	245	1	245.0	0.09	2262
23	C	06/12/2003	236	1	236.0	0.09	2179
24	C	06/12/2003	246	1	246.0	0.09	2271
25	C	06/12/2003	215	1	215.0	0.09	1985
26	C	06/12/2003	235	1	235.0	0.09	2170
27	C	06/12/2003	198	1	198.0	0.09	1828
28	C	06/12/2003	237	1	237.0	0.09	2188
29	C	06/12/2003	238	1	238.0	0.09	2197
30	C	06/12/2003	204	1	204.0	0.09	1883
			233	**mean**	**232.57**	**mean**	**2147**
			17.5	**std dev**	**17.47**	**std dev**	**161.3**
			234	**median**	**233.50**	**median**	**2156**

Surface Types:

D: Drywall
C: Concrete
B: Brick
M: Metal
CT: Ceramic Tile
SP: Static Pad
AT: Asbestos Floor Tile
W: Wood
G: Glass

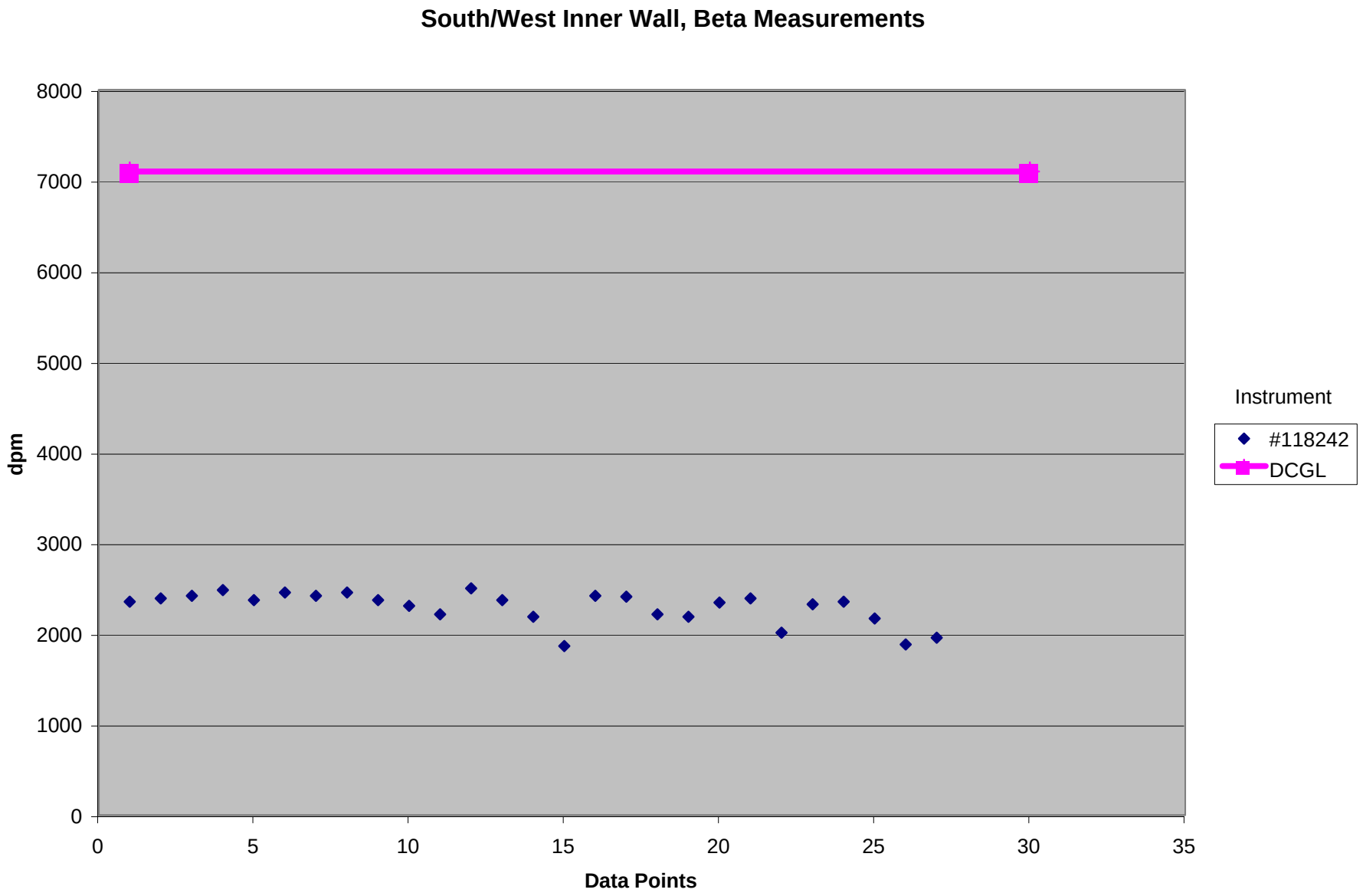
North/East Inner Wall (Beta) Measurements - Bldg. 150 - 118242 / PR147403 & SignTest

Data Point ID#	Type of Surface	Date	Counts C_B	Count Time T_B	cpm	ε_T	dpm	DCGL-dpm	Sign Test Positive Difference
A0	C	06/16/2003	255	1	255.0	0.09	2354	4745.8	1
A1	C	06/16/2003	259	1	259.0	0.09	2391	4708.8	1
A2	C	06/16/2003	262	1	262.0	0.09	2419	4681.2	1
B0	C	06/16/2003	269	1	269.0	0.09	2483	4616.5	1
B1	C	06/16/2003	257	1	257.0	0.09	2373	4727.3	1
B2	C	06/16/2003	266	1	266.0	0.09	2456	4644.2	1
C0	C	06/16/2003	262	1	262.0	0.09	2419	4681.2	1
C1	C	06/16/2003	266	1	266.0	0.09	2456	4644.2	1
C2	C	06/16/2003	257	1	257.0	0.09	2373	4727.3	1
D0	C	06/16/2003	250	1	250.0	0.09	2308	4791.9	1
D1	C	06/16/2003	240	1	240.0	0.09	2216	4884.3	1
D2	C	06/16/2003	271	1	271.0	0.09	2502	4598.1	1
E0	C	06/16/2003	257	1	257.0	0.09	2373	4727.3	1
E1	C	06/16/2003	237	1	237.0	0.09	2188	4912.0	1
E2	C	06/16/2003	202	1	202.0	0.09	1865	5235.1	1
F0	C	06/16/2003	262	1	262.0	0.09	2419	4681.2	1
F1	C	06/16/2003	261	1	261.0	0.09	2410	4690.4	1
F2	C	06/16/2003	240	1	240.0	0.09	2216	4884.3	1
G0	C	06/16/2003	237	1	237.0	0.09	2188	4912.0	1
G1	C	06/16/2003	254	1	254.0	0.09	2345	4755.0	1
G2	C	06/16/2003	259	1	259.0	0.09	2391	4708.8	1
H0	C	06/16/2003	218	1	218.0	0.09	2013	5087.4	1
H1	C	06/16/2003	252	1	252.0	0.09	2327	4773.5	1
H2	C	06/16/2003	255	1	255.0	0.09	2354	4745.8	1
I0	C	06/16/2003	235	1	235.0	0.09	2170	4930.4	1
I1	C	06/16/2003	204	1	204.0	0.09	1883	5216.6	1
I2	C	06/16/2003	212	1	212.0	0.09	1957	5142.8	1
			248	**mean**	**248**	**mean**	**2291**	**N**	**27**
			19.4	**std dev**	**19.4**	**std dev**	**179.2**	**S+**	**27**
			255	**median**	**255**	**median**	**2354**	**Critical Value**	**18**

Reject null hypothesis: The survey unit mean is less than the DCGL(w) - the survey unit may be released

Surface Types:

- D: Drywall
- C: Concrete
- B: Brick
- M: Metal
- CT: Ceramic Tile
- SP: Static Pad
- AT: Asbestos Floor Tile
- W: Wood
- G: Glass


South/West Inner Wall, Beta Measurements
8000
7000
6000
5000
4000
3000
2000
1000
0
dpm
0
5
10
15
20
25
30
35
Data Points
Instrument
#118242
DCGL

Roof Northern Survey Unit

Summary Data

Instrument Model	Model Serial No.	Instrument Detector	Probe Serial No.	Calibration Source	Instrument Efficiency (ε_i)	Surface Efficiency (ε_s)	Total Efficiency (ε_t)	Radionuclides of Concern	Static MDC	Gross DCGL	Data Points Required	Data Points Taken	Stat. Test
Ludlum 2224	118242	Gas Proportional 43-68	PR147403	Tc-99	0.34	0.25	0.09	Co-60	682	7100	16	20	Sign

Beta Measurement - Model # 118242 / Probe # PR147403

Beta Measurement Efficiencies - Model # 118242 / Probe # PR147403

Calibration Source Information			
Calibration Source	**Tc-99**		
Source Backing	SS		
Reference Date	R_{date}	09/01/2002	
Half-Life	$T_{1/2}$	2.13E+05	y
Contained Activity	A_o	43.44	nCi
Contained Activity Decay Corrected	A	43.44	nCi
Source Area	S_A	100	cm^2
Surface Emission Rate (2Π)	$q2\Pi_o$	52080	betas/min
Surface Emission Rate (2Π) - Decay Corrected	q2Π	52080	betas/min
Probe Characteristics			
Probe No.		PR147403	
Probe Area (Active)	W_A	126	cm^2
Probe Area (Open)	W_O	100	cm^2
Conversion Factors			
dpm per nanocurie		2.22E+03	dpm/nCi
Instrument Response - Fixed			
Measurement Counts	C_{S+B}	18115	c
Measurement Time	T_{S+B}	1	min
Gross Count Rate of the Measurement	R_{S+B}	18115	c/m
Background Counts	C_B	207	c
Background Time	T_B	1	min
Gross Count Rate of the Background	R_B	207.2	c/m
Instrument Response - Scan			
Background Counts In Observation Interval	B_i	7.75222222	c
Scan Interval Time	T_{SI}	2	s
Instrument Efficiency (e_i)			
(RS+B - Rb) / (q2P)	ε_i	0.34	c/beta
Surface Efficiency (e_s)			
ISO-7503	ε_s	0.25	beta/d
Total Efficiency (e_T)			
(ε_i * ε_s)	ε_T	**0.09**	c/d

Beta Efficiency Data - Model # 118242 / Probe # PR147403

Field Calibration using NIST traceable Tc-99 source.

Source Measuremets (Tc-99)

Count No.	C_{S+B}	T_{S+B}
1	18224	1
2	18055	1
3	18089	1
4	18109	1
5	18173	1
6	18036	1
7	18368	1
8	18067	1
9	18102	1
10	18015	1
11	18040	1
12	18167	1
13	17851	1
14	17949	1
15	18132	1
16	18159	1
17	18255	1
18	18190	1
19	18223	1
20	18105	1
mean	**18115**	
std dev	**114**	

Background Measurements

Count No.	C_B	T_B
1	205	1
2	209	1
3	214	1
4	204	1
5	209	1
6	208	1
7	204	1
8	205	1
9	202	1
10	212	1
mean	**207**	
std dev	**4**	

Performed by: NWT - Roger Freeman
Date: 6/3/03

Building 150 - Survey Unit Design - Beta Measurements

Plan

Classification:	Class 1	
DCGL Criterion		
Dose	25	mrem/y TEDE
Model	D&D, Ver. 2	Building Occupancy - Default Parameters
Radionuclide of Concern	Co-60	
$DCGL_{(w)}$:	7100	dpm 100 cm^{-2}
Area Factor:	5.5	
$DCGL_{(EMC)}$:	39050	dpm 100 cm^{-2}

Instrumentation

Model:	Ludlum 2224		Cal. Date:	30-May-03	Serial No.	118242
Detector:	Gas Proportional 43-68		Cal. Date:	30-May-03	Serial No.	PR147403
Type Survey:	Fixed					
Detector Efficiency (ε_i):	34.4%	cpm dpm^{-1}				
Surface Efficiency (ε_s):	25.0%	cpm dpm^{-1}				
Surveyor Factor (p):	50.0%					
Probe Area (Active):	126	cm^2				
Scan Interval:	2	s				
d':	3.28					
Static MDC:	**682**	dpm 100 cm^{-2}	50% of $DCGL_{(W)}$	Yes		10%
Scan MDC:	3577	dpm 100 cm^{-2}	50% of $DCGL_{(EMC)}$	Yes		
Scan MDCR:	274	cpm				

Number of Measurements

	Background			Sample	
Counting Time:	1	min	Counting Time:	1	min
Bkgd. Counts:	232.6	counts	Instrument Ambient Background:	200	cpm
Bkgd Sigma:	17.5	counts			
Bkgd Count Rate:	232.6	cpm			
LBGR = ½$DCGL_w$:	1583	dpm 100 cm^{-2}			
Delta = $DCGL_w$ - LBGR:	5517	dpm 100 cm^{-2}			
Calculated Sigma (If Applicalbe):	216				
Delta/Sigma:	25.54				
Type I - α:	0.05		Z1 - α	1.645	
Type II - β:	0.05		Z1 - β	1.645	
P_r (MARSSIM, Table 5.1)	N/A				
Sign P (MARSSIM, Table 5.4)	1				
N	**16**		N - taken	**20**	

Statistics

Test	Sign
H_o	The survey unit mean is equal to or exceeds the $DCGL_{(w)}$
H_a	The survey unit mean is less than the $DCGL_{(w)}$ - survey unit may be released

Reference Area (Beta) Measurements - Bldg. 176 - 118242 / PR147403

Count No.	Type of Surface	Date	Counts C_B	Count Time T_B	cpm	ε_T	dpm
1	C	06/12/2003	228	1	228.0	0.09	2105
2	C	06/12/2003	232	1	232.0	0.09	2142
3	C	06/12/2003	211	1	211.0	0.09	1948
4	C	06/12/2003	280	1	280.0	0.09	2585
5	C	06/12/2003	227	1	227.0	0.09	2096
6	C	06/12/2003	220	1	220.0	0.09	2031
7	C	06/12/2003	219	1	219.0	0.09	2022
8	C	06/12/2003	241	1	241.0	0.09	2225
9	C	06/12/2003	267	1	267.0	0.09	2465
10	C	06/12/2003	235	1	235.0	0.09	2170
11	C	06/12/2003	249	1	249.0	0.09	2299
12	C	06/12/2003	247	1	247.0	0.09	2280
13	C	06/12/2003	215	1	215.0	0.09	1985
14	C	06/12/2003	241	1	241.0	0.09	2225
15	C	06/12/2003	231	1	231.0	0.09	2133
16	C	06/12/2003	231	1	231.0	0.09	2133
17	C	06/12/2003	236	1	236.0	0.09	2179
18	C	06/12/2003	251	1	251.0	0.09	2317
19	C	06/12/2003	226	1	226.0	0.09	2086
20	C	06/12/2003	212	1	212.0	0.09	1957
21	C	06/12/2003	224	1	224.0	0.09	2068
22	C	06/12/2003	245	1	245.0	0.09	2262
23	C	06/12/2003	236	1	236.0	0.09	2179
24	C	06/12/2003	246	1	246.0	0.09	2271
25	C	06/12/2003	215	1	215.0	0.09	1985
26	C	06/12/2003	235	1	235.0	0.09	2170
27	C	06/12/2003	198	1	198.0	0.09	1828
28	C	06/12/2003	237	1	237.0	0.09	2188
29	C	06/12/2003	238	1	238.0	0.09	2197
30	C	06/12/2003	204	1	204.0	0.09	1883
			233	**mean**	**232.57**	**mean**	**2147**
			17.5	**std dev**	**17.47**	**std dev**	**161.3**
			234	**median**	**233.50**	**median**	**2156**

Surface Types:

- D: Drywall
- C: Concrete
- B: Brick
- M: Metal
- CT: Ceramic Tile
- SP: Static Pad
- AT: Asbestos Floor Tile
- W: Wood
- G: Glass

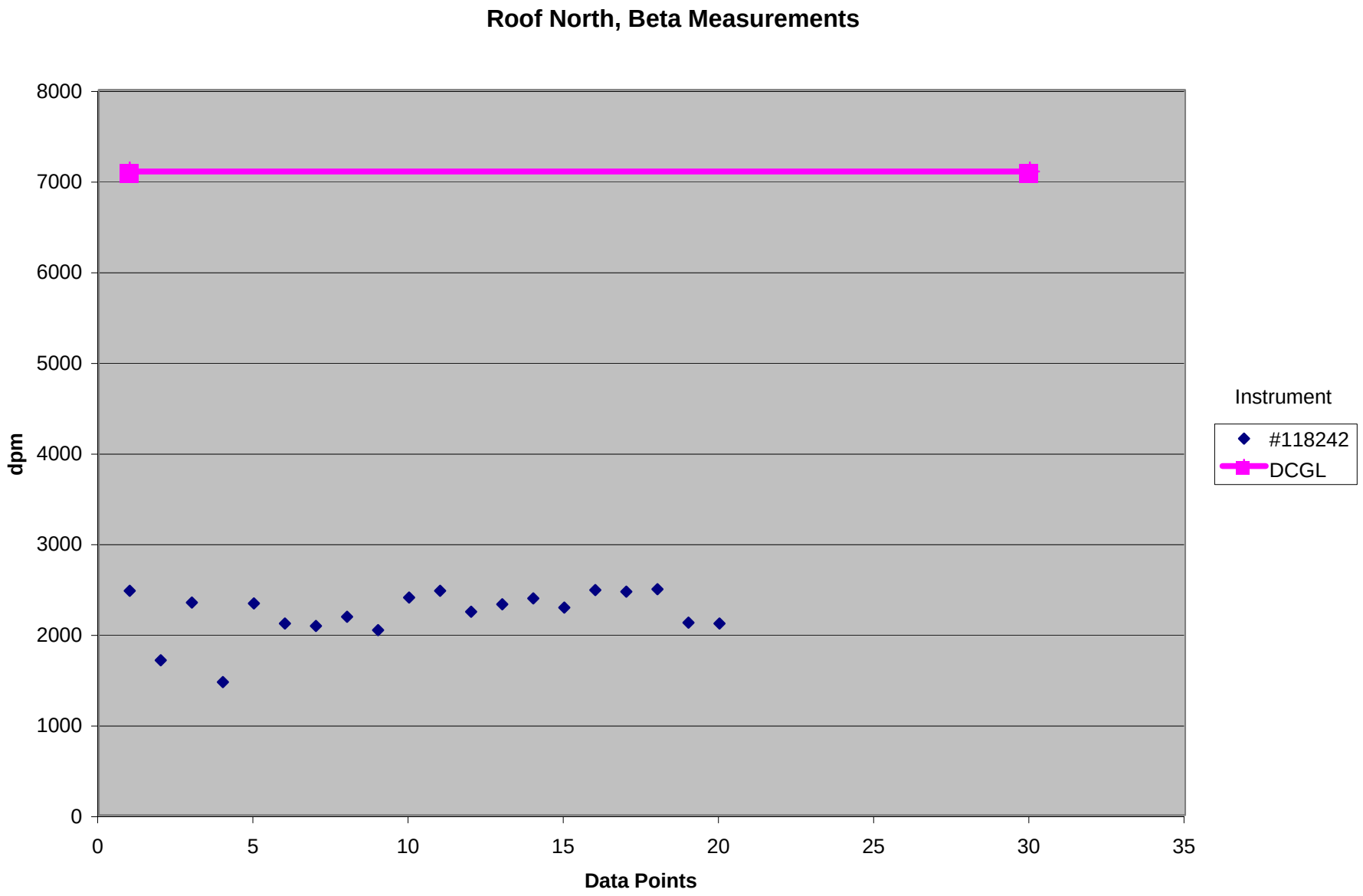
North Roof (Beta) Measurements - Bldg. 150 - 118242 / PR147403 & SignTest

Data Point ID#	Type of Surface	Date	Counts C_B	Count Time T_B	cpm	ε_T	dpm	DCGL-dpm	Sign Test Positive Difference
A0	C	06/19/2003	268	1	268.0	0.09	2474	4625.8	1
A1	C	06/19/2003	185	1	185.0	0.09	1708	5392.0	1
A2	C	06/19/2003	254	1	254.0	0.09	2345	4755.0	1
A3	C	06/19/2003	159	1	159.0	0.09	1468	5632.1	1
A4	C	06/19/2003	253	1	253.0	0.09	2336	4764.2	1
B0	C	06/19/2003	229	1	229.0	0.09	2114	4985.8	1
B1	C	06/19/2003	226	1	226.0	0.09	2086	5013.5	1
B2	C	06/19/2003	237	1	237.0	0.09	2188	4912.0	1
B3	C	06/19/2003	221	1	221.0	0.09	2040	5059.7	1
B4	C	06/19/2003	260	1	260.0	0.09	2400	4699.6	1
C0	C	06/19/2003	268	1	268.0	0.09	2474	4625.8	1
C1	C	06/19/2003	243	1	243.0	0.09	2243	4856.6	1
C2	C	06/19/2003	252	1	252.0	0.09	2327	4773.5	1
C3	C	06/19/2003	259	1	259.0	0.09	2391	4708.8	1
C4	C	06/19/2003	248	1	248.0	0.09	2290	4810.4	1
D0	C	06/19/2003	269	1	269.0	0.09	2483	4616.5	1
D1	C	06/19/2003	267	1	267.0	0.09	2465	4635.0	1
D2	C	06/19/2003	270	1	270.0	0.09	2493	4607.3	1
D3	C	06/19/2003	230	1	230.0	0.09	2123	4976.6	1
D4	C	06/19/2003	229	1	229.0	0.09	2114	4985.8	1
			241	**mean**	**241**	**mean**	**2228**	**N**	**20**
			28.9	**std dev**	**28.9**	**std dev**	**266.6**	**S+**	**20**
			250	**median**	**250**	**median**	**2308**	**Critical Value**	**14**

Reject null hypothesis: The survey unit mean is less than the DCGL(w) - the survey unit may be released

Surface Types:

- D: Drywall
- C: Concrete
- B: Brick
- M: Metal
- CT: Ceramic Tile
- SP: Static Pad
- AT: Asbestos Floor Tile
- W: Wood
- G: Glass


Roof North, Beta Measurements
8000
7000
6000
5000
4000
3000
2000
1000
0
dpm
0
5
10
15
20
25
30
35
Data Points
Instrument
#118242
DCGL

Roof Southern Survey Unit

Summary Data

Instrument Model	Model Serial No.	Instrument Detector	Probe Serial No.	Calibration Source	Instrument Efficiency (ε_i)	Surface Efficiency (ε_s)	Total Efficiency (ε_t)	Radionuclides of Concern	Static MDC	Gross DCGL	Data Points Required	Data Points Taken	Stat. Test
Ludlum 2224	118242	Gas Proportional 43-68	PR147403	Tc-99	0.34	0.25	0.09	Co-60	682	7100	16	20	Sign

Beta Measurement - Model # 118242 / Probe # PR147403

Beta Measurement Efficiencies - Model # 118242 / Probe # PR147403

Calibration Source Information			
Calibration Source	**Tc-99**		
Source Backing	SS		
Reference Date	R_{date}	09/01/2002	
Half-Life	$T_{1/2}$	2.13E+05	y
Contained Activity	A_o	43.44	nCi
Contained Activity Decay Corrected	A	43.44	nCi
Source Area	S_A	100	cm^2
Surface Emission Rate (2Π)	$q2\Pi_o$	52080	betas/min
Surface Emission Rate (2Π) - Decay Corrected	q2Π	52080	betas/min
Probe Characteristics			
Probe No.		PR147403	
Probe Area (Active)	W_A	126	cm^2
Probe Area (Open)	W_O	100	cm^2
Conversion Factors			
dpm per nanocurie		2.22E+03	dpm/nCi
Instrument Response - Fixed			
Measurement Counts	C_{S+B}	18115	c
Measurement Time	T_{S+B}	1	min
Gross Count Rate of the Measurement	R_{S+B}	18115	c/m
Background Counts	C_B	207	c
Background Time	T_B	1	min
Gross Count Rate of the Background	R_B	207.2	c/m
Instrument Response - Scan			
Background Counts In Observation Interval	B_i	7.75222222	c
Scan Interval Time	T_{SI}	2	s
Instrument Efficiency (e_i)			
(RS+B - Rb) / (q2P)	ε_i	0.34	c/beta
Surface Efficiency (e_s)			
ISO-7503	ε_s	0.25	beta/d
Total Efficiency (e_T)			
(ε_i * ε_s)	ε_T	**0.09**	c/d

Beta Efficiency Data - Model # 118242 / Probe # PR147403

Field Calibration using NIST traceable Tc-99 source.

Source Measuremets (Tc-99)

Count No.	C_{S+B}	T_{S+B}
1	18224	1
2	18055	1
3	18089	1
4	18109	1
5	18173	1
6	18036	1
7	18368	1
8	18067	1
9	18102	1
10	18015	1
11	18040	1
12	18167	1
13	17851	1
14	17949	1
15	18132	1
16	18159	1
17	18255	1
18	18190	1
19	18223	1
20	18105	1
mean	**18115**	
std dev	**114**	

Background Measurements

Count No.	C_B	T_B
1	205	1
2	209	1
3	214	1
4	204	1
5	209	1
6	208	1
7	204	1
8	205	1
9	202	1
10	212	1
mean	**207**	
std dev	**4**	

Performed by: NWT - Roger Freeman
Date: 6/3/03

Building 150 - Survey Unit Design - Beta Measurements

Plan

Classification:	Class 1	
DCGL Criterion		
Dose	25	mrem/y TEDE
Model	D&D, Ver. 2	Building Occupancy - Default Parameters
Radionuclide of Concern	Co-60	
$DCGL_{(w)}$:	7100	dpm 100 cm^{-2}
Area Factor:	5.5	
$DCGL_{(EMC)}$:	39050	dpm 100 cm^{-2}

Instrumentation

Model:	Ludlum 2224		Cal. Date:	30-May-03	Serial No.	118242
Detector:	Gas Proportional 43-68		Cal. Date:	30-May-03	Serial No.	PR147403
Type Survey:	Fixed					
Detector Efficiency (ε_i):	34.4%	cpm dpm^{-1}				
Surface Efficiency (ε_s):	25.0%	cpm dpm^{-1}				
Surveyor Factor (p):	50.0%					
Probe Area (Active):	126	cm^2				
Scan Interval:	2	s				
d':	3.28					
Static MDC:	**682**	dpm 100 cm^{-2}	50% of $DCGL_{(W)}$	Yes		10%
Scan MDC:	3577	dpm 100 cm^{-2}	50% of $DCGL_{(EMC)}$	Yes		
Scan MDCR:	274	cpm				

Number of Measurements

	Background			Sample	
Counting Time:	1	min	Counting Time:	1	min
Bkgd. Counts:	232.6	counts	Instrument Ambient Background:	200	cpm
Bkgd Sigma:	17.5	counts			
Bkgd Count Rate:	232.6	cpm			
LBGR = ½$DCGL_w$:	1583	dpm 100 cm^{-2}			
Delta = $DCGL_w$ - LBGR:	5517	dpm 100 cm^{-2}			
Calculated Sigma (If Applicalbe):	216				
Delta/Sigma:	25.54				
Type I - α:	0.05		Z1 - α	1.645	
Type II - β:	0.05		Z1 - β	1.645	
P_r (MARSSIM, Table 5.1)	N/A				
Sign P (MARSSIM, Table 5.4)	1				
N	**16**		N - taken	**20**	

Statistics

Test	Sign
H_o	The survey unit mean is equal to or exceeds the $DCGL_{(w)}$
H_a	The survey unit mean is less than the $DCGL_{(w)}$ - survey unit may be released

Reference Area (Beta) Measurements - Bldg. 176 - 118242 / PR147403

Count No.	Type of Surface	Date	Counts C_B	Count Time T_B	cpm	ε_T	dpm
1	C	06/12/2003	228	1	228.0	0.09	2105
2	C	06/12/2003	232	1	232.0	0.09	2142
3	C	06/12/2003	211	1	211.0	0.09	1948
4	C	06/12/2003	280	1	280.0	0.09	2585
5	C	06/12/2003	227	1	227.0	0.09	2096
6	C	06/12/2003	220	1	220.0	0.09	2031
7	C	06/12/2003	219	1	219.0	0.09	2022
8	C	06/12/2003	241	1	241.0	0.09	2225
9	C	06/12/2003	267	1	267.0	0.09	2465
10	C	06/12/2003	235	1	235.0	0.09	2170
11	C	06/12/2003	249	1	249.0	0.09	2299
12	C	06/12/2003	247	1	247.0	0.09	2280
13	C	06/12/2003	215	1	215.0	0.09	1985
14	C	06/12/2003	241	1	241.0	0.09	2225
15	C	06/12/2003	231	1	231.0	0.09	2133
16	C	06/12/2003	231	1	231.0	0.09	2133
17	C	06/12/2003	236	1	236.0	0.09	2179
18	C	06/12/2003	251	1	251.0	0.09	2317
19	C	06/12/2003	226	1	226.0	0.09	2086
20	C	06/12/2003	212	1	212.0	0.09	1957
21	C	06/12/2003	224	1	224.0	0.09	2068
22	C	06/12/2003	245	1	245.0	0.09	2262
23	C	06/12/2003	236	1	236.0	0.09	2179
24	C	06/12/2003	246	1	246.0	0.09	2271
25	C	06/12/2003	215	1	215.0	0.09	1985
26	C	06/12/2003	235	1	235.0	0.09	2170
27	C	06/12/2003	198	1	198.0	0.09	1828
28	C	06/12/2003	237	1	237.0	0.09	2188
29	C	06/12/2003	238	1	238.0	0.09	2197
30	C	06/12/2003	204	1	204.0	0.09	1883
			233	**mean**	**232.57**	**mean**	**2147**
			17.5	**std dev**	**17.47**	**std dev**	**161.3**
			234	**median**	**233.50**	**median**	**2156**

Surface Types:

- D: Drywall
- C: Concrete
- B: Brick
- M: Metal
- CT: Ceramic Tile
- SP: Static Pad
- AT: Asbestos Floor Tile
- W: Wood
- G: Glass

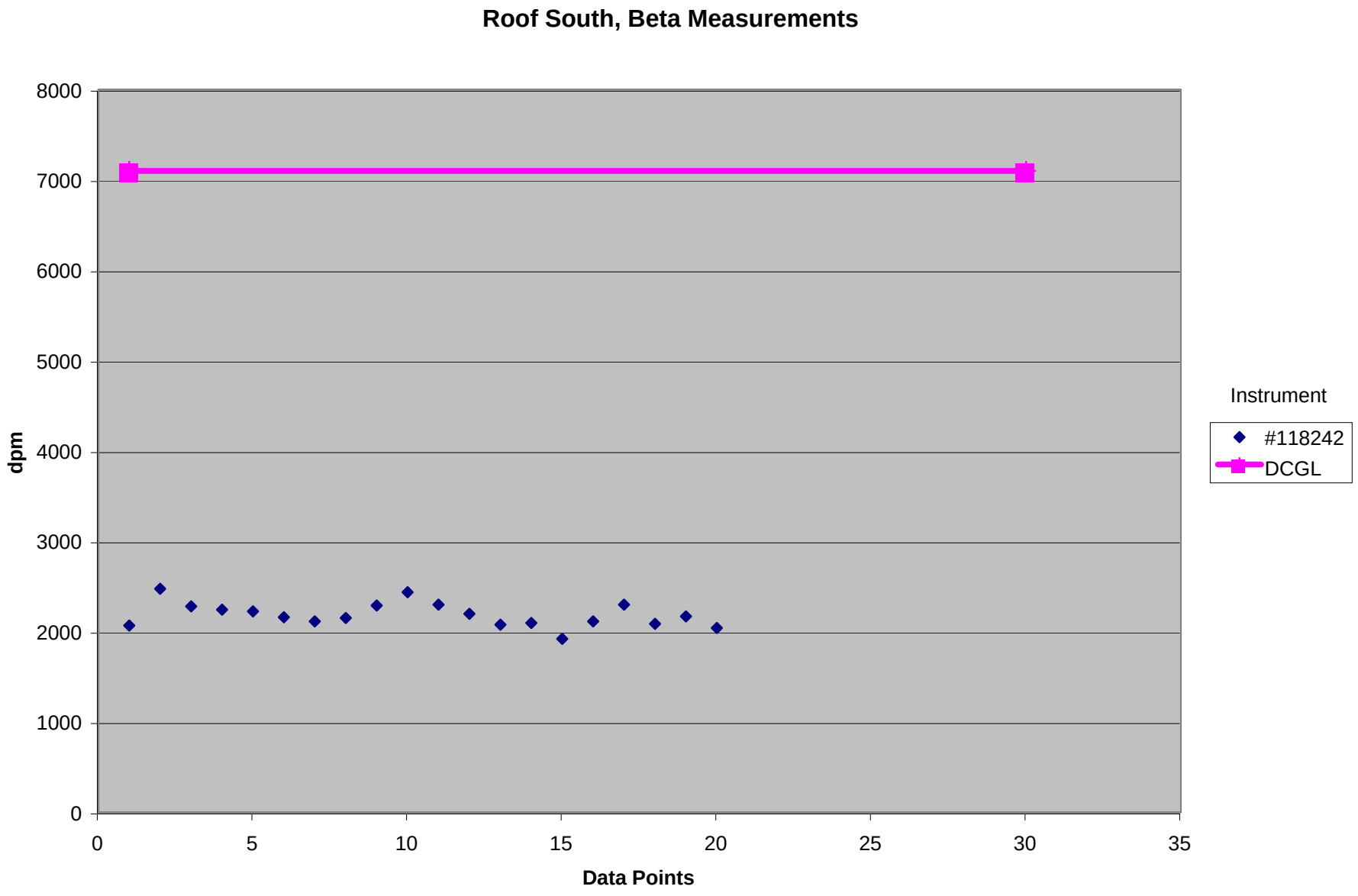
South Roof (Beta) Measurements - Bldg. 150 - 118242 / PR147403 & SignTest

Data Point ID#	Type of Surface	Date	Counts C_B	Count Time T_B	cpm	ε_T	dpm	DCGL-dpm	Sign Test Positive Difference
A0	C	06/19/2003	224	1	224.0	0.09	2068	5032.0	1
A1	C	06/19/2003	268	1	268.0	0.09	2474	4625.8	1
A2	C	06/19/2003	247	1	247.0	0.09	2280	4819.6	1
A3	C	06/19/2003	243	1	243.0	0.09	2243	4856.6	1
A4	C	06/19/2003	241	1	241.0	0.09	2225	4875.0	1
B0	C	06/19/2003	234	1	234.0	0.09	2160	4939.7	1
B1	C	06/19/2003	229	1	229.0	0.09	2114	4985.8	1
B2	C	06/19/2003	233	1	233.0	0.09	2151	4948.9	1
B3	C	06/19/2003	248	1	248.0	0.09	2290	4810.4	1
B4	C	06/19/2003	264	1	264.0	0.09	2437	4662.7	1
C0	C	06/19/2003	249	1	249.0	0.09	2299	4801.2	1
C1	C	06/19/2003	238	1	238.0	0.09	2197	4902.7	1
C2	C	06/19/2003	225	1	225.0	0.09	2077	5022.7	1
C3	C	06/19/2003	227	1	227.0	0.09	2096	5004.3	1
C4	C	06/19/2003	208	1	208.0	0.09	1920	5179.7	1
D0	C	06/19/2003	229	1	229.0	0.09	2114	4985.8	1
D1	C	06/19/2003	249	1	249.0	0.09	2299	4801.2	1
D2	C	06/19/2003	226	1	226.0	0.09	2086	5013.5	1
D3	C	06/19/2003	235	1	235.0	0.09	2170	4930.4	1
D4	C	06/19/2003	221	1	221.0	0.09	2040	5059.7	1
			237	**mean**	**237**	**mean**	**2187**	**N**	**20**
			14.6	**std dev**	**14.6**	**std dev**	**134.6**	**S+**	**20**
			235	**median**	**235**	**median**	**2165**	**Critical Value**	**14**

Reject null hypothesis: The survey unit mean is less than the DCGL(w) - the survey unit may be released

Surface Types:

- D: Drywall
- C: Concrete
- B: Brick
- M: Metal
- CT: Ceramic Tile
- SP: Static Pad
- AT: Asbestos Floor Tile
- W: Wood
- G: Glass


Roof South, Beta Measurements
8000
7000
6000
5000
4000
3000
2000
1000
0
dpm
0
5
10
15
20
25
30
35
Data Points
Instrument
#118242
DCGL

Appendix CC

Building 150 Open Land Area Gamma Scan Survey Data

Survey Unit #1

Bethesda NNMC Gamma Scan Data Sheet

Meter S/N:	142489	Grid #/Row #	Month	Day	Year	Gross CPM:	Net CPM:
Background CPM:	271	G20/R1	6	16	3	223.52	-47.48
		G20/R1	6	16	3	262.73	-8.27
		G20/R1	6	16	3	270.70	-0.30
		G20/R1	6	16	3	215.86	-55.14
		G20/R1	6	16	3	222.19	-48.81
		G20/R1	6	16	3	247.73	-23.27
		G20/R1	6	16	3	266.72	-4.28
		G20/R1	6	16	3	215.39	-55.61
		G20/R1	6	16	3	200.16	-70.84
		G20/R1	6	16	3	226.64	-44.36
		G20/R2	6	16	3	186.80	-84.20
		G20/R2	6	16	3	256.64	-14.36
		G20/R2	6	16	3	260.16	-10.84
		G20/R2	6	16	3	252.89	-18.11
		G20/R2	6	16	3	250.08	-20.92
		G20/R2	6	16	3	246.33	-24.67
		G20/R2	6	16	3	231.33	-39.67
		G20/R2	6	16	3	260.16	-10.84
		G20/R2	6	16	3	220.55	-50.45
		G20/R2	6	16	3	250.55	-20.45
		G20/R3	6	16	3	252.34	-18.66
		G20/R3	6	16	3	266.88	-4.13
		G20/R3	6	16	3	182.34	-88.66
		G20/R3	6	16	3	245.39	-25.61
		G20/R3	6	16	3	234.61	-36.39
		G20/R3	6	16	3	285.70	14.70
		G20/R3	6	16	3	298.36	27.36
		G20/R3	6	16	3	330.47	59.47
		G20/R3	6	16	3	277.97	6.97
		G20/R3	6	16	3	302.34	31.34
		G20/R4	6	16	3	171.09	-99.91
		G20/R4	6	16	3	245.63	-25.38
		G20/R4	6	16	3	254.77	-16.23
		G20/R4	6	16	3	256.17	-14.83
		G20/R4	6	16	3	261.33	-9.67
		G20/R4	6	16	3	278.67	7.67
		G20/R4	6	16	3	243.28	-27.72
		G20/R4	6	16	3	226.88	-44.13
		G20/R4	6	16	3	235.08	-35.92
		G20/R4	6	16	3	219.14	-51.86
		G20/R5	6	16	3	254.30	-16.70
		G20/R5	6	16	3	302.11	31.11
		G20/R5	6	16	3	233.44	-37.56
		G20/R5	6	16	3	325.31	54.31
		G20/R5	6	16	3	280.78	9.78
		G20/R5	6	16	3	256.41	-14.59
		G20/R5	6	16	3	257.81	-13.19
		G20/R5	6	16	3	248.44	-22.56
		G20/R5	6	16	3	250.31	-20.69
		G20/R5	6	16	3	240.23	-30.77
		G20/R6	6	16	3	180.23	-90.77
		G20/R6	6	16	3	267.19	-3.81
		G20/R6	6	16	3	270.47	-0.53

		G20/R6	6	16	3	**237.89**	**-33.11**
		G20/R6	6	16	3	**227.58**	**-43.42**
		G20/R6	6	16	3	**232.97**	**-38.03**
		G20/R6	6	16	3	**251.25**	**-19.75**
		G20/R6	6	16	3	**268.59**	**-2.41**
		G20/R6	6	16	3	**231.09**	**-39.91**
		G20/R6	6	16	3	**263.91**	**-7.09**
		G20/R7	6	16	3	**175.31**	**-95.69**
		G20/R7	6	16	3	**202.97**	**-68.03**
		G20/R7	6	16	3	**238.83**	**-32.17**
		G20/R7	6	16	3	**241.17**	**-29.83**
		G20/R7	6	16	3	**262.27**	**-8.73**
		G20/R7	6	16	3	**236.25**	**-34.75**
		G20/R7	6	16	3	**224.06**	**-46.94**
		G20/R7	6	16	3	**278.67**	**7.67**
		G20/R7	6	16	3	**282.89**	**11.89**
		G20/R7	6	16	3	**264.38**	**-6.63**
		G20/R8	6	16	3	**157.03**	**-113.97**
		G20/R8	6	16	3	**207.42**	**-63.58**
		G20/R8	6	16	3	**251.95**	**-19.05**
		G20/R8	6	16	3	**210.47**	**-60.53**
		G20/R8	6	16	3	**224.06**	**-46.94**
		G20/R8	6	16	3	**238.36**	**-32.64**
		G20/R8	6	16	3	**249.14**	**-21.86**
		G20/R8	6	16	3	**224.53**	**-46.47**
		G20/R8	6	16	3	**225.70**	**-45.30**
		G20/R8	6	16	3	**228.75**	**-42.25**
		G20/R9	6	16	3	**234.77**	**-36.23**
		G20/R9	6	16	3	**290.39**	**19.39**
		G20/R9	6	16	3	**296.25**	**25.25**
		G20/R9	6	16	3	**293.20**	**22.20**
		G20/R9	6	16	3	**267.66**	**-3.34**
		G20/R9	6	16	3	**266.95**	**-4.05**
		G20/R9	6	16	3	**249.38**	**-21.63**
		G20/R9	6	16	3	**246.09**	**-24.91**
		G20/R9	6	16	3	**247.73**	**-23.27**
		G20/R9	6	16	3	**235.78**	**-35.22**
		G20/10	6	16	3	**232.19**	**-38.81**
		G20/10	6	16	3	**189.61**	**-81.39**
		G20/10	6	16	3	**246.56**	**-24.44**
		G20/10	6	16	3	**241.64**	**-29.36**
		G20/10	6	16	3	**289.69**	**18.69**
		G20/10	6	16	3	**257.81**	**-13.19**
		G20/10	6	16	3	**252.19**	**-18.81**
		G20/10	6	16	3	**207.42**	**-63.58**
		G20/10	6	16	3	**214.69**	**-56.31**
		G20/10	6	16	3	**268.83**	**-2.17**
					Average CPM:	**245.69**	**-25.31**
					Standard Deviation:	**31.43**	**31.43**
					Max CPM:	**330.47**	**59.47**

Meter S/N:	142489	Grid #/Row #	Month	Day	Year	Gross CPM:	Net CPM:
Background CPM:	271	G19/R1	6	16	3	238.05	-32.95
		G19/R1	6	16	3	251.72	-19.28
		G19/R1	6	16	3	265.31	-5.69
		G19/R1	6	16	3	252.19	-18.81
		G19/R1	6	16	3	281.72	10.72
		G19/R1	6	16	3	301.64	30.64
		G19/R1	6	16	3	247.03	-23.97
		G19/R1	6	16	3	237.66	-33.34
		G19/R1	6	16	3	264.38	-6.63
		G19/R1	6	16	3	248.20	-22.80
		G19/R2	6	16	3	218.20	-52.80
		G19/R2	6	16	3	262.97	-8.03
		G19/R2	6	16	3	281.25	10.25
		G19/R2	6	16	3	264.38	-6.63
		G19/R2	6	16	3	240.70	-30.30
		G19/R2	6	16	3	256.25	-14.75
		G19/R2	6	16	3	218.20	-52.80
		G19/R2	6	16	3	225.47	-45.53
		G19/R2	6	16	3	244.92	-26.08
		G19/R2	6	16	3	253.36	-17.64
		G19/R3	6	16	3	264.06	-6.94
		G19/R3	6	16	3	221.72	-49.28
		G19/R3	6	16	3	220.08	-50.92
		G19/R3	6	16	3	250.00	-21.00
		G19/R3	6	16	3	285.39	14.39
		G19/R3	6	16	3	296.48	25.48
		G19/R3	6	16	3	239.06	-31.94
		G19/R3	6	16	3	251.72	-19.28
		G19/R3	6	16	3	208.59	-62.41
		G19/R3	6	16	3	277.50	6.50
		G19/R4	6	16	3	246.72	-24.28
		G19/R4	6	16	3	222.66	-48.34
		G19/R4	6	16	3	245.86	-25.14
		G19/R4	6	16	3	222.42	-48.58
		G19/R4	6	16	3	277.19	6.19
		G19/R4	6	16	3	229.69	-41.31
		G19/R4	6	16	3	261.80	-9.20
		G19/R4	6	16	3	277.50	6.50
		G19/R4	6	16	3	305.63	34.63
		G19/R4	6	16	3	305.86	34.86
		G19/R5	6	16	3	245.78	-25.22
		G19/R5	6	16	3	292.00	21.00
		G19/R5	6	16	3	218.20	-52.80
		G19/R5	6	16	3	292.66	21.66
		G19/R5	6	16	3	218.20	-52.80
		G19/R5	6	16	3	224.30	-46.70
		G19/R5	6	16	3	230.86	-40.14
		G19/R5	6	16	3	285.94	14.94
		G19/R5	6	16	3	272.11	1.11
		G19/R5	6	16	3	250.55	-20.45
		G19/R6	6	16	3	273.44	2.44
		G19/R6	6	16	3	288.05	17.05
		G19/R6	6	16	3	311.48	40.48

		G19/R6	6	16	3	**254.53**	**-16.47**
		G19/R6	6	16	3	**243.28**	**-27.72**
		G19/R6	6	16	3	**274.69**	**3.69**
		G19/R6	6	16	3	**218.67**	**-52.33**
		G19/R6	6	16	3	**277.27**	**6.27**
		G19/R6	6	16	3	**238.36**	**-32.64**
		G19/R6	6	16	3	**227.34**	**-43.66**
		G19/R7	6	16	3	**235.47**	**-35.53**
		G19/R7	6	16	3	**218.91**	**-52.09**
		G19/R7	6	16	3	**221.95**	**-49.05**
		G19/R7	6	16	3	**255.47**	**-15.53**
		G19/R7	6	16	3	**283.98**	**12.98**
		G19/R7	6	16	3	**245.31**	**-25.69**
		G19/R7	6	16	3	**214.45**	**-56.55**
		G19/R7	6	16	3	**210.70**	**-60.30**
		G19/R7	6	16	3	**199.22**	**-71.78**
		G19/R7	6	16	3	**220.08**	**-50.92**
		G19/R8	6	16	3	**319.30**	**48.30**
		G19/R8	6	16	3	**230.63**	**-40.38**
		G19/R8	6	16	3	**275.16**	**4.16**
		G19/R8	6	16	3	**243.75**	**-27.25**
		G19/R8	6	16	3	**196.88**	**-74.13**
		G19/R8	6	16	3	**280.23**	**9.23**
		G19/R8	6	16	3	**279.30**	**8.30**
		G19/R8	6	16	3	**200.86**	**-70.14**
		G19/R8	6	16	3	**271.88**	**0.88**
		G19/R8	6	16	3	**225.23**	**-45.77**
		G19/R9	6	16	3	**253.59**	**-17.41**
		G19/R9	6	16	3	**231.56**	**-39.44**
		G19/R9	6	16	3	**235.31**	**-35.69**
		G19/R9	6	16	3	**249.38**	**-21.63**
		G19/R9	6	16	3	**311.95**	**40.95**
		G19/R9	6	16	3	**273.75**	**2.75**
		G19/R9	6	16	3	**210.23**	**-60.77**
		G19/R9	6	16	3	**239.77**	**-31.23**
		G19/R9	6	16	3	**300.00**	**29.00**
		G19/R9	6	16	3	**260.86**	**-10.14**
		G19/R10	6	16	3	**262.97**	**-8.03**
		G19/R10	6	16	3	**301.09**	**30.09**
		G19/R10	6	16	3	**251.02**	**-19.98**
		G19/R10	6	16	3	**239.06**	**-31.94**
		G19/R10	6	16	3	**278.36**	**7.36**
		G19/R10	6	16	3	**205.08**	**-65.92**
		G19/R10	6	16	3	**290.31**	**19.31**
		G19/R10	6	16	3	**237.66**	**-33.34**
		G19/R10	6	16	3	**270.47**	**-0.53**
		G19/R10	6	16	3	**277.27**	**6.27**
					Average CPM:	**253.10**	**-17.90**
					Standard Deviation:	**29.11**	**29.11**
					Max CPM:	**319.30**	**48.30**

Bethesda NNMC Gamma Scan Data Sheet

Meter S/N:	142489	Grid #/Row #	Month	Day	Year	Gross CPM:	Net CPM:
Background CPM:	271	G18/R1	6	16	3	263.75	-7.25
		G18/R1	6	16	3	285.16	14.16
		G18/R1	6	16	3	221.95	-49.05
		G18/R1	6	16	3	294.06	23.06
		G18/R1	6	16	3	251.25	-19.75
		G18/R1	6	16	3	251.48	-19.52
		G18/R1	6	16	3	294.84	23.84
		G18/R1	6	16	3	239.77	-31.23
		G18/R2	6	16	3	237.58	-33.42
		G18/R2	6	16	3	277.03	6.03
		G18/R2	6	16	3	236.95	-34.05
		G18/R2	6	16	3	242.11	-28.89
		G18/R2	6	16	3	220.55	-50.45
		G18/R2	6	16	3	238.83	-32.17
		G18/R2	6	16	3	247.97	-23.03
		G18/R2	6	16	3	237.66	-33.34
		G18/R3	6	16	3	250.23	-20.77
		G18/R3	6	16	3	274.61	3.61
		G18/R3	6	16	3	293.59	22.59
		G18/R3	6	16	3	235.78	-35.22
		G18/R3	6	16	3	291.25	20.25
		G18/R3	6	16	3	240.70	-30.30
		G18/R3	6	16	3	265.08	-5.92
		G18/R3	6	16	3	251.48	-19.52
		G18/R4	6	16	3	297.34	26.34
		G18/R4	6	16	3	210.23	-60.77
		G18/R4	6	16	3	211.41	-59.59
		G18/R4	6	16	3	245.63	-25.38
		G18/R4	6	16	3	223.59	-47.41
		G18/R4	6	16	3	235.08	-35.92
		G18/R4	6	16	3	228.05	-42.95
		G18/R4	6	16	3	204.14	-66.86
		G18/R5	6	16	3	267.19	-3.81
		G18/R5	6	16	3	285.23	14.23
		G18/R5	6	16	3	223.36	-47.64
		G18/R5	6	16	3	241.41	-29.59
		G18/R5	6	16	3	201.09	-69.91
		G18/R5	6	16	3	218.20	-52.80
		G18/R5	6	16	3	213.52	-57.48
		G18/R5	6	16	3	293.59	22.59
		G18/R6	6	16	3	299.69	28.69
		G18/R6	6	16	3	221.02	-49.98
		G18/R6	6	16	3	239.53	-31.47
		G18/R6	6	16	3	247.97	-23.03
		G18/R6	6	16	3	261.33	-9.67
		G18/R6	6	16	3	222.42	-48.58
		G18/R6	6	16	3	205.55	-65.45
		G18/R6	6	16	3	254.30	-16.70
		G18/R7	6	16	3	259.38	-11.63
		G18/R7	6	16	3	206.02	-64.98
		G18/R7	6	16	3	260.63	-10.38
		G18/R7	6	16	3	244.92	-26.08
		G18/R7	6	16	3	230.86	-40.14

		G18/R7	6	16	3	**278.44**	**7.44**
		G18/R7	6	16	3	**252.66**	**-18.34**
		G18/R7	6	16	3	**207.89**	**-63.11**
		G18/R8	6	16	3	**273.91**	**2.91**
		G18/R8	6	16	3	**291.95**	**20.95**
		G18/R8	6	16	3	**232.73**	**-38.27**
		G18/R8	6	16	3	**227.11**	**-43.89**
		G18/R8	6	16	3	**285.86**	**14.86**
		G18/R8	6	16	3	**253.83**	**-17.17**
		G18/R8	6	16	3	**304.45**	**33.45**
		G18/R8	6	16	3	**281.95**	**10.95**
		G18/R9	6	16	3	**306.33**	**35.33**
		G18/R9	6	16	3	**284.45**	**13.45**
		G18/R9	6	16	3	**205.08**	**-65.92**
		G18/R9	6	16	3	**257.81**	**-13.19**
		G18/R9	6	16	3	**252.19**	**-18.81**
		G18/R9	6	16	3	**208.59**	**-62.41**
		G18/R9	6	16	3	**207.66**	**-63.34**
		G18/R9	6	16	3	**232.97**	**-38.03**
		G18/R9	6	16	3	**290.31**	**19.31**
		G18/R10	6	16	3	**223.75**	**-47.25**
		G18/R10	6	16	3	**272.73**	**1.73**
		G18/R10	6	16	3	**205.55**	**-65.45**
		G18/R10	6	16	3	**282.58**	**11.58**
		G18/R10	6	16	3	**260.63**	**-10.38**
		G18/R10	6	16	3	**262.73**	**-8.27**
		G18/R10	6	16	3	**242.58**	**-28.42**
		G18/R10	6	16	3	**246.56**	**-24.44**
					Average CPM:	**249.75**	**-21.25**
					Standard Deviation:	**29.02**	**29.02**
					Max CPM:	**306.33**	**35.33**

Bethesda NNMC Gamma Scan Data Sheet

Meter S/N:	142489	Grid #/Row #	Month	Day	Year	Gross CPM:	Net CPM:
Background CPM:	271	G14/R1	6	16	3	270.39	-0.61
		G14/R1	6	16	3	236.72	-34.28
		G14/R1	6	16	3	235.08	-35.92
		G14/R1	6	16	3	261.09	-9.91
		G14/R1	6	16	3	255.23	-15.77
		G14/R1	6	16	3	251.48	-19.52
		G14/R1	6	16	3	253.83	-17.17
		G14/R1	6	16	3	292.97	21.97
		G14/R1	6	16	3	238.83	-32.17
		G14/R1	6	16	3	261.33	-9.67
		G14/R2	6	16	3	277.42	6.42
		G14/R2	6	16	3	209.77	-61.23
		G14/R2	6	16	3	255.94	-15.06
		G14/R2	6	16	3	268.59	-2.41
		G14/R2	6	16	3	257.11	-13.89
		G14/R2	6	16	3	284.30	13.30
		G14/R2	6	16	3	254.77	-16.23
		G14/R2	6	16	3	260.39	-10.61
		G14/R2	6	16	3	301.64	30.64
		G14/R2	6	16	3	336.80	65.80
		G14/R3	6	16	3	233.83	-37.17
		G14/R3	6	16	3	239.30	-31.70
		G14/R3	6	16	3	277.50	6.50
		G14/R3	6	16	3	220.55	-50.45
		G14/R3	6	16	3	260.63	-10.38
		G14/R3	6	16	3	286.17	15.17
		G14/R3	6	16	3	256.88	-14.13
		G14/R3	6	16	3	243.28	-27.72
		G14/R3	6	16	3	284.30	13.30
		G14/R3	6	16	3	249.14	-21.86
		G14/R4	6	16	3	245.78	-25.22
		G14/R4	6	16	3	222.42	-48.58
		G14/R4	6	16	3	252.42	-18.58
		G14/R4	6	16	3	249.61	-21.39
		G14/R4	6	16	3	217.03	-53.97
		G14/R4	6	16	3	221.95	-49.05
		G14/R4	6	16	3	247.97	-23.03
		G14/R4	6	16	3	240.94	-30.06
		G14/R4	6	16	3	266.02	-4.98
		G14/R4	6	16	3	248.67	-22.33
		G14/R5	6	16	3	274.84	3.84
		G14/R5	6	16	3	212.11	-58.89
		G14/R5	6	16	3	292.97	21.97
		G14/R5	6	16	3	272.34	1.34
		G14/R5	6	16	3	281.25	10.25
		G14/R5	6	16	3	261.56	-9.44
		G14/R5	6	16	3	261.80	-9.20
		G14/R5	6	16	3	315.47	44.47
		G14/R5	6	16	3	333.98	62.98
		G14/R5	6	16	3	285.00	14.00
		G14/R6	6	16	3	260.55	-10.45
		G14/R6	6	16	3	205.31	-65.69
		G14/R6	6	16	3	268.36	-2.64

		G14/R6	6	16	3	**247.97**	**-23.03**
		G14/R6	6	16	3	**257.81**	**-13.19**
		G14/R6	6	16	3	**217.73**	**-53.27**
		G14/R6	6	16	3	**276.33**	**5.33**
		G14/R6	6	16	3	**263.91**	**-7.09**
		G14/R6	6	16	3	**303.98**	**32.98**
		G14/R6	6	16	3	**256.17**	**-14.83**
		G14/R7	6	16	3	**199.92**	**-71.08**
		G14/R7	6	16	3	**283.75**	**12.75**
		G14/R7	6	16	3	**218.67**	**-52.33**
		G14/R7	6	16	3	**274.45**	**3.45**
		G14/R7	6	16	3	**252.89**	**-18.11**
		G14/R7	6	16	3	**272.81**	**1.81**
		G14/R7	6	16	3	**295.78**	**24.78**
		G14/R7	6	16	3	**267.19**	**-3.81**
		G14/R7	6	16	3	**328.36**	**57.36**
		G14/R7	6	16	3	**247.97**	**-23.03**
		G14/R8	6	16	3	**236.88**	**-34.13**
		G14/R8	6	16	3	**195.47**	**-75.53**
		G14/R8	6	16	3	**239.30**	**-31.70**
		G14/R8	6	16	3	**260.63**	**-10.38**
		G14/R8	6	16	3	**298.83**	**27.83**
		G14/R8	6	16	3	**262.03**	**-8.97**
		G14/R8	6	16	3	**279.84**	**8.84**
		G14/R8	6	16	3	**290.63**	**19.63**
		G14/R8	6	16	3	**299.53**	**28.53**
		G14/R8	6	16	3	**281.72**	**10.72**
		G14/R9	6	16	3	**263.59**	**-7.41**
		G14/R9	6	16	3	**217.50**	**-53.50**
		G14/R9	6	16	3	**214.69**	**-56.31**
		G14/R9	6	16	3	**245.86**	**-25.14**
		G14/R9	6	16	3	**237.19**	**-33.81**
		G14/R9	6	16	3	**214.22**	**-56.78**
		G14/R9	6	16	3	**248.67**	**-22.33**
		G14/R9	6	16	3	**252.89**	**-18.11**
		G14/R9	6	16	3	**259.92**	**-11.08**
		G14/R9	6	16	3	**263.44**	**-7.56**
		G14/R10	6	16	3	**196.64**	**-74.36**
		G14/R10	6	16	3	**255.94**	**-15.06**
		G14/R10	6	16	3	**285.70**	**14.70**
		G14/R10	6	16	3	**272.58**	**1.58**
		G14/R10	6	16	3	**271.88**	**0.88**
		G14/R10	6	16	3	**293.44**	**22.44**
		G14/R10	6	16	3	**292.73**	**21.73**
		G14/R10	6	16	3	**251.48**	**-19.52**
		G14/R10	6	16	3	**292.50**	**21.50**
		G14/R10	6	16	3	**237.42**	**-33.58**
					Average CPM:	**259.32**	**-11.68**
					Standard Deviation:	**29.00**	**29.00**
					Max CPM:	**336.80**	**65.80**

Bethesda NNMC Gamma Scan Data Sheet

Meter S/N:	142489	Grid #/Row #	Month	Day	Year	Gross CPM:	Net CPM:
Background CPM:	271	G13/R1	6	16	3	220.70	-50.30
		G13/R1	6	16	3	265.47	-5.53
		G13/R1	6	16	3	278.83	7.83
		G13/R1	6	16	3	219.84	-51.16
		G13/R1	6	16	3	283.13	12.13
		G13/R1	6	16	3	248.20	-22.80
		G13/R1	6	16	3	256.88	-14.13
		G13/R1	6	16	3	221.25	-49.75
		G13/R1	6	16	3	248.91	-22.09
		G13/R1	6	16	3	275.39	4.39
		G13/R2	6	16	3	249.30	-21.70
		G13/R2	6	16	3	245.39	-25.61
		G13/R2	6	16	3	259.45	-11.55
		G13/R2	6	16	3	279.84	8.84
		G13/R2	6	16	3	214.69	-56.31
		G13/R2	6	16	3	253.13	-17.88
		G13/R2	6	16	3	262.27	-8.73
		G13/R2	6	16	3	221.02	-49.98
		G13/R2	6	16	3	202.27	-68.73
		G13/R2	6	16	3	208.13	-62.88
		G13/R3	6	16	3	285.16	14.16
		G13/R3	6	16	3	294.61	23.61
		G13/R3	6	16	3	270.00	-1.00
		G13/R3	6	16	3	267.66	-3.34
		G13/R3	6	16	3	315.23	44.23
		G13/R3	6	16	3	278.91	7.91
		G13/R3	6	16	3	309.38	38.38
		G13/R3	6	16	3	310.08	39.08
		G13/R3	6	16	3	282.89	11.89
		G13/R3	6	16	3	281.48	10.48
		G13/R4	6	16	3	216.72	-54.28
		G13/R4	6	16	3	228.98	-42.02
		G13/R4	6	16	3	277.27	6.27
		G13/R4	6	16	3	240.47	-30.53
		G13/R4	6	16	3	274.69	3.69
		G13/R4	6	16	3	270.47	-0.53
		G13/R4	6	16	3	349.45	78.45
		G13/R4	6	16	3	271.88	0.88
		G13/R4	6	16	3	217.97	-53.03
		G13/R4	6	16	3	254.06	-16.94
		G13/R5	6	16	3	272.27	1.27
		G13/R5	6	16	3	241.64	-29.36
		G13/R5	6	16	3	280.08	9.08
		G13/R5	6	16	3	296.72	25.72
		G13/R5	6	16	3	267.66	-3.34
		G13/R5	6	16	3	336.56	65.56
		G13/R5	6	16	3	325.31	54.31
		G13/R5	6	16	3	320.16	49.16
		G13/R5	6	16	3	271.41	0.41
		G13/R5	6	16	3	228.05	-42.95
		G13/R6	6	16	3	283.05	12.05
		G13/R6	6	16	3	241.64	-29.36
		G13/R6	6	16	3	281.25	10.25

		G13/R6	6	16	3	**231.56**	**-39.44**
		G13/R6	6	16	3	**267.19**	**-3.81**
		G13/R6	6	16	3	**234.38**	**-36.63**
		G13/R6	6	16	3	**220.55**	**-50.45**
		G13/R6	6	16	3	**243.28**	**-27.72**
		G13/R6	6	16	3	**274.69**	**3.69**
		G13/R6	6	16	3	**281.02**	**10.02**
		G13/R7	6	16	3	**220.94**	**-50.06**
		G13/R7	6	16	3	**279.06**	**8.06**
		G13/R7	6	16	3	**253.59**	**-17.41**
		G13/R7	6	16	3	**247.97**	**-23.03**
		G13/R7	6	16	3	**261.56**	**-9.44**
		G13/R7	6	16	3	**244.45**	**-26.55**
		G13/R7	6	16	3	**234.14**	**-36.86**
		G13/R7	6	16	3	**274.22**	**3.22**
		G13/R7	6	16	3	**315.23**	**44.23**
		G13/R7	6	16	3	**239.77**	**-31.23**
		G13/R8	6	16	3	**262.03**	**-8.97**
		G13/R8	6	16	3	**213.52**	**-57.48**
		G13/R8	6	16	3	**196.17**	**-74.83**
		G13/R8	6	16	3	**279.38**	**8.38**
		G13/R8	6	16	3	**262.27**	**-8.73**
		G13/R8	6	16	3	**332.11**	**61.11**
		G13/R8	6	16	3	**312.42**	**41.42**
		G13/R8	6	16	3	**259.69**	**-11.31**
		G13/R8	6	16	3	**226.88**	**-44.13**
		G13/R8	6	16	3	**211.41**	**-59.59**
		G13/R9	6	16	3	**232.19**	**-38.81**
		G13/R9	6	16	3	**204.84**	**-66.16**
		G13/R9	6	16	3	**249.84**	**-21.16**
		G13/R9	6	16	3	**273.05**	**2.05**
		G13/R9	6	16	3	**245.39**	**-25.61**
		G13/R9	6	16	3	**226.64**	**-44.36**
		G13/R9	6	16	3	**213.52**	**-57.48**
		G13/R9	6	16	3	**238.83**	**-32.17**
		G13/R9	6	16	3	**205.31**	**-65.69**
		G13/R9	6	16	3	**296.95**	**25.95**
		G13/R10	6	16	3	**236.88**	**-34.13**
		G13/R10	6	16	3	**296.64**	**25.64**
		G13/R10	6	16	3	**206.95**	**-64.05**
		G13/R10	6	16	3	**238.13**	**-32.88**
		G13/R10	6	16	3	**289.92**	**18.92**
		G13/R10	6	16	3	**256.64**	**-14.36**
		G13/R10	6	16	3	**255.94**	**-15.06**
		G13/R10	6	16	3	**292.03**	**21.03**
		G13/R10	6	16	3	**252.89**	**-18.11**
		G13/R10	6	16	3	**244.45**	**-26.55**
					Average CPM:	**258.94**	**-12.06**
					Standard Deviation:	**33.10**	**33.10**
					Max CPM:	**349.45**	**78.45**

Meter S/N:	142489	Grid #/Row #	Month	Day	Year	Gross CPM:	Net CPM:
Background CPM:	271	G12/R1	6	12	3	132.66	-138.34
		G12/R1	6	12	3	139.92	-131.08
		G12/R1	6	12	3	131.25	-139.75
		G12/R1	6	12	3	120.23	-150.77
		G12/R1	6	12	3	108.52	-162.48
		G12/R1	6	12	3	123.05	-147.95
		G12/R1	6	12	3	144.84	-126.16
		G12/R1	6	12	3	180.47	-90.53
		G12/R1	6	12	3	194.30	-76.70
		G12/R1	6	12	3	166.64	-104.36
		G1/2R2	6	12	3	105.94	-165.06
		G1/2R2	6	12	3	148.36	-122.64
		G1/2R2	6	12	3	205.08	-65.92
		G1/2R2	6	12	3	151.88	-119.13
		G1/2R2	6	12	3	175.55	-95.45
		G1/2R2	6	12	3	157.27	-113.73
		G1/2R2	6	12	3	133.36	-137.64
		G1/2R2	6	12	3	137.34	-133.66
		G1/2R2	6	12	3	190.08	-80.92
		G1/2R2	6	12	3	196.88	-74.13
		G12/R3	6	12	3	145.78	-125.22
		G12/R3	6	12	3	213.52	-57.48
		G12/R3	6	12	3	234.38	-36.63
		G12/R3	6	12	3	198.75	-72.25
		G12/R3	6	12	3	255.94	-15.06
		G12/R3	6	12	3	240.23	-30.77
		G12/R3	6	12	3	229.69	-41.31
		G12/R3	6	12	3	284.53	13.53
		G12/R3	6	12	3	289.69	18.69
		G12/R3	6	12	3	309.14	38.14
		G12/R4	6	12	3	194.77	-76.23
		G12/R4	6	12	3	332.34	61.34
		G12/R4	6	12	3	294.61	23.61
		G12/R4	6	12	3	271.88	0.88
		G12/R4	6	12	3	209.53	-61.47
		G12/R4	6	12	3	256.88	-14.13
		G12/R4	6	12	3	221.25	-49.75
		G12/R4	6	12	3	243.98	-27.02
		G12/R4	6	12	3	258.28	-12.72
		G12/R4	6	12	3	209.06	-61.94
		G12/R5	6	12	3	196.17	-74.83
		G12/R5	6	12	3	233.67	-37.33
		G12/R5	6	12	3	230.16	-40.84
		G12/R5	6	12	3	234.38	-36.63
		G12/R5	6	12	3	318.98	47.98
		G12/R5	6	12	3	277.27	6.27
		G12/R5	6	12	3	287.81	16.81
		G12/R5	6	12	3	242.34	-28.66
		G12/R5	6	12	3	207.89	-63.11
		G12/R5	6	12	3	253.13	-17.88
		G12/R6	6	12	3	177.66	-93.34
		G12/R6	6	12	3	244.69	-26.31
		G12/R6	6	12	3	218.91	-52.09

		G12/R6	6	12	3	**247.97**	**-23.03**
		G12/R6	6	12	3	**277.97**	**6.97**
		G12/R6	6	12	3	**260.16**	**-10.84**
		G12/R6	6	12	3	**281.95**	**10.95**
		G12/R6	6	12	3	**271.88**	**0.88**
		G12/R6	6	12	3	**244.69**	**-26.31**
		G12/R6	6	12	3	**187.97**	**-83.03**
		G12/R7	6	12	3	**113.67**	**-157.33**
		G12/R7	6	12	3	**167.58**	**-103.42**
		G12/R7	6	12	3	**162.19**	**-108.81**
		G12/R7	6	12	3	**187.27**	**-83.73**
		G12/R7	6	12	3	**244.22**	**-26.78**
		G12/R7	6	12	3	**251.25**	**-19.75**
		G12/R7	6	12	3	**275.16**	**4.16**
		G12/R7	6	12	3	**319.22**	**48.22**
		G12/R7	6	12	3	**284.30**	**13.30**
		G12/R7	6	12	3	**271.64**	**0.64**
		G12/R8	6	12	3	**183.05**	**-87.95**
		G12/R8	6	12	3	**216.80**	**-54.20**
		G12/R8	6	12	3	**226.88**	**-44.13**
		G12/R8	6	12	3	**266.48**	**-4.52**
		G12/R8	6	12	3	**234.38**	**-36.63**
		G12/R8	6	12	3	**266.25**	**-4.75**
		G12/R8	6	12	3	**316.41**	**45.41**
		G12/R8	6	12	3	**251.02**	**-19.98**
		G12/R8	6	12	3	**176.02**	**-94.98**
		G12/R8	6	12	3	**146.25**	**-124.75**
		G12/R9	6	12	3	**87.89**	**-183.11**
		G12/R9	6	12	3	**225.70**	**-45.30**
		G12/R9	6	12	3	**239.06**	**-31.94**
		G12/R9	6	12	3	**229.22**	**-41.78**
		G12/R9	6	12	3	**244.45**	**-26.55**
		G12/R9	6	12	3	**214.22**	**-56.78**
		G12/R9	6	12	3	**234.14**	**-36.86**
		G12/R9	6	12	3	**288.52**	**17.52**
		G12/R9	6	12	3	**269.30**	**-1.70**
		G12/R9	6	12	3	**270.47**	**-0.53**
		G12/R10	6	12	3	**210.00**	**-61.00**
		G12/R10	6	12	3	**225.70**	**-45.30**
		G12/R10	6	12	3	**288.75**	**17.75**
		G12/R10	6	12	3	**265.55**	**-5.45**
		G12/R10	6	12	3	**250.55**	**-20.45**
		G12/R10	6	12	3	**227.58**	**-43.42**
		G12/R10	6	12	3	**250.55**	**-20.45**
		G12/R10	6	12	3	**198.28**	**-72.72**
		G12/R10	6	12	3	**207.42**	**-63.58**
		G12/R10	6	12	3	**181.64**	**-89.36**
					Average CPM:	**220.02**	**-50.98**
					Standard Deviation:	**54.93**	**54.93**
					Max CPM:	**332.34**	**61.34**

Meter S/N:	134735	Grid #/Row #	Month	Day	Year	Gross CPM:	Net CPM:
Background CPM:	279	G6/R1	6	12	3	254.00	-25.00
		G6/R1	6	12	3	233.00	-46.00
		G6/R1	6	12	3	210.00	-69.00
		G6/R1	6	12	3	267.00	-12.00
		G6/R1	6	12	3	301.00	22.00
		G6/R1	6	12	3	261.00	-18.00
		G6/R1	6	12	3	226.00	-53.00
		G6/R1	6	12	3	228.00	22.00
		G6/R1	6	12	3	303.00	24.00
		G6/R1	6	12	3	293.00	14.00
		G6/R2	6	12	3	302.00	23.00
		G6/R2	6	12	3	303.00	22.00
		G6/R2	6	12	3	221.00	-58.00
		G6/R2	6	12	3	279.00	0.00
		G6/R2	6	12	3	239.00	-40.00
		G6/R2	6	12	3	304.00	25.00
		G6/R2	6	12	3	262.00	-17.00
		G6/R2	6	12	3	310.00	31.00
		G6/R2	6	12	3	240.00	-39.00
		G6/R2	6	12	3	305.00	26.00
		G6/R3	6	12	3	305.00	26.00
		G6/R3	6	12	3	277.00	-2.00
		G6/R3	6	12	3	298.00	19.00
		G6/R3	6	12	3	245.00	-34.00
		G6/R3	6	12	3	266.00	-13.00
		G6/R3	6	12	3	271.00	-8.00
		G6/R3	6	12	3	298.00	19.00
		G6/R3	6	12	3	288.00	9.00
		G6/R3	6	12	3	296.00	17.00
		G6/R3	6	12	3	302.00	23.00
		G6/R4	6	12	3	303.00	24.00
		G6/R4	6	12	3	250.00	-29.00
		G6/R4	6	12	3	311.00	32.00
		G6/R4	6	12	3	293.00	14.00
		G6/R4	6	12	3	277.00	-2.00
		G6/R4	6	12	3	299.00	20.00
		G6/R4	6	12	3	303.00	24.00
		G6/R4	6	12	3	308.00	29.00
		G6/R4	6	12	3	274.00	-5.00
		G6/R4	6	12	3	294.00	15.00
		G6/R5	6	12	3	302.00	23.00
		G6/R5	6	12	3	311.00	32.00
		G6/R5	6	12	3	279.00	0.00
		G6/R5	6	12	3	271.00	-8.00
		G6/R5	6	12	3	289.00	10.00
		G6/R5	6	12	3	318.00	39.00
		G6/R5	6	12	3	309.00	30.00
		G6/R5	6	12	3	288.00	9.00
		G6/R5	6	12	3	301.00	22.00
		G6/R5	6	12	3	284.00	5.00
		G6/R6	6	12	3	255.00	-24.00
		G6/R6	6	12	3	310.00	31.00
		G6/R6	6	12	3	314.00	35.00

		G6/R6	6	12	3	**258.00**	**-21.00**
		G6/R6	6	12	3	**314.00**	**35.00**
		G6/R6	6	12	3	**309.00**	**30.00**
		G6/R6	6	12	3	**299.00**	**20.00**
		G6/R6	6	12	3	**283.00**	**4.00**
		G6/R6	6	12	3	**272.00**	**-7.00**
		G6/R6	6	12	3	**304.00**	**25.00**
		G6/R7	6	12	3	**295.00**	**16.00**
		G6/R7	6	12	3	**302.00**	**23.00**
		G6/R7	6	12	3	**298.00**	**19.00**
		G6/R7	6	12	3	**292.00**	**13.00**
		G6/R7	6	12	3	**292.00**	**13.00**
		G6/R7	6	12	3	**252.00**	**-27.00**
		G6/R7	6	12	3	**266.00**	**-13.00**
		G6/R7	6	12	3	**302.00**	**23.00**
		G6/R7	6	12	3	**287.00**	**8.00**
		G6/R7	6	12	3	**270.00**	**-9.00**
		G6/R8	6	12	3	**325.00**	**46.00**
		G6/R8	6	12	3	**316.00**	**37.00**
		G6/R8	6	12	3	**311.00**	**32.00**
		G6/R8	6	12	3	**308.00**	**29.00**
		G6/R8	6	12	3	**268.00**	**-11.00**
		G6/R8	6	12	3	**255.00**	**-24.00**
		G6/R8	6	12	3	**309.00**	**30.00**
		G6/R8	6	12	3	**316.00**	**37.00**
		G6/R8	6	12	3	**310.00**	**31.00**
		G6/R8	6	12	3	**311.00**	**32.00**
		G6/R9	6	12	3	**287.00**	**8.00**
		G6/R9	6	12	3	**310.00**	**31.00**
		G6/R9	6	12	3	**300.00**	**21.00**
		G6/R9	6	12	3	**318.00**	**39.00**
		G6/R9	6	12	3	**325.00**	**46.00**
		G6/R9	6	12	3	**315.00**	**36.00**
		G6/R9	6	12	3	**312.00**	**33.00**
		G6/R9	6	12	3	**313.00**	**34.00**
		G6/R9	6	12	3	**315.00**	**-7.00**
		G6/R9	6	12	3	**313.00**	**25.00**
		G6/R10	6	12	3	**326.00**	**16.00**
		G6/R10	6	12	3	**312.00**	**23.00**
		G6/R10	6	12	3	**299.00**	**19.00**
		G6/R10	6	12	3	**313.00**	**13.00**
		G6/R10	6	12	3	**272.00**	**13.00**
		G6/R10	6	12	3	**284.00**	**-27.00**
		G6/R10	6	12	3	**281.00**	**-13.00**
		G6/R10	6	12	3	**287.00**	**23.00**
		G6/R10	6	12	3	**256.00**	**-23.00**
		G6/R10	6	12	3	**287.00**	**8.00**
					Average CPM:	**288.79**	**9.23**
					Standard Deviation:	**25.58**	**24.57**
					Max CPM:	**326.00**	**46.00**

Meter S/N:	134735	Grid #/Row #	Month	Day	Year	Gross CPM:	Net CPM:
Background CPM:	279	G5/R1	6	12	3	311.00	32.00
		G5/R1	6	12	3	300.00	21.00
		G5/R1	6	12	3	267.00	-12.00
		G5/R1	6	12	3	298.00	19.00
		G5/R1	6	12	3	272.00	-7.00
		G5/R1	6	12	3	338.00	59.00
		G5/R2	6	12	3	291.00	12.00
		G5/R2	6	12	3	280.00	1.00
		G5/R2	6	12	3	276.00	-3.00
		G5/R2	6	12	3	271.00	-8.00
		G5/R2	6	12	3	288.00	9.00
		G5/R2	6	12	3	239.00	-40.00
		G5/R3	6	12	3	203.00	-76.00
		G5/R3	6	12	3	199.00	-80.00
		G5/R3	6	12	3	232.00	-47.00
		G5/R3	6	12	3	235.00	-44.00
		G5/R3	6	12	3	240.00	-39.00
		G5/R3	6	12	3	217.00	-62.00
		G5/R4	6	12	3	289.00	10.00
		G5/R4	6	12	3	304.00	25.00
		G5/R4	6	12	3	301.00	22.00
		G5/R4	6	12	3	293.00	14.00
		G5/R4	6	12	3	301.00	22.00
		G5/R4	6	12	3	278.00	-1.00
		G5/R5	6	12	3	214.00	-65.00
		G5/R5	6	12	3	251.00	-28.00
		G5/R5	6	12	3	258.00	-21.00
		G5/R5	6	12	3	316.00	37.00
		G5/R5	6	12	3	302.00	23.00
		G5/R5	6	12	3	327.00	48.00
		G5/R6	6	12	3	301.00	22.00
		G5/R6	6	12	3	301.00	22.00
		G5/R6	6	12	3	300.00	21.00
		G5/R6	6	12	3	265.00	-14.00
		G5/R6	6	12	3	304.00	25.00
		G5/R6	6	12	3	321.00	42.00
		G5/R7	6	12	3	312.00	33.00
		G5/R7	6	12	3	320.00	41.00
		G5/R7	6	12	3	269.00	-10.00
		G5/R7	6	12	3	268.00	-11.00
		G5/R7	6	12	3	264.00	-15.00
		G5/R7	6	12	3	301.00	22.00
		G5/R8	6	12	3	306.00	27.00
		G5/R8	6	12	3	323.00	44.00
		G5/R8	6	12	3	309.00	30.00
		G5/R8	6	12	3	301.00	22.00
		G5/R8	6	12	3	321.00	42.00
		G5/R8	6	12	3	333.00	54.00
		G5/R9	6	12	3	301.00	22.00
		G5/R9	6	12	3	265.00	-14.00
		G5/R9	6	12	3	248.00	-31.00
		G5/R9	6	12	3	301.00	22.00
		G5/R9	6	12	3	279.00	0.00

		G5/R9	6	12	3	**293.00**	**14.00**
		G5/R10	6	12	3	**260.00**	**-19.00**
		G5/R10	6	12	3	**212.00**	**-67.00**
		G5/R10	6	12	3	**267.00**	**-12.00**
		G5/R10	6	12	3	**244.00**	**-35.00**
		G5/R10	6	12	3	**278.00**	**-1.00**
		G5/R10	6	12	3	**289.00**	**10.00**
					Average CPM:	**280.78**	**1.78**
					Standard Deviation:	**33.32**	**33.32**
					Max CPM:	**338.00**	**59.00**

Meter S/N:	142489	Grid #/Row #	Month	Day	Year	Gross CPM:	Net CPM:
Background CPM:	271	G3/R1	6	12	3	275.00	4.00
		G3/R1	6	12	3	201.00	-70.00
		G3/R1	6	12	3	229.00	-42.00
		G3/R1	6	12	3	292.00	21.00
		G3/R1	6	12	3	261.00	-10.00
		G3/R1	6	12	3	252.00	-19.00
		G3/R1	6	12	3	227.00	-44.00
		G3/R1	6	12	3	213.00	-58.00
		G3/R1	6	12	3	254.00	-17.00
		G3/R1	6	12	3	293.00	22.00
		G3/R2	6	12	3	259.00	-12.00
		G3/R2	6	12	3	257.00	-58.00
		G3/R2	6	12	3	256.00	-15.00
		G3/R2	6	12	3	300.00	29.00
		G3/R2	6	12	3	256.00	-15.00
		G3/R2	6	12	3	266.00	-5.00
		G3/R2	6	12	3	255.00	-16.00
		G3/R2	6	12	3	235.00	-36.00
		G3/R2	6	12	3	215.00	-56.00
		G3/R2	6	12	3	214.00	-57.00
		G3/R3	6	12	3	272.00	1.00
		G3/R3	6	12	3	272.00	1.00
		G3/R3	6	12	3	246.00	-25.00
		G3/R3	6	12	3	299.00	28.00
		G3/R3	6	12	3	279.00	8.00
		G3/R3	6	12	3	266.00	-5.00
		G3/R3	6	12	3	262.00	-9.00
		G3/R3	6	12	3	257.00	-14.00
		G3/R3	6	12	3	281.00	10.00
		G3/R3	6	12	3	264.00	-7.00
		G3/R4	6	12	3	292.00	21.00
		G3/R4	6	12	3	287.00	16.00
		G3/R4	6	12	3	296.00	25.00
		G3/R4	6	12	3	341.00	70.00
		G3/R4	6	12	3	301.00	30.00
		G3/R4	6	12	3	286.00	15.00
		G3/R4	6	12	3	244.00	-27.00
		G3/R4	6	12	3	338.00	67.00
		G3/R4	6	12	3	346.00	75.00
		G3/R4	6	12	3	257.00	-14.00
		G3/R5	6	12	3	295.00	24.00
		G3/R5	6	12	3	286.00	15.00
		G3/R5	6	12	3	369.00	98.00
		G3/R5	6	12	3	257.00	-14.00
		G3/R5	6	12	3	229.00	-42.00
		G3/R5	6	12	3	250.00	-21.00
		G3/R5	6	12	3	234.00	-37.00
		G3/R5	6	12	3	262.00	-9.00
		G3/R5	6	12	3	261.00	-10.00
		G3/R5	6	12	3	254.00	-17.00
		G3/R6	6	12	3	243.00	-28.00
		G3/R6	6	12	3	233.00	-38.00
		G3/R6	6	12	3	267.00	-4.00

		G3/R6	6	12	3	**248.00**	**-23.00**
		G3/R6	6	12	3	**206.00**	**-65.00**
		G3/R6	6	12	3	**289.00**	**18.00**
		G3/R6	6	12	3	**253.00**	**-18.00**
		G3/R6	6	12	3	**263.00**	**-8.00**
		G3/R6	6	12	3	**327.00**	**56.00**
		G3/R6	6	12	3	**321.00**	**50.00**
		G3/R7	6	12	3	**213.00**	**-58.00**
		G3/R7	6	12	3	**283.00**	**12.00**
		G3/R7	6	12	3	**285.00**	**14.00**
		G3/R7	6	12	3	**256.00**	**-15.00**
		G3/R7	6	12	3	**254.00**	**-17.00**
		G3/R7	6	12	3	**246.00**	**-25.00**
		G3/R7	6	12	3	**218.00**	**-53.00**
		G3/R7	6	12	3	**199.00**	**-72.00**
		G3/R7	6	12	3	**246.00**	**-25.00**
		G3/R7	6	12	3	**222.00**	**-49.00**
		G3/R8	6	12	3	**203.00**	**-68.00**
		G3/R8	6	12	3	**247.00**	**-24.00**
		G3/R8	6	12	3	**229.00**	**-42.00**
		G3/R8	6	12	3	**307.00**	**36.00**
		G3/R8	6	12	3	**309.00**	**38.00**
		G3/R8	6	12	3	**319.00**	**48.00**
		G3/R8	6	12	3	**298.00**	**27.00**
		G3/R8	6	12	3	**319.00**	**48.00**
		G3/R8	6	12	3	**284.00**	**13.00**
		G3/R8	6	12	3	**305.00**	**34.00**
		G3/R9	6	12	3	**261.00**	**-10.00**
		G3/R9	6	12	3	**251.00**	**-20.00**
		G3/R9	6	12	3	**266.00**	**-5.00**
		G3/R9	6	12	3	**244.00**	**-27.00**
		G3/R9	6	12	3	**266.00**	**-5.00**
		G3/R9	6	12	3	**276.00**	**5.00**
		G3/R9	6	12	3	**304.00**	**33.00**
		G3/R9	6	12	3	**227.00**	**-44.00**
		G3/R9	6	12	3	**265.00**	**-6.00**
		G3/R9	6	12	3	**218.00**	**-53.00**
		G3/R10	6	12	3	**258.00**	**-13.00**
		G3/R10	6	12	3	**237.00**	**-34.00**
		G3/R10	6	12	3	**251.00**	**-20.00**
		G3/R10	6	12	3	**251.00**	**-20.00**
		G3/R10	6	12	3	**236.00**	**-35.00**
		G3/R10	6	12	3	**260.00**	**-11.00**
		G3/R10	6	12	3	**245.00**	**-26.00**
		G3/R10	6	12	3	**293.00**	**22.00**
		G3/R10	6	12	3	**307.00**	**36.00**
		G3/R10	6	12	3	**296.00**	**25.00**
					Average CPM:	**264.97**	**-6.47**
					Standard Deviation:	**33.91**	**34.30**
					Max CPM:	**369.00**	**98.00**

Bethesda NNMC Gamma Scan Data Sheet

Meter S/N:	142489	Grid #/Row #	Month	Day	Year	Gross CPM:	Net CPM:
Background CPM:	271	G2/R1	6	12	3	258.00	-13.00
		G2/R1	6	12	3	278.00	7.00
		G2/R1	6	12	3	268.00	-3.00
		G2/R1	6	12	3	293.00	22.00
		G2/R1	6	12	3	280.00	9.00
		G2/R1	6	12	3	281.00	10.00
		G2/R1	6	12	3	292.00	21.00
		G2/R1	6	12	3	212.00	-59.00
		G2/R1	6	12	3	290.00	19.00
		G2/R1	6	12	3	276.00	5.00
		G2/R2	6	12	3	213.00	-58.00
		G2/R2	6	12	3	274.00	-59.00
		G2/R2	6	12	3	215.00	-56.00
		G2/R2	6	12	3	259.00	-12.00
		G2/R2	6	12	3	291.00	20.00
		G2/R2	6	12	3	214.00	-57.00
		G2/R2	6	12	3	261.00	-10.00
		G2/R2	6	12	3	260.00	-11.00
		G2/R2	6	12	3	257.00	-14.00
		G2/R2	6	12	3	254.00	-17.00
		G2/R3	6	12	3	237.00	-34.00
		G2/R3	6	12	3	239.00	-32.00
		G2/R3	6	12	3	247.00	-24.00
		G2/R3	6	12	3	227.00	-44.00
		G2/R3	6	12	3	219.00	-52.00
		G2/R3	6	12	3	246.00	-25.00
		G2/R3	6	12	3	176.00	-95.00
		G2/R3	6	12	3	243.00	-28.00
		G2/R3	6	12	3	191.00	-80.00
		G2/R3	6	12	3	258.00	-13.00
		G2/R4	6	12	3	274.00	3.00
		G2/R4	6	12	3	266.00	-5.00
		G2/R4	6	12	3	257.00	-14.00
		G2/R4	6	12	3	286.00	15.00
		G2/R4	6	12	3	267.00	-4.00
		G2/R4	6	12	3	276.00	5.00
		G2/R4	6	12	3	237.00	-34.00
		G2/R4	6	12	3	226.00	-45.00
		G2/R4	6	12	3	271.00	0.00
		G2/R4	6	12	3	287.00	16.00
		G2/R5	6	12	3	270.00	-1.00
		G2R5	6	12	3	221.00	-50.00
		G2/R5	6	12	3	281.00	10.00
		G2/R5	6	12	3	287.00	16.00
		G2/R5	6	12	3	201.00	-70.00
		G2/R5	6	12	3	197.00	-74.00
		G2/R5	6	12	3	213.00	-58.00
		G2/R5	6	12	3	219.00	-52.00
		G2/R5	6	12	3	207.00	-64.00
		G2/R5	6	12	3	267.00	-4.00
		G2/R6	6	12	3	222.00	-49.00
		G2/R6	6	12	3	253.00	-18.00
		G2/R6	6	12	3	225.00	-46.00

		G2/R6	6	12	3	**206.00**	**-65.00**
		G2/R6	6	12	3	**214.00**	**-57.00**
		G2/R6	6	12	3	**205.00**	**-66.00**
		G2/R6	6	12	3	**285.00**	**14.00**
		G2/R6	6	12	3	**271.00**	**0.00**
		G2/R6	6	12	3	**295.00**	**24.00**
		G2/R6	6	12	3	**221.00**	**-50.00**
		G2/R7	6	12	3	**274.00**	**3.00**
		G2/R7	6	12	3	**255.00**	**-16.00**
		G2/R7	6	12	3	**242.00**	**-29.00**
		G2/R7	6	12	3	**290.00**	**19.00**
		G2/R7	6	12	3	**269.00**	**-2.00**
		G2/R7	6	12	3	**255.00**	**-16.00**
		G2/R7	6	12	3	**278.00**	**7.00**
		G2/R7	6	12	3	**288.00**	**17.00**
		G2/R7	6	12	3	**254.00**	**-17.00**
		G2/R7	6	12	3	**282.00**	**11.00**
		G2/R8	6	12	3	**230.00**	**-41.00**
		G2/R8	6	12	3	**229.00**	**-42.00**
		G2/R8	6	12	3	**284.00**	**13.00**
		G2/R8	6	12	3	**287.00**	**16.00**
		G2/R8	6	12	3	**292.00**	**21.00**
		G2/R8	6	12	3	**207.00**	**-64.00**
		G2/R8	6	12	3	**299.00**	**28.00**
		G2/R8	6	12	3	**216.00**	**-55.00**
		G2/R8	6	12	3	**287.00**	**16.00**
		G2/R8	6	12	3	**227.00**	**-44.00**
		G2/R9	6	12	3	**266.00**	**-5.00**
		G2/R9	6	12	3	**235.00**	**-36.00**
		G2/R9	6	12	3	**299.00**	**28.00**
		G2/R9	6	12	3	**273.00**	**2.00**
		G2/R9	6	12	3	**233.00**	**-38.00**
		G2/R9	6	12	3	**289.00**	**18.00**
		G2/R9	6	12	3	**277.00**	**6.00**
		G2/R9	6	12	3	**216.00**	**-55.00**
		G2/R9	6	12	3	**258.00**	**-13.00**
		G2/R9	6	12	3	**212.00**	**-59.00**
		G2/R10	6	12	3	**203.00**	**-68.00**
		G2/R10	6	12	3	**275.00**	**4.00**
		G2/R10	6	12	3	**262.00**	**-9.00**
		G2/R10	6	12	3	**254.00**	**-17.00**
		G2/R10	6	12	3	**271.00**	**0.00**
		G2/R10	6	12	3	**213.00**	**-58.00**
		G2/R10	6	12	3	**277.00**	**6.00**
		G2/R10	6	12	3	**273.00**	**2.00**
		G2/R10	6	12	3	**293.00**	**22.00**
		G2/R10	6	12	3	**281.00**	**10.00**
					Average CPM:	**253.21**	**-18.41**
					Standard Deviation:	**30.60**	**30.80**
					Max CPM:	**299.00**	**28.00**

Meter S/N:	95337	Grid #/Row #	Month	Day	Year	Gross CPM:	Net CPM:
Background CPM:	**266**	**G1/R1**	6	25	3	**289.53**	**23.53**
		G1/R1	6	25	3	**318.59**	**52.59**
		G1/R1	6	25	3	**311.56**	**45.56**
		G1/R1	6	25	3	**317.66**	**51.66**
		G1/R1	6	25	3	**228.44**	**-37.56**
		G1/R1	6	25	3	**216.02**	**-49.98**
		G1/R1	6	25	3	**317.89**	**51.89**
		G1/R1	6	25	3	**240.00**	**-26.00**
		G1/R1	6	25	3	**254.22**	**-11.78**
		G1/R1	6	25	3	**227.11**	**-38.89**
		G1/R2	6	25	3	**286.56**	**20.56**
		G1/R2	6	25	3	**246.56**	**-19.44**
		G1/R2	6	25	3	**285.00**	**19.00**
		G1/R2	6	25	3	**254.69**	**-11.31**
		G1/R2	6	25	3	**244.84**	**-21.16**
		G1/R2	6	25	3	**236.88**	**-29.13**
		G1/R2	6	25	3	**226.80**	**-39.20**
		G1/R2	6	25	3	**261.33**	**-4.67**
		G1/R2	6	25	3	**224.69**	**-41.31**
		G1/R2	6	25	3	**212.97**	**-53.03**
		G1/R3	6	25	3	**267.50**	**1.50**
		G1/R3	6	25	3	**204.06**	**-61.94**
		G1/R3	6	25	3	**239.45**	**-26.55**
		G1/R3	6	25	3	**249.14**	**-16.86**
		G1/R3	6	25	3	**261.80**	**-4.20**
		G1/R3	6	25	3	**231.95**	**-34.05**
		G1/R3	6	25	3	**301.48**	**35.48**
		G1/R3	6	25	3	**222.34**	**-43.66**
		G1/R3	6	25	3	**274.61**	**8.61**
		G1/R3	6	25	3	**235.31**	**-30.69**
		G1/R4	6	25	3	**244.22**	**-21.78**
		G1/R4	6	25	3	**264.14**	**-1.86**
		G1/R4	6	25	3	**228.28**	**-37.72**
		G1/R4	6	25	3	**260.94**	**-5.06**
		G1/R4	6	25	3	**200.31**	**-65.69**
		G1/R4	6	25	3	**202.42**	**-63.58**
		G1/R4	6	25	3	**235.23**	**-30.77**
		G1/R4	6	25	3	**238.52**	**-27.48**
		G1/R4	6	25	3	**246.25**	**-19.75**
		G1/R4	6	25	3	**250.94**	**-15.06**
		G1/R5	6	25	3	**236.41**	**-29.59**
		G1/R5	6	25	3	**240.16**	**-25.84**
		G1/R5	6	25	3	**254.92**	**-11.08**
		G1/R5	6	25	3	**223.98**	**-42.02**
		G1/R5	6	25	3	**222.81**	**-43.19**
		G1/R5	6	25	3	**299.84**	**33.84**
		G1/R5	6	25	3	**233.36**	**-32.64**
		G1/R5	6	25	3	**235.94**	**-30.06**
		G1/R5	6	25	3	**276.72**	**10.72**
		G1/R5	6	25	3	**229.22**	**-36.78**
		G1/R6	6	25	3	**232.89**	**-33.11**
		G1/R6	6	25	3	**290.08**	**24.08**
		G1/R6	6	25	3	**263.83**	**-2.17**

		G1/R6	6	25	3	**237.27**	**-28.73**
		G1/R6	6	25	3	**285.78**	**19.78**
		G1/R6	6	25	3	**268.98**	**2.98**
		G1/R6	6	25	3	**212.58**	**-53.42**
		G1/R6	6	25	3	**229.22**	**-36.78**
		G1/R6	6	25	3	**234.84**	**-31.16**
		G1/R6	6	25	3	**228.98**	**-37.02**
		G1/R7	6	25	3	**234.14**	**-31.86**
		G1/R7	6	25	3	**267.11**	**1.11**
		G1/R7	6	25	3	**275.00**	**9.00**
		G1/R7	6	25	3	**249.22**	**-16.78**
		G1/R7	6	25	3	**258.13**	**-7.88**
		G1/R7	6	25	3	**271.72**	**5.72**
		G1/R7	6	25	3	**220.00**	**-46.00**
		G1/R7	6	25	3	**282.11**	**16.11**
		G1/R7	6	25	3	**277.42**	**11.42**
		G1/R7	6	25	3	**233.05**	**-32.95**
		G1/R8	6	25	3	**231.48**	**-34.52**
		G1/R8	6	25	3	**219.14**	**-46.86**
		G1/R8	6	25	3	**221.95**	**-44.05**
		G1/R8	6	25	3	**233.75**	**-32.25**
		G1/R8	6	25	3	**257.19**	**-8.81**
		G1/R8	6	25	3	**264.38**	**-1.63**
		G1/R8	6	25	3	**236.64**	**-29.36**
		G1/R8	6	25	3	**219.30**	**-46.70**
		G1/R8	6	25	3	**272.50**	**6.50**
		G1/R8	6	25	3	**226.80**	**-39.20**
		G1/R9	6	25	3	**247.11**	**-18.89**
		G1/R9	6	25	3	**275.78**	**9.78**
		G1/R9	6	25	3	**275.31**	**9.31**
		G1/R9	6	25	3	**256.02**	**-9.98**
		G1/R9	6	25	3	**288.36**	**22.36**
		G1/R9	6	25	3	**293.75**	**27.75**
		G1/R9	6	25	3	**255.78**	**-10.22**
		G1/R9	6	25	3	**299.61**	**33.61**
		G1/R9	6	25	3	**250.94**	**-15.06**
		G1/R9	6	25	3	**260.86**	**-5.14**
		G1/R10	6	25	3	**256.56**	**-9.44**
		G1/R10	6	25	3	**224.53**	**-41.47**
		G1/R10	6	25	3	**267.19**	**1.19**
		G1/R10	6	25	3	**234.06**	**-31.94**
		G1/R10	6	25	3	**255.39**	**-10.61**
		G1/R10	6	25	3	**234.06**	**-31.94**
		G1/R10	6	25	3	**198.91**	**-67.09**
		G1/R10	6	25	3	**196.33**	**-69.67**
		G1/R10	6	25	3	**243.91**	**-22.09**
		G1/R10	6	25	3	**247.19**	**-18.81**
					Average CPM:	**250.11**	**-15.89**
					Standard Deviation:	**27.75**	**27.75**
					Max CPM:	**318.59**	**52.59**

Meter S/N:	95337	Grid #/Row #	Month	Day	Year	Gross CPM:	Net CPM:
Background CPM:	266	G30/R1	6	25	3	189.53	-76.47
		G30/R1	6	25	3	118.59	-147.41
		G30/R1	6	25	3	111.56	-154.44
		G30/R1	6	25	3	117.66	-148.34
		G30/R1	6	25	3	128.44	-137.56
		G30/R1	6	25	3	116.02	-149.98
		G30/R1	6	25	3	117.89	-148.11
		G30/R1	6	25	3	240.00	-26.00
		G30/R1	6	25	3	214.22	-51.78
		G30/R1	6	25	3	227.11	-38.89
		G30/R1	6	25	3	186.56	-79.44
		G30/R1	6	25	3	246.56	-19.44
		G30/R1	6	25	3	285.00	19.00
		G30/R1	6	25	3	154.69	-111.31
		G30/R1	6	25	3	144.84	-121.16
		G30/R1	6	25	3	136.88	-129.13
		G30/R1	6	25	3	126.80	-139.20
		G30/R1	6	25	3	111.33	-154.67
		G30/R1	6	25	3	124.69	-141.31
		G30/R1	6	25	3	112.97	-153.03
		G30/R1	6	25	3	167.50	-98.50
		G30/R1	6	25	3	104.06	-161.94
		G30/R1	6	25	3	139.45	-126.55
		G30/R1	6	25	3	199.14	-66.86
		G30/R1	6	25	3	111.80	-154.20
		G30/R1	6	25	3	131.95	-134.05
		G30/R1	6	25	3	101.48	-164.52
		G30/R1	6	25	3	122.34	-143.66
		G30/R1	6	25	3	174.61	-91.39
		G30/R1	6	25	3	235.31	-30.69
		G30/R2	6	25	3	244.22	-21.78
		G30/R2	6	25	3	264.14	-1.86
		G30/R2	6	25	3	228.28	-37.72
		G30/R2	6	25	3	160.94	-105.06
		G30/R2	6	25	3	200.31	-65.69
		G30/R2	6	25	3	102.42	-163.58
		G30/R2	6	25	3	135.23	-130.77
		G30/R2	6	25	3	138.52	-127.48
		G30/R2	6	25	3	146.25	-119.75
		G30/R2	6	25	3	150.94	-115.06
		G30/R2	6	25	3	136.41	-129.59
		G30/R2	6	25	3	140.16	-125.84
		G30/R2	6	25	3	154.92	-111.08
		G30/R2	6	25	3	123.98	-142.02
		G30/R2	6	25	3	122.81	-143.19
		G30/R2	6	25	3	199.84	-66.16
		G30/R2	6	25	3	133.36	-132.64
		G30/R2	6	25	3	135.94	-130.06
		G30/R2	6	25	3	176.72	-89.28
		G30/R2	6	25	3	229.22	-36.78
		G30/R2	6	25	3	132.89	-133.11
		G30/R2	6	25	3	190.08	-75.92
		G30/R2	6	25	3	163.83	-102.17

		G30/R2	6	25	3	**237.27**	**-28.73**
		G30/R2	6	25	3	**185.78**	**-80.22**
		G30/R2	6	25	3	**168.98**	**-97.02**
		G30/R2	6	25	3	**212.58**	**-53.42**
		G30/R2	6	25	3	**229.22**	**-36.78**
		G30/R2	6	25	3	**234.84**	**-31.16**
		G30/R2	6	25	3	**228.98**	**-37.02**
		G30/R3	6	25	3	**114.14**	**-151.86**
		G30/R3	6	25	3	**167.11**	**-98.89**
		G30/R3	6	25	3	**167.81**	**-98.19**
		G30/R3	6	25	3	**249.22**	**-16.78**
		G30/R3	6	25	3	**258.13**	**-7.88**
		G30/R3	6	25	3	**101.72**	**-164.28**
		G30/R3	6	25	3	**120.00**	**-146.00**
		G30/R3	6	25	3	**182.11**	**-83.89**
		G30/R3	6	25	3	**177.42**	**-88.58**
		G30/R3	6	25	3	**213.05**	**-52.95**
		G30/R3	6	25	3	**131.48**	**-134.52**
		G30/R3	6	25	3	**219.14**	**-46.86**
		G30/R3	6	25	3	**221.95**	**-44.05**
		G30/R3	6	25	3	**223.75**	**-42.25**
		G30/R3	6	25	3	**257.19**	**-8.81**
		G30/R3	6	25	3	**114.38**	**-151.63**
		G30/R3	6	25	3	**136.64**	**-129.36**
		G30/R3	6	25	3	**119.30**	**-146.70**
		G30/R3	6	25	3	**172.50**	**-93.50**
		G30/R3	6	25	3	**126.80**	**-139.20**
		G30/R3	6	25	3	**107.11**	**-158.89**
		G30/R3	6	25	3	**175.78**	**-90.22**
		G30/R3	6	25	3	**175.31**	**-90.69**
		G30/R3	6	25	3	**256.02**	**-9.98**
		G30/R3	6	25	3	**188.36**	**-77.64**
		G30/R3	6	25	3	**193.75**	**-72.25**
		G30/R3	6	25	3	**155.78**	**-110.22**
		G30/R3	6	25	3	**199.61**	**-66.39**
		G30/R3	6	25	3	**150.94**	**-115.06**
		G30/R3	6	25	3	**260.86**	**-5.14**
					Average CPM:	**170.50**	**-95.50**
					Standard Deviation:	**49.10**	**49.10**
					Max CPM:	**285.00**	**19.00**

Survey Unit #2

Bethesda NNMC Gamma Scan Data Sheet

Meter S/N:	142489	Grid #/Row #	Month	Day	Year	Gross CPM:	Net CPM:
Background CPM:	271	G28/R1	6	17	3	252.58	-18.42
		G28/R1	6	17	3	225.00	-46.00
		G28/R1	6	17	3	232.03	-38.97
		G28/R1	6	17	3	256.64	-14.36
		G28/R1	6	17	3	226.64	-44.36
		G28/R1	6	17	3	218.67	-52.33
		G28/R1	6	17	3	203.20	-67.80
		G28/R1	6	17	3	258.67	-12.33
		G28/R1	6	17	3	240.16	-30.84
		G28/R1	6	17	3	200.86	-70.14
		G28/R2	6	17	3	290.16	19.16
		G28/R2	6	17	3	265.70	-5.30
		G28/R2	6	17	3	284.92	13.92
		G28/R2	6	17	3	243.44	-27.56
		G28/R2	6	17	3	280.47	9.47
		G28/R2	6	17	3	275.16	4.16
		G28/R2	6	17	3	234.38	-36.63
		G28/R2	6	17	3	276.33	5.33
		G28/R2	6	17	3	211.88	-59.13
		G28/R2	6	17	3	224.06	-46.94
		G28/R3	6	17	3	228.44	-42.56
		G28/R3	6	17	3	298.98	27.98
		G28/R3	6	17	3	232.97	-38.03
		G28/R3	6	17	3	203.91	-67.09
		G28/R3	6	17	3	245.55	-25.45
		G28/R3	6	17	3	190.55	-80.45
		G28/R3	6	17	3	254.22	-16.78
		G28/R3	6	17	3	262.42	-8.58
		G28/R3	6	17	3	285.63	14.63
		G28/R3	6	17	3	285.63	14.63
		G28/R4	6	17	3	235.00	-36.00
		G28/R4	6	17	3	263.59	-7.41
		G28/R4	6	17	3	270.16	-0.84
		G28/R4	6	17	3	269.92	-1.08
		G28/R4	6	17	3	283.98	12.98
		G28/R4	6	17	3	289.14	18.14
		G28/R4	6	17	3	207.19	-63.81
		G28/R4	6	17	3	223.83	-47.17
		G28/R4	6	17	3	214.22	-56.78
		G28/R4	6	17	3	200.39	-70.61
					Average CPM:	246.17	-24.83
					Standard Deviation:	30.45	30.45
					Max CPM:	298.98	27.98

Bethesda NNMC Gamma Scan Data Sheet

Meter S/N:	142489	Grid #/Row #	Month	Day	Year	Gross CPM:	Net CPM:
Background CPM:	271	G27/R1	6	17	3	242.03	-28.97
		G27/R1	6	17	3	247.27	-23.73
		G27/R1	6	17	3	292.19	21.19
		G27/R1	6	17	3	230.39	-40.61
		G27/R2	6	17	3	203.36	-67.64
		G27/R2	6	17	3	279.53	8.53
		G27/R2	6	17	3	269.92	-1.08
		G27/R2	6	17	3	264.61	-6.39
		G27/R3	6	17	3	240.16	-30.84
		G27/R3	6	17	3	241.41	-29.59
		G27/R3	6	17	3	229.22	-41.78
		G27/R3	6	17	3	278.83	7.83
		G27/R4	6	17	3	233.13	-37.88
		G27/R4	6	17	3	274.30	3.30
		G27/R4	6	17	3	213.98	-57.02
		G27/R4	6	17	3	234.38	-36.63
		G27/R5	6	17	3	284.92	13.92
		G27/R5	6	17	3	281.41	10.41
		G27/R5	6	17	3	268.59	-2.41
		G27/R5	6	17	3	234.38	-36.63
					Average CPM:	252.20	-18.80
					Standard Deviation:	25.59	25.59
					Max CPM:	292.19	21.19

Bethesda NNMC Gamma Scan Data Sheet

Meter S/N:	142489	Grid #/Row #	Month	Day	Year	Gross CPM:	Net CPM:
Background CPM:	271	G26/R1	6	16	3	221.48	-49.52
		G26/R1	6	16	3	223.13	-47.88
		G26/R1	6	16	3	278.44	7.44
		G26/R1	6	16	3	282.42	11.42
		G26/R1	6	16	3	324.84	53.84
		G26/R1	6	16	3	288.05	17.05
		G26/R1	6	16	3	223.59	-47.41
		G26/R1	6	16	3	210.23	-60.77
		G26/R1	6	16	3	197.58	-73.42
		G26/R1	6	16	3	207.42	-63.58
		G26/R2	6	16	3	119.77	-151.23
		G26/R2	6	16	3	194.53	-76.47
		G26/R2	6	16	3	209.30	-61.70
		G26/R2	6	16	3	238.36	-32.64
		G26/R2	6	16	3	262.73	-8.27
		G26/R2	6	16	3	229.22	-41.78
		G26/R2	6	16	3	269.77	-1.23
		G26/R2	6	16	3	277.50	6.50
		G26/R2	6	16	3	256.88	-14.13
		G26/R2	6	16	3	224.30	-46.70
		G26/R3	6	16	3	192.42	-78.58
		G26/R3	6	16	3	184.22	-86.78
		G26/R3	6	16	3	246.09	-24.91
		G26/R3	6	16	3	247.50	-23.50
		G26/R3	6	16	3	250.78	-20.22
		G26/R3	6	16	3	245.86	-25.14
		G26/R3	6	16	3	196.88	-74.13
		G26/R3	6	16	3	244.45	-26.55
		G26/R3	6	16	3	191.95	-79.05
		G26/R3	6	16	3	211.64	-59.36
		G26/R4	6	16	3	271.56	0.56
		G26/R4	6	16	3	182.81	-88.19
		G26/R4	6	16	3	229.22	-41.78
		G26/R4	6	16	3	193.59	-77.41
		G26/R4	6	16	3	211.41	-59.59
		G26/R4	6	16	3	251.72	-19.28
		G26/R4	6	16	3	232.50	-38.50
		G26/R4	6	16	3	276.25	5.25
		G26/R4	6	16	3	242.81	-28.19
		G26/R4	6	16	3	207.66	-63.34
		G26/R5	6	16	3	213.05	-57.95
		G26/R5	6	16	3	256.17	-14.83
		G26/R5	6	16	3	240.47	-30.53
		G26/R5	6	16	3	235.08	-35.92
		G26/R5	6	16	3	304.14	33.14
		G26/R5	6	16	3	220.55	-50.45
		G26/R5	6	16	3	214.22	-56.78
		G26/R5	6	16	3	203.67	-67.33
		G26/R5	6	16	3	284.45	13.45
		G26/R5	6	16	3	265.47	-5.53
		G26/R6	6	16	3	291.64	20.64
		G26/R6	6	16	3	245.08	-25.92
		G26/R6	6	16	3	272.73	1.73

		G26/R6	6	16	3	**196.41**	**-74.59**
		G26/R6	6	16	3	**180.00**	**-91.00**
		G26/R6	6	16	3	**171.80**	**-99.20**
		G26/R6	6	16	3	**211.64**	**-59.36**
		G26/R6	6	16	3	**264.38**	**-6.63**
		G26/R6	6	16	3	**229.69**	**-41.31**
		G26/R6	6	16	3	**206.02**	**-64.98**
		G26/R7	6	16	3	**280.86**	**9.86**
		G26/R7	6	16	3	**259.38**	**-11.63**
		G26/R7	6	16	3	**296.64**	**25.64**
		G26/R7	6	16	3	**202.27**	**-68.73**
		G26/R7	6	16	3	**227.81**	**-43.19**
		G26/R7	6	16	3	**202.27**	**-68.73**
		G26/R7	6	16	3	**185.16**	**-85.84**
		G26/R7	6	16	3	**180.47**	**-90.53**
		G26/R7	6	16	3	**246.72**	**-24.28**
		G26/R7	6	16	3	**239.92**	**-31.08**
		G26/R8	6	16	3	**288.36**	**17.36**
		G26/R8	6	16	3	**250.47**	**-20.53**
		G26/R8	6	16	3	**263.59**	**-7.41**
		G26/R8	6	16	3	**273.20**	**2.20**
		G26/R8	6	16	3	**225.70**	**-45.30**
		G26/R8	6	16	3	**287.27**	**16.27**
		G26/R8	6	16	3	**254.22**	**-16.78**
		G26/R8	6	16	3	**198.28**	**-72.72**
		G26/R8	6	16	3	**286.80**	**15.80**
		G26/R8	6	16	3	**190.78**	**-80.22**
		G26/R9	6	16	3	**276.64**	**5.64**
		G26/R9	6	16	3	**188.20**	**-82.80**
		G26/R9	6	16	3	**209.77**	**-61.23**
		G26/R9	6	16	3	**192.19**	**-78.81**
		G26/R9	6	16	3	**268.75**	**-2.25**
		G26/R9	6	16	3	**228.52**	**-42.48**
		G26/R9	6	16	3	**274.38**	**3.38**
		G26/R9	6	16	3	**276.00**	**5.00**
		G26/R9	6	16	3	**265.70**	**-5.30**
		G26/R9	6	16	3	**231.02**	**-39.98**
		G26/R10	6	16	3	**245.39**	**-25.61**
		G26/R10	6	16	3	**282.34**	**11.34**
		G26/R10	6	16	3	**242.27**	**-28.73**
		G26/R10	6	16	3	**269.22**	**-1.78**
		G26/R10	6	16	3	**267.58**	**-3.42**
		G26/R10	6	16	3	**264.06**	**-6.94**
		G26/R10	6	16	3	**281.64**	**10.64**
		G26/R10	6	16	3	**222.89**	**-48.11**
		G26/R10	6	16	3	**229.22**	**-41.78**
		G26/R10	6	16	3	**289.61**	**18.61**
					Average CPM:	**238.03**	**-32.97**
					Standard Deviation:	**36.67**	**36.67**
					Max CPM:	**324.84**	**53.84**

Bethesda NNMC Gamma Scan Data Sheet

Meter S/N:	142489	Grid #/Row #	Month	Day	Year	Gross CPM:	Net CPM:
Background CPM:	271	G25/R1	6	16	3	225.70	-45.30
		G25/R1	6	16	3	241.88	-29.13
		G25/R1	6	16	3	262.03	-8.97
		G25/R1	6	16	3	215.39	-55.61
		G25/R1	6	16	3	242.11	-28.89
		G25/R1	6	16	3	199.22	-71.78
		G25/R1	6	16	3	178.36	-92.64
		G25/R1	6	16	3	187.73	-83.27
		G25/R1	6	16	3	237.66	-33.34
		G25/R1	6	16	3	236.25	-34.75
		G25/R2	6	16	3	231.09	-39.91
		G25/R2	6	16	3	250.78	-20.22
		G25/R2	6	16	3	272.34	1.34
		G25/R2	6	16	3	226.88	-44.13
		G25/R2	6	16	3	184.45	-86.55
		G25/R2	6	16	3	198.75	-72.25
		G25/R2	6	16	3	211.64	-59.36
		G25/R2	6	16	3	265.08	-5.92
		G25/R2	6	16	3	262.27	-8.73
		G25/R2	6	16	3	265.31	-5.69
		G25/R3	6	16	3	137.11	-133.89
		G25/R3	6	16	3	162.66	-108.34
		G25/R3	6	16	3	232.73	-38.27
		G25/R3	6	16	3	276.56	5.56
		G25/R3	6	16	3	256.17	-14.83
		G25/R3	6	16	3	242.11	-28.89
		G25/R3	6	16	3	257.34	-13.66
		G25/R3	6	16	3	237.89	-33.11
		G25/R3	6	16	3	284.06	13.06
		G25/R3	6	16	3	214.69	-56.31
		G25/R4	6	16	3	167.81	-103.19
		G25/R4	6	16	3	165.94	-105.06
		G25/R4	6	16	3	176.72	-94.28
		G25/R4	6	16	3	176.25	-94.75
		G25/R4	6	16	3	267.42	-3.58
		G25/R4	6	16	3	257.34	-13.66
		G25/R4	6	16	3	189.84	-81.16
		G25/R4	6	16	3	275.63	4.63
		G25/R4	6	16	3	258.75	-12.25
		G25/R4	6	16	3	255.23	-15.77
		G25/R5	6	16	3	191.95	-79.05
		G25/R5	6	16	3	238.00	-33.00
		G25/R5	6	16	3	199.45	-71.55
		G25/R5	6	16	3	214.92	-56.08
		G25/R5	6	16	3	234.14	-36.86
		G25/R5	6	16	3	232.03	-38.97
		G25/R5	6	16	3	266.25	-4.75
		G25/R5	6	16	3	271.17	0.17
		G25/R5	6	16	3	232.27	-38.73
		G25/R5	6	16	3	191.48	-79.52
		G25/R6	6	16	3	160.55	-110.45
		G25/R6	6	16	3	173.67	-97.33
		G25/R6	6	16	3	182.58	-88.42

		G25/R6	6	16	3	**217.50**	**-53.50**
		G25/R6	6	16	3	**225.70**	**-45.30**
		G25/R6	6	16	3	**222.19**	**-48.81**
		G25/R6	6	16	3	**223.13**	**-47.88**
		G25/R6	6	16	3	**229.00**	**-42.00**
		G25/R6	6	16	3	**279.84**	**8.84**
		G25/R6	6	16	3	**286.41**	**15.41**
		G25/R7	6	16	3	**170.16**	**-100.84**
		G25/R7	6	16	3	**242.11**	**-28.89**
		G25/R7	6	16	3	**273.00**	**2.00**
		G25/R7	6	16	3	**255.00**	**-16.00**
		G25/R7	6	16	3	**268.13**	**-2.88**
		G25/R7	6	16	3	**223.13**	**-47.88**
		G25/R7	6	16	3	**259.45**	**-11.55**
		G25/R7	6	16	3	**207.19**	**-63.81**
		G25/R7	6	16	3	**172.97**	**-98.03**
		G25/R7	6	16	3	**153.75**	**-117.25**
		G25/R8	6	16	3	**145.08**	**-125.92**
		G25/R8	6	16	3	**167.58**	**-103.42**
		G25/R8	6	16	3	**194.06**	**-76.94**
		G25/R8	6	16	3	**167.11**	**-103.89**
		G25/R8	6	16	3	**160.78**	**-110.22**
		G25/R8	6	16	3	**190.08**	**-80.92**
		G25/R8	6	16	3	**220.78**	**-50.22**
		G25/R8	6	16	3	**275.63**	**4.63**
		G25/R8	6	16	3	**262.50**	**-8.50**
		G25/R8	6	16	3	**243.05**	**-27.95**
		G25/R9	6	16	3	**194.77**	**-76.23**
		G25/R9	6	16	3	**206.48**	**-64.52**
		G25/R9	6	16	3	**196.88**	**-74.13**
		G25/R9	6	16	3	**192.42**	**-78.58**
		G25/R9	6	16	3	**225.94**	**-45.06**
		G25/R9	6	16	3	**163.36**	**-107.64**
		G25/R9	6	16	3	**168.52**	**-102.48**
		G25/R9	6	16	3	**199.22**	**-71.78**
		G25/R9	6	16	3	**212.11**	**-58.89**
		G25/R9	6	16	3	**191.72**	**-79.28**
		G25/R10	6	16	3	**90.00**	**-181.00**
		G25/R10	6	16	3	**190.78**	**-80.22**
		G25/R10	6	16	3	**204.61**	**-66.39**
		G25/R10	6	16	3	**215.39**	**-55.61**
		G25/R10	6	16	3	**193.36**	**-77.64**
		G25/R10	6	16	3	**219.61**	**-51.39**
		G25/R10	6	16	3	**201.09**	**-69.91**
		G25/R10	6	16	3	**182.34**	**-88.66**
		G25/R10	6	16	3	**230.16**	**-40.84**
		G25/R10	6	16	3	**269.06**	**-1.94**
					Average CPM:	**217.59**	**-53.41**
					Standard Deviation:	**39.31**	**39.31**
					Max CPM:	**286.41**	**15.41**

Meter S/N:	142489	Grid #/Row #	Month	Day	Year	Gross CPM:	Net CPM:
Background CPM:	271	G24/R1	6	16	3	246.02	-24.98
		G24/R1	6	16	3	253.75	-17.25
		G24/R1	6	16	3	208.59	-62.41
		G24/R1	6	16	3	237.19	-33.81
		G24/R1	6	16	3	256.17	-14.83
		G24/R1	6	16	3	289.77	18.77
		G24/R2	6	16	3	255.39	-15.61
		G24/R2	6	16	3	212.58	-58.42
		G24/R2	6	16	3	228.52	-42.48
		G24/R2	6	16	3	217.97	-53.03
		G24/R2	6	16	3	291.56	20.56
		G24/R2	6	16	3	297.81	26.81
		G24/R2	6	16	3	281.09	10.09
		G24/R3	6	16	3	276.25	5.25
		G24/R3	6	16	3	244.22	-26.78
		G24/R3	6	16	3	244.22	-26.78
		G24/R3	6	16	3	235.31	-35.69
		G24/R3	6	16	3	237.42	-33.58
		G24/R3	6	16	3	259.45	-11.55
		G24/R4	6	16	3	266.41	-4.59
		G24/R4	6	16	3	206.95	-64.05
		G24/R4	6	16	3	294.06	23.06
		G24/R4	6	16	3	220.78	-50.22
		G24/R4	6	16	3	207.66	-63.34
		G24/R4	6	16	3	294.30	23.30
		G24/R5	6	16	3	235.16	-35.84
		G24/R5	6	16	3	218.20	-52.80
		G24/R5	6	16	3	295.23	24.23
		G24/R5	6	16	3	207.42	-63.58
		G24/R5	6	16	3	190.08	-80.92
		G24/R5	6	16	3	274.22	3.22
		G24/R6	6	16	3	176.95	-94.05
		G24/R6	6	16	3	193.83	-77.17
		G24/R6	6	16	3	230.63	-40.38
		G24/R6	6	16	3	192.19	-78.81
		G24/R6	6	16	3	257.58	-13.42
		G24/R6	6	16	3	241.41	-29.59
		G24/R7	6	16	3	222.34	-48.66
		G24/R7	6	16	3	287.03	16.03
		G24/R7	6	16	3	283.28	12.28
		G24/R7	6	16	3	209.53	-61.47
		G24/R7	6	16	3	200.39	-70.61
		G24/R7	6	16	3	228.52	-42.48
		G24/R8	6	16	3	236.64	-34.36
		G24/R8	6	16	3	240.23	-30.77
		G24/R8	6	16	3	298.44	27.44
		G24/R8	6	16	3	265.39	-5.61
		G24/R8	6	16	3	272.97	1.97
		G24/R8	6	16	3	261.80	-9.20
		G24/R9	6	16	3	242.03	-28.97
		G24/R9	6	16	3	202.50	-68.50
		G24/R9	6	16	3	290.78	19.78
		G24/R9	6	16	3	215.16	-55.84

		G24/R9	6	16	3	**255.70**	**-15.30**
		G24/R9	6	16	3	**239.30**	**-31.70**
		G24/10	6	16	3	**267.19**	**-3.81**
		G24/10	6	16	3	**246.33**	**-24.67**
		G24/10	6	16	3	**203.67**	**-67.33**
		G24/10	6	16	3	**206.95**	**-64.05**
		G24/10	6	16	3	**241.17**	**-29.83**
		G24/10	6	16	3	**247.73**	**-23.27**
					Average CPM:	**243.30**	**-27.70**
					Standard Deviation:	**31.95**	**31.95**
					Max CPM:	**298.44**	**27.44**

Bethesda NNMC Gamma Scan Data Sheet

Meter S/N:	142489	Grid #/Row #	Month	Day	Year	Gross CPM:	Net CPM:
Background CPM:	271	G23/R1	6	16	3	209.45	-61.55
		G23/R1	6	16	3	268.52	-2.48
		G23/R1	6	16	3	239.77	-31.23
		G23/R1	6	16	3	194.77	-76.23
		G23/R1	6	16	3	230.86	-40.14
		G23/R1	6	16	3	254.77	-16.23
		G23/R1	6	16	3	240.70	-30.30
		G23/R1	6	16	3	274.92	3.92
		G23/R1	6	16	3	241.41	-29.59
		G23/R1	6	16	3	225.23	-45.77
		G23/R2	6	16	3	262.89	-8.11
		G23/R2	6	16	3	261.02	-9.98
		G23/R2	6	16	3	214.45	-56.55
		G23/R2	6	16	3	200.86	-70.14
		G23/R2	6	16	3	319.45	48.45
		G23/R2	6	16	3	319.92	48.92
		G23/R2	6	16	3	239.30	-31.70
		G23/R2	6	16	3	306.56	35.56
		G23/R2	6	16	3	221.25	-49.75
		G23/R2	6	16	3	208.83	-62.17
		G23/R3	6	16	3	234.61	-36.39
		G23/R3	6	16	3	252.89	-18.11
		G23/R3	6	16	3	215.63	-55.38
		G23/R3	6	16	3	232.27	-38.73
		G23/R3	6	16	3	317.81	46.81
		G23/R3	6	16	3	288.28	17.28
		G23/R3	6	16	3	262.27	-8.73
		G23/R3	6	16	3	279.61	8.61
		G23/R3	6	16	3	286.64	15.64
		G23/R3	6	16	3	278.67	7.67
					Average CPM:	252.79	-18.21
					Standard Deviation:	35.82	35.82
					Max CPM:	319.92	48.92

Bethesda NNMC Gamma Scan Data Sheet

Meter S/N:	142489	Grid #/Row #	Month	Day	Year	Gross CPM:	Net CPM:
Background CPM:	271	G22/R1	6	16	3	207.19	-63.81
		G22/R1	6	16	3	265.55	-5.45
		G22/R1	6	16	3	252.89	-18.11
		G22/R1	6	16	3	270.47	-0.53
		G22/R1	6	16	3	240.70	-30.30
		G22/R1	6	16	3	201.09	-69.91
		G22/R1	6	16	3	187.73	-83.27
		G22/R1	6	16	3	241.41	-29.59
		G22/R1	6	16	3	272.81	1.81
		G22/R1	6	16	3	272.81	1.81
		G22/R2	6	16	3	213.75	-57.25
		G22/R2	6	16	3	239.06	-31.94
		G22/R2	6	16	3	225.47	-45.53
		G22/R2	6	16	3	217.27	-53.73
		G22/R2	6	16	3	210.23	-60.77
		G22/R2	6	16	3	197.81	-73.19
		G22/R2	6	16	3	222.42	-48.58
		G22/R2	6	16	3	209.77	-61.23
		G22/R2	6	16	3	223.83	-47.17
		G22/R2	6	16	3	223.83	-47.17
		G22/R3	6	16	3	221.25	-49.75
		G22/R3	6	16	3	210.94	-60.06
		G22/R3	6	16	3	206.25	-64.75
		G22/R3	6	16	3	235.08	-35.92
		G22/R3	6	16	3	276.33	5.33
		G22/R3	6	16	3	264.61	-6.39
		G22/R3	6	16	3	275.63	4.63
		G22/R3	6	16	3	226.64	-44.36
		G22/R3	6	16	3	210.70	-60.30
		G22/R3	6	16	3	249.84	-21.16
					Average CPM:	232.45	-38.55
					Standard Deviation:	26.28	26.28
					Max CPM:	276.33	5.33

Bethesda NNMC Gamma Scan Data Sheet

Meter S/N:	142489	Grid #/Row #	Month	Day	Year	Gross CPM:	Net CPM:
Background CPM:	271	G21/R1	6	16	3	181.41	-89.59
		G21/R1	6	16	3	242.34	-28.66
		G21/R1	6	16	3	214.45	-56.55
		G21/R1	6	16	3	236.95	-34.05
		G21/R1	6	16	3	239.06	-31.94
		G21/R1	6	16	3	179.77	-91.23
		G21/R1	6	16	3	193.36	-77.64
		G21/R1	6	16	3	191.48	-79.52
		G21/R1	6	16	3	227.34	-43.66
		G21/R1	6	16	3	258.05	-12.95
		G21/R2	6	16	3	247.50	-23.50
		G21/R2	6	16	3	189.84	-81.16
		G21/R2	6	16	3	201.33	-69.67
		G21/R2	6	16	3	221.95	-49.05
		G21/R2	6	16	3	255.23	-15.77
		G21/R2	6	16	3	231.33	-39.67
		G21/R2	6	16	3	225.47	-45.53
		G21/R2	6	16	3	259.22	-11.78
		G21/R2	6	16	3	231.56	-39.44
		G21/R2	6	16	3	247.97	-23.03
		G21/R3	6	16	3	150.47	-120.53
		G21R3	6	16	3	171.33	-99.67
		G21R3	6	16	3	193.83	-77.17
		G21/R3	6	16	3	241.88	-29.13
		G21/R3	6	16	3	223.83	-47.17
		G21/R3	6	16	3	248.44	-22.56
		G21/R3	6	16	3	276.09	5.09
		G21/R3	6	16	3	252.42	-18.58
		G21/R3	6	16	3	254.53	-16.47
		G21/R3	6	16	3	251.72	-19.28
					Average CPM:	224.67	-46.33
					Standard Deviation:	31.14	31.14
					Max CPM:	276.09	5.09

Bethesda NNMC Gamma Scan Data Sheet

Meter S/N:	142489	Grid #/Row #	Month	Day	Year	Gross CPM:	Net CPM:
Background CPM:	271	G17/R1	6	16	3	2.64E+02	-7.17
		G17/R1	6	16	3	2.13E+02	-58.19
		G17/R1	6	16	3	2.24E+02	-46.70
		G17/R1	6	16	3	2.44E+02	-27.25
		G17/R1	6	16	3	2.15E+02	-56.08
		G17/R1	6	16	3	2.33E+02	-37.56
		G17/R1	6	16	3	1.82E+02	-89.13
		G17/R2	6	16	3	3.13E+02	41.97
		G17/R2	6	16	3	2.35E+02	-36.16
		G17/R2	6	16	3	2.14E+02	-56.78
		G17/R2	6	16	3	2.15E+02	-55.61
		G17/R2	6	16	3	2.45E+02	-26.08
		G17/R2	6	16	3	2.59E+02	-12.02
		G17/R2	6	16	3	2.67E+02	-3.58
		G17/R3	6	16	3	2.67E+02	-3.66
		G17/R3	6	16	3	2.34E+02	-36.63
		G17/R3	6	16	3	2.30E+02	-41.31
		G17/R3	6	16	3	2.58E+02	-12.72
		G17/R3	6	16	3	2.57E+02	-14.36
		G17/R3	6	16	3	2.62E+02	-8.73
		G17/R3	6	16	3	2.35E+02	-36.16
		G17/R4	6	16	3	2.82E+02	11.11
		G17/R4	6	16	3	2.28E+02	-43.42
		G17/R4	6	16	3	2.25E+02	-45.53
		G17/R4	6	16	3	2.59E+02	-12.48
		G17/R4	6	16	3	2.53E+02	-17.88
		G17/R4	6	16	3	2.83E+02	12.13
		G17/R4	6	16	3	2.58E+02	-13.42
		G17/R5	6	16	3	2.74E+02	2.67
		G17/R5	6	16	3	2.04E+02	-66.86
		G17/R5	6	16	3	2.21E+02	-50.22
		G17/R5	6	16	3	2.23E+02	-48.11
		G17/R5	6	16	3	2.51E+02	-20.22
		G17/R5	6	16	3	2.58E+02	-13.42
		G17/R5	6	16	3	2.35E+02	-36.39
		G17/R5	6	16	3	2.39E+02	-32.41
		G17/R6	6	16	3	2.10E+02	-60.53
		G17/R6	6	16	3	2.27E+02	-43.66
		G17/R6	6	16	3	2.78E+02	7.20
		G17/R6	6	16	3	2.11E+02	-59.83
		G17/R6	6	16	3	2.56E+02	-15.30
		G17/R6	6	16	3	3.00E+02	29.00
		G17/R6	6	16	3	2.93E+02	21.73
		G17/R7	6	16	3	2.58E+02	-12.56
		G17/R7	6	16	3	2.17E+02	-54.44
		G17/R7	6	16	3	2.03E+02	-68.27
		G17/R7	6	16	3	3.06E+02	35.33
		G17/R7	6	16	3	2.62E+02	-8.73
		G17/R7	6	16	3	2.67E+02	-3.58
		G17/R7	6	16	3	2.55E+02	-16.00
		G17/R8	6	16	3	2.46E+02	-25.45
		G17/R8	6	16	3	2.23E+02	-47.88
		G17/R8	6	16	3	3.10E+02	39.08

		G17/R8	6	16	3	**2.38E+02**	**-33.34**
		G17/R8	6	16	3	**2.15E+02**	**-55.84**
		G17/R8	6	16	3	**2.58E+02**	**-13.19**
		G17/R8	6	16	3	**3.05E+02**	**34.39**
		G17/R9	6	16	3	**2.76E+02**	**4.55**
		G17/R9	6	16	3	**2.32E+02**	**-38.97**
		G17/R9	6	16	3	**2.87E+02**	**16.34**
		G17/R9	6	16	3	**2.74E+02**	**2.98**
		G17/R9	6	16	3	**2.63E+02**	**-8.03**
		G17/R9	6	16	3	**2.49E+02**	**-21.86**
		G17/R9	6	16	3	**2.58E+02**	**-13.42**
		G17/R10	6	16	3	**2.08E+02**	**-63.19**
		G17/R10	6	16	3	**2.99E+02**	**28.22**
		G17/R10	6	16	3	**2.10E+02**	**-61.23**
		G17/R10	6	16	3	**2.02E+02**	**-69.20**
		G17/R10	6	16	3	**2.31E+02**	**-40.38**
		G17/R10	6	16	3	**2.57E+02**	**-14.13**
		G17/R10	6	16	3	**2.78E+02**	**6.50**
					Average CPM:	**248.15**	**-22.85**
					Standard Deviation:	**29.74**	**29.74**
					Max CPM:	**312.97**	**41.97**

Meter S/N:	142489	Grid #/Row #	Month	Day	Year	Gross CPM:	Net CPM:
Background CPM:	271	G16/R1	6	16	3	275.31	4.31
		G16/R1	6	16	3	271.64	0.64
		G16/R1	6	16	3	319.92	48.92
		G16/R1	6	16	3	300.47	29.47
		G16/R1	6	16	3	302.11	31.11
		G16/R1	6	16	3	246.80	-24.20
		G16/R1	6	16	3	289.92	18.92
		G16/R1	6	16	3	283.83	12.83
		G16/R1	6	16	3	291.80	20.80
		G16/R1	6	16	3	286.64	15.64
		G16/R2	6	16	3	222.66	-48.34
		G16/R2	6	16	3	265.78	-5.22
		G16/R2	6	16	3	267.19	-3.81
		G16/R2	6	16	3	326.02	55.02
		G16/R2	6	16	3	314.30	43.30
		G16/R2	6	16	3	260.86	-10.14
		G16/R2	6	16	3	235.08	-35.92
		G16/R2	6	16	3	227.81	-43.19
		G16/R2	6	16	3	266.72	-4.28
		G16/R2	6	16	3	263.20	-7.80
		G16/R3	6	16	3	262.89	-8.11
		G16/R3	6	16	3	198.98	-72.02
		G16/R3	6	16	3	254.30	-16.70
		G16/R3	6	16	3	288.05	17.05
		G16/R3	6	16	3	254.30	-16.70
		G16/R3	6	16	3	260.16	-10.84
		G16/R3	6	16	3	279.14	8.14
		G16/R3	6	16	3	262.27	-8.73
		G16/R3	6	16	3	253.83	-17.17
		G16/R3	6	16	3	248.91	-22.09
		G16/R4	6	16	3	286.09	15.09
		G16/R4	6	16	3	266.48	-4.52
		G16/R4	6	16	3	341.25	70.25
		G16/R4	6	16	3	244.92	-26.08
		G16/R4	6	16	3	251.48	-19.52
		G16/R4	6	16	3	214.69	-56.31
		G16/R4	6	16	3	275.55	4.55
		G16/R4	6	16	3	269.53	-1.47
		G16/R4	6	16	3	262.50	-8.50
		G16/R4	6	16	3	330.23	59.23
		G16/R5	6	16	3	262.66	-8.34
		G16/R5	6	16	3	213.98	-57.02
		G16/R5	6	16	3	213.52	-57.48
		G16/R5	6	16	3	217.27	-53.73
		G16/R5	6	16	3	250.31	-20.69
		G16/R5	6	16	3	211.41	-59.59
		G16/R5	6	16	3	223.83	-47.17
		G16/R5	6	16	3	226.41	-44.59
		G16/R5	6	16	3	253.59	-17.41
		G16/R5	6	16	3	251.48	-19.52
		G16/R6	6	16	3	241.56	-29.44
		G16/R6	6	16	3	294.77	23.77
		G16/R6	6	16	3	244.45	-26.55

		G16/R6	6	16	3	**262.97**	**-8.03**
		G16/R6	6	16	3	**240.23**	**-30.77**
		G16/R6	6	16	3	**298.05**	**27.05**
		G16/R6	6	16	3	**263.44**	**-7.56**
		G16/R6	6	16	3	**211.64**	**-59.36**
		G16/R6	6	16	3	**222.19**	**-48.81**
		G16/R6	6	16	3	**211.41**	**-59.59**
		G16/R7	6	16	3	**286.80**	**15.80**
		G16/R7	6	16	3	**238.83**	**-32.17**
		G16/R7	6	16	3	**261.09**	**-9.91**
		G16/R7	6	16	3	**265.55**	**-5.45**
		G16/R7	6	16	3	**216.80**	**-54.20**
		G16/R7	6	16	3	**231.09**	**-39.91**
		G16/R7	6	16	3	**245.63**	**-25.38**
		G16/R7	6	16	3	**266.95**	**-4.05**
		G16/R7	6	16	3	**240.94**	**-30.06**
		G16/R7	6	16	3	**232.27**	**-38.73**
		G16/R8	6	16	3	**248.83**	**-22.17**
		G16/R8	6	16	3	**251.95**	**-19.05**
		G16/R8	6	16	3	**248.44**	**-22.56**
		G16/R8	6	16	3	**240.94**	**-30.06**
		G16/R8	6	16	3	**285.94**	**14.94**
		G16/R8	6	16	3	**248.44**	**-22.56**
		G16/R8	6	16	3	**226.88**	**-44.13**
		G16/R8	6	16	3	**236.95**	**-34.05**
		G16/R8	6	16	3	**244.69**	**-26.31**
		G16/R8	6	16	3	**289.45**	**18.45**
		G16/R9	6	16	3	**257.97**	**-13.03**
		G16/R9	6	16	3	**243.28**	**-27.72**
		G16/R9	6	16	3	**274.45**	**3.45**
		G16/R9	6	16	3	**294.14**	**23.14**
		G16/R9	6	16	3	**269.06**	**-1.94**
		G16/R9	6	16	3	**213.75**	**-57.25**
		G16/R9	6	16	3	**277.42**	**6.42**
		G16/R9	6	16	3	**198.75**	**-72.25**
		G16/R9	6	16	3	**206.95**	**-64.05**
		G16/R9	6	16	3	**235.78**	**-35.22**
		G16/R10	6	16	3	**228.91**	**-42.09**
		G16/R10	6	16	3	**232.97**	**-38.03**
		G16/R10	6	16	3	**262.97**	**-8.03**
		G16/R10	6	16	3	**251.02**	**-19.98**
		G16/R10	6	16	3	**220.08**	**-50.92**
		G16/R10	6	16	3	**255.70**	**-15.30**
		G16/R10	6	16	3	**276.80**	**5.80**
		G16/R10	6	16	3	**268.83**	**-2.17**
		G16/R10	6	16	3	**287.11**	**16.11**
		G16/R10	6	16	3	**327.89**	**56.89**
					Average CPM:	**257.31**	**-13.69**
					Standard Deviation:	**30.39**	**30.39**
					Max CPM:	**341.25**	**70.25**

Bethesda NNMC Gamma Scan Data Sheet

Meter S/N:	142489	Grid #/Row #	Month	Day	Year	Gross CPM:	Net CPM:
Background CPM:	271	G15/R1	6	16	3	215.86	-55.14
		G15/R1	6	16	3	228.75	-42.25
		G15/R1	6	16	3	268.59	-2.41
		G15/R1	6	16	3	291.80	20.80
		G15/R1	6	16	3	263.67	-7.33
		G15/R1	6	16	3	247.27	-23.73
		G15/R1	6	16	3	270.47	-0.53
		G15/R1	6	16	3	287.34	16.34
		G15/R1	6	16	3	244.92	-26.08
		G15/R1	6	16	3	312.66	41.66
		G15/R2	6	16	3	241.56	-29.44
		G15/R2	6	16	3	214.69	-56.31
		G15/R2	6	16	3	237.19	-33.81
		G15/R2	6	16	3	240.00	-31.00
		G15/R2	6	16	3	276.56	5.56
		G15/R2	6	16	3	266.95	-4.05
		G15/R2	6	16	3	270.23	-0.77
		G15/R2	6	16	3	234.84	-36.16
		G15/R2	6	16	3	300.70	29.70
		G15/R2	6	16	3	244.45	-26.55
		G15/R3	6	16	3	266.25	-4.75
		G15/R3	6	16	3	216.33	-54.67
		G15/R3	6	16	3	190.78	-80.22
		G15/R3	6	16	3	226.64	-44.36
		G15/R3	6	16	3	256.41	-14.59
		G15/R3	6	16	3	323.20	52.20
		G15/R3	6	16	3	334.92	63.92
		G15/R3	6	16	3	294.84	23.84
		G15/R3	6	16	3	290.63	19.63
		G15/R3	6	16	3	263.67	-7.33
		G15/R4	6	16	3	206.25	-64.75
		G15/R4	6	16	3	250.78	-20.22
		G15/R4	6	16	3	290.86	19.86
		G15/R4	6	16	3	272.11	1.11
		G15/R4	6	16	3	279.61	8.61
		G15/R4	6	16	3	258.75	-12.25
		G15/R4	6	16	3	303.75	32.75
		G15/R4	6	16	3	279.61	8.61
		G15/R4	6	16	3	249.61	-21.39
		G15/R4	6	16	3	299.77	28.77
		G15/R5	6	16	3	277.89	6.89
		G15/R5	6	16	3	230.63	-40.38
		G15/R5	6	16	3	275.16	4.16
		G15/R5	6	16	3	274.45	3.45
		G15/R5	6	16	3	289.45	18.45
		G15/R5	6	16	3	258.05	-12.95
		G15/R5	6	16	3	258.28	-12.72
		G15/R5	6	16	3	220.55	-50.45
		G15/R5	6	16	3	262.97	-8.03
		G15/R5	6	16	3	262.03	-8.97
		G15/R6	6	16	3	255.39	-15.61
		G15/R6	6	16	3	286.80	15.80
		G15/R6	6	16	3	298.05	27.05

		G15/R6	6	16	3	**221.72**	**-49.28**
		G15/R6	6	16	3	**302.34**	**31.34**
		G15/R6	6	16	3	**304.92**	**33.92**
		G15/R6	6	16	3	**276.33**	**5.33**
		G15/R6	6	16	3	**296.72**	**25.72**
		G15/R6	6	16	3	**269.77**	**-1.23**
		G15/R6	6	16	3	**239.77**	**-31.23**
		G15/R7	6	16	3	**221.48**	**-49.52**
		G15/R7	6	16	3	**247.50**	**-23.50**
		G15/R7	6	16	3	**310.31**	**39.31**
		G15/R7	6	16	3	**270.23**	**-0.77**
		G15/R7	6	16	3	**271.41**	**0.41**
		G15/R7	6	16	3	**297.66**	**26.66**
		G15/R7	6	16	3	**240.70**	**-30.30**
		G15/R7	6	16	3	**232.03**	**-38.97**
		G15/R7	6	16	3	**294.53**	**23.53**
		G15/R7	6	16	3	**213.98**	**-57.02**
		G15/R8	6	16	3	**298.67**	**27.67**
		G15/R8	6	16	3	**250.31**	**-20.69**
		G15/R8	6	16	3	**280.78**	**9.78**
		G15/R8	6	16	3	**281.72**	**10.72**
		G15/R8	6	16	3	**224.53**	**-46.47**
		G15/R8	6	16	3	**258.05**	**-12.95**
		G15/R8	6	16	3	**233.67**	**-37.33**
		G15/R8	6	16	3	**252.89**	**-18.11**
		G15/R8	6	16	3	**273.28**	**2.28**
		G15/R8	6	16	3	**341.48**	**70.48**
		G15/R9	6	16	3	**272.50**	**1.50**
		G15/R9	6	16	3	**229.69**	**-41.31**
		G15/R9	6	16	3	**270.47**	**-0.53**
		G15/R9	6	16	3	**248.91**	**-22.09**
		G15/R9	6	16	3	**237.42**	**-33.58**
		G15/R9	6	16	3	**214.45**	**-56.55**
		G15/R9	6	16	3	**207.66**	**-63.34**
		G15/R9	6	16	3	**231.09**	**-39.91**
		G15/R9	6	16	3	**308.44**	**37.44**
		G15/R9	6	16	3	**238.13**	**-32.88**
		G15/R10	6	16	3	**243.20**	**-27.80**
		G15/R10	6	16	3	**280.55**	**9.55**
		G15/R10	6	16	3	**284.77**	**13.77**
		G15/R10	6	16	3	**266.02**	**-4.98**
		G15/R10	6	16	3	**270.23**	**-0.77**
		G15/R10	6	16	3	**248.91**	**-22.09**
		G15/R10	6	16	3	**240.00**	**-31.00**
		G15/R10	6	16	3	**291.09**	**20.09**
		G15/R10	6	16	3	**280.78**	**9.78**
		G15/R10	6	16	3	**254.30**	**-16.70**
					Average CPM:	**262.88**	**-8.12**
					Standard Deviation:	**30.24**	**30.24**
					Max CPM:	**341.48**	**70.48**

Meter S/N:	142489	Grid #/Row #	Month	Day	Year	Gross CPM:	Net CPM:
Background CPM:	271	G11/R1	6	12	3	252.11	-18.89
		G11/R1	6	12	3	235.08	-35.92
		G11/R1	6	12	3	243.98	-27.02
		G11/R1	6	12	3	224.53	-46.47
		G11/R1	6	12	3	247.97	-23.03
		G11/R1	6	12	3	259.45	-11.55
		G11/R1	6	12	3	287.81	16.81
		G11/R1	6	12	3	263.20	-7.80
		G11/R1	6	12	3	201.80	-69.20
		G11/R1	6	12	3	225.94	-45.06
		G11/R2	6	12	3	247.58	-23.42
		G11/R2	6	12	3	281.64	10.64
		G11/R2	6	12	3	233.91	-37.09
		G11/R2	6	12	3	234.84	-36.16
		G11/R2	6	12	3	299.06	28.06
		G11/R2	6	12	3	267.19	-3.81
		G11/R2	6	12	3	265.08	-5.92
		G11/R2	6	12	3	246.33	-24.67
		G11/R2	6	12	3	291.09	20.09
		G11/R2	6	12	3	241.17	-29.83
		G11/R3	6	12	3	263.20	-7.80
		G11/R3	6	12	3	267.89	-3.11
		G11/R3	6	12	3	239.30	-31.70
		G11/R3	6	12	3	260.39	-10.61
		G11/R3	6	12	3	255.23	-15.77
		G11/R3	6	12	3	242.81	-28.19
		G11/R3	6	12	3	265.78	-5.22
		G11/R3	6	12	3	267.42	-3.58
		G11/R3	6	12	3	269.45	-1.55
		G11/R3	6	12	3	241.09	-29.91
		G11/R4	6	12	3	217.03	-53.97
		G11/R4	6	12	3	237.42	-33.58
		G11/R4	6	12	3	267.66	-3.34
		G11/R4	6	12	3	233.91	-37.09
		G11/R4	6	12	3	278.44	7.44
		G11/R4	6	12	3	256.64	-14.36
		G11/R4	6	12	3	262.27	-8.73
		G11/R4	6	12	3	301.64	30.64
		G11/R4	6	12	3	264.84	-6.16
		G11/R4	6	12	3	262.73	-8.27
		G11/R5	6	12	3	229.69	-41.31
		G11/R5	6	12	3	275.16	4.16
		G11/R5	6	12	3	285.00	14.00
		G11/R5	6	12	3	235.78	-35.22
		G11/R5	6	12	3	206.48	-64.52
		G11/R5	6	12	3	248.20	-22.80
		G11/R5	6	12	3	250.78	-20.22
		G11/R5	6	12	3	226.17	-44.83
		G11/R5	6	12	3	216.80	-54.20
		G11/R5	6	12	3	212.58	-58.42
		G11/R6	6	12	3	222.34	-48.66
		G11/R6	6	12	3	226.64	-44.36
		G11/R6	6	12	3	249.38	-21.63

		G11/R6	6	12	3	**277.73**	**6.73**
		G11/R6	6	12	3	**262.03**	**-8.97**
		G11/R6	6	12	3	**238.36**	**-32.64**
		G11/R6	6	12	3	**226.17**	**-44.83**
		G11/R6	6	12	3	**244.69**	**-26.31**
		G11/R6	6	12	3	**247.50**	**-23.50**
		G11/R6	6	12	3	**245.39**	**-25.61**
		G11/R7	6	12	3	**243.28**	**-27.72**
		G11/R7	6	12	3	**250.78**	**-20.22**
		G11/R7	6	12	3	**282.89**	**11.89**
		G11/R7	6	12	3	**289.22**	**18.22**
		G11/R7	6	12	3	**238.13**	**-32.88**
		G11/R7	6	12	3	**207.19**	**-63.81**
		G11/R7	6	12	3	**227.81**	**-43.19**
		G11/R7	6	12	3	**229.92**	**-41.08**
		G11/R7	6	12	3	**212.34**	**-58.66**
		G11/R7	6	12	3	**219.84**	**-51.16**
		G11/R8	6	12	3	**170.39**	**-100.61**
		G11/R8	6	12	3	**173.91**	**-97.09**
		G11/R8	6	12	3	**203.91**	**-67.09**
		G11/R8	6	12	3	**225.70**	**-45.30**
		G11/R8	6	12	3	**233.67**	**-37.33**
		G11/R8	6	12	3	**310.08**	**39.08**
		G11/R8	6	12	3	**317.34**	**46.34**
		G11/R8	6	12	3	**247.03**	**-23.97**
		G11/R8	6	12	3	**277.97**	**6.97**
		G11/R8	6	12	3	**315.00**	**44.00**
		G11/R9	6	12	3	**211.41**	**-59.59**
		G11/R9	6	12	3	**254.53**	**-16.47**
		G11/R9	6	12	3	**284.06**	**13.06**
		G11/R9	6	12	3	**297.89**	**26.89**
		G11/R9	6	12	3	**326.48**	**55.48**
		G11/R9	6	12	3	**297.42**	**26.42**
		G11/R9	6	12	3	**221.72**	**-49.28**
		G11/R9	6	12	3	**210.00**	**-61.00**
		G11/R9	6	12	3	**239.53**	**-31.47**
		G11/R9	6	12	3	**266.48**	**-4.52**
		G11/R10	6	12	3	**263.83**	**-7.17**
		G11/R10	6	12	3	**253.36**	**-17.64**
		G11/R10	6	12	3	**258.28**	**-12.72**
		G11/R10	6	12	3	**208.13**	**-62.88**
		G11/R10	6	12	3	**265.94**	**-5.06**
		G11/R10	6	12	3	**214.92**	**-56.08**
		G11/R10	6	12	3	**233.44**	**-37.56**
		G11/R10	6	12	3	**200.86**	**-70.14**
		G11/R10	6	12	3	**235.08**	**-35.92**
		G11/R10	6	12	3	**241.88**	**-29.13**
					Average CPM:	**248.93**	**-22.07**
					Standard Deviation:	**29.84**	**29.84**
					Max CPM:	**326.48**	**55.48**

Bethesda NNMC Gamma Scan Data Sheet

Meter S/N:	142489	Grid #/Row #	Month	Day	Year	Gross CPM:	Net CPM:
Background CPM:	271	G10/R1	6	12	3	248.13	-22.88
		G10/R1	6	12	3	243.75	-27.25
		G10/R1	6	12	3	227.34	-43.66
		G10/R1	6	12	3	294.38	23.38
		G10/R1	6	12	3	307.03	36.03
		G10/R1	6	12	3	291.56	20.56
		G10/R1	6	12	3	329.84	58.84
		G10/R1	6	12	3	332.11	61.11
		G10/R1	6	12	3	297.89	26.89
		G10/R1	6	12	3	270.23	-0.77
		G10/R2	6	12	3	214.14	-56.86
		G10/R2	6	12	3	223.13	-47.88
		G10/R2	6	12	3	283.83	12.83
		G10/R2	6	12	3	262.50	-8.50
		G10/R2	6	12	3	285.70	14.70
		G10/R2	6	12	3	276.09	5.09
		G10/R2	6	12	3	298.59	27.59
		G10/R2	6	12	3	267.19	-3.81
		G10/R2	6	12	3	252.19	-18.81
		G10/R2	6	12	3	224.53	-46.47
		G10/R3	6	12	3	279.38	8.38
		G10/R3	6	12	3	236.95	-34.05
		G10/R3	6	12	3	256.88	-14.13
		G10/R3	6	12	3	329.30	58.30
		G10/R3	6	12	3	328.83	57.83
		G10/R3	6	12	3	336.09	65.09
		G10/R3	6	12	3	294.38	23.38
		G10/R3	6	12	3	341.02	70.02
		G10/R3	6	12	3	350.86	79.86
		G10/R3	6	12	3	262.97	-8.03
		G10/R4	6	12	3	140.39	-130.61
		G10/R4	6	12	3	228.05	-42.95
		G10/R4	6	12	3	278.91	7.91
		G10/R4	6	12	3	318.52	47.52
		G10/R4	6	12	3	329.53	58.53
		G10/R4	6	12	3	285.00	14.00
		G10/R4	6	12	3	253.83	-17.17
		G10/R4	6	12	3	287.11	16.11
		G10/R4	6	12	3	243.52	-27.48
		G10/R4	6	12	3	261.33	-9.67
		G10/R5	6	12	3	259.61	-11.39
		G10/R5	6	12	3	215.86	-55.14
		G10/R5	6	12	3	208.13	-62.88
		G10/R5	6	12	3	264.61	-6.39
		G10/R5	6	12	3	306.56	35.56
		G10/R5	6	12	3	260.63	-10.38
		G10/R5	6	12	3	290.86	19.86
		G10/R5	6	12	3	291.33	20.33
		G10/R5	6	12	3	288.98	17.98
		G10/R5	6	12	3	268.36	-2.64
		G10/R6	6	12	3	222.89	-48.11
		G10/R6	6	12	3	269.30	-1.70
		G10/R6	6	12	3	262.27	-8.73

		G10/R6	6	12	3	**273.98**	**2.98**
		G10/R6	6	12	3	**303.98**	**32.98**
		G10/R6	6	12	3	**276.09**	**5.09**
		G10/R6	6	12	3	**316.88**	**45.88**
		G10/R6	6	12	3	**336.33**	**65.33**
		G10/R6	6	12	3	**299.77**	**28.77**
		G10/R6	6	12	3	**295.08**	**24.08**
		G10/R7	6	12	3	**177.66**	**-93.34**
		G10/R7	6	12	3	**225.23**	**-45.77**
		G10/R7	6	12	3	**190.31**	**-80.69**
		G10/R7	6	12	3	**262.27**	**-8.73**
		G10/R7	6	12	3	**270.94**	**-0.06**
		G10/R7	6	12	3	**323.67**	**52.67**
		G10/R7	6	12	3	**291.80**	**20.80**
		G10/R7	6	12	3	**294.14**	**23.14**
		G10/R7	6	12	3	**260.63**	**-10.38**
		G10/R7	6	12	3	**217.97**	**-53.03**
		G10/R8	6	12	3	**260.08**	**-10.92**
		G10/R8	6	12	3	**268.13**	**-2.88**
		G10/R8	6	12	3	**264.84**	**-6.16**
		G10/R8	6	12	3	**245.63**	**-25.38**
		G10/R8	6	12	3	**243.28**	**-27.72**
		G10/R8	6	12	3	**246.56**	**-24.44**
		G10/R8	6	12	3	**277.97**	**6.97**
		G10/R8	6	12	3	**256.64**	**-14.36**
		G10/R8	6	12	3	**282.42**	**11.42**
		G10/R8	6	12	3	**278.44**	**7.44**
		G10/R9	6	12	3	**250.00**	**-21.00**
		G10/R9	6	12	3	**262.11**	**-8.89**
		G10/R9	6	12	3	**242.58**	**-28.42**
		G10/R9	6	12	3	**300.00**	**29.00**
		G10/R9	6	12	3	**266.95**	**-4.05**
		G10/R9	6	12	3	**277.03**	**6.03**
		G10/R9	6	12	3	**206.02**	**-64.98**
		G10/R9	6	12	3	**224.77**	**-46.23**
		G10/R9	6	12	3	**229.45**	**-41.55**
		G10/R9	6	12	3	**262.50**	**-8.50**
		G10/R10	6	12	3	**269.22**	**-1.78**
		G10/R10	6	12	3	**240.70**	**-30.30**
		G10/R10	6	12	3	**264.14**	**-6.86**
		G10/R10	6	12	3	**249.14**	**-21.86**
		G10/R10	6	12	3	**219.14**	**-51.86**
		G10/R10	6	12	3	**228.75**	**-42.25**
		G10/R10	6	12	3	**201.33**	**-69.67**
		G10/R10	6	12	3	**236.72**	**-34.28**
		G10/R10	6	12	3	**266.48**	**-4.52**
		G10/R10	6	12	3	**264.84**	**-6.16**
					Average CPM:	**266.85**	**-4.15**
					Standard Deviation:	**37.81**	**37.81**
					Max CPM:	**350.86**	**79.86**

Bethesda NNMC Gamma Scan Data Sheet

Meter S/N:	142489	Grid #/Row #	Month	Day	Year	Gross CPM:	Net CPM:
Background CPM:	271	G9/R1	6	16	3	220.70	-50.30
		G9/R1	6	16	3	265.47	-5.53
		G9/R1	6	16	3	278.83	7.83
		G9/R1	6	16	3	219.84	-51.16
		G9/R1	6	16	3	283.13	12.13
		G9/R1	6	16	3	248.20	-22.80
		G9/R1	6	16	3	256.88	-14.13
		G9/R1	6	16	3	221.25	-49.75
		G9/R1	6	16	3	248.91	-22.09
		G9/R1	6	16	3	275.39	4.39
		G9/R2	6	16	3	249.30	-21.70
		G9/R2	6	16	3	245.39	-49.75
		G9/R2	6	16	3	259.45	-11.55
		G9/R2	6	16	3	279.84	8.84
		G9/R2	6	16	3	214.69	-56.31
		G9/R2	6	16	3	253.13	-17.88
		G9/R2	6	16	3	262.27	-8.73
		G9/R2	6	16	3	221.02	-49.98
		G9/R2	6	16	3	202.27	-68.73
		G9/R2	6	16	3	208.13	-62.88
		G9/R3	6	16	3	285.16	14.16
		G9/R3	6	16	3	294.61	23.61
		G9/R3	6	16	3	270.00	-1.00
		G9/R3	6	16	3	267.66	-3.34
		G9/R3	6	16	3	315.23	44.23
		G9/R3	6	16	3	278.91	7.91
		G9/R3	6	16	3	309.38	38.38
		G9/R3	6	16	3	310.08	39.08
		G9/R3	6	16	3	282.89	11.89
		G9/R3	6	16	3	281.48	10.48
		G9/R4	6	16	3	116.72	-154.28
		G9/R4	6	16	3	228.98	-42.02
		G9/R4	6	16	3	277.27	6.27
		G9/R4	6	16	3	240.47	-30.53
		G9/R4	6	16	3	274.69	3.69
		G9/R4	6	16	3	270.47	-0.53
		G9/R4	6	16	3	289.45	18.45
		G9/R4	6	16	3	271.88	0.88
		G9/R4	6	16	3	217.97	-53.03
		G9/R4	6	16	3	254.06	-16.94
		G9/R5	6	16	3	272.27	1.27
		G9/R5	6	16	3	241.64	-29.36
		G9/R5	6	16	3	280.08	9.08
		G9/R5	6	16	3	296.72	25.72
		G9/R5	6	16	3	267.66	-3.34
		G9/R5	6	16	3	336.56	65.56
		G9/R5	6	16	3	325.31	54.31
		G9/R5	6	16	3	320.16	49.16
		G9/R5	6	16	3	271.41	0.41
		G9/R5	6	16	3	228.05	-42.95
		G9/R6	6	16	3	283.05	12.05
		G9/R6	6	16	3	241.64	-29.36
		G9/R6	6	16	3	281.25	10.25

		G9/R6	6	16	3	**231.56**	**-39.44**
		G9/R6	6	16	3	**267.19**	**-3.81**
		G9/R6	6	16	3	**234.38**	**-36.63**
		G9/R6	6	16	3	**220.55**	**-50.45**
		G9/R6	6	16	3	**243.28**	**-27.72**
		G9/R6	6	16	3	**274.69**	**3.69**
		G9/R6	6	16	3	**281.02**	**10.02**
		G9/R7	6	16	3	**220.94**	**-50.06**
		G9/R7	6	16	3	**279.06**	**8.06**
		G9/R7	6	16	3	**253.59**	**-17.41**
		G9/R7	6	16	3	**247.97**	**-23.03**
		G9/R7	6	16	3	**261.56**	**-9.44**
		G9/R7	6	16	3	**244.45**	**-26.55**
		G9/R7	6	16	3	**234.14**	**-36.86**
		G9/R7	6	16	3	**274.22**	**3.22**
		G9/R7	6	16	3	**315.23**	**44.23**
		G9/R7	6	16	3	**239.77**	**-31.23**
		G9/R8	6	16	3	**262.03**	**-8.97**
		G9/R8	6	16	3	**213.52**	**-57.48**
		G9/R8	6	16	3	**196.17**	**-74.83**
		G9/R8	6	16	3	**279.38**	**8.38**
		G9/R8	6	16	3	**262.27**	**-8.73**
		G9/R8	6	16	3	**332.11**	**61.11**
		G9/R8	6	16	3	**312.42**	**41.42**
		G9/R8	6	16	3	**259.69**	**-11.31**
		G9/R8	6	16	3	**226.88**	**-44.13**
		G9/R8	6	16	3	**211.41**	**-59.59**
		G9/R9	6	16	3	**232.19**	**-38.81**
		G9/R9	6	16	3	**204.84**	**-66.16**
		G9/R9	6	16	3	**249.84**	**-21.16**
		G9/R9	6	16	3	**273.05**	**2.05**
		G9/R9	6	16	3	**245.39**	**-25.61**
		G9/R9	6	16	3	**226.64**	**-44.36**
		G9/R9	6	16	3	**213.52**	**-57.48**
		G9/R9	6	16	3	**238.83**	**-32.17**
		G9/R9	6	16	3	**205.31**	**-65.69**
		G9/R9	6	16	3	**296.95**	**25.95**
		G9/R10	6	16	3	**236.88**	**-34.13**
		G9/R10	6	16	3	**196.64**	**-74.36**
		G9/R10	6	16	3	**206.95**	**-64.05**
		G9/R10	6	16	3	**238.13**	**-32.88**
		G9/R10	6	16	3	**289.92**	**18.92**
		G9/R10	6	16	3	**256.64**	**-14.36**
		G9/R10	6	16	3	**255.94**	**-15.06**
		G9/R10	6	16	3	**292.03**	**21.03**
		G9/R10	6	16	3	**252.89**	**-18.11**
		G9/R10	6	16	3	**244.45**	**-26.55**
					Average CPM:	**256.34**	**-14.90**
					Standard Deviation:	**35.02**	**35.18**
					Max CPM:	**336.56**	**65.56**

Meter S/N:	142489	Grid #/Row #	Month	Day	Year	Gross CPM:	Net CPM:
Background CPM:	271	G8/R1	6	12	3	287.00	16.00
		G8/R1	6	12	3	264.00	-17.00
		G8/R1	6	12	3	254.00	-17.00
		G8/R1	6	12	3	332.00	61.00
		G8/R1	6	12	3	255.00	-16.00
		G8/R1	6	12	3	194.00	-77.00
		G8/R1	6	12	3	254.00	-17.00
		G8/R1	6	12	3	252.00	-19.00
		G8/R1	6	12	3	273.00	2.00
		G8/R1	6	12	3	297.00	26.00
		G8/R2	6	12	3	275.00	4.00
		G8/R2	6	12	3	224.00	-19.00
		G8/R2	6	12	3	216.00	-55.00
		G8/R2	6	12	3	200.00	-71.00
		G8/R2	6	12	3	228.00	-43.00
		G8/R2	6	12	3	263.00	-8.00
		G8/R2	6	12	3	252.00	-19.00
		G8/R2	6	12	3	259.00	-12.00
		G8/R2	6	12	3	266.00	-5.00
		G8/R2	6	12	3	222.00	-49.00
		G8/R3	6	12	3	269.00	-2.00
		G8/R3	6	12	3	210.00	-61.00
		G8/R3	6	12	3	206.00	-65.00
		G8/R3	6	12	3	224.00	-47.00
		G8/R3	6	12	3	272.00	1.00
		G8/R3	6	12	3	273.00	2.00
		G8/R3	6	12	3	228.00	-43.00
		G8/R3	6	12	3	249.00	-22.00
		G8/R3	6	12	3	275.00	-41.00
		G8/R3	6	12	3	309.00	-29.00
		G8/R4	6	12	3	237.00	25.00
		G8/R4	6	12	3	273.00	-21.00
		G8/R4	6	12	3	244.00	-47.00
		G8/R4	6	12	3	261.00	-33.00
		G8/R4	6	12	3	261.00	2.00
		G8/R4	6	12	3	237.00	-43.00
		G8/R4	6	12	3	280.00	26.00
		G8/R4	6	12	3	218.00	-35.00
		G8/R4	6	12	3	251.00	-41.00
		G8/R4	6	12	3	314.00	-29.00
		G8/R5	6	12	3	219.00	25.00
		G8/R5	6	12	3	218.00	-21.00
		G8/R5	6	12	3	241.00	-47.00
		G8/R5	6	12	3	197.00	-33.00
		G8/R5	6	12	3	236.00	2.00
		G8/R5	6	12	3	223.00	-43.00
		G8/R5	6	12	3	238.00	26.00
		G8/R5	6	12	3	229.00	-35.00
		G8/R5	6	12	3	316.00	45.00
		G8/R5	6	12	3	299.00	28.00
		G8/R6	6	12	3	229.00	-42.00
		G8/R6	6	12	3	191.00	-80.00
		G8/R6	6	12	3	232.00	-39.00

		G8/R6	6	12	3	**276.00**	**5.00**
		G8/R6	6	12	3	**264.00**	**-7.00**
		G8/R6	6	12	3	**257.00**	**-14.00**
		G8/R6	6	12	3	**266.00**	**-5.00**
		G8/R6	6	12	3	**230.00**	**-41.00**
		G8/R6	6	12	3	**236.00**	**-35.00**
		G8/R6	6	12	3	**256.00**	**-15.00**
		G8/R7	6	12	3	**239.00**	**-32.00**
		G8/R7	6	12	3	**206.00**	**-65.00**
		G8/R7	6	12	3	**244.00**	**-27.00**
		G8/R7	6	12	3	**295.00**	**24.00**
		G8/R7	6	12	3	**254.00**	**-17.00**
		G8/R7	6	12	3	**282.00**	**11.00**
		G8/R7	6	12	3	**286.00**	**15.00**
		G8/R7	6	12	3	**293.00**	**22.00**
		G8/R7	6	12	3	**276.00**	**5.00**
		G8/R7	6	12	3	**265.00**	**-6.00**
		G8/R8	6	12	3	**299.00**	**28.00**
		G8/R8	6	12	3	**244.00**	**-27.00**
		G8/R8	6	12	3	**222.00**	**-49.00**
		G8/R8	6	12	3	**347.00**	**76.00**
		G8/R8	6	12	3	**275.00**	**4.00**
		G8/R8	6	12	3	**276.00**	**5.00**
		G8/R8	6	12	3	**263.00**	**-8.00**
		G8/R8	6	12	3	**228.00**	**-43.00**
		G8/R8	6	12	3	**230.00**	**-41.00**
		G8/R8	6	12	3	**242.00**	**-29.00**
		G8/R9	6	12	3	**296.00**	**25.00**
		G8/R9	6	12	3	**250.00**	**-21.00**
		G8/R9	6	12	3	**224.00**	**-47.00**
		G8/R9	6	12	3	**238.00**	**-33.00**
		G8/R9	6	12	3	**273.00**	**2.00**
		G8/R9	6	12	3	**228.00**	**-43.00**
		G8/R9	6	12	3	**297.00**	**26.00**
		G8/R9	6	12	3	**236.00**	**-35.00**
		G8/R9	6	12	3	**280.00**	**9.00**
		G8/R9	6	12	3	**271.00**	**0.00**
		G8/R10	6	12	3	**218.00**	**-53.00**
		G8/R10	6	12	3	**276.00**	**5.00**
		G8/R10	6	12	3	**282.00**	**11.00**
		G8/R10	6	12	3	**229.00**	**-42.00**
		G8/R10	6	12	3	**275.00**	**4.00**
		G8/R10	6	12	3	**242.00**	**-29.00**
		G8/R10	6	12	3	**319.00**	**48.00**
		G8/R10	6	12	3	**331.00**	**60.00**
		G8/R10	6	12	3	**270.00**	**-1.00**
		G8/R10	6	12	3	**236.00**	**-35.00**
					Average CPM:	**255.48**	**-14.67**
					Standard Deviation:	**32.13**	**31.19**
					Max CPM:	**347.00**	**76.00**

Meter S/N:	142489	Grid #/Row #	Month	Day	Year	Gross CPM:	Net CPM:
Background CPM:	271	G7/R1	6	12	3	289.00	18.00
		G7/R1	6	12	3	238.00	70.00
		G7/R1	6	12	3	304.00	70.00
		G7/R1	6	12	3	323.00	52.00
		G7/R1	6	12	3	316.00	45.00
		G7/R1	6	12	3	341.00	70.00
		G7/R1	6	12	3	315.00	70.00
		G7/R1	6	12	3	248.00	-23.00
		G7/R1	6	12	3	225.00	-46.00
		G7/R1	6	12	3	198.00	-73.00
		G7/R2	6	12	3	248.00	-23.00
		G7/R2	6	12	3	280.00	-23.00
		G7/R2	6	12	3	278.00	7.00
		G7/R2	6	12	3	261.00	-10.00
		G7/R2	6	12	3	254.00	-17.00
		G7/R2	6	12	3	287.00	16.00
		G7/R2	6	12	3	291.00	20.00
		G7/R2	6	12	3	305.00	34.00
		G7/R2	6	12	3	348.00	77.00
		G7/R2	6	12	3	339.00	68.00
		G7/R3	6	12	3	275.00	4.00
		G7/R3	6	12	3	329.00	58.00
		G7/R3	6	12	3	322.00	51.00
		G7/R3	6	12	3	318.00	47.00
		G7/R3	6	12	3	272.00	1.00
		G7/R3	6	12	3	268.00	-3.00
		G7/R3	6	12	3	283.00	12.00
		G7/R3	6	12	3	282.00	11.00
		G7/R3	6	12	3	251.00	1.00
		G7/R3	6	12	3	249.00	-2.00
		G7/R4	6	12	3	256.00	-37.00
		G7/R4	6	12	3	202.00	-12.00
		G7/R4	6	12	3	221.00	2.00
		G7/R4	6	12	3	265.00	1.00
		G7/R4	6	12	3	261.00	6.00
		G7/R4	6	12	3	263.00	25.00
		G7/R4	6	12	3	263.00	-10.00
		G7/R4	6	12	3	259.00	-50.00
		G7/R4	6	12	3	299.00	1.00
		G7/R4	6	12	3	281.00	-2.00
		G7/R5	6	12	3	207.00	-37.00
		G7/R5	6	12	3	190.00	-12.00
		G7/R5	6	12	3	297.00	2.00
		G7/R5	6	12	3	225.00	1.00
		G7/R5	6	12	3	263.00	6.00
		G7/R5	6	12	3	281.00	25.00
		G7/R5	6	12	3	340.00	-10.00
		G7/R5	6	12	3	278.00	-50.00
		G7/R5	6	12	3	320.00	49.00
		G7/R5	6	12	3	270.00	-1.00
		G7/R6	6	12	3	276.00	5.00
		G7/R6	6	12	3	217.00	-54.00
		G7/R6	6	12	3	296.00	25.00

		G7/R6	6	12	3	**276.00**	**5.00**
		G7/R6	6	12	3	**268.00**	**-3.00**
		G7/R6	6	12	3	**307.00**	**36.00**
		G7/R6	6	12	3	**275.00**	**4.00**
		G7/R6	6	12	3	**289.00**	**18.00**
		G7/R6	6	12	3	**244.00**	**-27.00**
		G7/R6	6	12	3	**254.00**	**-17.00**
		G7/R7	6	12	3	**281.00**	**10.00**
		G7/R7	6	12	3	**258.00**	**-13.00**
		G7/R7	6	12	3	**219.00**	**-52.00**
		G7/R7	6	12	3	**272.00**	**1.00**
		G7/R7	6	12	3	**307.00**	**36.00**
		G7/R7	6	12	3	**317.00**	**46.00**
		G7/R7	6	12	3	**291.00**	**20.00**
		G7/R7	6	12	3	**250.00**	**-21.00**
		G7/R7	6	12	3	**272.00**	**1.00**
		G7/R7	6	12	3	**269.00**	**-2.00**
		G7/R8	6	12	3	**234.00**	**-37.00**
		G7/R8	6	12	3	**259.00**	**-12.00**
		G7/R8	6	12	3	**273.00**	**2.00**
		G7/R8	6	12	3	**272.00**	**1.00**
		G7/R8	6	12	3	**277.00**	**6.00**
		G7/R8	6	12	3	**296.00**	**25.00**
		G7/R8	6	12	3	**261.00**	**-10.00**
		G7/R8	6	12	3	**221.00**	**-50.00**
		G7/R8	6	12	3	**287.00**	**1.00**
		G7/R8	6	12	3	**249.00**	**-2.00**
		G7/R9	6	12	3	**263.00**	**-37.00**
		G7/R9	6	12	3	**206.00**	**-12.00**
		G7/R9	6	12	3	**227.00**	**2.00**
		G7/R9	6	12	3	**276.00**	**1.00**
		G7/R9	6	12	3	**289.00**	**6.00**
		G7/R9	6	12	3	**241.00**	**25.00**
		G7/R9	6	12	3	**270.00**	**-10.00**
		G7/R9	6	12	3	**279.00**	**-50.00**
		G7/R9	6	12	3	**330.00**	**59.00**
		G7/R9	6	12	3	**330.00**	**59.00**
		G7/R10	6	12	3	**188.00**	**-83.00**
		G7/R10	6	12	3	**206.00**	**-65.00**
		G7/R10	6	12	3	**299.00**	**28.00**
		G7/R10	6	12	3	**253.00**	**-18.00**
		G7/R10	6	12	3	**280.00**	**9.00**
		G7/R10	6	12	3	**262.00**	**-9.00**
		G7/R10	6	12	3	**245.00**	**-26.00**
		G7/R10	6	12	3	**287.00**	**16.00**
		G7/R10	6	12	3	**283.00**	**12.00**
		G7/R10	6	12	3	**229.00**	**-42.00**
					Average CPM:	**270.88**	**2.86**
					Standard Deviation:	**35.27**	**33.54**
					Max CPM:	**348.00**	**77.00**

Bethesda NNMC Gamma Scan Data Sheet

Meter S/N:	142489	Grid #/Row #	Month	Day	Year	Gross CPM:	Net CPM:
Background CPM:	271	G4/R1	6	12	3	188.00	-83.00
		G4/R1	6	12	3	256.00	5.00
		G4/R1	6	12	3	276.00	5.00
		G4/R1	6	12	3	250.00	-21.00
		G4/R1	6	12	3	326.00	55.00
		G4/R1	6	12	3	318.00	47.00
		G4/R1	6	12	3	293.00	22.00
		G4/R1	6	12	3	286.00	15.00
		G4/R1	6	12	3	272.00	1.00
		G4/R1	6	12	3	313.00	42.00
		G4/R2	6	12	3	220.00	-51.00
		G4/R2	6	12	3	217.00	15.00
		G4/R2	6	12	3	277.00	6.00
		G4/R2	6	12	3	257.00	-14.00
		G4/R2	6	12	3	218.00	-53.00
		G4/R2	6	12	3	244.00	-27.00
		G4/R2	6	12	3	291.00	20.00
		G4/R2	6	12	3	281.00	10.00
		G4/R2	6	12	3	209.00	-62.00
		G4/R2	6	12	3	266.00	-5.00
		G4/R3	6	12	3	183.00	-88.00
		G4/R3	6	12	3	219.00	-52.00
		G4/R3	6	12	3	259.00	-12.00
		G4/R3	6	12	3	229.00	-42.00
		G4/R3	6	12	3	232.00	-39.00
		G4/R3	6	12	3	227.00	-44.00
		G4/R3	6	12	3	255.00	-16.00
		G4/R3	6	12	3	246.00	-25.00
		G4/R3	6	12	3	209.00	50.00
		G4/R3	6	12	3	260.00	43.00
		G4/R4	6	12	3	243.00	-33.00
		G4/R4	6	12	3	271.00	-7.00
		G4/R4	6	12	3	191.00	22.00
		G4/R4	6	12	3	236.00	-21.00
		G4/R4	6	12	3	281.00	-31.00
		G4/R4	6	12	3	262.00	-13.00
		G4/R4	6	12	3	231.00	-11.00
		G4/R4	6	12	3	289.00	-20.00
		G4/R4	6	12	3	321.00	50.00
		G4/R4	6	12	3	314.00	43.00
		G4/R5	6	12	3	238.00	-33.00
		G4/R5	6	12	3	264.00	-7.00
		G4/R5	6	12	3	293.00	22.00
		G4/R5	6	12	3	250.00	-21.00
		G4/R5	6	12	3	240.00	-31.00
		G4/R5	6	12	3	258.00	-13.00
		G4/R5	6	12	3	260.00	-11.00
		G4/R5	6	12	3	251.00	-20.00
		G4/R5	6	12	3	261.00	-10.00
		G4/R5	6	12	3	200.00	-71.00
		G4/R6	6	12	3	185.00	-86.00
		G4/R6	6	12	3	213.00	-58.00
		G4/R6	6	12	3	188.00	-83.00

		G4/R6	6	12	3	**203.00**	**-68.00**
		G4/R6	6	12	3	**249.00**	**-22.00**
		G4/R6	6	12	3	**227.00**	**-44.00**
		G4/R6	6	12	3	**238.00**	**-33.00**
		G4/R6	6	12	3	**248.00**	**-23.00**
		G4/R6	6	12	3	**269.00**	**-2.00**
		G4/R6	6	12	3	**315.00**	**44.00**
		G4/R7	6	12	3	**288.00**	**17.00**
		G4/R7	6	12	3	**235.00**	**-36.00**
		G4/R7	6	12	3	**267.00**	**-4.00**
		G4/R7	6	12	3	**202.00**	**-69.00**
		G4/R7	6	12	3	**278.00**	**7.00**
		G4/R7	6	12	3	**284.00**	**13.00**
		G4/R7	6	12	3	**228.00**	**-43.00**
		G4/R7	6	12	3	**224.00**	**-47.00**
		G4/R7	6	12	3	**265.00**	**-6.00**
		G4/R7	6	12	3	**241.00**	**-30.00**
		G4/R8	6	12	3	**264.00**	**-7.00**
		G4/R8	6	12	3	**220.00**	**-51.00**
		G4/R8	6	12	3	**240.00**	**-31.00**
		G4/R8	6	12	3	**291.00**	**20.00**
		G4/R8	6	12	3	**317.00**	**46.00**
		G4/R8	6	12	3	**268.00**	**-3.00**
		G4/R8	6	12	3	**227.00**	**-44.00**
		G4/R8	6	12	3	**271.00**	**0.00**
		G4/R8	6	12	3	**251.00**	**-20.00**
		G4/R8	6	12	3	**249.00**	**-22.00**
		G4/R9	6	12	3	**268.00**	**-3.00**
		G4/R9	6	12	3	**173.00**	**-98.00**
		G4/R9	6	12	3	**219.00**	**-52.00**
		G4/R9	6	12	3	**267.00**	**-4.00**
		G4/R9	6	12	3	**213.00**	**-58.00**
		G4/R9	6	12	3	**276.00**	**5.00**
		G4/R9	6	12	3	**240.00**	**-31.00**
		G4/R9	6	12	3	**257.00**	**-14.00**
		G4/R9	6	12	3	**323.00**	**52.00**
		G4/R9	6	12	3	**273.00**	**2.00**
		G4/R10	6	12	3	**270.00**	**-1.00**
		G4/R10	6	12	3	**250.00**	**-21.00**
		G4/R10	6	12	3	**267.00**	**-4.00**
		G4/R10	6	12	3	**236.00**	**-35.00**
		G4/R10	6	12	3	**228.00**	**-43.00**
		G4/R10	6	12	3	**203.00**	**-68.00**
		G4/R10	6	12	3	**234.00**	**-37.00**
		G4/R10	6	12	3	**253.00**	**-18.00**
		G4/R10	6	12	3	**267.00**	**-4.00**
		G4/R10	6	12	3	**266.00**	**-5.00**
					Average CPM:	**251.59**	**-16.36**
					Standard Deviation:	**33.92**	**34.16**
					Max CPM:	**326.00**	**55.00**

Meter S/N:	142489	Grid #/Row #	Month	Day	Year	Gross CPM:	Net CPM:
Background CPM:	271	G29/R1	6	17	3	265.23	-5.77
		G29/R1	6	17	3	258.75	-12.25
		G29/R1	6	17	3	283.83	12.83
		G29/R1	6	17	3	284.53	13.53
		G29/R1	6	17	3	243.52	-27.48
		G29/R1	6	17	3	204.38	-66.63
		G29/R1	6	17	3	232.97	-38.03
		G29/R2	6	17	3	235.23	-35.77
		G29/R2	6	17	3	226.17	-44.83
		G29/R2	6	17	3	213.05	-57.95
		G29/R2	6	17	3	217.03	-53.97
		G29/R2	6	17	3	237.19	-33.81
		G29/R2	6	17	3	231.09	-39.91
		G29/R2	6	17	3	204.61	-66.39
		G29/R3	6	17	3	232.42	-38.58
		G29/R3	6	17	3	274.14	3.14
		G29/R3	6	17	3	287.03	16.03
		G29/R3	6	17	3	299.30	28.30
		G29/R3	6	17	3	213.05	-57.95
		G29/R3	6	17	3	206.02	-64.98
		G29/R3	6	17	3	294.06	23.06
		G29/R4	6	17	3	257.03	-13.97
		G29/R4	6	17	3	198.98	-72.02
		G29/R4	6	17	3	293.83	22.83
		G29/R4	6	17	3	222.89	-48.11
		G29/R4	6	17	3	221.48	-49.52
		G29/R4	6	17	3	221.72	-49.28
		G29/R4	6	17	3	224.30	-46.70
		G29/R5	6	17	3	275.47	4.47
		G29/R5	6	17	3	249.53	-21.47
		G29/R5	6	17	3	288.67	17.67
		G29/R5	6	17	3	215.63	-55.38
		G29/R5	6	17	3	287.03	16.03
		G29/R5	6	17	3	245.16	-25.84
		G29/R5	6	17	3	270.63	-0.38
		G29/R6	6	17	3	225.63	-45.38
		G29/R6	6	17	3	199.45	-71.55
		G29/R6	6	17	3	283.52	12.52
		G29/R6	6	17	3	208.13	-62.88
		G29/R6	6	17	3	207.42	-63.58
		G29/R6	6	17	3	210.70	-60.30
		G29/R6	6	17	3	299.92	28.92
		G29/R7	6	17	3	290.94	19.94
		G29/R7	6	17	3	273.91	2.91
		G29/R7	6	17	3	286.56	15.56
		G29/R7	6	17	3	289.61	18.61
		G29/R7	6	17	3	285.63	14.63
		G29/R7	6	17	3	207.66	-63.34
		G29/R7	6	17	3	286.09	15.09
		G29/R8	6	17	3	271.00	0.00
		G29/R8	6	17	3	285.39	14.39
		G29/R8	6	17	3	264.77	-6.23
		G29/R8	6	17	3	289.14	18.14

		G29/R8	6	17	3	**203.20**	**-67.80**
		G29/R8	6	17	3	**269.22**	**-1.78**
		G29/R8	6	17	3	**200.63**	**-70.38**
					Average CPM:	**249.19**	**-21.81**
					Standard Deviation:	**33.94**	**33.94**
					Max CPM:	**299.92**	**28.92**