New World Technology

FINAL REPORT

Radiological Surveys and Sampling
Area 1222
ARDEC, Picatinny Arsenal, New Jersey

Project No. USA 99-109, RFP, MOD I

Revision 1
January 30, 2006

Prepared by:
New World Technology
448 Commerce Way
Livermore, CA 94551
(925) 443-7967

NEW WORLD TECHNOLOGY

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Approvals

Prepared by:_____ Date:_____
Dan Spicuzza, NWT Project Manager

Approved by:_____ Date:_____
Bill Haney, NWT V.P. Operations

Approved by:_____ Date:_____
Joseph A. Fabiano, Picatinny Arsenal Representative

Approved by:_____ Date:_____
Frank Whitaker, AFSC Project Manager

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ACRONYMS AND ABBREVIATIONS

α	Alpha
AFSC	U.S. Army Field Support Command
AOC	Areas of concern
ALARA	As Low As Reasonably Achievable
ANSI	American National Standard Institute
AR 11-9	The Army Radiation Safety Program
RDECOM-ARDEC	Research, Development and Engineering Command-Armaments Research, Development & Engineering Center
AREA 1222	The Gorge
ARP	Army Radiation Permit
β	Beta
B	Background counts
bgs	Below grade surface
Bi^{214}	Bismiuth-214 Uranium-238 Series
Bkg	Background
cal	Calibration
cm	Centimeter
cm^2	Square centimeter
cpm	Counts per minute
Cs^{137}	Cesium-137 Check Source
DA 3777	ARP Application
DAC	Derived Air Concentration
DCGL	Derived Concentration Guideline Limit
$DCGL_W$	Derived Concentration Guideline Limit (Weighted)
$DCGL_{EMC}$	Derived Concentration Guideline Limit (Elevated Measurement Comparison)
Δ	DCGL – LBGR
DOT	Department Of Transportation
dpm	Disintegrations per minute
$dpm/100cm^2$	Disintegrations per minute per 100 square centimeters
DQO's	Data Quality Objectives
DU	Depleted Uranium
eff	Efficiency
F	Relative fraction
FOP	Field Operating Procedures
FSS	Final Status Survey
Ft	Feet
Ft^2	Square feet
g	Gram
H_o	Null Hypothesis
HASP	Health and Safety Plan (HASP).
inst	Instrument
IAW	In Accordance with
ISO	International Organization for Standardization

LBGR	Lower bound of gray region
LEL	Lower explosive limit
LLD	Lower Level of Detection
LSC	Liquid Scintillation Counting
m	Meters
m^2	Square meter
MARSSIM	Multi-Agency Radiation Survey and Site Investigation Manual
MDA	Minimum Detectable Activity
MDC	Minimum Detectable Concentration
MDCR	Minimum Detectable Count Rate
mCi	Millicurie
mm	Millimeter
mrem	Millirem
mrem/yr	Millirem per year
N/A	Not applicable
NaI	Sodium iodide
NIST	National Institute of Standards and Technology
NMSS	Nuclear Regulatory Commission Office of Nuclear Material Safety and Safeguards
NRC	Nuclear Regulatory Commission
NUREG	Nuclear Regulatory Guide
NUREG-1505	Nuclear Regulatory Commission (NRC). 1998. A Nonparametric Statistical Methodology for the Design and Analysis of the Final Status Decommissioning Survey. NUREG-1505, Rev.1
NUREG-1575	MARSSIM
NWT	New World Technology, Inc.
OSHA	Occupational Safety and Health Administration
Pb^{214}	Lead-214 Uranium-238 Series
pCi	Picocurie
ppm	Parts per million
NWT	New World Technology
OSC	Operations Support Command
QA/QC	Quality Assurance / Quality Control
Ra^{226}	Radium-226 Uranium-238 Series
RDT&E	Research, Development, Test and Evaluation
Δ/σ	Relative shift
RESRAD	Residual radioactivity
RPO	Radiation Protection Officer
RWP	Radiation Work Permit
σ	Standard deviation
S/N	Serial number
Scan	Gamma detector response rate
SOP	Standing Operating Procedure
Surface Samples	Defined as 0-15 cm below ground surface
Survey Unit	Class 1 Outdoor Survey Unit, < 2,000 m^2
SUXOS	Senior UXO supervisor
TCLP	Toxicity Characteristic Leaching Procedure
TEDE	Total effective dose equivalent
Th^{234}	Thorium-234 – Uranium-238 Series
U^{234}	Uranium-234
U^{235}	Uranium-235
U^{238}	Uranium-238 (Depleted Uranium)
USACHPPM	US Army Center for Health Promotion Preventive Medicine

USA	U.S. Army
μR/hr	Microroentgen per hour
μCi	Microcurie
UXO	Unexploded Ordnance
Wilcoxon Rank Sum Test	Used to test the null hypothesis in statistics
WP	Work plan
WRS	Wilcoxon Rank Sum Test
ZnS(Ag)	Silver activated zinc sulfide

1.0 INTRODUCTION

New World Technology (NWT) was contracted by the U.S. Army Field Support Command (AFSC) to perform radiological surveys and sampling, limited remediation and possible removal of contaminated items on the hill (Figure 1) adjacent to the open detonation pit area, the ground surrounding two contaminated piles of soil, and a pile of soil recently offloaded and encroaching on the controlled open detonation pit area located in Area 1222 (The Gorge) at the Armaments Research, Development & Engineering Center (ARDEC), Picatinny Arsenal, NJ. Photos of the hill adjacent to the open detonation pit and soil piles are presented in Figure 3 and Figure 4 respectively of this report.

The work was performed from May 10th, 2004 to May 14th, 2004 under reciprocity with the Nuclear Regulatory Commission (NRC) or equivalent agreement state regulatory agency under NWT's NRC Broad Scope Radioactive Materials License # 04-27745-01. A copy of NWT's NRC Broad Scope License is included in this report in Appendix A. The survey was conducted in accordance with an approved Survey and Sampling Work Plan (Reference 8), related permits and documentation.

2.0 SITE INFORMATION

2.1 SITE DESCRIPTION

Area 1222, known as the Gorge, is located in the valley toward the northern end of the arsenal. It lies at the base of Copperas Mountain and is bounded by an unnamed mountain to the southeast.

2.2 SITE HISTORY

The Open Detonation Pit is being used for open detonation of munitions and as a demilitarization area (See Appendix E UXO report). Evidence seems to suggest that it may have also been used to detonate a limited number of Research, Development, Test and Evaluation (RDT&E) systems or components containing small quantities of depleted uranium (DU) as evidenced by the splinter sized pieces of DU found in grids numbered 4 and 6 and most likely commodities with luminescent gauges or dials as evidenced by the fragments of radium-226 in grids numbered 24 and 27. See Figure 2.

2.3 GORGE AREA

NWT coordinated with the personnel at Picatinny Arsenal so that all pertinent standing operating procedures (SOPs) and permits dealing with

unexploded ordnance (UXO) and radioactive materials were adhered to. RDECOM-ARDEC was represented by an AFSC decommissioning project manager, U.S. Army RDECOM-ARDEC representative, and an RDECOM-ARDEC designated Senior UXO supervisor registered with the Corps of Engineers.

Items of note:

- A USACHPPM survey done of the area (USACHPPM Report No. 27-43-EQ86-93) detected no concentrations of DU exceeding the minimum detectable activity (MDA).

- A survey was performed by NWT in October/November of 2001 in the Open Detonation Pit area. Radium contamination (most likely a fragment of a luminescent gauge or dial) was found in Grid #27 located at the bottom of the hill and in Grid #24 in the open detonation pit. Depleted uranium contamination was found in Grids #4 and #6 within the Open Detonation Pit. Figure 2 presents a diagram showing these areas. The source of the elevated readings was discovered during that investigation and discreet pieces of debris were found to be the source of the elevated readings. The areas were re-surveyed following remediation, and found to be at background radiation levels.

Figure 1 Area 1222 (Detonation Pit Hill) Survey Area Map

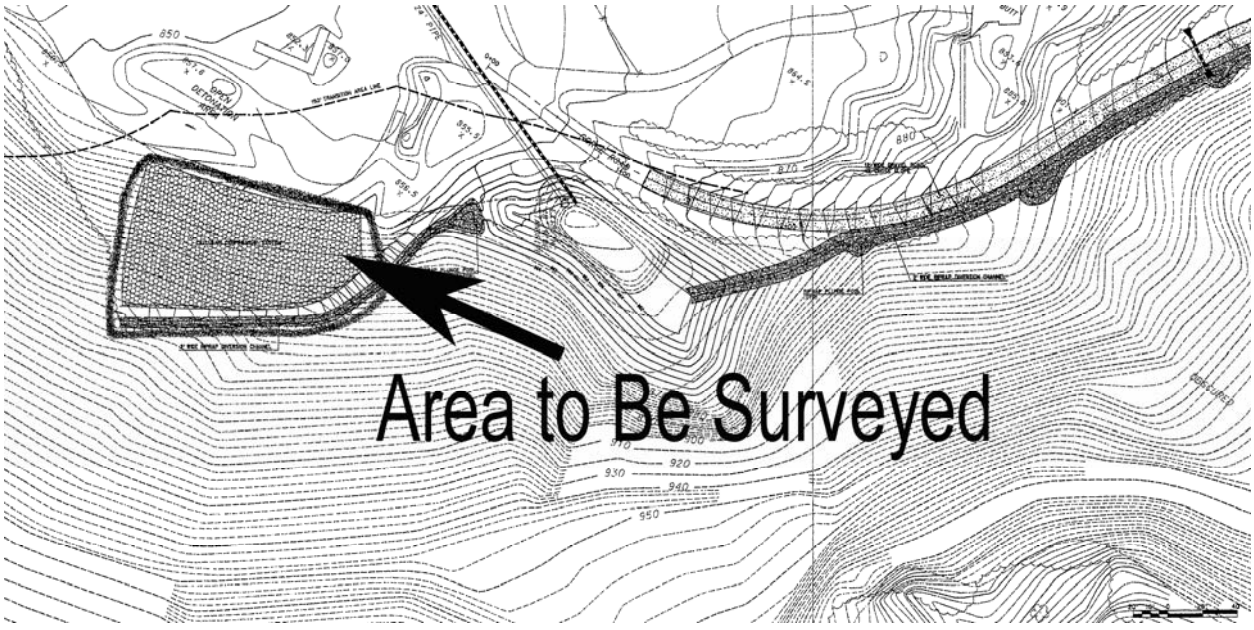


Figure 2 Open Detonation Pit Grid Map With Locations of Contaminants

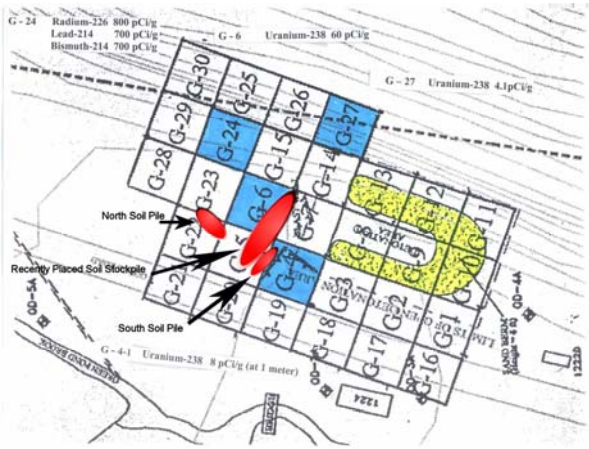


Figure 3 Soil Piles Photo

Figure 4 Hill Adjacent to Open Detonation Pit Photo As Seen From Ground Level

2.4 ENVIRONMENTAL CONSIDERATIONS

Natural resources at the site were not utilized or affected as a result of this project.

Project activities did not create any traffic impacts.

No ecosystems or habitats that may have provided refuge for sensitive, threatened, or endangered species located within a one-kilometer radius of the work site were affected.

3.0 ORGANIZATION AND RESPONSIBILITIES

NWT implemented an integrated management approach that included project management oversight and technical support. The full resources of NWT's Oregon, OH and Livermore, CA office, supported the on-site crew to ensure successful project execution and completion.

The on-site radiological sampling and UXO survey team consisted of a Project Manager/Supervisor, a senior and junior HP technician, the SUXOS, and the RDECOM-ARDEC representative/contract interface for immediate onsite support. These personnel were, as a minimum, trained, qualified, and experienced in field radiological survey procedures with current HAZWOPPER training or as a SUXOS or as the RDECOM-ARDEC representative/contract interface.

3.1 PROJECT MANAGER (ON-SITE)

The Project Manager was the primary point of contact and NWT interface. The minimum requirements for the Project Manager were 5-10 years of health physics experience including prior management experience.

He was responsible for supervision, coordinating daily activities and overviewing the free release surveys. In order to ensure regulatory compliance, he was qualified in the use of the survey instruments used and described under the heading of "Instrument Selection" in section 5.1 of this plan and was familiar with the aspects of surveying as described in NUREG-1575 and NWT's Survey and Sampling Work Plan.

3.2 HEALTH PHYSICS (HP) TECHNICIAN (S)

The HP Technicians were responsible for performing the release surveys and collecting samples as necessary. They were qualified in the use of the survey instruments and the performance of surveys in accordance with NUREG-1575 (MARSSIM) as well as the Survey and Sampling Work Plan, permits and related documentation.

3.3 SUXO SUPERVISOR

The SUXO supervisor was responsible for the UXO anomaly avoidance.

3.4 RDECOM-ARDEC REPRESENTATIVE/CONTRACT INTERFACE

The RDECOM-ARDEC representative and contract interface was responsible for: drafting the Project No. USA 99-109, RFP, MOD 1; reviewing and maintaining all pertinent documentation relating to the project to ensure accuracy and adequacy of controls; timeliness of response to changes based on the needs of the parties involved; hearing and responding to complaints; providing direction and advice as required and among other things the base of operations, fax machine, copier, telephone and portable toilet in support of the mission.

4.0 SURVEY OVERVIEW

This section provides the basis for developing the MARSSIM survey of the areas to be surveyed. In order to design the survey, several parameters were set to ensure that the survey will stand up to and meet the statistical evaluations to justify the release of the facility. These include the establishment of the Data

Quality Objectives, Release Criteria or Derived Concentration Guideline Levels, establishing the acceptable decision errors and the calculation of the Relative Shift in order to determine the number of required measurements/samples per survey unit.

4.1 DATA QUALITY OBJECTIVES (DQO'S)

To ensure the proper release of the area being surveyed, the objectives of this survey were:

- The proper selection of appropriate instrumentation to adequately detect the radionuclides of concern i.e. U-238 and its daughter products, and Radium-226 and its daughter products,
- Establish proper count times and measurement MDAs (Minimum Detectable Activities) to verify that the release criteria is met,
- Perform surveys to verify the radiological status of the areas, and
- Ensure that personnel exposure from residual contamination will not exceed 25 mrem/year to an individual based on the intended use of the area. (Twenty-five millirems may be compared to a dose of about 5 millirems of background radiation from one round-trip cross –country airline flight; 50 millirems average per year from medical examinations; and 300 millirems per year average in the United States from natural background radiation)
- To achieve reliable operation in covering the radiation types and specific levels or intensities of the radiation fields of interest for ^{238}U, ^{226}Ra and their associated daughters in the affected area, an NIST traceable ^{137}Cs source was selected as the working reference check source standard to verify the daily proper operation of the instruments.

Surveys and data evaluation were based on the guidance in NUREG-1575, *Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM)*, and included gamma scan surveys and soil sample analysis by gamma spectroscopy.

4.2 DERIVED CONCENTRATION GUIDELINE LEVELS (DCGL)

The Derived Concentration Guideline Level is defined in MARSSIM as the radionuclide specific concentration within a survey unit corresponding to the release criterion. As specified in the current regulations and regulatory guidance, the release criteria is dose based, and the Total Effective Dose Equivalent (TEDE) to an individual will not exceed 25 mrem/yr plus ALARA as a result of any residual contamination distinguishable from background.

The DCGL is dependent upon several factors including the radionuclides of interest, applicable dose pathways, area occupancy and the future use of the facility. Contained within the current regulations, specific average guidelines (DCGL's) have been documented for a variety of radionuclides following typical default parameters for either residential or building occupancy scenarios. These guidelines are documented as surface contamination limits (dpm/100 cm^2) and activity concentration limits (pCi/g) which correspond to a TEDE of 25 mrem/yr.

For most radionuclides, the documented release criteria are easily achieved; however, issues are encountered when dealing with the naturally occurring radionuclides and alpha emitters such as uranium and radium at the Picatinny Arsenal due to the Redding Prong which is part of the Taconic Range and the larger Appalachian chain of eastern North America which runs across the Hudson southwestward, and terminates in Redding, Pennsylvania. The guideline levels using the default dose modeling codes have resulted in unachievably low DCGLs for radionuclides such as depleted uranium. As a result, alternative guidelines are currently recommended as specified in Federal Register, Vol. 63, No 222 dated Wednesday, November 18, 1998; *"The NRC staff is assessing current screening approaches for sites with alpha emitters and for soil contamination. For such sites, licensees are encouraged to use, in the interim period, site-specific dose assessments based on actual site conditions."*

4.2.1 DCGLs for the Free Release of Tools and Equipment

As defined in: "Guidelines for Decontamination of Facilities and equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source, or Special Nuclear Materials (NRC 1987), Office of Nuclear Material Safety and Safeguards (NMSS)." The DCGL's for free release of tools and equipment from the site are:

a) 5,000 dpm/100 cm^2 beta-gamma, averaged over 1 m^2.
b) 15,000 dpm/100 cm^2 beta-gamma, maximum.
c) 1,000 dpm/100 cm^2 beta-gamma, removable.

d) 100 dpm/100 cm^2 alpha, averaged over 1 m^2.
e) 300 dpm/100 cm^2 alpha, maximum.
f) 20 dpm/100 cm^2 alpha, removable.

4.2.2 Soil

4.2.2.1 Ra-226

As stated in RFP, Mod 1 of the Scope of Work, the State of New Jersey's residential use limit of 3 pCi/g for Radium-226 (Ra-226) was used. (Based on a State of New Jersey Bureau of Federal Case Management letter dated 27 May 1994)

4.2.2.2 Depleted Uranium (U-238)

Dose modeling was performed using the RESRAD Version 6.22 modeling code. An activity distribution of 30.5% ^{234}U, 1.3% ^{235}U and 68.2% ^{238}U were used to obtain the resulting TEDE to an individual. The DU activity distribution provides a conservative depletion rate of less than 0.3% ^{235}U (by weight). All of default RESRAD input parameters were used with exception of the site specific conditions as follows:

- The total area of the "open detonation pit" and hill bordering it to the east was approximately 5,000 m^2. The RESRAD input parameter "Contaminated Zone" was changed from a default of 10,000 m^2 to the more conservative site-specific value of 5,000 m^2.

- Previous soil sample results from the "open detonation pit" area showed that the soil contamination was restricted to the top 6 inches (15 cm) of soil. The RESRAD input parameter "Thickness of contaminated zone" was changed from the default of 2 meters to a site-specific value of 0.25 meters. It should be noted that a value of 0.25 meters was used instead of 0.15 meters for the "Thickness of contaminated zone" in order to provide a conservative estimate of the TEDE.

Using the above site-specific parameters, RESRAD was run. The result was a TEDE of 13.4 mrem/yr for an input activity concentration of 100 pCi/g. When scaled to a TEDE of 25 mrem/yr, this provides a DCGL of 186 pCi/g.

In accordance with ALARA, a remedial action level, based on the Minimum Detectable Activity (MDA) of the proposed scanning instrumentation was established. The gamma scan action level (Section 5.9.4) was used as the remedial action level. Any surface soil anomalies identified during scanning which exceeded this action level was investigated and possibly remediated. For the purposes of this survey effort, it was estimated that a maximum volume of 5-gallons of material required remediation. The purpose of the limited remedial action was to ensure that activity concentrations of samples collected during the Final Status Survey would not exceed the DCGL, thus eliminating the need for elevated measurement criteria.

The aforementioned DCGL's are summarized in Table 1 below. Project personnel compared the survey results with these values to assess the areas surveyed. This determined the extent of any remediation, if required.

Table 1 Derived Concentration Guideline Levels

Area 1222 Soils DCGL's	
Ra-226	3 pCi/g
Depleted Uranium (U-238)	186 pCi/g

4.3 DECISION ERRORS

There were two types of decision errors applied to the analytical results: Type I (α) and Type II (β) errors. A Type I error, or false positive, is the probability that a survey result/measurement is above the release criteria when in fact it is not, while a Type II error, or false negative, is the probability of determining that a result/measurement is below the release criteria when it is not. The probability of making decision errors can be controlled by adopting an approach called hypothesis testing. The null hypothesis (H_0) is treated like a baseline condition and is defined by MARSSIM as:

H_0 = residual radioactivity in the survey exceeds the release criterion.

This means that the site or survey area is assumed contaminated until proven otherwise. For the purpose of this survey, both Type I and Type II, α and β, were set at 0.05 or 5 percent.

4.4 RELATIVE SHIFT

The relative shift is defined as Δ/σ where Δ is the DCGL - LBGR (Lower Bound of the Gray Region) and σ is the standard deviation of the contaminant distribution. In order to calculate the relative shift, the DCGL must be determined and two assumptions made to estimate the lower bound of gray region (LBGR) and the standard deviation of the measurement distribution. MARSSIM suggests that the LBGR be set at 50% of the DCGL but can be adjusted later to provide a value for the relative shift between the range of 1 to 3. The standard deviation was calculated from preliminary survey data, prior surveys of similar areas and materials or the standard deviation of a reference background area. It should be noted that σ represents the standard deviation prior to release after all area decontamination is thought to be complete. If no reference data is available to make a reasonable estimate, MARSSIM suggests using 30% of the mean survey unit background.

Soil sample results for thirty-eight samples analyzed for depleted uranium (U-238) from the open detonation pit area previously surveyed by NWT in November of 2001 were used to calculate the standard deviation. The calculated standard deviation was 10.0.

Using a DCGL of 186 pCi/g for U-238 and a calculated standard deviation of 10 the LBGR must be adjusted in order to provide a relative shift between 1 and 3. In this instance the LBGR was adjusted to a value of 166 to provide a value for the relative shift of 2.0. The following equation was used to calculate the relative shift using a DCGL value of 186 pCi/g, a standard deviation value of 10.0 and an adjusted LBGR value of 166:

$$\Delta/\sigma = \text{Relative Shift} = \frac{186-166}{10} = 2.0$$

4.5 NUMBER OF SAMPLES/MEASUREMENTS

Once the relative shift, Δ/σ, was determined the calculated value was used to obtain the minimum number of measurements or samples necessary to reject the null hypothesis based upon the initial assumptions and justify that the survey unit meets the requirements for free release. Table 3 below contains the number of samples or measurements necessary for the given decision errors, α and β, and the calculated relative shift, Δ/σ, when dealing with non-radionuclide specific measurements or when the radionuclide is present in the background. The value N/2 from the Table 2 represents the number of samples or measurements to be collected in a survey unit and a background reference unit.

Table 2 Values of N/2 For Use With The Wilcoxon Rank Sum Test

	α=0.01					α=0.025					α=0.05					α=0.10					α=0.25				
	β					β					β					β					β				
Δ/σ	0.01	0.025	0.05	0.10	0.25	0.01	0.025	0.05	0.10	0.25	0.01	0.025	0.05	0.10	0.25	0.01	0.025	0.05	0.10	0.25	0.01	0.025	0.05	0.10	0.25
0.1	5452	4627	3972	3278	2268	4627	3870	3273	2646	1748	3972	3273	2726	2157	1355	3278	2646	2157	1655	964	2268	1748	1355	964	459
0.2	1370	1163	998	824	570	1163	973	823	665	440	998	823	685	542	341	824	665	542	416	243	570	440	341	243	116
0.3	614	521	448	370	256	521	436	369	298	197	448	369	307	243	153	370	298	243	187	109	256	197	153	109	52
0.4	350	297	255	211	146	297	248	210	170	112	255	210	175	139	87	211	170	139	106	62	146	112	87	62	30
0.5	227	193	166	137	95	193	162	137	111	73	166	137	114	90	57	137	111	90	69	41	95	73	57	41	20
0.6	161	137	117	97	67	137	114	97	78	52	117	97	81	64	40	97	78	64	49	29	67	52	40	29	14
0.7	121	103	88	73	51	103	86	73	59	39	88	73	61	48	30	73	59	48	37	22	51	39	30	22	11
0.8	95	81	69	57	40	81	68	57	46	31	69	57	48	38	24	57	46	38	29	17	40	31	24	17	8
0.9	77	66	56	47	32	66	55	46	38	25	56	46	39	31	20	47	38	31	24	14	32	25	20	14	7
1.0	64	55	47	39	27	55	46	39	32	21	47	39	32	26	16	39	32	26	20	12	27	21	16	12	6
1.1	55	47	40	33	23	47	39	33	27	18	40	33	28	22	14	33	27	22	17	10	23	18	14	10	5
1.2	48	41	35	29	20	41	34	29	24	16	35	29	24	19	12	29	24	19	15	9	20	16	12	9	4
1.3	43	36	31	26	18	36	30	26	21	14	31	26	22	17	11	26	21	17	13	8	18	14	11	8	4
1.4	38	32	28	23	16	32	27	23	19	13	28	23	19	15	10	23	19	15	12	7	16	13	10	7	4
1.5	35	30	25	21	15	30	25	21	17	11	25	21	18	14	9	21	17	14	11	7	15	11	9	7	3
1.6	32	27	23	19	14	27	23	19	16	11	23	19	16	13	8	19	16	13	10	6	14	11	8	6	3
1.7	30	25	22	18	13	25	21	18	15	10	22	18	15	12	8	18	15	12	9	6	13	10	8	6	3
1.8	28	24	20	17	12	24	20	17	14	9	20	17	14	11	7	17	14	11	9	5	12	9	7	5	3
1.9	26	22	19	16	11	22	19	16	13	9	19	16	13	11	7	16	13	11	8	5	11	9	7	5	3
2.0	25	21	18	15	11	21	18	15	12	8	18	15	13	10	7	15	12	10	8	5	11	8	7	5	3
2.25	22	19	16	14	10	19	16	14	11	8	16	14	11	9	6	14	11	9	7	4	10	8	6	4	2
2.5	21	18	15	13	9	18	15	13	10	7	15	13	11	9	6	13	10	9	7	4	9	7	6	4	2
2.75	20	17	15	12	9	17	14	12	10	7	15	12	10	8	5	12	10	8	6	4	9	7	5	4	2
3.0	19	16	14	12	8	16	14	12	10	6	14	12	10	8	5	12	10	8	6	4	8	6	5	4	2
3.5	18	16	13	11	8	16	13	11	9	6	13	11	9	8	5	11	9	8	6	4	8	6	5	4	2
4.0	18	15	13	11	8	15	13	11	9	6	13	11	9	7	5	11	9	7	6	4	8	6	5	4	2

Based upon a relative shift of 2.0 and a Type I decision rate of 5 %, and a Type II decision rate of 5 %, the calculated number of samples for each survey unit and background reference area is 13. As a conservative measure, 15 samples were collected from the survey unit, and 14 samples were collected from the background reference area.

5.0 SURVEY DESIGN AND IMPLEMENTATION

The objective of this survey was to demonstrate that residual radioactivity levels meet the release criterion. In demonstrating the objective as being met, the null hypothesis (H_o) that residual contamination exceeds the release criterion is tested with the survey data using the Wilcoxon Rank Sum Test (WRS).

5.1 PREREQUISITES

Once office spaces, instrumentation, and equipment were mobilized and set up, dosimeters (TLD's) were issued to on site personnel by RDECOM-ARDEC to monitor external whole body radiation exposure.

The RDECOM-ARDEC representative generated a Radiation Work Permit (RWP), which specified the activities to be performed, and all radiological safety requirements for the work. The RWP also designated personal protective equipment (PPE) requirements for the specific tasks to be performed. All personnel assigned to the site work were required to read and understand the requirements prior to beginning work. A copy of the RWP is presented in this report in Appendix B.

5.2 INSTRUMENT SELECTION

Instruments were selected that were suitable for the physical and environmental conditions at the site. The instruments and measurement methods selected were able to detect the radionuclide of concern from the uranium-238 series and the radium-226 series or radiation types of interest i.e. alpha, beta, and/or gamma and are, in relation to the survey or analytical technique, capable of measuring levels that are equal to or less than the DCGL up to a depth of 6-inches.

Several radiation detection methods were used during the radiological surveys: gamma detector response rate (scan) measurements, and soil sampling and analysis. Field survey methodology, techniques, and terminology were in accordance with the Federal guidance document

MARSSIM (Rev. 1, August 2000). Chapters 5.3 and 5.5 provide specific details as to how the surveys were performed.

Gamma count rate responses were used to determine whether specific areas exhibit activity levels that are significantly above site-specific background. Gross gamma count rates were measured using a 2" by 2" sodium iodide (NaI) gamma scintillation detector system (Ludlum Instruments Model 2350-1 Data Logger coupled to a Ludlum Instruments Model 44-10 NaI or the equivalent). This radiation detection system measures energies in the range of about 80 to 3,000 kilo electron volts (keV). This energy range includes gamma rays emitted by Radium-226, depleted uranium, and their decay products.

5.3 INSTRUMENT CALIBRATION

The data loggers, associated detectors and all other portable instrumentation are calibrated on an annual basis using National Institute of Standards and Technology (NIST) traceable sources and calibration equipment. Calibration typically involves the ratemeter and the detector:

The Ratemeter calibration includes:

- High Voltage calibration,
- Discriminator/threshold calibration,
- Window calibration,
- Alarm operation verification, and

The detector calibration includes:

- Operating voltage determination,
- Calibration constant determination, and
- Dead time correction determination

The instrument calibration data is presented in this report in Appendix C.

5.4 RESPONSE CHECK SOURCES

All sources used for calibration or efficiency determinations for the survey were representative of the instrument's response to the identified radionuclides and are traceable to NIST. The source which was used during the surveys was ^{137}Cs which was stored in a locked box at the base of operations, Building 320, cold laboratory.

The daily instrument response check logs are presented in this report in Appendix D.

5.5 SURVEY UNIT CLASSIFICATION

For the purposes of establishing the sampling and measurement frequency and pattern, the various site areas were divided into impacted areas.

The impacted areas may be further subdivided into one of the three following classifications:

- *Class 1 Area*s: Areas that have, or had prior to remediation, a potential for radioactive contamination (based on site operational history) or known contamination (based on previous radiation surveys) above the DCGL. Examples of Class 1 areas include:

    1) site areas previously subjected to remedial actions
    2) locations where leaks or spills are known (or suspected) to have occurred
    3) former burial or disposal sites

- *Class 2 Area*s: Areas that have, or had prior to remediation, a potential for radioactive contamination or known contamination but are not expected to exceed the DCGL. To justify changing the classification from Class 1 to Class 2, there should be measurement data that provides a high degree of confidence that no individual measurement would exceed the DCGL. Other justifications for reclassifying an area, as Class 2 may be appropriate, based on site-specific considerations. Examples of areas that might be classified as Class 2 include:

    1) locations where radioactive materials were present in an unsealed form
    2) potentially contaminated transport routes
    3) areas downwind from the main areas of concern (AOC)

4) areas handling radioactive materials
5) areas on the perimeter of former contamination control areas

- *Class 3 Area*s: Any impacted areas that are not expected to contain any residual radioactivity, or are expected to contain levels of residual radioactivity at a small fraction of the DCGL, based on site operating history and previous radiation surveys. Examples of areas that might be classified as Class 3 include buffer zones around Class 1 or Class 2 areas and areas with very low potential for residual contamination but insufficient information to justify a non-impacted classification.

  For the purpose of this survey the area on the hill adjacent to the Open Detonation Pit was classified as a Class 1 area.

5.6 SURVEY UNITS

The area surveyed was approximately 40 meters by 40 meters or 131.2 ft by 131.2 ft in size.

Survey units are limited in size based on classification, exposure pathway modeling assumptions, and site-specific conditions. MARSSIM recommends areas for survey units according to the following:

Classification	**Suggested Area**
Class 1 Open Land Areas	up to 2000 m^2 (21527.821 sq ft)
Class 2 Open Land Areas	2000 to 10,000 m^2 (21527.821 to 107639.104 sq ft)
Class 3 Open Land Areas	no limit

5.7 REFERENCE COORDINATE SYSTEM

A reference coordinate system was laid out for each of the survey units. A geometrically quadrilateral polygon shaped grid system was used for the Final Status Survey and sampling of the open detonation pit hill. The length, L, of a side of the grid was determined by the total number of samples or measurements to be taken. The length of the survey area determined the distance between direct measurement/soil sample location points. The length or spacing of the grids was calculated for each of the survey units using the following equation:

$$L = \sqrt{\frac{A}{N}}$$

Where,

L = length of squares grids (m);
A = surface area of the survey unit (m^2); and
N = statistically calculated number of samples.

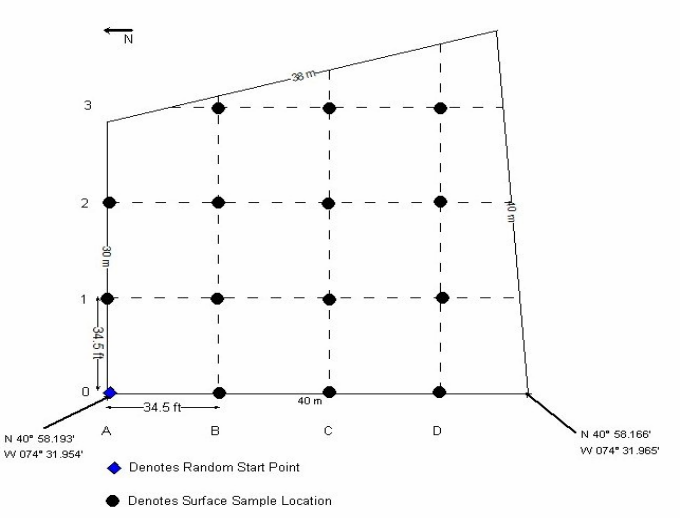
The length of the measurement/sampling intervals for each of the survey units is presented in Table 3 below.

Table 3 Survey Unit Summary Table

SURVEY UNIT #	SURVEY UNIT SIZE IN SQUARE METERS	SAMPLING INTERVAL IN METERS	NUMBER OF SOIL SAMPLES
Open Detonation Pit Hill	1600	10.5 (34.5 feet)	15

Figure 5 presents the sampling pattern layout for the survey unit.

Figure 5 Area 1222 Hill Sample Location Diagram



5.8 BACKGROUND REFERENCE AREA

A background reference area non-impacted by former operations and that had similar physical, chemical, geological, natural radiological, and biological characteristics as the areas to be surveyed was chosen.

A reference grid was setup that was 10 meters by 10 meters in size. The grid was 100 % gamma scan surveyed with all of the survey instruments to establish background radiation levels. The gamma level ranged between 12,000 cpm and 13,000 cpm.

A photo and diagram of the background reference area is presented in Figure 6 and Figure 7 of this report respectively. Figure 8 presents a diagram of the reference coordinate system for the background reference area.

A total of 14 background samples were obtained from within six inches of the surface at randomly selected locations in the background reference area described above (Figure 6). No subsurface samples were obtained in this background reference area due to the fact that no subsurface samples were obtained from the hill being surveyed and sampled The makeup of the hill skirting the open detonation pit on the east and its steep gradient riddled with UXO prohibited taking subsurface samples.

The samples were sent to Paragon Analytic's laboratory in Fort Collins, CO for gamma spectral analysis as described under the heading of Measurements of Soil Contamination in Section 5.8.6 of this report. The UXO report and attachments were provided to the on post Explosive Ordnance and Technology Division for action and is included in Appendix E of this report.

Figure 6 Background Reference Area Photo

Figure 7 Background Reference Area Diagram

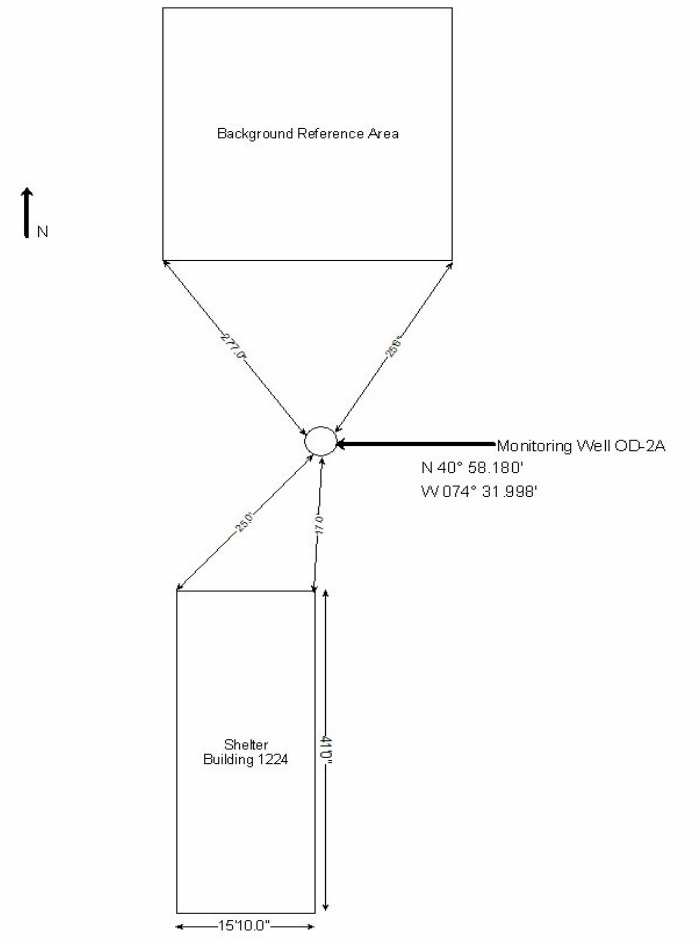
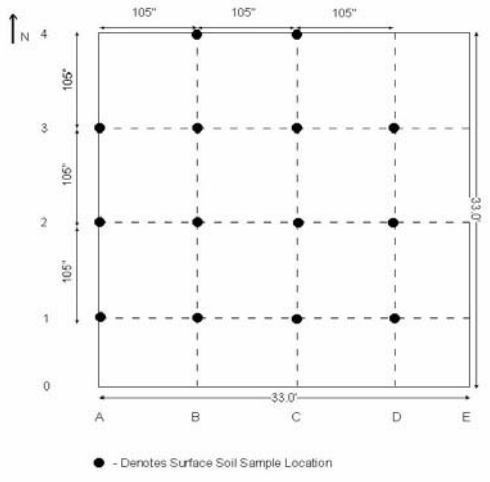


Figure 8 Background Reference Area Reference Coordinate System Diagram



5.9 RADIOLOGICAL SURVEY METHODS

5.9.1 Summary

The area on the hill skirting the Open Detonation Pit area on the east in addition to the entire perimeter around the two soil piles (out to a distance of 10 feet) and recently placed soil stockpile (out to a distance of 10 feet) were 100 % gamma scan surveyed using a UXO anomaly avoidance protocol. 15 systematic surface soil samples with a random starting point were also collected on the hill which skirts the Open Detonation Pit area to the east (defined as 0-15 cm or 0-5.91-in. below ground surface). Figure 5 shows the locations of the fifteen surface samples for the hill.

5.9.2 Gamma Scans of Land Areas

Gamma count rate responses were used to determine whether specific areas exhibited activity levels that were significantly above site-specific background levels. Gross gamma count rates were measured using a 2" by 2" sodium iodide (NaI) gamma scintillation detector system (Ludlum Instruments Model 2350-1 Data Logger coupled to a Ludlum Instruments Model 44-10 NaI or the equivalent). This radiation detection system measures energies in the range of about 80 to 3,000 kilo electron volts (keV).

Scanning speeds were no greater than 0.5 m per second for gamma instruments. The detector was held within proximity of four inches or less from the surface being surveyed. The detector was moved back and forth in a serpentine pattern to ensure 100% coverage of the surface being surveyed. Audible indicators were used to identify locations having elevated levels of direct radiation.

5.9.3 Scanning Minimum Detectable Count Rate (MDCR)

The minimum detectable number of net source counts in the interval is given by S_i. Therefore, for an ideal observer, the number of source counts required for a specified level of performance can be arrived at by multiplying the square root of the number of background counts (determined to be ~ 12,000-13,000 cpm) by the detectability value associated with the desired performance (as reflected in d') as shown in the equation below:

$$S_i = d' \sqrt{b_i}$$

Where :

$d' = index\ of\ sensitivity\ (\alpha\ and\ \beta\ error)\ Table\ 6.5\ of\ MARSSIM$
$b_i = number\ of\ background\ counts\ in\ scan\ time\ interval$

$$d' = 3.28$$

$$b_i = 12,000\ (2/60)$$

$$b_i = 400$$

Therefore :

$$S_i = 3.28\sqrt{400}$$

$$S_i = 66$$

The MDCR is then calculated using the formula below:

$$MDCR = S_i\ x(60/i)$$

Where :
$i = scan\ time\ interval$

Therefore :

$MDCR = 66\ x(60/2)$
$MDCR = 1980\ cpm$

The $MDCR_{surveyor}$ may then be calculated assuming a surveyor efficiency (p) of 0.5 as follows:

$$MDCR_{SURVEYOR} = 1980/\sqrt{0.5}$$

$$MDCR_{SURVEYOR} = 2800\ cpm$$

For example, the determined background count rate at Area 1222 is approximately 12,000-13,000 cpm. The instrumentation uses a two second scan interval. Using an index of sensitivity of 3.28 (95% true positive rate and 5% false positive rate); the $MDCR_{surveyor}$ is 2800 cpm (or 14,800 cpm-gross).

5.9.4 Gamma Scan Action Level

The gamma scan Action Level was set at the $MDCR_{SURVEYOR}$ (Section 5.9.3). Any areas exceeding the action level during the surveys were further investigated. Surface soil samples were collected in these areas following remediation and sent to Paragon Analytics of Fort Collins, CO, a State of New Jersey certified laboratory for gamma spectroscopy analysis as part of the investigation.

5.9.5 Gamma Scan Minimum Detectable Concentrations (MDCs)

The estimated scan MDC's obtained from Table 6.7 in MARSSIM for 2" by 2" NaI detectors is:

2.8 pCi/g for Ra-226
56 pCi/g for U-238

5.9.6 Measurements of Soil Contamination

The number of soil samples taken from each of the survey units of the Reference Coordinate System on the impacted Class 1 area of the hill was 15 samples. 14 samples were collected in the non impacted background reference area as described under the heading of Number Of Samples/ Measurements in Section 4.5 of this report. The soil/sand samples collected from the open detonation pit hill and background reference area were analyzed by Paragon Analytics of Fort Collins, CO.

5.9.6.1 Surface Soil Samples

15 surface soil samples were collected from the systematic locations in each survey unit (See Figure 5) (does not include biased samples). Surface samples (defined as 0-15 cm or 0-5.91-in. below ground surface) were collected from each sampling location. 14 surface soil samples were collected from the background reference area (See Figure 8). The calculations that were used to obtain the number of required surface

samples are presented under the heading "Number Of Samples/Measurements" in Section 4.5 of this report.

Sampling equipment and tools were wiped down and surveyed after each sample to ensure no cross contamination occurred during the sampling process.

Approximately 500 to 700 grams or 1.102 to 1.54 pounds of soil were collected from each location. Samples were prepared by removing vegetation, rocks, and foreign objects exceeding ¼ inch in diameter. The samples, once prepared, were placed into an appropriate container and sealed. Collection methodology, chain of custody, and analysis requirements are detailed in NWT's Field Operating Procedures (FOP's) which are available upon request from New World Technology.

5.9.6.2 Minimum Detectable Activity

The samples were sent to a State of New Jersey certified laboratory, Paragon Analytic's laboratory in Fort Collins, CO for gamma spectral analysis.

Paragon analyzed the samples for the decay products of the Uranium-238 series i.e. Th-234, and the decay products of the Radium-226 series i.e. Pb-214, and Bi-214. Any other identified peaks found were also reported.

The laboratory utilized the gamma emissions from Th-234 a daughter product of Uranium-238 to determine the depleted uranium activity.

The samples were counted at the laboratory for the period of time, determined *a priori*, to achieve a Minimum Detectable Activity (MDA) of less than or equal to 1 pCi/gram for Ra-226 and 10 pCi/g for depleted uranium. This level of activity represents 33 % and 5 % of the specified DCGLs of 3.0 pCi/g and 186 pCi/g respectively.

5.9.7 Statistical Considerations

5.9.7.1 Demonstration of Compliance

When determining compliance with remediation goals, the entire site consisting of the survey units is examined. One measurement does not determine compliance. Rather, the site

data are examined statistically. The three compliance tests are summarized in Table 4. They include the following:

- Compare the largest site measurement to the smallest background measurement.

- Compare the average site measurement to the average background measurement.

- Use the Wilcoxon rank sum test (MARSSIM, Revision 1, August 2000) to determine if the site data (less background) exceed the DCGL.

Table 4 Statistical Comparisons With The DCGL

SURVEY RESULT	CONCLUSION
Difference between the largest survey measurement and the smallest background measurement is less than the DCGL.	Site meets release criterion.
Difference between the average survey measurement and the average background measurement is greater than the DCGL.	Site does not meet release criterion.
Difference between the average survey measurement and the average background measurement is less than the DCGL, but the difference between any site measurement and any background measurement exceeds the DCGL.	Site meets release criterion if Wilcoxon rank sum test is negative.

The Wilcoxon Rank Sum test was performed as described in MARSSIM, using $\alpha = ß = 0.05$. Each Survey Unit meeting the third condition in Table 4 was tested using this test. The test determined if the survey area's median Ra-226 and depleted uranium concentrations exceeds the background plus the DCGL.

5.9.7.2 Null Hypothesis

Using the MARSSIM methodology, the null hypothesis is stated as "the residual activity in the survey unit exceeds the release criteria" (Revision 1, August 2000). Thus, in order to pass the survey unit (that is, release the area), the null

hypothesis must be rejected. If necessary, the Wilcoxon Rank-Sum test will be used on the soil data to test the null hypothesis.

5.9.7.3 Statistical Wilcoxon Rank Sum Test

The Wilcoxon Rank Sum test was used to compare two groups of data, to determine if there is a significant difference in the groups. Significance is measured by confidence levels (see Section 4.3).

For this case, the $DCGL_w$ was added to each of the background soil sample results that were obtained in the background reference area to obtain the adjusted reference area measurement Z_i.

The *m* adjusted reference sample measurements, Z_i, from the reference area and the *n* sample measurements, Y_i, from the survey unit were pooled and ranked in order of increasing size from 1 to N, where N = *m*+*n*. For this case N=28.

If several measurements were tied *(i.e.*, have the same value), they were all assigned the average rank of that group of tied measurements.

If there are *t* "less than" values, they are all given the average of the ranks from 1 to *t*. Therefore, they are all assigned the rank t(t+1)/(2t) = (t+1)/2, which is the average of the first *t* integers. If there is more than one detection limit, all observations below the largest detection limit should be treated as "less than" values.

The ranks of the adjusted measurements from the background reference area are then summed, W_r.

Since the sum of the first N integers is N(N+1)/2, one can equivalently sum the ranks of the measurements from the survey unit, W_s, and compute $W_r = N(N+1)/2 - W_s$.

Compare W_r with the critical value given in Table I.4 found in Appendix I of MARSSIM for the appropriate values of n, m, and α. If W_r is greater than the critical value, the hypothesis that the survey unit exceeds the release criterion is rejected.

For the case of *n >20* and *m >20* the critical value is calculated using the following equation.

$$m(n+m+1)/2 \; + \; z\sqrt{nm(n+m+1)/12}$$

For this case n=14 m=14 and α=0.05.

The calculated value of the Critical Value for this case is 239.

If the test shows that the first group is larger than the second, then the $DCGL_W$ is not met.

6.0 RADIOLOGICAL SURVEY FINDINGS AND RESULTS

6.1 GAMMA SCAN SURVEYS

6.1.1 Perimeter of Two Soil Piles

The entire perimeter around the two soil piles was 100 % gamma scan surveyed out to a distance of 10 feet. This distance was adequate to detect any runoff of radiological contaminants from the two soil piles. No areas exceeding the Gamma Scan Action Level as described under the heading Gamma Scan Action Level in Section 5.9.3 and 5.9.4 (i.e. 2,800 net-cpm or 14,800 cpm-gross) of this report was found during this survey. Gamma levels ranged between 7,000 cpm and 13,000 cpm.

6.1.2 Recently Placed Soil Stockpile

The entire surface of the recently placed soil stockpile and an area extending out a distance of 10 feet around the entire perimeter was 100 % gamma scan surveyed. This distance was adequate to detect any runoff of radiological contaminants from the soil stockpile. No areas exceeding the Gamma Scan Action Level as described under the heading Gamma Scan Action Level (i.e. 2,800 net-cpm or 14,800 cpm-gross) in Section 5.9.3 and 5.9.4 of this report was found during this survey. Gamma levels ranged between 7,000 cpm and 14,000 cpm.

6.1.3 Hill Adjacent to Open Detonation Pit

The entire surface of the hill area forming the eastern boundary of the open detonation pit area was 100 % gamma scan surveyed.

Five areas exceeding the Gamma Scan Action Level of 2800 net-cpm or 14,800 cpm-gross as described under the heading Gamma Scan Action Level in Section 5.9.4 of this report were found during this survey. These 5 areas ranged between 18,000 cpm and 110,000 cpm. All other areas ranged between 11,000 cpm and 14,000 cpm. Figure 9 presents a map of the locations of the elevated activity areas found during the gamma scan survey of the open detonation pit area hill.

6.1.4 Two Soil Piles

The two soil piles were 100% gamma scan surveyed using 2" by 2" NaI detectors coupled to data loggers by NWT in October/November 0f 2001. The range in readings on Soil Pile #1 (North Pile) was between 12,000 cpm and 26,000 cpm. The range in readings on Soil Pile #2 (South Pile) was between 12,000 cpm and 17,000 cpm. The results of the gamma scan surveys are provided in this report in Appendix H.

A surface soil sample was collected at biased locations from each of the soil piles. The samples were sent to the offsite laboratory for analysis by gamma spectroscopy for U-238 (depleted uranium). The results of the samples ranged between 1.1 pCi/g (Pile #1, North Pile), and 5.5 pCi/g (Pile #2, South Pile) for U-238. The sample locations and results are provided in this report in Appendix H.

6.2 SYSTEMATIC SOIL SAMPLES

6.2.1 Background Reference Area

A total of 14 surface soil samples were collected from the surface (within 6 inches) at systematically selected locations within the background reference area (see Figure 8). The samples were analyzed by gamma spectroscopy analysis. Table 5 presents a summary of the results. Appendix F presents the laboratory data for the samples.

6.2.2 Open Detonation Pit Hill

A total of 15 surface samples were obtained from the surface (within 6 inches) at systematically selected locations within the open detonation pit hill survey unit (see Figure 5). The samples were analyzed by gamma spectroscopy analysis. All of the sample results were below the DCGL's established for Ra-226 and

depleted uranium i.e. 3 pCi/g and 186 pCi/g respectively. Table 6 presents a summary of the soil sample results. Appendix F presents the laboratory data for the samples.

6.2.3 Soil Piles

A surface soil sample was collected at biased locations from each of the soil piles by NWT in October/November of 2001. The samples were sent to the offsite laboratory for analysis by gamma spectroscopy for U-238 (depleted uranium). The results of the samples ranged between 1.1 pCi/g (Pile #1, North Pile), and 5.5 pCi/g (Pile #2, South Pile) for U-238. The sample locations and results are provided in this report in Appendix H.

6.3 INVESTIGATIONS OF ELEVATED AREAS OF ACTIVITY

The five elevated areas of activity were remediated using hand tools. The depth required to remove the elevated areas was between six-inches and 18-inches. It was discovered during the investigation that discreet pieces of debris were the source of the elevated readings. The areas were re-surveyed following remediation, and found to be at background radiation levels. Figure 10 presents a photo of the discreet pieces of debris.

Figure 9 Elevated Activity Areas Map of Open Detonation Pit Area Hill

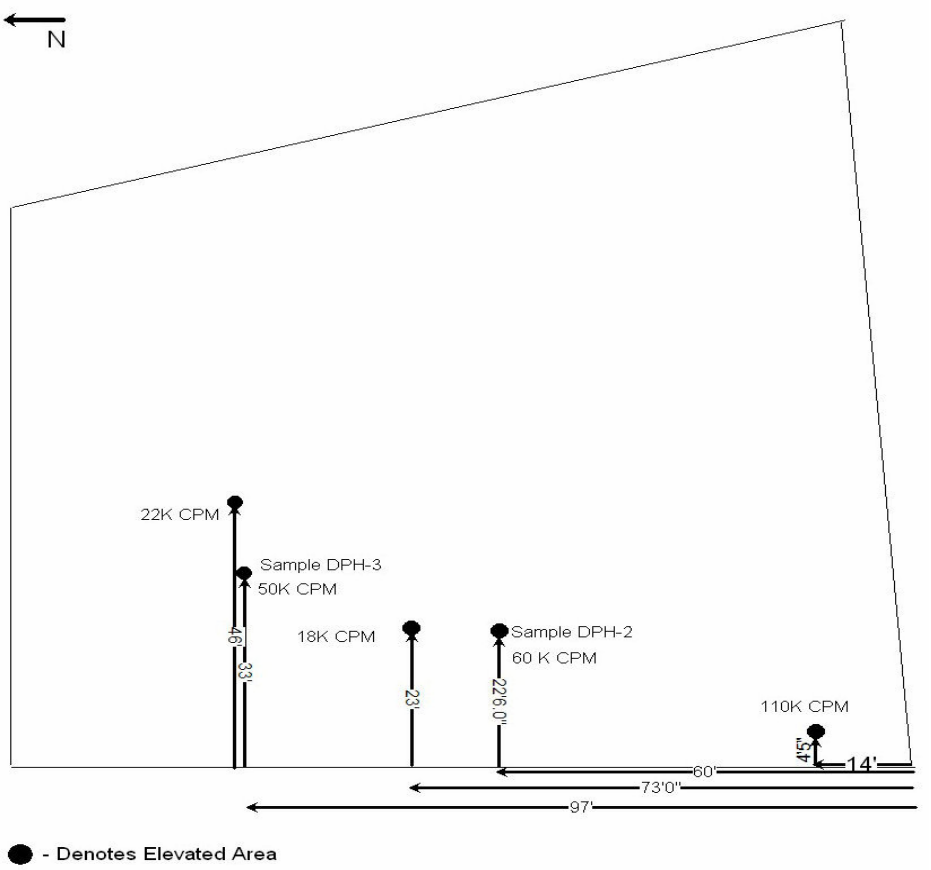


Figure 10 Debris Photo

Table 5 Background Reference Area Soil Sample Result Summary Table

		Results in pCi/g								
Sample ID	**Location**	**Bi-212**	**Bi-214**	**Cs-137**	**K-40**	**Pa-234m**	**Pb-212**	**Pb-214**	**Ra-226**	**Th-234**
B-A1	Reference Area	2.20	0.89	-0.06	23.70	0.00	0.84	0.69	0.92	1.70
B-A2	Reference Area	1.60	0.63	0.05	23.80	4.00	1.25	0.75	0.95	2.40
B-A3	Reference Area	2.50	1.30	-0.01	22.00	2.00	1.80	1.22	1.61	-0.50
B-B1	Reference Area	2.60	1.04	0.01	19.00	2.00	1.12	0.95	1.25	1.40
B-B2	Reference Area	2.20	0.70	0.01	19.80	5.00	1.03	0.78	0.98	0.70
B-B3	Reference Area	2.60	0.73	-0.03	18.90	8.00	1.12	0.97	1.11	-0.50
B-B4	Reference Area	0.90	0.55	-0.04	23.60	9.00	0.89	0.82	0.93	-0.90
B-C1	Reference Area	1.20	0.54	0.04	20.20	0.00	0.86	0.77	0.91	-0.10
B-C2	Reference Area	-0.60	0.68	0.06	18.20	9.00	0.87	0.82	0.99	0.80
B-C3	Reference Area	0.30	0.83	0.08	18.00	25.00	0.67	0.95	1.16	2.30
B-C4	Reference Area	1.90	0.50	0.01	24.30	-3.00	0.84	0.58	0.76	1.80
B-D1	Reference Area	2.30	0.82	-0.01	23.40	-2.00	0.66	0.97	1.16	1.10
B-D2	Reference Area	1.30	0.59	-0.05	21.90	4.00	0.88	1.00	1.13	0.90
B-D3	Reference Area	1.30	0.77	0.03	24.10	-1.00	0.87	0.60	0.89	0.90
Average:		**1.59**	**0.76**	**0.01**	**21.49**	**4.43**	**0.98**	**0.85**	**1.05**	**0.86**
Maximum:		**2.60**	**1.30**	**0.08**	**24.30**	**25.00**	**1.80**	**1.22**	**1.61**	**2.40**
Standard Deviation:		**0.94**	**0.22**	**0.04**	**2.38**	**7.10**	**0.29**	**0.17**	**0.21**	**1.04**

Table 6 Open Detonation Pit Hill Survey Unit Soil Sample Summary Table

		Results in pCi/g								
Sample ID	**Location**	**Bi-212**	**Bi-214**	**Cs-137**	**K-40**	**Pa-234m**	**Pb-212**	**Pb-214**	**Ra-226**	**Th-234**
DPH-A0	Detonation Pit East Hill	-0.5	0.56	-0.07	21.2	5	0.77	0.66	0.8	0.8
DPH-A1	Detonation Pit East Hill	2.2	1.19	0	22.6	-12	0.98	1.24	1.59	0.9
DPH-A2	Detonation Pit East Hill	1.5	0.88	0.02	22.7	5	1.12	0.87	1.19	0.1
DPH-B0	Detonation Pit East Hill	1.4	0.58	0.009	18.7	-2	1.13	0.7	0.85	1.2
DPH-B1	Detonation Pit East Hill	0	0.55	-0.01	19.6	-9	0.95	0.74	0.88	1.7
DPH-B2	Detonation Pit East Hill	1.4	1.22	0.08	22.6	-4	0.9	1.31	1.67	2.1
DPH-B3	Detonation Pit East Hill	0.7	0.63	0.23	19	7	0.95	0.52	0.7	1.6
DPH-C0	Detonation Pit East Hill	1.2	0.48	0.15	23.2	-7	0.8	0.68	0.78	1.1
DPH-C1	Detonation Pit East Hill	1.7	0.48	-0.03	23.2	-11	1.11	0.55	0.72	0
DPH-C2	Detonation Pit East Hill	1.8	1.33	0.03	22.4	-11	0.92	1.18	1.58	1.6
DPH-C3	Detonation Pit East Hill	1.8	0.42	0.06	19.8	0	1.1	0.46	0.58	1.6
DPH-D0	Detonation Pit East Hill	1	0.44	0.04	23	-3	0.67	0.47	0.62	0.8
DPH-D1	Detonation Pit East Hill	1.1	0.59	-0.02	17.4	5	1.2	0.85	0.95	0.6
DPH-D2	Detonation Pit East Hill	0.7	0.3	-0.06	19.1	0	1.01	0.66	0.68	1.6
DPH-D3	Detonation Pit East Hill	1.1	0.8	0.25	17.6	0	1.06	0.49	0.74	1.6
Average:		**1.14**	**0.70**	**0.05**	**20.81**	**-2.47**	**0.98**	**0.76**	**0.96**	**1.15**
Maximum:		**2.20**	**1.33**	**0.25**	**23.20**	**7.00**	**1.20**	**1.31**	**1.67**	**2.10**
Standard Deviation:		**0.71**	**0.32**	**0.10**	**2.14**	**6.42**	**0.15**	**0.28**	**0.37**	**0.61**

6.4 BIASED SOIL SAMPLES

A composite soil sample (DPH-1) was collected from the five areas remediated during the investigation of the elevated areas found during the gamma scan survey of the hill forming the eastern border of the open detonation pit. The sample was collected for the purpose of radionuclide identification. Two other biased samples (DPH-2 and DPH-3) were collected from two of the areas following remediation (see Figure 10). The samples were analyzed by gamma spectroscopy analysis. DPH-1 indicated the presence of depleted uranium and Ra-226 at levels of 26.4 and 13.6 pCi/g respectively. Table 7 presents a summary of the results. Appendix F presents the laboratory data for the samples.

Table 7 Biased Soil Sample Summary Table

		Results in pCi/g								
Sample ID	**Location**	**Bi-212**	**Bi-214**	**Cs-137**	**K-40**	**Pa-234m**	**Pb-212**	**Pb-214**	**Ra-226**	**Th-234**
DPH-2	Elevated Area Following Remediation	1.9	0.78	0.06	17.9	19	1.26	0.49	0.74	6.1
DPH-3	Elevated Area Following Remediation	2.1	0.75	-0.04	21.7	7	1.28	0.96	1.2	0.77
DPH-1	Composite of Elevated Areas Before Remediation	2.1	9.6	-0.1	19.2	49	1.45	11.2	13.6	26.4

6.5 STATISTICAL TEST

The Wilcoxon Rank-Sum test was used on the soil data to test the null hypothesis in accordance with Section 5.7.9.3 of this report.

The result of the test was that the null hypothesis was rejected and that the survey unit meets the release criteria. Table 8 and Table 9 present summaries of the Wilcoxon Rank Sum Test for Ra-226 and depleted uranium respectively.

Table 8 Wilcoxon Rank Sum Test Summary Table- Ra-226

Sample No.	Data pCi/g	Area	Adjusted Data	Ranks	Reference Area Ranks
B-A1	0.92	R	27501	19	19.0
B-A2	0.95	R	27501	21	21.0
B-A3	1.61	R	27502	29	29.0
B-B1	1.25	R	27501	28	28.0
B-B2	0.98	R	27501	22	22.0
B-B3	1.11	R	27501	24	24.0
B-B4	0.93	R	27501	20	20.0
B-C1	0.91	R	27501	18	18.0
B-C2	0.99	R	27501	23	23.0
B-C3	1.16	R	27501	26.5	26.5
B-C4	0.76	R	27501	16	16.0
B-D1	1.16	R	27501	26.5	26.5
B-D2	1.13	R	27501	25	25.0
B-D3	0.89	R	27501	17	17.0
DPH-A0	0.80	S	0.8	8	0
DPH-A1	1.59	S	1.6	14	0
DPH-A2	1.19	S	1.2	12	0
DPH-B0	0.85	S	0.9	9	0
DPH-B1	0.88	S	0.9	10	0
DPH-B2	1.67	S	1.7	15	0
DPH-B3	0.70	S	0.7	4	0
DPH-C0	0.78	S	0.8	7	0
DPH-C1	0.72	S	0.7	5	0
DPH-C2	1.58	S	1.6	13	0
DPH-C3	0.58	S	0.6	1	0
DPH-D0	0.62	S	0.6	2	0
DPH-D1	0.95	S	1.0	11	0
DPH-D2	0.68	S	0.7	3	0
DPH-D3	0.74	S	0.7	6	0
		SUM		**435**	**315**
		W_r =			**315**
		Critical Value =			**248**

Reject the null hypothesis - the survey unit meets the release criterion.

S- Denotes Survey Unit
R- Denotes Background Reference Area

Table 9 Wilcoxon Rank Sum Test Summary Table-Depleted Uranium

Sample No.	Data pCi/g	Area	Adjusted Data	Ranks	Reference Area Ranks
B-A1	1.70	R	27502	26	26.0
B-A2	2.40	R	27502	29	29.0
B-A3	-0.50	R	27500	17.5	17.5
B-B1	1.40	R	27501	25	25.0
B-B2	0.70	R	27501	20	20.0
B-B3	-0.50	R	27500	17.5	17.5
B-B4	-0.90	R	27499	16	16.0
B-C1	-0.10	R	27500	19	19.0
B-C2	0.80	R	27501	21	21.0
B-C3	2.30	R	27502	28	28.0
B-C4	1.80	R	27502	27	27.0
B-D1	1.10	R	27501	24	24.0
B-D2	0.90	R	27501	22.5	22.5
B-D3	0.90	R	27501	22.5	22.5
DPH-A0	0.80	S	0.8	4.5	0
DPH-A1	0.90	S	0.9	6	0
DPH-A2	0.10	S	0.1	2	0
DPH-B0	1.20	S	1.2	8	0
DPH-B1	1.70	S	1.7	14	0
DPH-B2	2.10	S	2.1	15	0
DPH-B3	1.60	S	1.6	11	0
DPH-C0	1.10	S	1.1	7	0
DPH-C1	0.00	S	0.0	1	0
DPH-C2	1.60	S	1.6	11	0
DPH-C3	1.60	S	1.6	11	0
DPH-D0	0.80	S	0.8	4.5	0
DPH-D1	0.60	S	0.6	3	0
DPH-D2	1.60	S	1.6	10.5	0
DPH-D3	1.60	S	1.6	11	0
		SUM		**435**	**315**
		W_r =			**315**
		Critical Value =			**248**

Reject the null hypothesis - the survey unit meets the release criterion.

S- Denotes Survey Unit
R- Denotes Background Reference Area

7.0 QUALITY ASSURANCE

The goal of quality assurance and quality control (QA/QC) is to identify and implement sampling and analytical methodologies that limit the introduction of error into analytical data. For the purposes of this report, a system is required to ensure that the radiological survey data is of the type and quality to support their intended use. Both the project and the corporate QA/QC programs are constructed to ensure that all quality and regulatory requirements are satisfied. Quality assurance issues related to data verification and reliability was handled according to approved and controlled Field Operating Procedures (FOPs) (Reference 7) and the Survey and Sampling Work Plan (Reference 8).

7.1 SURVEY PERSONNEL

Project management and supervisory personnel were required to have extensive experience with NWT procedures and be familiar with the requirements of MARSSIM, the Survey and Sampling Plan, related permits and documentation. Management personnel had prior experience with the radionuclide(s) of concern and a working knowledge of the instruments used to detect the radionuclides on site. Project management and supervision were required to maintain OSHA safety qualifications as safety is a primary concern of NWT.

NWT selected supervisory personnel to direct the survey based upon their experience and familiarity with the survey procedures and processes. Likewise, the Health Physics technicians who performed the surveys as well as the SUXOS who conducted the UXO anomaly avoidance procedures and REDECOM-ARDEC representative/contract interface were selected based upon their qualifications and experience.

7.2 TRAINING

All project personnel received site specific training to identify the specific hazards present in the work and survey areas. Training also included a briefing and review of the UXO anomaly avoidance protocol, the Survey and Sampling plan, NWT procedures, the Site Health and Safety Plan, the ARDEC Radiation Work Permit and the Contractor's Safety Permit.

During site orientation and training, survey personnel as well as the SUXO became familiar with site emergency procedures.

7.3 WRITTEN PROCEDURES

All survey tasks which were essential to survey data quality were controlled by NWT's field operating procedures, the Survey and Sampling work plan, Contractor's Safety Permit and Radiation Work Permit Number 04-10.

7.4 INSTRUMENT SELECTION, OPERATION, MAINTENANCE, AND CALIBRATION

NWT selected instruments proven and calibrated with a cesium-137 source to reliably detect the radionuclides in the Uranium-238 and Radium-226 series present in the impacted areas of Area 1222 in the gorge. Instruments will be calibrated by NWT or qualified vendors under approved procedures using calibration sources traceable to the National Institute of Standards and Technology (NIST).

All instruments and detectors were inspected and source checked daily when in use to verify proper operation. Control charts and/or source check criteria were established at the beginning of the project for reference.

Procedures for calibration, maintenance, accountability, operation and quality control of radiation detection instruments implement the guidelines established in American National Standard Institute (ANSI) standard ANSI N323-1978 and ANSI N42.17A-1989.

7.5 SAMPLE CHAIN OF COSTODY

Procedures establish responsibility for the custody of samples from the time of collection until results are obtained. When the samples were shipped off-site for analysis, they were accompanied by a chain-of-custody record to track each sample. Appendix G presents copies of the chain-of-custody records.

7.6 REVIEW OF SURVEY RESULTS

The survey package and survey data from each area was reviewed by two separate people to verify all documentation was complete and accurate. This included the surveyor and the Project Manager.

7.7 DATA ANALYSIS

The project manager reviewed survey data at the end of each survey to determine the validity of the results and adequate coverage of the survey area.

8.0 CONCLUSION AND RECOMMENDATIONS

The surface of the open detonation pit area as well as the surface of the hill bordering the open detonation pit to the east meet the surface release criteria for unrestricted use from a radiological aspect only. However, absolutely no work with the two piles to the north and south of the open detonation pit area or excavations requiring a depth of more that one foot below grade surface should be performed without radiological /UXO support. This would include using the two piles of potentially contaminated soil as backfill for creating earthen terrace walls or ridges or securing the base of the hill by backfilling a large portion of the area where the open detonation pit meets the base of the uninterrupted surface of the hillside. The goal of this might be for these structurally formed ridges/terraces to not only serve as small dams to break the potentially contaminated hill area along its contour into shorter ones but also to intercept the rainwater runoff that blasts across the hill in a down pour during a storm, slow it down, retard or stop erosion, guide it along the terraced paths into the existing settling pond where the lead would settle rather than impact the trout production brook, protect the water quality, bring the hill back into the landscape, make it look like an indigeneous feature and make it much more functional long term.

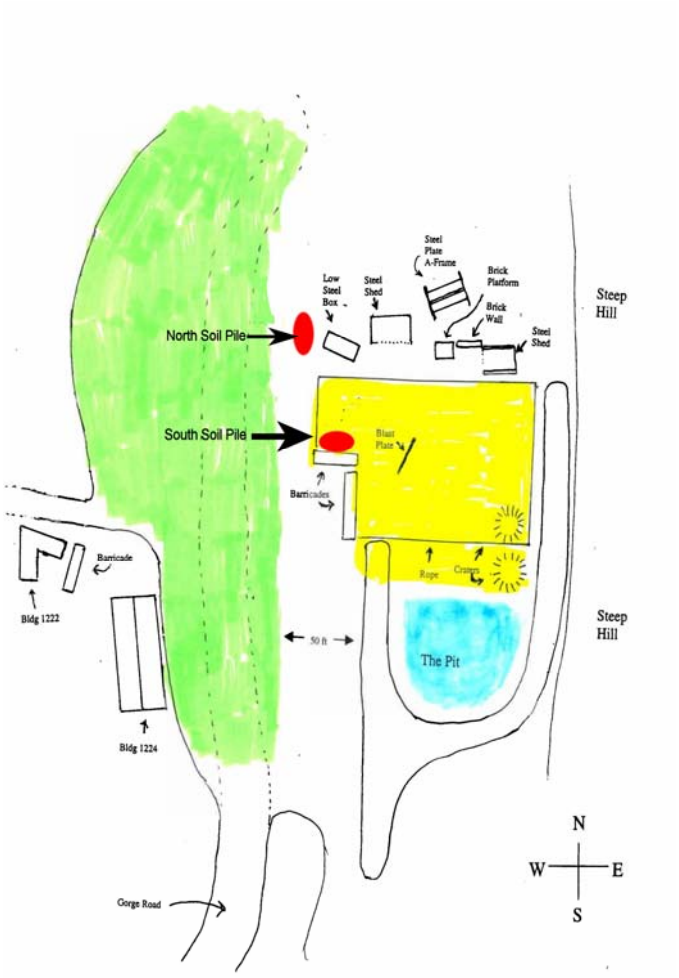
An endeavor such as the structural conservation control measure described in the paragraph above would require the presence of a health physics technician to conduct radiological surveys and sampling and UXO support for either, each foot lift of potentially contaminated soil to build up a ridge/terrace, or layer of soil that is peeled back for removal and/or relocation. Also recommended are thick steel plates to protect the surface area of the open detonation pit should it or portions of it be used in staging earth moving equipment to construct terraces or ridges on the impacted portion of the hill bordering the open detonation pit or backfilling the portion of the open detonation pit bordering the hill.

NWT also recommends that the recently placed soil stockpile be moved out of the open detonation pit area with radiological/UXO support and that the areas of elevated activity found in the north and south soil piles (see Figure 11 below) during NWT's previous survey performed in October/November of 2001 be investigated and remediated.

It is NWT's opinion, based on the possibility of extended penetration of detonation fragments into the soil, that the open detonation pit area as well as the hill bordering that pit would have to be 100% gamma scan surveyed and sampled in 1 foot layers in order to be subsequently released for unrestricted use from a radiological standpoint. According to the Army, since neither the extent nor

type(s) of prior DU testing in the Gorge detonation pit area can be accounted for, the depth of such a survey would be based on both an assessment of the depth to the frost line as well as consideration toward all types of explosive testing that had been conducted there. As a result such an approach would account for the deepest possible DU fragment penetration into the pit or hill as well.

Figure 11 North and South Soil Pile Diagram



9.0 ACKNOWLEDGEMENT

As a result of the effort by New World Technology, (NWT), Joseph Fabiano of the Research, Development and Engineering Command-Armaments Research, Development and Engineering Center, Picatinny, New Jersey and Mike Styvaert of the U.S. Army Field Support Command (AFSC). Rock Island, Illinois, area 1222 gorge open detonation pit area hill underwent a surficial radiological survey and sampling with limited remediation and removal of contaminated items in accordance with the work description of contract DAAA 09-03-D-0023/0015.

The intention was to determine the extent and magnitude of the decommissioning and remediation effort required to for example structurally design hillside terraces or ridges as a lead prevention and conservation control measure by excavating or adding soil with equipment spotted in the open detonation pit area while aspiring to have the gorge decommissioned and remediated to free release for unrestricted use i.e. eventual clean closure.

REFERENCES

1. "Multi-Agency Radiation Survey and Site Investigation Manual" (MARSSIM). NUREG-1575/ EPA402-R-97-016, Revision 1, August, 2000.

2. U.S. Nuclear Regulatory Commission, NUREG/CR 5512, *Residual Radioactive Contamination from Decommissioning*

3. U.S. Code of Federal Regulations, 10 CFR 20

4. "Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source, or Special Nuclear Materials (NRC 1987), Office of Nuclear Material Safety and Safeguards (NMSS)."

5. U.S. Nuclear Regulatory Commission, Draft Regulatory Guide DG-4006, August 1998, *Demonstrating Compliance With The Radiological Criteria For License Termination*

6. NUREG-1505. Nuclear Regulatory Commission (NRC). 1998. A Nonparametric Statistical Methodology for the Design and Analysis of the Final Status Decommissioning Survey. NUREG-1505, Rev.1

7. New World Technology, *Field Operations Procedures*

8. New World Technology, *Survey and Sampling Work Plan, Radiological Surveys and Sampling Area 1222, ARDEC, Picatinny Arsenal, New Jersey,* Revision 2, May 10, 2004.

Appendix A NWT NRC Broad Scope Radioactive Material License

Appendix B Radiation Work Permit

Appendix C Instrumentation Calibration Data

Appendix D Instrument Response Check Data

Appendix E UXO Report

Appendix F Laboratory Sample Analysis Data

Appendix G Sample Chain of Custody Records

Appendix H Soil Pile Survey/Sample Data

Appendix A NWT NRC Broad Scope Radioactive Material License

RC FORM 374

U.S. NUCLEAR REGULATORY COMMISSION

MATERIALS LICENSE

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 36, 39, 40, and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

Licensee	
1. New World Environmental, Incorporated dba: New World Technology	3. License Number 04-27745-01
2. 448 Commerce Way Livermore, California 94	4. Expiration date February 28, 2013
	5. Docket [illegible]30-36174 R[illegible]o.

6. Byproduct, source, and/or special nuclear material	7. [illegible] and/or physical [illegible]	8. Maximum amount that licensee may possess at any one time under this license
A. Any byproduct material listed in 10 CFR 33.100, Schedule A	[illegible] sources	A. As specified in 10 CFR 33.100, Schedule A, Column I
B. Any byproduct material listed in 10 CFR 33.100, Schedule A	B. Any sealed sources, plated sources, seeds, plaques, needles	B. Not to exceed 100 curies per source
C. Any byproduct material with Atomic Nos. 84-104	C. Any, except sealed sources	C. 1 curie total
D. Any byproduct material with Atomic Nos. 84-104	D. Any sealed sources, plated sources, seeds, plaques, needles	D. 1 curie total
E. Source material	E. Any	E. 10,000 kilograms
F. Special nuclear material	F. Any	F. 350 grams uranium-235, or 200 grams of plutonium, or 200 grams uranium-233, or any combination of these provided the sum of the ratios of the quantities does not exceed unity

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SUPPLEMENTARY SHEET

License Number
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Docket or Reference Number
030-36174

9. Authorized use:

A. through D. F. For receipt, storage, use, and or possession incidental to any activity as follows:

(1) Any activity related to site characterization, decontamination and decommissioning of facilities, equipment, and containers;

(2) Solidification and treatment of waste;

(3) Packaging and repackaging of customer waste for transport; and

(4) Transport packages or containers approved for use under the provisions of 10 CFR Part [illegible] transfer to persons authorized to receive the materials, in accordance with the terms and conditions of licenses issued by the NRC or an Agreement [illegible]

10. Licensed materials shall be used only at temporary job sites of the licensee anywhere in the United States where the U.S. Nuclear Regulatory Commission maintains jurisdiction for regulating the use of licensed material, including areas of exclusive federal jurisdiction within Agreement States. Except for calibration sources, reference standards, and radioactively contaminated equipment owned by the licensee, possession of licensed material at each temporary job site shall be limited to material originating from each site. This material must either be transferred to an authorized recipient or remain at the site after licensee activities are completed.

If the jurisdiction status of a federal facility within an Agreement State is unknown, the licensee should contact the federal agency controlling the job site in question to determine whether the proposed job site is an area of exclusive federal jurisdiction. Authorization for use of radioactive materials at job sites in Agreement States not under exclusive federal jurisdiction shall be obtained from the appropriate state regulatory agency.

11. A. Licensed material shall be used by, or under the supervision of, individuals designated in writing by the Radiation Safety Officer, Donald "Doc" Dennis.

B. The Radiation Safety Officer for this license is Donald "Doc" Dennis.

12. In addition to the possession limits in Item 8, the licensee shall further restrict the possession of licensed material to quantities below the limits specified in 10 CFR 30.72 which require consideration of the need for an emergency plan for responding to a release of licensed material.

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13. The licensee shall not take ownership of licensed material in excess of the possession limits in Item 8 without prior notification and written approval from the NRC.

14. The licensee shall notify the Regional Administrator, U.S. Nuclear Regulatory Commission, Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas [illegible] ATTN: Director, Division of Nuclear Material Safety, in writing at least 14 days before initiating activities under this license at a temporary job site, excluding routine packaging or repackaging for purposes of transporting and not requiring a job or site specific work package, and characterization and/or final surveys where radioactive materials and/or radiation are not likely to be detected. This notification shall include:

    A. The estimated type, quantity, and physical/chemical [illegible] of licensed material to be used;

    B. The specific site location;

    C. A description of planned [illegible] management and disposition;

    D. The estimated start date and completion date for the [illegible] and

    E. The name and title of a [illegible] contact for the job, including information on how to contact the individual.

15. This license does not authorize the use of licensed material at temporary job sites for uses already specifically authorized by a customer's license. If the customer also holds a license issued by the NRC or an Agreement State, the licensee shall establish a written agreement between the licensee and the customer specifying which licensee activities shall be performed under the customer's license and supervision, and which licensee activities shall be performed under the licensee's supervision pursuant to this license. The agreement shall include a commitment by the licensee and the customer to ensure safety, and any commitments by the licensee to help the customer clean up the temporary job site if there is an accident. A copy of this agreement shall be included in the notification required by License Condition 14.

16. The licensee shall maintain records of information important to decommissioning each temporary job site at the applicable job site pursuant to 10 CFR 30.35(g), 40.36(f), and 70.25(g). The records shall be made available to the customer upon request. At the completion of activities at a temporary job site, the licensee shall transfer these records to the customer for retention.

17. Pursuant to 10 CFR 30.11, 40.14, and License Condition 10., the licensee is exempted from the requirements of 10 CFR 30.35, 40.36, and 70.25 to establish decommissioning financial assurance.

18. If approved by a Radiation Safety Officer specifically identified in this license, the licensee may take reasonable action in an emergency that departs from conditions in this license when the action is

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immediately needed to protect public health and safety and no action consistent with all license conditions that can provide adequate or equivalent protection is immediately apparent. The licensee shall notify the NRC before, if practicable, and in any case immediately after taking such emergency action using the reporting procedure specified in 10 CFR 30.50 (c).

19. Within 30 days of completing decontamination and decommissioning activities at each job site location, the licensee shall notify the Regional Administrator, U.S. Nuclear Regulatory Commission, Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas 76011, ATTN: Director, Division of Nuclear Material Safety, in writing of the temporary job site status and the disposition of any licensed material used.

20. Sealed sources or detector cells containing licensed material shall not be opened or sources removed from source holders by the licensee.

21. A. Sealed sources and detector cells shall be tested for leakage and/or contamination at intervals not to exceed 6 months or at such other intervals as specified in the certificate of registration referred to in 10 CFR 32.210.

B. Notwithstanding Paragraph 21.A. of this condition, sealed sources designed to emit alpha particles shall be tested for leakage and/or contamination at intervals not to exceed 3 months.

C. In the absence of a certificate from a transferor indicating that a leak test has been made within 6 months prior to the transfer, a sealed source or detector cell received from another person shall not be put into use until tested.

D. Sealed sources need not be leak tested if:

(i) they contain only hydrogen-3; or

(ii) they contain only a radioactive gas; or

(iii) the half-life of the isotope is 30 days or less; or

(iv) they contain not more than 100 microcuries of beta and/or gamma emitting material or not more than 10 microcuries of alpha emitting material; or

(v) they are not designed to emit alpha particles, are in storage, and are not being used. However, when they are removed from storage for use or transferred to another person, and have not been tested within the required leak test interval, they shall be tested before use or transfer. No sealed source or detector cell shall be stored for a period of more than 10 years without being tested for leakage and/or contamination.

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E. The leak test shall be capable of detecting the presence of 0.005 microcuries of radioactive material on the test sample. If the test reveals the presence of 0.005 microcuries or more of removable contamination, a report shall be filed with the U.S. Nuclear Regulatory Commission in accordance with 10 CFR 30.50(b)(2), and the source shall be removed immediately from service and decontaminated, repaired, or disposed of in accordance with Commission regulations. The report shall be filed within 5 days of the date the leak test results are known with the U.S. Nuclear Regulatory Commission, Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas 76011, ATTN: Director, Division of Nuclear Materials Safety. The report shall specify the source involved, the test results, and corrective action taken.

F. Tests for leakage and/or contamination shall be performed by the licensee or by other persons specifically licensed by the Commission or an Agreement State to perform such services.

21. The licensee shall conduct a physical inventory every 6 months to account for all sources and/or devices received and possessed under the license.

22. The licensee is authorized to transport licensed material only in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material."

23. This license does not authorize the import of byproduct material wastes.

24. Except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents, including any enclosures, listed below. The U.S. Nuclear Regulatory Commission's regulations shall govern unless the statements, representations, and procedures in the licensee's application and correspondence are more restrictive than the regulations.

A. Application dated May 10, 2002
B. Letter dated August 16, 2002
C. Letter dated November 5, 2002
D. Letter dated February 21, 2003

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Date: February 27, 2003

By: /RA/
Jack E. Whitten, Senior Materials Analyst

Appendix B Radiation Work Permit

PROVISIONAL RADIATION WORK PERMIT NUMBER 04-10
EXPIRATION: 16 May 2004

Part I. Request for Work Permit

Type of Radiation: Alpha, Beta, Gamma

Locations: Area 1222, The Gorge.

Description of Operation: Radiological Remediation, Release Surveys, Sampling.

Name	TLD # Whole Body	TLD # (Extremity)
Dan Spicuzza	0109176	00009475
Alan Campillone	0216083	00018198
Brian Gerry	0111165	00003627
Charles Hutchison	0039383	00018198

Part II. Radiation Protection Officer (RPO)

Protective Clothing As Required					
	COVERALLS		GLOVES		BOOTIES

Special Instructions	
√	Whole body personnel dosimeters required.
√	No cuts or abrasions permitted on hands or forearms.
√	Personnel monitoring required before leaving area.
√	Instrument monitoring required at completion of work.
√	Cesium-137 Check Source stored in the Building 320 Cold Laboratory

✓ Approved ____ Disapproved

Date: 5-10-04 Signature of RPO Richard W. Flitzer

Date: 5-10-04 Signature of NWT Project Manager: Dan Spicuzza

Part III: Work Termination Statement

	Work was completed on	

Date: _____ Signature of Health Physicist: _____

Part IV: RPO Review and Comments:

Date: _____ Signature of RPO: _____

PROVISIONAL RADIATION WORK PERMIT NUMBER 04-10
EXPIRATION: 16 May 2004

This Radiation Work Permit only authorizes the designated New World Technology personnel to perform radiological surveys and sampling, limited remediation and possible removal of contaminated items on the hill adjacent to the open detonation pit area, the ground surrounding two contaminated piles of soil, and a pile of soil recently offloaded and encroaching on the controlled open detonation pit area located in Area 1222 (The Gorge).

Work will be performed in accordance to the Survey and Sampling Work Plan, Revision 1, April 29, 2004 under reciprocity with the Nuclear Regulatory Commission (NRC) or equivalent agreement state regulatory agency under New World Technology's NRC Broad Scope Radioactive Materials License # 04-27745-01.

Prerequisites:

The personnel identified in Part I of the Radiation Work Permit will:

a. Provide a copy of the U.S. Nuclear Regulatory Commission Materials License Number 04-27745-01.

b. Become familiar with the contents of this Radiation Work Permit.

c. Conspicuously post copies of this radiation work permit in the work area.

d. Adhere to good Health Physics practices.

e. Not eat, drink, or smoke in the affected government buildings, areas or cars.

f. Dispose of personal protective clothing as radioactive waste and return to the lab for disposal as radioactive waste.

g. Routinely monitor the bottom of hands and shoes for contamination.

h. Take necessary safety precautions against Hazardous Materials, such as lead.

i. Ensure building 320 and the Gorge, area 1222, are secured after entry or prior to departure and the gate key returned to Ron Walley or a designated key custodian in Building 617

j. Notify the RADIATION PROTECTION OFFICE, 1.973.724.3742 or extension 43742 if there are any changes or modifications requested to be made to the Radiation Work Permit as presented or if there are any questions concerning this action. Notify SECURITY at 1.973.724.6666 or extension 46666 if using an Arsenal telephone in the event of an emergency.

Joseph A. Fabiano

Joseph Fabiano
Health Physicist
System Safety and Radiation Group
Quality Evaluation and Safety Team
Quality Engineering Directorate
X3742

Appendix C Instrumentation Calibration Data

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.

CERTIFICATE OF CALIBRATION

CUSTOMER NEW WORLD TECHNOLOGY ORDER NO. 215102/281210

Mfg. Ludlum Measurements, Inc. Model 2350-1 Serial No. 95337

Cal. Date 3-May-04 Cal Due Date 3-May-05 Cal. Interval 1 Year Meterface n/a

Check mark ☑ applies to applicable Instr. and/or detector IAW mfg. spec. T. 75 °F RH 31 % Alt 703.8 mm Hg

☐ New Instrument Instrument Received ☑ Within Toler. +-10% ☐ 10-20% ☐ Out of Tol. ☐ Requiring Repair ☑ Other-See comments

☑ Mechanical check
☑ F/S Resp. check
☑ Audio check
☑ Ratemeter Linearity check
☑ Data Log check
☑ Reset check
☑ Alarm Setting check
☑ Integrated Dose check
☑ Overload check
☑ Window Operation
☑ Battery check (Min. Volt) 4.4 VDC
☑ Recycle Mode check
☑ Scaler Readout check
☑ Input Sens. Linearity
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 / 500 V Ref./Inst. 2000 / 1995 V

COMMENTS: *Firmware: 37122N28*

I/O FIRMWARE #37123N05.
CALIBRATED USING 39" CABLE.
NO "AS FOUNDS" FOR DETECTOR DUE TO NO DETECTOR SETUPS FOUND.

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	PR020381	1000	100	4 / 2	1.179794E-05	5.198121E+10	✓
Detector # 2	LMI44-10	PR020381	1000	100	7 / 1	1.179794E-05	1.000000E+00	
Detector # 3	PK/CS-137	PR020381	672	642	7 / 1	0.000000E+00	1.000000E+00	
Detector #								
Detector #								
Detector #								
Detector #								
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	39976 (0)	40010 (0)	400 cpm	40 (0)	40 (0)
	40 K cpm	3990 (0)	3994 (0)	40 cpm	4 (0)	4 (0)
	4 K cpm	399 (0)	400 (0)			

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 ☐ 720 ☐ 734 ☐ 1616 ☐ Neutron Am-241 Be S/N T-304

☐ Alpha S/N ☐ Beta S/N ☑ Other Am-241 ≈0.77μCi

☑ m 500 S/N 189509 ☑ Multimeter S/N 80820360

Calibrated By: Moses Campos Date 3-May-04

Reviewed By: Shannon Hoff Date 3 May 04

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 3-May-04 Order #. 215102/281210

Model 2350-1 Serial No. 95337 Detector 44-10 Serial No. PR020381

Source Cs-137 1.9 mC;

High Voltage 1000 V As Found N/A V. Input 10.00 mV As Found / mV.

Cal. Constant 5.198121E+10 as found /

Dead Time 1.179794E-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 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		1.91 mR/hr
1000		1.04 mR/hr
500	N/A	530 mR/hr
200		200 mR/hr
100		100 mR/hr

Other "No Detector Setup"

Signature Moses Campos Date 3-May-04

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 44-10 Serial No. PR020381

Customer NEW WORLD TECHNOLOGY Order #. 215102/281210

Counter 2350-1 Serial No. 95337 Counter Input Sensitivity 10.00 mV

Count Time 60 Sec B.G. / 6 sec Source Distance Source to Detector Surface

Other Cal Constant = 1.000000E+00 Dead Time = 1.179794E-05

High Voltage	Background	Isotope Am-241 Size ≈0.77 μC	Isotope Size	Isotope Size	Isotope Size
800	4100	10061			
850	4435	10858			
900	4450	12417			
950	4645	12757			
1000	4839	12794			
1050	4849	12801			
1100	5072	12820			
1150	5160	12843			
1200	5275	12856			

Signature Moses Campos Date 3-May-04

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.

CERTIFICATE OF CALIBRATION

CUSTOMER NEW WORLD TECHNOLOGY ORDER NO. 215102/281210

Mfg. Ludlum Measurements, Inc. Model 2350-1 Serial No. 134743

Cal. Date 3-May-04 Cal Due Date 3-May-05 Cal. Interval 1 Year Meterface n/a

Check mark ☑ applies to applicable instr. and/or detector IAW mfg. spec. T. 75 °F RH 31 % Alt 703.8 mm Hg

☐ New Instrument Instrument Received ☑ Within Toler. +-10% ☐ 10-20% ☐ Out of Tol. ☐ Requiring Repair ☑ Other-See comments

☑ Mechanical check
☑ F/S Resp. check ☑ Reset check ☑ Window Operation ☑ Input Sens. Linearity
☑ 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 / 500 V Ref./Inst. 2000 / 1997 V

COMMENTS: *Firmware: 37122N21*

I/O FIRMWARE #37123N05.
CALIBRATED USING 39" CABLE.
NO "AS FOUNDS" FOR DETECTOR DUE TO NO DETECTOR SETUPS FOUND.

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	PR685492	1000	100	4 / 2	1.116440E-05	5.094543E+10	✓
Detector # 2	LMI44-10	PR685492	1000	100	7 / 1	1.116440E-05	1.000000E+00	
Detector # 3	PK/CS-137	PR685492	682	642	7 / 1	0.000000E+00	1.000000E+00	
Detector #								
Detector #								
Detector #								
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	39993 (0)	40021 (0)	400 cpm	40 (0)	40 (0)
	40 K cpm	3990 (0)	3996 (0)	40 cpm	4 (0)	4 (0)
	4 K cpm	399 (0)	399 (0)			

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 ☐ 720 ☐ 734 ☐ 1616 ☐ Neutron Am-241 Be S/N T-304

☐ Alpha S/N ☐ Beta S/N ☑ Other Am-241/≈0.77μCi

☑ m 500 S/N 189509 ☑ Multimeter S/N 80820360

Calibrated By: Moses Cooper Date 3-May-04

Reviewed By: Shannon Sarchet Date 3 May 04

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 3-May-04 Order #. 215102/281210

Model 2350-1 Serial No. 134743 Detector 44-10 Serial No. PR685492

Source Cs-137 1.9 mC;

High Voltage 1000 V As Found N/A V. Input 10.00 mV As Found ____ mV.

Cal. Constant 5.094543E+10 as found ____

Dead Time 1.116440E-05 as found N/A

Alarm Setting: Ratemeter 1000000000.000000 as found ____

Scaler 1000000.000000 as found ____

Integrated dose 1000000000.0000 as found ____

Overload ☐ On ☐ Off as found ☐ On ☐ Off Window 1000 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 µR/hr		1.83 mR/hr
1000		1.00 mR/hr
500	N/A	.51 mR/hr
200		201 µR/hr
100 µR/hr		101 µR/hr

Other "No Detector Setup"

Signature Moses Campos Date 3-May-04

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.

CERTIFICATE OF CALIBRATION

CUSTOMER NEW WORLD TECHNOLOGY ORDER NO. 207840/277633

Mfg. Ludlum Measurements, Inc. Model 2350-1 Serial No. 142506

Cal. Date 15-Dec-03 Cal Due Date 15-Dec-04 Cal. Interval 1 Year Meterface n/a

Check mark ☑ applies to applicable instr. and/or detector IAW mfg. spec. T. 74 °F RH 20 % Alt 696.8 mm Hg

☐ New Instrument Instrument Received ☐ Within Toler. +-10% ☐ 10-20% ☐ Out of Tol. ☐ Requiring Repair ☑ Other-See comments

☑ Input Sens. Linearity

☑ Mechanical check
☑ F/S Resp. check
☑ Audio check
☑ Ratemeter Linearity check
☑ Data Log check
☑ Reset check
☑ Alarm Setting check
☑ Integrated Dose check
☑ Overload check
☑ Window Operation
☑ Battery check (Min. Volt) 4.4 VDC
☑ Recycle Mode 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 / 500 V Ref./Inst. 2000 / 1996 V

COMMENTS: *Firmware: 37122N24*

I/O FIRMWARE #37123N05
RESOLUTION FOR CS-137 IS 11%.
NO "AS FOUNDS" DUE TO CORROSION ON POWER SUPPLY BOARD.
CALIBRATED 44-10 USING 39" C-CABLE.
CALIBRATED G5-X USING 39" C-MHV 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	PR170611	1050	100	4 / 2	1.470773E-05	5.208084E+10	✓
Detector # 2	LMI44-10	PR170811	1050	100	7 / 1	1.470773E-05	1.000000E+00	
Detector # 3	PK/CS-137	PR170811	807	568	7 / 1	0.000000E+00	1.000000E+00	
Detector # 4	G5-X	B461V	950	100	7 / 1	0.000000E+00	1.000000E+00	
Detector #								
Detector #								
Detector #								
Detector #								
Detector #								
Detector #								

Units: 0 – rad, 1 – Grey, 2 – rem, 3 – Sv, 4 – R, 5 – C/Kg, 6 – Disintegrations, 7 – Counts, 8 – C/cm sq., 9 – Bq/cm sq.

Time Base: 0 – Seconds, 1 – Minutes, 2 – Hours

* See attached detector documentation, if applicable.

	REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*	REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*
Digital Readout	400 K cpm	/	40851 (c)	400 cpm	N/A	40 (c)
	40 K cpm	N/A	3994 (c)	40 cpm		4 (c)
	4 K cpm		395 (c)			

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 ☐ 720 ☐ 734 ☐ 1616 ☐ Neutron Am-241 Be S/N T-304

☐ Alpha S/N ☐ Beta S/N ☑ Other Am-241 0.77uCi/I-129 85470CPM

☑ m 500 S/N 189509 ☑ Multimeter S/N 80820360

Calibrated By: Date 15-Dec-03

Reviewed By: Date 19 DEC 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 15-Dec-03 Order #. 207840/277633

Model 2350-1 Serial No. 142506 Detector 44-10 Serial No. PR170811

Source Cs-137 1.9 mCi

High Voltage 1050 V As Found N/A V. Input 10.00 mV As Found ____ mV.

Cal. Constant 5.208084E+10 as found ____

Dead Time 1.470773E-05 as found ____

Alarm Setting: Ratemeter 1000000000.000000 as found ____

Scaler 1000000.000000 as found ____

Integrated dose 1000000000.0000 as found ____

Overload ☐ On ☑ Off as found ☐ On ☐ Off Window 1000 as found ____

N/A

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	N/A	1.95 mR/hr
1000		1.05 mR/hr
500		0.51 mR/hr
200		202 µR/hr
100		101 µR/hr

Other NO Detector Set-up

Signature Moses Campos Date 15-Dec-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 44-10 Serial No. PR170811

Customer NEW WORLD TECHNOLOGY Order #. 207840/277633

Counter 2350-1 Serial No. 142506 Counter Input Sensitivity 10.00 mV

Count Time 60 sec B.G / 6 sec Source Distance Source to Detector Surface

Other Cal Constant = 1.000000E+00 Dead Time = 1.470773E-05

High Voltage	Background	Isotope Am-241 Size ≈ 0.77 μCi	Isotope ____ Size ____	Isotope ____ Size ____	Isotope ____ Size ____
850	4309	3465			
900	4239	11977			
950	4710	14052			
1000	4694	14757			
→ 1050	4910	15053			
1100	4993	14989			
1150	4790	15144			
1200	5130	15341			

Signature Mark Camp Date 15-Dec-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 G5-X Serial No. B461V

Customer NEW WORLD TECHNOLOGY Order #. 207840/277633

Counter 2350-1 Serial No. 142506 Counter Input Sensitivity 10.00 mV

Count Time 60 sec B.G. / 6 sec source Distance Source to Detector Surface

Other Cal Constant = 1.000000E+00 Dead Time = 0.000000E+00

High Voltage	Background	Isotope ^{129}I Size ≈ 0.07 μCi	Isotope Size	Isotope Size	Isotope Size
750	2168	3402			
800	2214	3309			
850	2462	3587			
900	3178	3778			
950	3194	4065			
1000	5248	4237			
1050	8462	4243			
1100	14548	6680			

Signature Mona Campa Date 15-Dec-03

FORM C4A 04/09/2003

CERTIFICATE OF GAMMA STANDARD SOURCE

Radionuclide: Cs-137 Half-life: 30.174 ± 0.034Y

Customer: SAFETY SPECIALIST INC. P.O. No.: 8036

Catalog No.: 290 M Source No.: 173-6-18 Reference Date: JAN 1, 1988

Contained Radioactivity: 1.116 μCi

Description of Source

a. Capsule type: M

b. Nature of active deposit: EVAPORATED METALLIC SALTS

c. Active diameter: 3 mm

d. Backing: 9.23 mg/cm² KAPTON

e. Cover: 0.01" MYLAR

Radioimpurities

NONE DETECTED

Method of Calibration

(✓) The source was assayed by gamma spectrometry, integrating under the 0.662 Mev peak(s). The branching ratio(s) used was/~~were~~ 0.85 gamma rays per decay.

( ) The source was prepared from a weight aliquot of solution whose activity in uCi/gram was determined by the method above.

Uncertainty of Measurement

a. Systematic uncertainty in instrument calibration: ± 1.4 %

b. Random uncertainty

1. In assay: ± 1.1 %
2. In weighing(s): ± _____ %

c. Total Uncertainty: ± 2.5 % at the 99% confidence level.

NBS Traceability

This calibration is implicitly traceable to the National Bureau of Standards.

Notes

1. Nuclear data were taken from "Table of Isotopes", Seventh Edition, edited by C. Michael Lederer et al.
2. IPL participates in an NBS measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NBS certification) of Standard Reference Materials. (As in NRC Regulatory Guide 4.15)

Quality Control

ISOTOPE PRODUCTS LABORATORIES
1800 No. Keystone St., Burbank, California 91504
(818) 843-7000

Appendix D Instrument Response Check Data

DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project: Picatinny Area 1222 Surveys

DATE	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	CAL. DUE DATE	SOURCE I.D Cs-137	SOURCE ACTIVITY DPM	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.
5/10/2004	2350-1/44-10	134743/685492	N	5/3/2005	173-6-18	1,700,000	5000	50000	45000	N/A	P	DMS
5/11/2004	2350-1/44-10	134743/685492	N	5/3/2005	173-6-18	1,700,000	5000	50000	45000	N/A	P	DMS
5/12/2004	2350-1/44-10	134743/685492	N	5/3/2005	173-6-18	1,700,000	5000	50000	45000	N/A	P	DMS
5/13/2004	2350-1/44-10	134743/685492	N	5/3/2005	173-6-18	1,700,000	5000	50000	45000	N/A	P	DMS

DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project: Picatinny Area 1222 Surveys

DATE	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	CAL. DUE DATE	SOURCE I.D Cs-137	SOURCE ACTIVITY DPM	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.
5/10/2004	2350-1/44-10	142506/170811	N	12/15/2004	173-6-18	1,700,000	5000	50000	45000	N/A	P	DMS
5/11/2004	2350-1/44-10	142506/170811	N	12/15/2004	173-6-18	1,700,000	5000	50000	45000	N/A	P	DMS
5/12/2004	2350-1/44-10	142506/170811	N	12/15/2004	173-6-18	1,700,000	5000	50000	45000	N/A	P	DMS
5/13/2004	2350-1/44-10	142506/170811	N	12/15/2004	173-6-18	1,700,000	5000	50000	45000	N/A	P	DMS

DAILY INSTRUMENT PERFORMANCE TEST LOG SHEET

Project: Picatinny Area 1222 Surveys

DATE	MODEL/TYPE (Meter/Detector)	S/N (Meter/Detector)	PHYSICAL DAMAGE Y/N	CAL. DUE DATE	SOURCE I.D Cs-137	SOURCE ACTIVITY DPM	BACKGROUND CPM	READING CPM	Net CPM	EFF. %	PASS/ FAIL (P/F)	TECH. INIT.
5/10/2004	2350-1/44-10	95337/020381	N	5/3/2005	173-6-18	1,700,000	5000	50000	45000	N/A	P	DMS
5/11/2004	2350-1/44-10	95337/020381	N	5/3/2005	173-6-18	1,700,000	5000	50000	45000	N/A	P	DMS
5/12/2004	2350-1/44-10	95337/020381	N	5/3/2005	173-6-18	1,700,000	5000	50000	45000	N/A	P	DMS
5/13/2004	2350-1/44-10	95337/020381	N	5/3/2005	173-6-18	1,700,000	5000	50000	45000	N/A	P	DMS

Appendix E UXO Report

Shaw Environmental and Infrastructure

Unexploded Ordnance Report For Picatinny Arsenal, NJ

Report Tracking Number: SHAW 05142004

Discovery and Reporting Time

Time of Discovery	
Date	Time
05/11-05/14	Various

Time Reported to Picatinny	
Date	Time
05/14/2004	1600

Employee Name Charlie Hutchison, SUXOS Reported to Picatinny Safety Office

Cell: 850-723-8154 Charles.Hutchison@Shawgrp.com Names: Joe Fabiano and Ed Pinson

[redacted] Home: phone [redacted]

Location of Ordnance

All items are within the Gorge Test Range. Please refer to the attached maps for locations. No apparent hazards to the public or local roadway travel. I have found ordnance and ordnance components incidental to my UXO avoidance/escort support My task was to provide a safe path for a rad survey conducted by New World Technology; POC Dan Spicuzza Cell# [redacted] DU fragments were found and sampled away. I would expect to find DU fragments within Gorge Range's max frag zone and beyond. FRIENDS: USE PPE when handling frag, it looks somewhat like steel frag, differences are: no rust, yet no sharp edges, soil clings, Lead (the metal) like weight is your red flag. Recommend using a rad meter on your hands and feet before you leave the range. If you're not familiar with the acronyms and abbreviations in this report you should get UXO/EOD escort when visiting this range. The Gorge is not a safe place for a walkabout.

	State Plane NAD 83 Coordinates are Available from Shaw Abington Office or Charlie's email	
Coordinates of Ordnance:	Northing	Easting
	Filed on CD	

Refer to attached Shape File or Data Base Files

CD and floppy are included with original. Report.

Picture Taken of Ordnance			
Yes	No	Date	Time
X		05/14/2004	1000

DESCRIPTION OF ORDNANCE: 40mm Ptce w/Fuze, armed condition; ½ M5 block C4; ½ M112 block C4; ¼ block C4, 2 ea. Fuze Booster, HE? Only, 8 ea. Pieces of sheet explosive, 2 ea. 37mm Projo, HE w/Fuze, Grenade M26 Body, filler unknown; 8in. Projo forward break at ogive, Filler unknown; Nose Fuze, Projo, M51, dets only; Fuze, Base, Nomenclature Unknown; Cap, Blasting, M6, unshunted (wires too short); 2 ea. M42 Submunition w/o Fuze, 40mm Projo w/unknown Base Fuze; 3 ea. 20mm Projo, w/nose Fuze, Unknown, 5 ea. 25mm Projo, HE w/Fuze; unknown; 2 ea. Subcaliber rocket? Munition w/Fuze, condition unknown; Hemisphere? Baseball Bomlet M64 or some such, 60mm Mortar, Bomb Fuze M101, CAUTION, Set demo charge NEAR bomblet body. Curiosity: Cannon ball, 12 and 20 pounder frag is evident. Classified components disposal is evident and successful by my eye. I say again. Do not wander without an EOD/UXO escort. BTW, the road's not a guarantee either.

Corrective Action Taken by Shaw Environmental and Infrastructure

Date	
05/11/04	6 items marked with orange pin flags
05/12/04	23 items marked with orange pin flags, left msg. And cell # 850-723-8154 w/ Ed Pinson
05/14/04	Items identified, surveyed, photographed and mapped into Arcview/GPS Pathfinder formats
05/14/04	UXO reported to Picatinny Safety office.

UXO Report Form

Appendix F Laboratory Sample Analysis Data

PARAGON ANALYTICS
225 Commerce Drive ◆ Fort Collins, CO 80524 ◆ (800) 443-1511 ◆ (970) 490-1511 ◆ FAX (970) 490-1522

June 18, 2004

Mr. Dan Spicuzza
New World Technology
3015 Navarre Ave, #203
Oregon, OH 43616

Re: Paragon Workorder: 04-05-152
Client Project Name: Picatinny
Client Project Number: GA00555

Dear Mr. Spicuzza:

Twenty soil samples were received from New World Technology on May 18, 2004. The samples were scheduled for Gamma Spectroscopy (pages 1-546) analysis. The results for this analysis are contained in the enclosed reports.

Thank you for your confidence in Paragon Analytics. Should you have any questions, please call.

Sincerely,

Paragon Analytics
Lance Steere
Senior Project Manager

LRS/ja
Enclosure: Report

Paragon Analytics

Sample Number(s) Cross-Reference Table

Paragon OrderNum: 0405152
Client Name: New World Technology
Client Project Name: Picatinny
Client Project Number: GA00555
Client PO Number: 40092

Client Sample	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
B-A1	0405152-1		SOIL	13-May-04	9:30
B-A2	0405152-2		SOIL	13-May-04	9:35
B-A3	0405152-3		SOIL	13-May-04	9:40
B-B1	0405152-4		SOIL	13-May-04	9:50
B-B2	0405152-5		SOIL	13-May-04	9:45
B-B3	0405152-6		SOIL	13-May-04	9:42
B-B4	0405152-7		SOIL	13-May-04	9:40
B-C1	0405152-8		SOIL	13-May-04	9:55
B-C2	0405152-9		SOIL	13-May-04	10:00
B-C3	0405152-10		SOIL	13-May-04	10:05
B-C4	0405152-11		SOIL	13-May-04	10:10
B-D1	0405152-12		SOIL	13-May-04	10:25
B-D2	0405152-13		SOIL	13-May-04	10:20
B-D3	0405152-14		SOIL	13-May-04	10:15
DPH-A0	0405152-15		SOIL	13-May-04	10:50
DPH-A1	0405152-16		SOIL	13-May-04	11:10
DPH-A2	0405152-17		SOIL	13-May-04	11:45
DPH-B0	0405152-18		SOIL	13-May-04	10:55
DPH-B1	0405152-19		SOIL	13-May-04	11:15
DPH-B2	0405152-20		SOIL	13-May-04	11:50

Paragon Analytics

Radiochemistry Case Narrative
Gamma Spectroscopy

New World Technology

Picatinny / GA00555

Paragon Work Order 0405152

1. The following report consists of analysis results for twenty soil samples received by Paragon on 5/18/04.
2. The results for these samples are reported on a 'dry weight' basis in units of pCi/gram.
3. These samples were prepared according to Paragon Analytics procedure PA SOP739R8. The samples were sealed in steel cans on 5/25/04 and stored for at least 21 days to allow Rn-222 to approach equilibrium with its progeny. The degree of ingrowth achieved prior to analysis on 6/15/04 is at least 97.8%. Conservatively assuming a radon emanation efficiency of approximately 50%, the effective radon progeny ingrowth for these samples would be greater than 98.9%.
4. The samples were analyzed for the presence of gamma emitting radionuclides according to Paragon Analytics procedure PA SOP713R8. The analyses were completed on 6/16/04.
5. PA has observed a reproducible low bias in Ra-226 results (about -30% for the geometry in question) when using a mixed gamma source for the calibration of HPGe detectors for solid samples. This bias is eliminated by calibration using a NIST traceable Ra-226 source in the same geometry and configuration as the samples.
6. The library used for calibration and analysis employs multiple peaks for the Ra-226 progeny, Pb-214 (352 and 295 keV) and Bi-214 (609 and 1120 keV). Using these peaks avoids the use of the problematic Ra-226 photopeak at 186 keV, which suffers from poorly resolvable interference from U-235 at the same energy. Final activity results for Ra-226 are calculated, using the uncertainty-weighted mean of the activities for the four photopeaks, by the Seeker gamma spectroscopy software assuming secular equilibrium.
7. Paragon Analytics has found there to be a significant low bias to Pb-214 and Bi-214 results when using a mixed nuclide gamma source for efficiency calibrations. The magnitude of this bias has been determined to be approximately 32% for Bi-214, and 23% for Pb-214. Therefore, any reported results for Pb-214 and Bi-214 are flagged with a "J" qualifier, indicating the activity values to be an estimated value. Results are reported without further qualification.
8. Duplicate analysis results 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 requirements. Elevated DER values may be attributable to sample inhomogeneity.

9. 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 abundance must be attained. Nuclides not meeting these requirements have been flagged with a "TI" qualifier.

10. There are cases where the sample density is less than the associated calibration standard density. Cases that exceed the limit of +/- 15% of the density of the calibration standard are flagged with a 'G', denoting a significant density difference between the sample and calibration standard. Consequently, the results may be biased high for the flagged results in this workorder. If requested, Paragon Analytics will perform a transmission spike in order to estimate a magnitude of this bias. The results are reported without further qualification.

11. **Th-234 concentrations are reported these samples as an indication of U-238 activity. Th-234 is assumed to be in secular equilibrium with its U-238. Consequently, depleted uranium concentrations can reasonably be assumed to be equal to the reported Th-234 activity.**

12. 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.

13. 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 certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Radiochemistry Instrument Technician — 6-30-04 Date

Radiochemistry Final Data Review — 6-30-04 Date

1

PARAGON ANALYTICS
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

Radiochemistry Data Package

Section 2

QC RESULTS SUMMARY

Gamma Spectroscopy Results

PAI 713 Rev 8

Method Blank Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Lab ID: GS040527-2MB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 25-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes

Final Aliquot: 215 g
Result Units: pCi/g
File Name: 040979D02A

Library: FANP

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14331-83-0	Ac-228	0.09 +/- 0.20	0.36	U
14391-76-5	Ag-110m	0.027 +/- 0.055	0.096	U
14682-66-7	Al-26	-0.035 +/- 0.063	0.163	U
14596-10-2	Am-241	0.13 +/- 0.40	0.71	U
13966-02-4	Be-7	-0.08 +/- 0.37	0.77	U
14913-49-6	Bi-212	0.81 +/- 0.75	1.04	U
14733-03-0	Bi-214	0.04 +/- 0.13	0.24	U,J
13982-30-4	Ce-139	-0.011 +/- 0.030	0.060	U
14762-78-8	Ce-144	-0.09 +/- 0.18	0.38	U
14093-03-9	Co-56	-0.02 +/- 0.10	0.22	U
13981-50-5	Co-57	0.001 +/- 0.031	0.058	U
13981-38-9	Co-58	-0.019 +/- 0.040	0.097	U
10198-40-0	Co-60	0.011 +/- 0.038	0.081	U
14392-02-0	Cr-51	0.37 +/- 0.40	0.62	U
13967-70-9	Cs-134	-0.006 +/- 0.066	0.128	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.

M - Requested MDC not met.

B - Analyte concentration greater than MDC.

B3 - Analyte concentration greater than MDC but less than Requested MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Method Blank Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Lab ID: GS040527-2MB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 25-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes

Final Aliquot: 215 g
Result Units: pCi/g
File Name: 040979D02A

Library: FANP

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
10045-97-3	Cs-137	-0.030 +/- 0.053	0.120	U
14683-23-9	Eu-152	0.11 +/- 0.27	0.51	U
15585-10-1	Eu-154	0.39 +/- 0.37	0.53	U
14391-16-3	Eu-155	0.10 +/- 0.14	0.22	U
14596-12-4	Fe-59	-0.057 +/- 0.081	0.213	U
10043-66-0	I-131	-0.019 +/- 0.049	0.101	U
13966-00-2	K-40	0.37 +/- 0.86	1.53	U
13966-31-9	Mn-54	-0.002 +/- 0.056	0.114	U
13966-32-0	Na-22	0 +/- 0.042	0.098	U
14681-63-1	Nb-94	-0.040 +/- 0.073	0.150	U
13967-76-5	Nb-95	-0.006 +/- 0.057	0.116	U
15100-28-4	Pa-234m	-1.5 +/- 9.0	19.6	U
15092-94-1	Pb-212	0.005 +/- 0.080	0.149	U
15067-28-4	Pb-214	0.01 +/- 0.11	0.21	U,J
13967-48-1	Ru-106	0.06 +/- 0.45	0.88	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.

M - Requested MDC not met.

B - Analyte concentration greater than MDC.

B3 - Analyte concentration greater than MDC but less than Requested MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Method Blank Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Lab ID: GS040527-2MB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 25-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes

Final Aliquot: 215 g
Result Units: pCi/g
File Name: 040979D02A

Library: FANP

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14683-10-4	Sb-124	0.043 +/- 0.068	0.115	U
14234-35-6	Sb-125	-0.03 +/- 0.16	0.32	U
13967-63-0	Sc-46	-0.040 +/- 0.054	0.128	U
15623-47-9	Th-227	-0.17 +/- 0.27	0.55	U
15065-10-8	Th-234	0.19 +/- 0.80	1.43	U
14913-50-9	Tl-208	0.024 +/- 0.066	0.120	U
15117-96-1	U-235	0.07 +/- 0.20	0.35	U
13982-39-3	Zn-65	-0.01 +/- 0.11	0.24	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.
M - Requested MDC not met.
B - Analyte concentration greater than MDC.
B3 - Analyte concentration greater than MDC but less than Requested MDC.

Abbreviations:

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

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Method Blank Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Lab ID: GS040527-2MB

Library: RA-226

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 25-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes

Final Aliquot: 215 g
Result Units: pCi/g
File Name: 040979D02B

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13982-63-3	Ra-226	0.01 +/- 0.14	0.26	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.
M - Requested MDC not met.
B - Analyte concentration greater than MDC.
B3 - Analyte concentration greater than MDC but less than Requested MDC.

Abbreviations:

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

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Laboratory Control Sample(s)

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Lab ID: GS040527-2ALCS

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 25-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes

Final Aliquot: 215 g
Result Units: pCi/g
File Name: 040948D10A

Library: ANALYTICAL

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
14596-10-2	Am-241	493 +/- 58	2	470	105	85 - 115	P
10198-40-0	Co-60	180 +/- 21	1	180	99.7	85 - 115	P
10045-97-3	Cs-137	189 +/- 22	1	176	108	85 - 115	P

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

Y2 - Chemical Yield outside default limits.

L - LCS Recovery below lower control limit.

H - LCS Recovery above upper control limit.

P - LCS Recovery within control limits.

M - The requested MDC was not met.

M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.

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.

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Laboratory Control Sample(s)

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Lab ID: GS040527-2LCS

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 25-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes

Final Aliquot: 215 g
Result Units: pCi/g
File Name: 041033D04A

Library: RA-226

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
13982-63-3	Ra-226	437 +/- 51	3	471	92.8	85 - 115	P,M3

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 is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS Recovery within control limits.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.

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.

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Duplicate Sample Results (DER)

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-A1
Lab ID: 0405152-1DUP

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 196 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040941D10A

CASNO	Analyte	Sample Result +/- 2 s TPU	Duplicate Result +/- 2 s TPU	DER	Control Limit	Lab Qualifiers
14331-83-0	Ac-228	0.66 +/- 0.43	0.59 +/- 0.34	0.12	2.13	U
14391-76-5	Ag-110m	-0.001 +/- 0.090	0.019 +/- 0.088	0.16	2.13	U
14682-66-7	Al-26	-0.015 +/- 0.075	-0.08 +/- 0.11	0.44	2.13	U
14596-10-2	Am-241	-0.29 +/- 0.59	-0.03 +/- 0.29	0.39	2.13	U
13966-02-4	Be-7	-0.08 +/- 0.96	0.22 +/- 0.78	0.24	2.13	U
14913-49-6	Bi-212	2.2 +/- 1.4	1.6 +/- 1.3	0.31	2.13	U
14733-03-0	Bi-214	0.69 +/- 0.25	0.68 +/- 0.27	0.04	2.13	J
13982-30-4	Ce-139	-0.015 +/- 0.075	-0.016 +/- 0.061	0.01	2.13	U
14762-78-8	Ce-144	-0.75 +/- 0.56	0.05 +/- 0.38	1.18	2.13	U
14093-03-9	Co-56	0.10 +/- 0.24	-0.12 +/- 0.29	0.58	2.13	U
13981-50-5	Co-57	0.029 +/- 0.074	0.010 +/- 0.051	0.22	2.13	U
13981-38-9	Co-58	0.07 +/- 0.12	-0.08 +/- 0.13	0.86	2.13	U
10198-40-0	Co-60	0.011 +/- 0.098	0.03 +/- 0.11	0.10	2.13	U
14392-02-0	Cr-51	-0.8 +/- 1.3	0.3 +/- 1.1	0.62	2.13	U
13967-70-9	Cs-134	0.06 +/- 0.64	-0.01 +/- 0.13	0.12	2.13	U
10045-97-3	Cs-137	-0.060 +/- 0.094	0.022 +/- 0.087	0.64	2.13	U
14683-23-9	Eu-152	0.20 +/- 0.41	0.16 +/- 0.58	0.06	2.13	U

Comments:

Duplicate 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.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
LT - Result is less than Request MDC, greater than sample specific MDC
M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside 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.
G - Sample density differs by more than 15% of LCS density.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
DER - Duplicate Error Ratio
BDL - Below Detection Limit
NR - Not Reported

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Duplicate Sample Results (DER)

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-A1
Lab ID: 0405152-1DUP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 196 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040941D10A

Library: FANP

15585-10-1	Eu-154	-0.03 +/- 0.47	0.20 +/- 0.53	0.32	2.13	U
14391-16-3	Eu-155	-0.05 +/- 0.31	0.05 +/- 0.21	0.25	2.13	U
14596-12-4	Fe-59	-0.11 +/- 0.24	-0.03 +/- 0.31	0.19	2.13	U
10043-66-0	I-131	1.3 +/- 1.2	0 +/- 1.1	0.74	2.13	U
13966-00-2	K-40	23.7 +/- 3.7	23.2 +/- 3.7	0.09	2.13	
13966-31-9	Mn-54	0.03 +/- 0.10	0.002 +/- 0.089	0.21	2.13	U
13966-32-0	Na-22	-0.02 +/- 0.11	-0.03 +/- 0.12	0.07	2.13	U
14681-63-1	Nb-94	0.023 +/- 0.092	-0.050 +/- 0.086	0.59	2.13	U
13967-76-5	Nb-95	0.03 +/- 0.11	0.12 +/- 0.12	0.56	2.13	U
15100-28-4	Pa-234m	0 +/- 16	-1 +/- 17	0.06	2.13	U
15092-94-1	Pb-212	0.84 +/- 0.23	0.84 +/- 0.19	0.02	2.13	
15067-28-4	Pb-214	0.69 +/- 0.20	0.63 +/- 0.20	0.18	2.13	J
13967-48-1	Ru-106	-0.14 +/- 0.90	-0.09 +/- 0.81	0.04	2.13	U
14683-10-4	Sb-124	-0.11 +/- 0.15	0.01 +/- 0.14	0.56	2.13	U
14234-35-6	Sb-125	-0.01 +/- 0.20	-0.02 +/- 0.19	0.05	2.13	U
13967-63-0	Sc-46	-0.06 +/- 0.11	-0.10 +/- 0.12	0.29	2.13	U
15623-47-9	Th-227	-1.41 +/- 0.87	-0.09 +/- 0.56	1.28	2.13	U
15065-10-8	Th-234	1.7 +/- 1.7	0.8 +/- 1.2	0.46	2.13	U
14913-50-9	Tl-208	0.26 +/- 0.11	0.22 +/- 0.12	0.28	2.13	

Comments:

Duplicate 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.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
LT - Result is less than Request MDC, greater than sample specific MDC
M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside 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.
G - Sample density differs by more than 15% of LCS density.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
DER - Duplicate Error Ratio
BDL - Below Detection Limit
NR - Not Reported

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Duplicate Sample Results (DER)

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-A1
Lab ID: 0405152-1DUP

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 196 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040941D10A

15117-96-1	U-235	-0.41 +/- 0.50	-0.56 +/- 0.40	0.23	2.13	U
13982-39-3	Zn-65	0.46 +/- 0.29	-0.14 +/- 0.29	1.47	2.13	U,W

Comments:

Duplicate 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.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
LT - Result is less than Request MDC, greater than sample specific MDC
M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside 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.
G - Sample density differs by more than 15% of LCS density.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
DER - Duplicate Error Ratio
BDL - Below Detection Limit
NR - Not Reported

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Duplicate Sample Results (DER)

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-C3
Lab ID: 0405152-10DUP

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 186 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040964D08A

CASNO	Analyte	Sample Result +/- 2 s TPU	Duplicate Result +/- 2 s TPU	DER	Control Limit	Lab Qualifiers
14331-83-0	Ac-228	1.49 +/- 0.74	0.46 +/- 0.41	1.22	2.13	U
14391-76-5	Ag-110m	-0.01 +/- 0.14	-0.031 +/- 0.096	0.13	2.13	U
14682-66-7	Al-26	-0.004 +/- 0.079	-0.05 +/- 0.14	0.30	2.13	U
14596-10-2	Am-241	0.07 +/- 0.19	-0.05 +/- 0.17	0.46	2.13	U
13966-02-4	Be-7	-0.3 +/- 1.4	-0.7 +/- 1.0	0.22	2.13	U
14913-49-6	Bi-212	0.3 +/- 1.7	1.0 +/- 1.6	0.27	2.13	U
14733-03-0	Bi-214	0.83 +/- 0.38	0.72 +/- 0.32	0.21	2.13	J
13982-30-4	Ce-139	-0.062 +/- 0.073	0.004 +/- 0.068	0.67	2.13	U
14762-78-8	Ce-144	-0.40 +/- 0.49	0.19 +/- 0.41	0.93	2.13	U
14093-03-9	Co-56	0 +/- 0.31	0.03 +/- 0.31	0.06	2.13	U
13981-50-5	Co-57	-0.040 +/- 0.059	0.011 +/- 0.053	0.65	2.13	U
13981-38-9	Co-58	0 +/- 0.13	0.05 +/- 0.14	0.30	2.13	U
10198-40-0	Co-60	0 +/- 0.11	0.03 +/- 0.10	0.17	2.13	U
14392-02-0	Cr-51	-0.1 +/- 1.9	-0.2 +/- 1.3	0.02	2.13	U
13967-70-9	Cs-134	0.01 +/- 0.11	0.01 +/- 0.10	0.02	2.13	U
10045-97-3	Cs-137	0.08 +/- 0.13	-0.005 +/- 0.096	0.52	2.13	U
14683-23-9	Eu-152	0.19 +/- 0.55	0.01 +/- 0.55	0.23	2.13	U

Comments:

Duplicate 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.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
LT - Result is less than Request MDC, greater than sample specific MDC
M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside 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.
G - Sample density differs by more than 15% of LCS density.

Abbreviations:
TPU - Total Propagated Uncertainty (see PAI SOP 743)
DER - Duplicate Error Ratio
BDL - Below Detection Limit
NR - Not Reported

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Duplicate Sample Results (DER)

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-C3
Lab ID: 0405152-10DUP

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 186 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040964D08A

15585-10-1	Eu-154	0 +/- 0.63	0.17 +/- 0.51	0.21	2.13	U
14391-16-3	Eu-155	0.30 +/- 0.22	-0.02 +/- 0.20	1.10	2.13	U
14596-12-4	Fe-59	0.25 +/- 0.47	0.04 +/- 0.33	0.37	2.13	U
10043-66-0	I-131	-0.6 +/- 1.5	-0.9 +/- 1.3	0.14	2.13	U
13966-00-2	K-40	18.0 +/- 4.6	22.5 +/- 4.6	0.68	2.13	
13966-31-9	Mn-54	0.13 +/- 0.11	0.09 +/- 0.12	0.25	2.13	U
13966-32-0	Na-22	0.11 +/- 0.13	0.02 +/- 0.12	0.51	2.13	U
14681-63-1	Nb-94	-0.01 +/- 0.15	0.10 +/- 0.10	0.56	2.13	U
13967-76-5	Nb-95	-0.06 +/- 0.18	0.04 +/- 0.17	0.42	2.13	U
15100-28-4	Pa-234m	25 +/- 22	7 +/- 16	0.67	2.13	U
15092-94-1	Pb-212	0.67 +/- 0.24	0.61 +/- 0.22	0.19	2.13	
15067-28-4	Pb-214	0.95 +/- 0.28	0.55 +/- 0.21	1.16	2.13	J
13967-48-1	Ru-106	-0.5 +/- 1.1	-0.9 +/- 1.2	0.20	2.13	U
14683-10-4	Sb-124	-0.15 +/- 0.16	-0.06 +/- 0.15	0.43	2.13	U
14234-35-6	Sb-125	0.12 +/- 0.22	-0.02 +/- 0.25	0.43	2.13	U
13967-63-0	Sc-46	0.09 +/- 0.14	-0.21 +/- 0.16	1.40	2.13	U
15623-47-9	Th-227	-0.10 +/- 0.50	0.19 +/- 0.49	0.43	2.13	U
15065-10-8	Th-234	2.3 +/- 1.3	1.5 +/- 1.1	0.48	2.13	U
14913-50-9	Tl-208	0.43 +/- 0.19	0.18 +/- 0.14	1.06	2.13	U

Comments:

Duplicate 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.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
LT - Result is less than Request MDC, greater than sample specific MDC
M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside 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.
G - Sample density differs by more than 15% of LCS density.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
DER - Duplicate Error Ratio
BDL - Below Detection Limit
NR - Not Reported

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Duplicate Sample Results (DER)

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-C3
Lab ID: 0405152-10DUP

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 186 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040964D08A

15117-96-1	U-235	0.13 +/- 0.49	-0.05 +/- 0.41	0.29	2.13	U
13982-39-3	Zn-65	-0.31 +/- 0.41	0.06 +/- 0.28	0.75	2.13	U

Comments:

Duplicate 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.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
LT - Result is less than Request MDC, greater than sample specific MDC
M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside 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.
G - Sample density differs by more than 15% of LCS density.

Abbreviations:
TPU - Total Propagated Uncertainty (see PAI SOP 743)
DER - Duplicate Error Ratio
BDL - Below Detection Limit
NR - Not Reported

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Duplicate Sample Results (DER)

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-A1
Lab ID: 0405152-1DUP

Library: RA-226

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 196 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040941D10B

CASNO	Analyte	Sample Result +/- 2 s TPU	Duplicate Result +/- 2 s TPU	DER	Control Limit	Lab Qualifiers
13982-63-3	Ra-226	0.92 +/- 0.22	0.88 +/- 0.23	0.11	2.13	LT

Comments:

Duplicate 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.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
LT - Result is less than Request MDC, greater than sample specific MDC
M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside 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.
G - Sample density differs by more than 15% of LCS density.

Abbreviations:
TPU - Total Propagated Uncertainty (see PAI SOP 743)
DER - Duplicate Error Ratio
BDL - Below Detection Limit
NR - Not Reported

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Duplicate Sample Results (DER)

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-C3
Lab ID: 0405152-10DUP

Library: RA-226

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 186 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040964D08B

CASNO	Analyte	Sample Result +/- 2 s TPU	Duplicate Result +/- 2 s TPU	DER	Control Limit	Lab Qualifiers
13982-63-3	Ra-226	1.16 +/- 0.30	0.78 +/- 0.24	1.00	2.13	LT

Comments:

Duplicate 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.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
LT - Result is less than Request MDC, greater than sample specific MDC
M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside 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.
G - Sample density differs by more than 15% of LCS density.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
DER - Duplicate Error Ratio
BDL - Below Detection Limit
NR - Not Reported

Data Package ID: *GSS0405152-1*

PARAGON ANALYTICS
Radiochemistry Data Package

3

Section 3

INDIVIDUAL SAMPLE RESULTS

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-A1
Lab ID: 0405152-1

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 172 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 041309D01A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14331-83-0	Ac-228	0.66 +/- 0.43	0.65	TI,G
14391-76-5	Ag-110m	-0.001 +/- 0.090	0.159	U,G
14682-66-7	Al-26	-0.015 +/- 0.075	0.146	U,G
14596-10-2	Am-241	-0.29 +/- 0.59	1.04	U,G
13966-02-4	Be-7	-0.08 +/- 0.96	1.70	U,G
14913-49-6	Bi-212	2.2 +/- 1.4	2.0	TI,G
14733-03-0	Bi-214	0.69 +/- 0.25	0.37	G,J
13982-30-4	Ce-139	-0.015 +/- 0.075	0.131	U,G
14762-78-8	Ce-144	-0.75 +/- 0.56	1.02	U,G
14093-03-9	Co-56	0.10 +/- 0.24	0.40	U,G
13981-50-5	Co-57	0.029 +/- 0.074	0.124	U,G
13981-38-9	Co-58	0.07 +/- 0.12	0.21	U,G
10198-40-0	Co-60	0.011 +/- 0.098	0.173	U,G
14392-02-0	Cr-51	-0.8 +/- 1.3	2.4	U,G
13967-70-9	Cs-134	0.06 +/- 0.64	1.07	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-A1
Lab ID: 0405152-1

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 172 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 041309D01A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
10045-97-3	Cs-137	-0.060 +/- 0.094	0.174	U,G
14683-23-9	Eu-152	0.20 +/- 0.41	0.70	U,G
15585-10-1	Eu-154	-0.03 +/- 0.47	0.85	U,G
14391-16-3	Eu-155	-0.05 +/- 0.31	0.54	U,G
14596-12-4	Fe-59	-0.11 +/- 0.24	0.46	U,G
10043-66-0	I-131	1.3 +/- 1.2	2.0	U,G
13966-00-2	K-40	23.7 +/- 3.7	2.0	G
13966-31-9	Mn-54	0.03 +/- 0.10	0.17	U,G
13966-32-0	Na-22	-0.02 +/- 0.11	0.19	U,G
14681-63-1	Nb-94	0.023 +/- 0.092	0.157	U,G
13967-76-5	Nb-95	0.03 +/- 0.11	0.19	U,G
15100-28-4	Pa-234m	0 +/- 16	28	U,G
15092-94-1	Pb-212	0.84 +/- 0.23	0.28	G
15067-28-4	Pb-214	0.69 +/- 0.20	0.31	G,J
13967-48-1	Ru-106	-0.14 +/- 0.90	1.59	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-A1
Lab ID: 0405152-1

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 172 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 041309D01A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14683-10-4	Sb-124	-0.11 +/- 0.15	0.27	U,G
14234-35-6	Sb-125	-0.01 +/- 0.20	0.36	U,G
13967-63-0	Sc-46	-0.06 +/- 0.11	0.20	U,G
15623-47-9	Th-227	-1.41 +/- 0.87	1.60	U,G
15065-10-8	Th-234	1.7 +/- 1.7	2.7	U,G
14913-50-9	Tl-208	0.26 +/- 0.11	0.16	G
15117-96-1	U-235	-0.41 +/- 0.50	0.91	U,G
13982-39-3	Zn-65	0.46 +/- 0.29	0.52	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-A1
Lab ID: 0405152-1

Library: RA-226

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 172 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 041309D01B

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13982-63-3	Ra-226	0.92 +/- 0.22	0.40	LT,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Duplicate Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-A1
Lab ID: 0405152-1DUP

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 196 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040941D10A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14331-83-0	Ac-228	0.59 +/- 0.34	0.68	U
14391-76-5	Ag-110m	0.019 +/- 0.088	0.151	U
14682-66-7	Al-26	-0.08 +/- 0.11	0.22	U
14596-10-2	Am-241	-0.03 +/- 0.29	0.51	U
13966-02-4	Be-7	0.22 +/- 0.78	1.35	U
14913-49-6	Bi-212	1.6 +/- 1.3	2.0	U
14733-03-0	Bi-214	0.68 +/- 0.27	0.39	J
13982-30-4	Ce-139	-0.016 +/- 0.061	0.107	U
14762-78-8	Ce-144	0.05 +/- 0.38	0.65	U
14093-03-9	Co-56	-0.12 +/- 0.29	0.52	U
13981-50-5	Co-57	0.010 +/- 0.051	0.087	U
13981-38-9	Co-58	-0.08 +/- 0.13	0.23	U
10198-40-0	Co-60	0.03 +/- 0.11	0.19	U

Comments:

Qualifiers/Flags:

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

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

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

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Duplicate Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-A1
Lab ID: 0405152-1DUP

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 196 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040941D10A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14392-02-0	Cr-51	0.3 +/- 1.1	1.9	U
13967-70-9	Cs-134	-0.01 +/- 0.13	0.22	U
10045-97-3	Cs-137	0.022 +/- 0.087	0.149	U
14683-23-9	Eu-152	0.16 +/- 0.58	0.99	U
15585-10-1	Eu-154	0.20 +/- 0.53	0.91	U
14391-16-3	Eu-155	0.05 +/- 0.21	0.36	U
14596-12-4	Fe-59	-0.03 +/- 0.31	0.55	U
10043-66-0	I-131	0 +/- 1.1	1.9	U
13966-00-2	K-40	23.2 +/- 3.7	2.2	
13966-31-9	Mn-54	0.002 +/- 0.089	0.156	U
13966-32-0	Na-22	-0.03 +/- 0.12	0.22	U
14681-63-1	Nb-94	-0.050 +/- 0.086	0.156	U
13967-76-5	Nb-95	0.12 +/- 0.12	0.19	U

Comments:

Qualifiers/Flags:

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

SQ - Spectral quality prevents accurate quantitation.
SI - Nuclide identification and/or quantitation is tentative.
TI - Nuclide identification is tentative.
R - Nuclide has exceeded 6 halflives.
G - Sample density differs by more than 15% of LCS density.

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

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Duplicate Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-A1
Lab ID: 0405152-1DUP

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 196 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040941D10A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
15100-28-4	Pa-234m	-1 +/- 17	31	U
15092-94-1	Pb-212	0.84 +/- 0.19	0.19	
15067-28-4	Pb-214	0.63 +/- 0.20	0.31	J
13967-48-1	Ru-106	-0.09 +/- 0.81	1.43	U
14683-10-4	Sb-124	0.01 +/- 0.14	0.24	U
14234-35-6	Sb-125	-0.02 +/- 0.19	0.34	U
13967-63-0	Sc-46	-0.10 +/- 0.12	0.22	U
15623-47-9	Th-227	-0.09 +/- 0.56	0.96	U
15065-10-8	Th-234	0.8 +/- 1.2	2.0	U
14913-50-9	Tl-208	0.22 +/- 0.12	0.18	
15117-96-1	U-235	-0.56 +/- 0.40	0.73	U
13982-39-3	Zn-65	-0.14 +/- 0.29	0.52	U,W

Comments:

Qualifiers/Flags:

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

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

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

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Duplicate Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-A1
Lab ID: 0405152-1DUP

Library: RA-226

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 196 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040941D10B

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13982-63-3	Ra-226	0.88 +/- 0.23	0.41	LT

Comments:

Qualifiers/Flags:

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

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

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

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-A2
Lab ID: 0405152-2

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 177 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 041310D01A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14331-83-0	Ac-228	0.89 +/- 0.31	0.62	G
14391-76-5	Ag-110m	0.006 +/- 0.084	0.148	U,G
14682-66-7	Al-26	-0.015 +/- 0.073	0.142	U,G
14596-10-2	Am-241	-0.40 +/- 0.63	1.11	U,G
13966-02-4	Be-7	0.80 +/- 0.91	1.47	U,G
14913-49-6	Bi-212	1.6 +/- 1.3	2.1	U,G
14733-03-0	Bi-214	0.63 +/- 0.26	0.36	G,J
13982-30-4	Ce-139	-0.005 +/- 0.077	0.134	U,G
14762-78-8	Ce-144	-0.06 +/- 0.58	1.00	U,G
14093-03-9	Co-56	0.08 +/- 0.22	0.37	U,G
13981-50-5	Co-57	-0.011 +/- 0.074	0.129	U,G
13981-38-9	Co-58	0 +/- 0.10	0.18	U,G
10198-40-0	Co-60	0.011 +/- 0.090	0.160	U,G
14392-02-0	Cr-51	0.5 +/- 1.3	2.1	U,G
13967-70-9	Cs-134	0.11 +/- 0.13	0.21	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-A2
Lab ID: 0405152-2

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 177 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 041310D01A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
10045-97-3	Cs-137	0.057 +/- 0.086	0.142	U,G
14683-23-9	Eu-152	0.07 +/- 0.40	0.72	U,G
15585-10-1	Eu-154	0.09 +/- 0.42	0.74	U,G
14391-16-3	Eu-155	0.07 +/- 0.32	0.55	U,G
14596-12-4	Fe-59	-0.14 +/- 0.27	0.50	U,G
10043-66-0	I-131	0 +/- 1.3	2.3	U,G
13966-00-2	K-40	23.8 +/- 3.7	2.0	G
13966-31-9	Mn-54	0.053 +/- 0.092	0.155	U,G
13966-32-0	Na-22	-0.03 +/- 0.11	0.20	U,G
14681-63-1	Nb-94	-0.011 +/- 0.092	0.162	U,G
13967-76-5	Nb-95	0.05 +/- 0.12	0.20	U,G
15100-28-4	Pa-234m	4 +/- 14	23	U,G
15092-94-1	Pb-212	1.25 +/- 0.28	0.32	G
15067-28-4	Pb-214	0.75 +/- 0.21	0.29	G,J
13967-48-1	Ru-106	-0.08 +/- 0.90	1.59	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-A2
Lab ID: 0405152-2

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 177 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 041310D01A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14683-10-4	Sb-124	-0.11 +/- 0.14	0.26	U,G
14234-35-6	Sb-125	0.05 +/- 0.21	0.37	U,G
13967-63-0	Sc-46	-0.06 +/- 0.11	0.21	U,G
15623-47-9	Th-227	-2.51 +/- 0.97	1.81	U,G
15065-10-8	Th-234	2.4 +/- 2.0	3.1	U,G
14913-50-9	Tl-208	0.42 +/- 0.12	0.15	G
15117-96-1	U-235	-0.29 +/- 0.51	0.90	U,G
13982-39-3	Zn-65	-0.16 +/- 0.25	0.46	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-A2
Lab ID: 0405152-2

Library: RA-226

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 177 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 041310D01B

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13982-63-3	Ra-226	0.95 +/- 0.23	0.38	LT,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-A3
Lab ID: 0405152-3

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 174 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 041025D04A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14331-83-0	Ac-228	1.26 +/- 0.46	0.87	G
14391-76-5	Ag-110m	0.027 +/- 0.090	0.164	U,G
14682-66-7	Al-26	0.012 +/- 0.084	0.178	U,G
14596-10-2	Am-241	-0.14 +/- 0.43	0.82	U,G
13966-02-4	Be-7	0 +/- 1.2	2.2	U,G
14913-49-6	Bi-212	2.5 +/- 1.5	1.9	G
14733-03-0	Bi-214	1.30 +/- 0.39	0.39	G,J
13982-30-4	Ce-139	0.051 +/- 0.078	0.129	U,G
14762-78-8	Ce-144	0 +/- 0.43	0.77	U,G
14093-03-9	Co-56	0.20 +/- 0.31	0.52	U,G
13981-50-5	Co-57	0.028 +/- 0.058	0.099	U,G
13981-38-9	Co-58	-0.05 +/- 0.14	0.29	U,G
10198-40-0	Co-60	-0.099 +/- 0.098	0.239	U,G
14392-02-0	Cr-51	-1.1 +/- 1.5	3.0	U,G
13967-70-9	Cs-134	-0.02 +/- 0.11	0.21	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-A3
Lab ID: 0405152-3

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 174 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 041025D04A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
10045-97-3	Cs-137	-0.009 +/- 0.095	0.184	U,G
14683-23-9	Eu-152	-0.62 +/- 0.60	1.38	U,G
15585-10-1	Eu-154	-0.24 +/- 0.55	1.15	U,G
14391-16-3	Eu-155	-0.17 +/- 0.25	0.48	U,G
14596-12-4	Fe-59	-0.21 +/- 0.33	0.70	U,G
10043-66-0	I-131	-0.5 +/- 1.3	2.6	U,G
13966-00-2	K-40	22.0 +/- 4.5	2.4	G
13966-31-9	Mn-54	-0.03 +/- 0.12	0.23	U,G
13966-32-0	Na-22	0.02 +/- 0.11	0.20	U,G
14681-63-1	Nb-94	-0.03 +/- 0.11	0.21	U,G
13967-76-5	Nb-95	-0.20 +/- 0.20	0.40	U,G
15100-28-4	Pa-234m	2 +/- 17	32	U,G
15092-94-1	Pb-212	1.80 +/- 0.36	0.28	G
15067-28-4	Pb-214	1.22 +/- 0.30	0.35	G,J
13967-48-1	Ru-106	-0.40 +/- 0.95	1.89	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-A3
Lab ID: 0405152-3

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 174 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 041025D04A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14683-10-4	Sb-124	-0.10 +/- 0.14	0.28	U,G
14234-35-6	Sb-125	0.03 +/- 0.23	0.42	U,G
13967-63-0	Sc-46	-0.03 +/- 0.13	0.25	U,G
15623-47-9	Th-227	-0.17 +/- 0.53	0.97	U,G
15065-10-8	Th-234	-0.5 +/- 1.5	2.7	U,G
14913-50-9	Tl-208	0.44 +/- 0.15	0.14	G
15117-96-1	U-235	0.46 +/- 0.46	0.73	U,G
13982-39-3	Zn-65	-0.05 +/- 0.25	0.50	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-A3
Lab ID: 0405152-3

Library: RA-226

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 174 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 041025D04B

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13982-63-3	Ra-226	1.61 +/- 0.33	0.44	G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-B1
Lab ID: 0405152-4

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 185 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040890D07A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14331-83-0	Ac-228	1.18 +/- 0.50	0.82	
14391-76-5	Ag-110m	-0.09 +/- 0.11	0.23	U
14682-66-7	Al-26	-0.01 +/- 0.13	0.29	U
14596-10-2	Am-241	-0.08 +/- 0.21	0.39	U
13966-02-4	Be-7	0.7 +/- 1.3	2.1	U
14913-49-6	Bi-212	2.6 +/- 2.4	3.6	U
14733-03-0	Bi-214	1.04 +/- 0.38	0.43	J
13982-30-4	Ce-139	-0.028 +/- 0.083	0.154	U
14762-78-8	Ce-144	-0.19 +/- 0.54	0.99	U
14093-03-9	Co-56	0.24 +/- 0.38	0.65	U
13981-50-5	Co-57	0.017 +/- 0.066	0.114	U
13981-38-9	Co-58	0.07 +/- 0.16	0.28	U
10198-40-0	Co-60	0.06 +/- 0.14	0.25	U
14392-02-0	Cr-51	-1.4 +/- 1.8	3.6	U
13967-70-9	Cs-134	0.049 +/- 0.086	0.186	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-B1
Lab ID: 0405152-4

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 185 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040890D07A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
10045-97-3	Cs-137	0.01 +/- 0.11	0.21	U
14683-23-9	Eu-152	-0.65 +/- 0.62	1.55	U
15585-10-1	Eu-154	-0.32 +/- 0.79	1.61	U
14391-16-3	Eu-155	0.01 +/- 0.24	0.43	U
14596-12-4	Fe-59	-0.38 +/- 0.45	0.98	U
10043-66-0	I-131	0.4 +/- 1.6	2.8	U
13966-00-2	K-40	19.0 +/- 4.5	2.6	
13966-31-9	Mn-54	0.06 +/- 0.13	0.24	U
13966-32-0	Na-22	-0.05 +/- 0.17	0.35	U
14681-63-1	Nb-94	0.12 +/- 0.11	0.17	U
13967-76-5	Nb-95	-0.04 +/- 0.16	0.31	U
15100-28-4	Pa-234m	2 +/- 23	44	U
15092-94-1	Pb-212	1.12 +/- 0.31	0.34	
15067-28-4	Pb-214	0.95 +/- 0.28	0.37	J
13967-48-1	Ru-106	0.2 +/- 1.2	2.1	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-B1
Lab ID: 0405152-4

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 185 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040890D07A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14683-10-4	Sb-124	0.01 +/- 0.17	0.31	U
14234-35-6	Sb-125	0.25 +/- 0.24	0.36	U
13967-63-0	Sc-46	-0.07 +/- 0.14	0.29	U
15623-47-9	Th-227	0.46 +/- 0.75	1.18	U
15065-10-8	Th-234	1.4 +/- 1.8	2.9	U
14913-50-9	Tl-208	0.50 +/- 0.21	0.26	
15117-96-1	U-235	-0.11 +/- 0.46	0.85	U
13982-39-3	Zn-65	0.25 +/- 0.33	0.54	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-B1
Lab ID: 0405152-4

Library: RA-226

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 185 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040890D07B

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13982-63-3	Ra-226	1.25 +/- 0.31	0.47	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-B2
Lab ID: 0405152-5

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 165 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040963D08A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14331-83-0	Ac-228	1.04 +/- 0.43	0.85	TI,G
14391-76-5	Ag-110m	-0.02 +/- 0.12	0.24	U,G
14682-66-7	Al-26	-0.01 +/- 0.16	0.32	U,G
14596-10-2	Am-241	0.07 +/- 0.18	0.31	U,G
13966-02-4	Be-7	-0.6 +/- 1.2	2.5	U,G
14913-49-6	Bi-212	2.2 +/- 2.0	3.1	U,G
14733-03-0	Bi-214	0.70 +/- 0.34	0.45	G,J
13982-30-4	Ce-139	0 +/- 0.076	0.137	U,G
14762-78-8	Ce-144	-0.40 +/- 0.42	0.85	U,G
14093-03-9	Co-56	0.03 +/- 0.36	0.68	U,G
13981-50-5	Co-57	0.039 +/- 0.053	0.088	U,G
13981-38-9	Co-58	-0.09 +/- 0.14	0.31	U,G
10198-40-0	Co-60	0.06 +/- 0.12	0.22	U,G
14392-02-0	Cr-51	0.2 +/- 1.6	2.9	U,G
13967-70-9	Cs-134	0.10 +/- 0.13	0.22	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-B2
Lab ID: 0405152-5

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 165 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040963D08A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
10045-97-3	Cs-137	0.01 +/- 0.11	0.21	U,G
14683-23-9	Eu-152	-0.17 +/- 0.63	1.34	U,G
15585-10-1	Eu-154	-0.07 +/- 0.67	1.32	U,G
14391-16-3	Eu-155	-0.06 +/- 0.22	0.41	U,G
14596-12-4	Fe-59	-0.25 +/- 0.34	0.77	U,G
10043-66-0	I-131	0 +/- 1.5	2.7	U,G
13966-00-2	K-40	19.8 +/- 4.5	2.7	G
13966-31-9	Mn-54	-0.04 +/- 0.14	0.28	U,G
13966-32-0	Na-22	0.12 +/- 0.17	0.28	U,G
14681-63-1	Nb-94	-0.08 +/- 0.12	0.25	U,G
13967-76-5	Nb-95	0 +/- 0.15	0.28	U,G
15100-28-4	Pa-234m	5 +/- 23	43	U,G
15092-94-1	Pb-212	1.03 +/- 0.29	0.31	G
15067-28-4	Pb-214	0.78 +/- 0.26	0.37	G,J
13967-48-1	Ru-106	-1.0 +/- 1.2	2.4	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-B2
Lab ID: 0405152-5

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 165 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040963D08A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14683-10-4	Sb-124	0.22 +/- 0.18	0.28	U,G
14234-35-6	Sb-125	-0.02 +/- 0.25	0.48	U,G
13967-63-0	Sc-46	-0.07 +/- 0.15	0.31	U,G
15623-47-9	Th-227	-0.22 +/- 0.63	1.19	U,G
15065-10-8	Th-234	0.7 +/- 1.7	2.9	U,G
14913-50-9	Tl-208	0.35 +/- 0.17	0.23	G
15117-96-1	U-235	-0.30 +/- 0.45	0.87	U,G
13982-39-3	Zn-65	-0.29 +/- 0.39	0.79	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-B2
Lab ID: 0405152-5

Library: RA-226

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 165 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040963D08B

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13982-63-3	Ra-226	0.98 +/- 0.28	0.48	LT,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-B3
Lab ID: 0405152-6

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 163 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040971D02A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14331-83-0	Ac-228	0.43 +/- 0.39	0.56	U,G
14391-76-5	Ag-110m	0 +/- 0.079	0.156	U,G
14682-66-7	Al-26	-0.046 +/- 0.083	0.215	U,G
14596-10-2	Am-241	0.05 +/- 0.62	1.13	U,G
13966-02-4	Be-7	0 +/- 1.1	2.0	U,G
14913-49-6	Bi-212	2.6 +/- 1.5	1.8	TI,G
14733-03-0	Bi-214	0.73 +/- 0.32	0.39	G,J
13982-30-4	Ce-139	0.033 +/- 0.073	0.126	U,G
14762-78-8	Ce-144	0.40 +/- 0.51	0.83	U,G
14093-03-9	Co-56	0.35 +/- 0.30	0.45	U,G
13981-50-5	Co-57	-0.007 +/- 0.063	0.116	U,G
13981-38-9	Co-58	0.04 +/- 0.13	0.24	U,G
10198-40-0	Co-60	0 +/- 0.11	0.22	U,G
14392-02-0	Cr-51	-0.4 +/- 1.5	2.9	U,G
13967-70-9	Cs-134	-0.01 +/- 0.10	0.19	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-B3
Lab ID: 0405152-6

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 163 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040971D02A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
10045-97-3	Cs-137	-0.030 +/- 0.082	0.174	U,G
14683-23-9	Eu-152	0.36 +/- 0.38	0.53	U,G
15585-10-1	Eu-154	0.07 +/- 0.62	1.18	U,G
14391-16-3	Eu-155	-0.03 +/- 0.26	0.48	U,G
14596-12-4	Fe-59	-0.17 +/- 0.40	0.81	U,G
10043-66-0	I-131	-0.4 +/- 1.7	3.1	U,G
13966-00-2	K-40	18.9 +/- 4.2	2.6	G
13966-31-9	Mn-54	0.05 +/- 0.10	0.18	U,G
13966-32-0	Na-22	-0.09 +/- 0.13	0.29	U,G
14681-63-1	Nb-94	0 +/- 0.11	0.20	U,G
13967-76-5	Nb-95	-0.06 +/- 0.13	0.27	U,G
15100-28-4	Pa-234m	8 +/- 18	31	U,G
15092-94-1	Pb-212	1.12 +/- 0.29	0.29	G
15067-28-4	Pb-214	0.97 +/- 0.27	0.32	G,J
13967-48-1	Ru-106	0.18 +/- 0.82	1.53	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-B3
Lab ID: 0405152-6

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 163 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040971D02A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14683-10-4	Sb-124	0.11 +/- 0.14	0.24	U,G
14234-35-6	Sb-125	0.08 +/- 0.24	0.43	U,G
13967-63-0	Sc-46	0.08 +/- 0.13	0.21	U,G
15623-47-9	Th-227	-0.25 +/- 0.48	0.92	U,G
15065-10-8	Th-234	-0.5 +/- 1.5	2.8	U,G
14913-50-9	Tl-208	0.35 +/- 0.16	0.21	G
15117-96-1	U-235	0.11 +/- 0.49	0.87	U,G
13982-39-3	Zn-65	-0.20 +/- 0.27	0.59	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-B3
Lab ID: 0405152-6

Library: RA-226

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 163 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040971D02B

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13982-63-3	Ra-226	1.11 +/- 0.28	0.39	G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-B4
Lab ID: 0405152-7

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 172 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040938D03A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14331-83-0	Ac-228	1.07 +/- 0.44	0.63	G
14391-76-5	Ag-110m	0.03 +/- 0.12	0.22	U,G
14682-66-7	Al-26	-0.05 +/- 0.12	0.27	U,G
14596-10-2	Am-241	-0.17 +/- 0.71	1.28	U,G
13966-02-4	Be-7	0.2 +/- 1.2	2.2	U,G
14913-49-6	Bi-212	0.9 +/- 1.7	2.9	U,G
14733-03-0	Bi-214	0.55 +/- 0.34	0.49	G,J
13982-30-4	Ce-139	-0.012 +/- 0.083	0.150	U,G
14762-78-8	Ce-144	-0.34 +/- 0.48	0.92	U,G
14093-03-9	Co-56	0.09 +/- 0.32	0.58	U,G
13981-50-5	Co-57	0.018 +/- 0.073	0.128	U,G
13981-38-9	Co-58	-0.05 +/- 0.14	0.29	U,G
10198-40-0	Co-60	0.03 +/- 0.11	0.22	U,G
14392-02-0	Cr-51	0 +/- 1.6	2.9	U,G
13967-70-9	Cs-134	-0.08 +/- 0.15	0.30	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-B4
Lab ID: 0405152-7

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 172 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040938D03A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
10045-97-3	Cs-137	-0.04 +/- 0.12	0.24	U,G
14683-23-9	Eu-152	-0.41 +/- 0.70	1.50	U,G
15585-10-1	Eu-154	0.16 +/- 0.66	1.21	U,G
14391-16-3	Eu-155	0.21 +/- 0.28	0.47	U,G
14596-12-4	Fe-59	0.05 +/- 0.36	0.69	U,G
10043-66-0	I-131	-1.2 +/- 1.7	3.3	U,G
13966-00-2	K-40	23.6 +/- 4.9	2.9	G
13966-31-9	Mn-54	-0.04 +/- 0.10	0.21	U,G
13966-32-0	Na-22	0.02 +/- 0.15	0.28	U,G
14681-63-1	Nb-94	-0.24 +/- 0.14	0.31	U,G
13967-76-5	Nb-95	0.08 +/- 0.16	0.27	U,G
15100-28-4	Pa-234m	9 +/- 20	35	U,G
15092-94-1	Pb-212	0.89 +/- 0.28	0.32	G
15067-28-4	Pb-214	0.82 +/- 0.25	0.32	G,J
13967-48-1	Ru-106	-0.2 +/- 1.2	2.2	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-B4
Lab ID: 0405152-7

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 172 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040938D03A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14683-10-4	Sb-124	-0.17 +/- 0.17	0.35	U,G
14234-35-6	Sb-125	0.15 +/- 0.28	0.48	U,G
13967-63-0	Sc-46	0.03 +/- 0.18	0.32	U,G
15623-47-9	Th-227	-0.17 +/- 0.90	1.61	U,G
15065-10-8	Th-234	-0.9 +/- 1.8	3.2	U,G
14913-50-9	Tl-208	0.22 +/- 0.14	0.20	G
15117-96-1	U-235	0.07 +/- 0.48	0.84	U,G
13982-39-3	Zn-65	-0.20 +/- 0.37	0.74	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-B4
Lab ID: 0405152-7

Library: RA-226

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 172 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040938D03B

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13982-63-3	Ra-226	0.93 +/- 0.27	0.40	LT,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-C1
Lab ID: 0405152-8

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 188 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 041311D01A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14331-83-0	Ac-228	0.90 +/- 0.42	0.60	TI
14391-76-5	Ag-110m	-0.033 +/- 0.087	0.158	U
14682-66-7	Al-26	0 +/- 0.076	0.142	U
14596-10-2	Am-241	-0.36 +/- 0.62	1.08	U
13966-02-4	Be-7	1.02 +/- 0.92	1.46	U
14913-49-6	Bi-212	1.2 +/- 1.2	1.8	U
14733-03-0	Bi-214	0.54 +/- 0.23	0.36	J
13982-30-4	Ce-139	0.027 +/- 0.073	0.123	U
14762-78-8	Ce-144	-0.61 +/- 0.54	0.98	U
14093-03-9	Co-56	-0.01 +/- 0.23	0.40	U
13981-50-5	Co-57	-0.008 +/- 0.068	0.117	U
13981-38-9	Co-58	-0.07 +/- 0.12	0.21	U
10198-40-0	Co-60	0.018 +/- 0.088	0.154	U
14392-02-0	Cr-51	0.4 +/- 1.2	2.1	U
13967-70-9	Cs-134	-0.26 +/- 0.75	1.25	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-C1
Lab ID: 0405152-8

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 188 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 041311D01A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
10045-97-3	Cs-137	0.039 +/- 0.083	0.141	U
14683-23-9	Eu-152	-0.27 +/- 0.40	0.77	U
15585-10-1	Eu-154	-0.01 +/- 0.41	0.74	U
14391-16-3	Eu-155	-0.05 +/- 0.33	0.56	U
14596-12-4	Fe-59	-0.20 +/- 0.28	0.52	U
10043-66-0	I-131	-0.1 +/- 1.2	2.1	U
13966-00-2	K-40	20.2 +/- 3.3	1.9	
13966-31-9	Mn-54	-0.030 +/- 0.079	0.146	U
13966-32-0	Na-22	0.077 +/- 0.085	0.136	U
14681-63-1	Nb-94	-0.051 +/- 0.083	0.152	U
13967-76-5	Nb-95	0.11 +/- 0.11	0.17	U
15100-28-4	Pa-234m	0 +/- 12	22	U
15092-94-1	Pb-212	0.86 +/- 0.20	0.23	
15067-28-4	Pb-214	0.77 +/- 0.20	0.30	J
13967-48-1	Ru-106	-0.45 +/- 0.77	1.42	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-C1
Lab ID: 0405152-8

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 188 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 041311D01A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14683-10-4	Sb-124	-0.04 +/- 0.15	0.26	U
14234-35-6	Sb-125	0.09 +/- 0.21	0.35	U
13967-63-0	Sc-46	-0.05 +/- 0.10	0.19	U
15623-47-9	Th-227	-1.46 +/- 0.85	1.55	U
15065-10-8	Th-234	-0.1 +/- 1.4	2.4	U
14913-50-9	Tl-208	0.29 +/- 0.11	0.15	
15117-96-1	U-235	0.17 +/- 0.48	0.82	U
13982-39-3	Zn-65	0.46 +/- 0.30	0.52	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-C1
Lab ID: 0405152-8

Library: RA-226

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 188 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 041311D01B

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13982-63-3	Ra-226	0.91 +/- 0.22	0.40	LT

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-C2
Lab ID: 0405152-9

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 190 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 041026D04A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14331-83-0	Ac-228	0.81 +/- 0.47	0.61	TI
14391-76-5	Ag-110m	-0.083 +/- 0.095	0.200	U
14682-66-7	Al-26	0.011 +/- 0.078	0.164	U
14596-10-2	Am-241	0.08 +/- 0.42	0.75	U
13966-02-4	Be-7	0.20 +/- 0.81	1.48	U
14913-49-6	Bi-212	-0.6 +/- 1.5	2.9	U
14733-03-0	Bi-214	0.68 +/- 0.32	0.43	J
13982-30-4	Ce-139	0.002 +/- 0.053	0.097	U
14762-78-8	Ce-144	0.12 +/- 0.36	0.63	U
14093-03-9	Co-56	0.01 +/- 0.28	0.52	U
13981-50-5	Co-57	-0.003 +/- 0.045	0.083	U
13981-38-9	Co-58	-0.049 +/- 0.098	0.211	U
10198-40-0	Co-60	-0.005 +/- 0.088	0.182	U
14392-02-0	Cr-51	-0.8 +/- 1.2	2.4	U
13967-70-9	Cs-134	-0.01 +/- 0.13	0.23	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-C2
Lab ID: 0405152-9

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 190 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 041026D04A

Library: FANP

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
10045-97-3	Cs-137	0.059 +/- 0.088	0.147	U
14683-23-9	Eu-152	-0.06 +/- 0.49	1.00	U
15585-10-1	Eu-154	-0.23 +/- 0.50	1.06	U
14391-16-3	Eu-155	0.13 +/- 0.23	0.38	U
14596-12-4	Fe-59	-0.06 +/- 0.30	0.60	U
10043-66-0	I-131	-0.4 +/- 1.1	2.2	U
13966-00-2	K-40	18.2 +/- 3.8	2.0	
13966-31-9	Mn-54	-0.03 +/- 0.10	0.20	U
13966-32-0	Na-22	-0.09 +/- 0.12	0.26	U
14681-63-1	Nb-94	0.069 +/- 0.086	0.140	U
13967-76-5	Nb-95	-0.03 +/- 0.12	0.24	U
15100-28-4	Pa-234m	9 +/- 15	26	U
15092-94-1	Pb-212	0.87 +/- 0.25	0.28	
15067-28-4	Pb-214	0.82 +/- 0.24	0.31	J
13967-48-1	Ru-106	-0.59 +/- 0.94	1.89	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-C2
Lab ID: 0405152-9

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 190 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 041026D04A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14683-10-4	Sb-124	-0.08 +/- 0.15	0.28	U
14234-35-6	Sb-125	0.04 +/- 0.22	0.41	U
13967-63-0	Sc-46	0.02 +/- 0.10	0.20	U
15623-47-9	Th-227	0.08 +/- 0.44	0.78	U
15065-10-8	Th-234	0.8 +/- 1.1	1.8	U
14913-50-9	Tl-208	0.46 +/- 0.16	0.18	
15117-96-1	U-235	0.29 +/- 0.40	0.67	U
13982-39-3	Zn-65	-0.29 +/- 0.24	0.53	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-C2
Lab ID: 0405152-9

Library: RA-226

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 190 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 041026D04B

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13982-63-3	Ra-226	0.99 +/- 0.25	0.39	LT

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: PicatInny GA00555

Field ID: B-C3
Lab ID: 0405152-10

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 178 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040891D07A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14331-83-0	Ac-228	1.49 +/- 0.74	0.87	TI,G
14391-76-5	Ag-110m	-0.01 +/- 0.14	0.26	U,G
14682-66-7	Al-26	-0.004 +/- 0.079	0.203	U,G
14596-10-2	Am-241	0.07 +/- 0.19	0.33	U,G
13966-02-4	Be-7	-0.3 +/- 1.4	2.6	U,G
14913-49-6	Bi-212	0.3 +/- 1.7	3.1	U,G
14733-03-0	Bi-214	0.83 +/- 0.38	0.48	G,J
13982-30-4	Ce-139	-0.062 +/- 0.073	0.145	U,G
14762-78-8	Ce-144	-0.40 +/- 0.49	0.95	U,G
14093-03-9	Co-56	0 +/- 0.31	0.60	U,G
13981-50-5	Co-57	-0.040 +/- 0.059	0.114	U,G
13981-38-9	Co-58	0 +/- 0.13	0.25	U,G
10198-40-0	Co-60	0 +/- 0.11	0.23	U,G
14392-02-0	Cr-51	-0.1 +/- 1.9	3.6	U,G
13967-70-9	Cs-134	0.01 +/- 0.11	0.21	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-C3
Lab ID: 0405152-10

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 178 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040891D07A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
10045-97-3	Cs-137	0.08 +/- 0.13	0.23	U,G
14683-23-9	Eu-152	0.19 +/- 0.55	1.05	U,G
15585-10-1	Eu-154	0 +/- 0.63	1.26	U,G
14391-16-3	Eu-155	0.30 +/- 0.22	0.32	U,G
14596-12-4	Fe-59	0.25 +/- 0.47	0.80	U,G
10043-66-0	I-131	-0.6 +/- 1.5	3.0	U,G
13966-00-2	K-40	18.0 +/- 4.6	3.3	G
13966-31-9	Mn-54	0.13 +/- 0.11	0.15	U,G
13966-32-0	Na-22	0.11 +/- 0.13	0.20	U,G
14681-63-1	Nb-94	-0.01 +/- 0.15	0.28	U,G
13967-76-5	Nb-95	-0.06 +/- 0.18	0.35	U,G
15100-28-4	Pa-234m	25 +/- 22	30	U,G
15092-94-1	Pb-212	0.67 +/- 0.24	0.28	G
15067-28-4	Pb-214	0.95 +/- 0.28	0.33	G,J
13967-48-1	Ru-106	-0.5 +/- 1.1	2.2	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-C3
Lab ID: 0405152-10

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 178 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040891D07A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14683-10-4	Sb-124	-0.15 +/- 0.16	0.34	U,G
14234-35-6	Sb-125	0.12 +/- 0.22	0.38	U,G
13967-63-0	Sc-46	0.09 +/- 0.14	0.23	U,G
15623-47-9	Th-227	-0.10 +/- 0.50	0.93	U,G
15065-10-8	Th-234	2.3 +/- 1.3	2.7	U,G
14913-50-9	Tl-208	0.43 +/- 0.19	0.23	G
15117-96-1	U-235	0.13 +/- 0.49	0.85	U,G
13982-39-3	Zn-65	-0.31 +/- 0.41	0.85	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-C3
Lab ID: 0405152-10

Library: RA-226

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 178 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040891D07B

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13982-63-3	Ra-226	1.16 +/- 0.30	0.41	G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Duplicate Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-C3
Lab ID: 0405152-10DUP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 186 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040964D08A

Library: FANP

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14331-83-0	Ac-228	0.46 +/- 0.41	0.91	U
14391-76-5	Ag-110m	-0.031 +/- 0.096	0.193	U
14682-66-7	Al-26	-0.05 +/- 0.14	0.31	U
14596-10-2	Am-241	-0.05 +/- 0.17	0.31	U
13966-02-4	Be-7	-0.7 +/- 1.0	2.1	U
14913-49-6	Bi-212	1.0 +/- 1.6	2.8	U
14733-03-0	Bi-214	0.72 +/- 0.32	0.48	J
13982-30-4	Ce-139	0.004 +/- 0.068	0.122	U
14762-78-8	Ce-144	0.19 +/- 0.41	0.69	U
14093-03-9	Co-56	0.03 +/- 0.31	0.58	U
13981-50-5	Co-57	0.011 +/- 0.053	0.093	U
13981-38-9	Co-58	0.05 +/- 0.14	0.26	U
10198-40-0	Co-60	0.03 +/- 0.10	0.19	U

Comments:

Qualifiers/Flags:

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

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

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

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Duplicate Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-C3
Lab ID: 0405152-10DUP

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 186 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040964D08A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14392-02-0	Cr-51	-0.2 +/- 1.3	2.5	U
13967-70-9	Cs-134	0.01 +/- 0.10	0.19	U
10045-97-3	Cs-137	-0.005 +/- 0.096	0.185	U
14683-23-9	Eu-152	0.01 +/- 0.55	1.10	U
15585-10-1	Eu-154	0.17 +/- 0.51	0.94	U
14391-16-3	Eu-155	-0.02 +/- 0.20	0.37	U
14596-12-4	Fe-59	0.04 +/- 0.33	0.63	U
10043-66-0	I-131	-0.9 +/- 1.3	2.6	U
13966-00-2	K-40	22.5 +/- 4.6	2.0	
13966-31-9	Mn-54	0.09 +/- 0.12	0.20	U
13966-32-0	Na-22	0.02 +/- 0.12	0.24	U
14681-63-1	Nb-94	0.10 +/- 0.10	0.16	U
13967-76-5	Nb-95	0.04 +/- 0.17	0.30	U

Comments:

Qualifiers/Flags:

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

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

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

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Duplicate Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-C3
Lab ID: 0405152-10DUP

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 186 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040964D08A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
15100-28-4	Pa-234m	7 +/- 16	28	U
15092-94-1	Pb-212	0.61 +/- 0.22	0.26	
15067-28-4	Pb-214	0.55 +/- 0.21	0.30	J
13967-48-1	Ru-106	-0.9 +/- 1.2	2.4	U
14683-10-4	Sb-124	-0.06 +/- 0.15	0.28	U
14234-35-6	Sb-125	-0.02 +/- 0.25	0.47	U
13967-63-0	Sc-46	-0.21 +/- 0.16	0.36	U
15623-47-9	Th-227	0.19 +/- 0.49	0.84	U
15065-10-8	Th-234	1.5 +/- 1.1	2.1	U
14913-50-9	Tl-208	0.18 +/- 0.14	0.21	U
15117-96-1	U-235	-0.05 +/- 0.41	0.75	U
13982-39-3	Zn-65	0.06 +/- 0.28	0.51	U

Comments:

Qualifiers/Flags:

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

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

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

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Duplicate Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-C3
Lab ID: 0405152-10DUP

Library: RA-226

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 186 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040964D08B

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13982-63-3	Ra-226	0.78 +/- 0.24	0.39	LT

Comments:

Qualifiers/Flags:

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

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

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

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-C4
Lab ID: 0405152-11

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 177 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040942D10A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14331-83-0	Ac-228	0.58 +/- 0.34	0.73	U,G
14391-76-5	Ag-110m	0 +/- 0.10	0.18	U,G
14682-66-7	Al-26	0.040 +/- 0.092	0.160	U,G
14596-10-2	Am-241	-0.10 +/- 0.31	0.55	U,G
13966-02-4	Be-7	0.72 +/- 0.94	1.54	U,G
14913-49-6	Bi-212	1.9 +/- 1.5	2.3	U,G
14733-03-0	Bi-214	0.50 +/- 0.26	0.39	G,J
13982-30-4	Ce-139	0.031 +/- 0.070	0.117	U,G
14762-78-8	Ce-144	-0.14 +/- 0.44	0.77	U,G
14093-03-9	Co-56	-0.10 +/- 0.31	0.55	U,G
13981-50-5	Co-57	0.050 +/- 0.055	0.089	U,G
13981-38-9	Co-58	-0.13 +/- 0.13	0.25	U,G
10198-40-0	Co-60	0 +/- 0.13	0.22	U,G
14392-02-0	Cr-51	1.0 +/- 1.2	2.0	U,G
13967-70-9	Cs-134	-0.02 +/- 0.15	0.26	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-C4
Lab ID: 0405152-11

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 177 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040942D10A

Library: FANP

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
10045-97-3	Cs-137	0.012 +/- 0.099	0.172	U,G
14683-23-9	Eu-152	0.40 +/- 0.52	0.85	U,G
15585-10-1	Eu-154	0.32 +/- 0.56	0.93	U,G
14391-16-3	Eu-155	0.12 +/- 0.22	0.37	U,G
14596-12-4	Fe-59	0.58 +/- 0.30	0.40	TI,G
10043-66-0	I-131	-0.2 +/- 1.2	2.1	U,G
13966-00-2	K-40	24.3 +/- 3.9	2.4	G
13966-31-9	Mn-54	0.06 +/- 0.10	0.17	U,G
13966-32-0	Na-22	0.07 +/- 0.13	0.21	U,G
14681-63-1	Nb-94	0.087 +/- 0.097	0.157	U,G
13967-76-5	Nb-95	-0.04 +/- 0.15	0.26	U,G
15100-28-4	Pa-234m	-3 +/- 18	31	U,G
15092-94-1	Pb-212	0.84 +/- 0.20	0.23	G
15067-28-4	Pb-214	0.58 +/- 0.20	0.36	G,J
13967-48-1	Ru-106	-0.15 +/- 0.92	1.63	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-C4
Lab ID: 0405152-11

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 177 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040942D10A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14683-10-4	Sb-124	0.03 +/- 0.16	0.27	U,G
14234-35-6	Sb-125	0.16 +/- 0.20	0.33	U,G
13967-63-0	Sc-46	-0.07 +/- 0.12	0.23	U,G
15623-47-9	Th-227	-0.39 +/- 0.65	1.16	U,G
15065-10-8	Th-234	1.8 +/- 1.3	2.0	U,G
14913-50-9	Tl-208	0.24 +/- 0.12	0.17	G
15117-96-1	U-235	-0.38 +/- 0.41	0.75	U,G
13982-39-3	Zn-65	-0.08 +/- 0.31	0.55	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-C4
Lab ID: 0405152-11

Library: RA-226

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 15-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 177 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040942D10B

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13982-63-3	Ra-226	0.76 +/- 0.23	0.47	LT,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-D1
Lab ID: 0405152-12

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 196 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040895D07A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14331-83-0	Ac-228	0.86 +/- 0.62	0.89	U
14391-76-5	Ag-110m	-0.03 +/- 0.11	0.21	U
14682-66-7	Al-26	-0.01 +/- 0.12	0.27	U
14596-10-2	Am-241	-0.08 +/- 0.19	0.34	U
13966-02-4	Be-7	-0.1 +/- 1.2	2.2	U
14913-49-6	Bi-212	2.3 +/- 1.4	1.6	TI
14733-03-0	Bi-214	0.82 +/- 0.33	0.37	J
13982-30-4	Ce-139	-0.057 +/- 0.074	0.143	U
14762-78-8	Ce-144	-0.21 +/- 0.44	0.83	U
14093-03-9	Co-56	-0.16 +/- 0.33	0.68	U
13981-50-5	Co-57	0.013 +/- 0.058	0.102	U
13981-38-9	Co-58	-0.03 +/- 0.13	0.27	U
10198-40-0	Co-60	0.05 +/- 0.12	0.21	U
14392-02-0	Cr-51	0.1 +/- 1.5	2.8	U
13967-70-9	Cs-134	0.063 +/- 0.079	0.127	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-D1
Lab ID: 0405152-12

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 196 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040895D07A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
10045-97-3	Cs-137	-0.01 +/- 0.12	0.24	U
14683-23-9	Eu-152	0.18 +/- 0.43	0.81	U
15585-10-1	Eu-154	-0.30 +/- 0.60	1.32	U
14391-16-3	Eu-155	-0.03 +/- 0.18	0.34	U
14596-12-4	Fe-59	0.13 +/- 0.46	0.84	U
10043-66-0	I-131	0.1 +/- 1.7	3.1	U
13966-00-2	K-40	23.4 +/- 5.0	2.6	
13966-31-9	Mn-54	0.03 +/- 0.12	0.22	U
13966-32-0	Na-22	-0.02 +/- 0.15	0.30	U
14681-63-1	Nb-94	-0.06 +/- 0.11	0.23	U
13967-76-5	Nb-95	0.03 +/- 0.14	0.26	U
15100-28-4	Pa-234m	-2 +/- 19	38	U
15092-94-1	Pb-212	0.66 +/- 0.22	0.25	
15067-28-4	Pb-214	0.97 +/- 0.29	0.40	J
13967-48-1	Ru-106	-0.1 +/- 1.1	2.1	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-D1
Lab ID: 0405152-12

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 196 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040895D07A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14683-10-4	Sb-124	-0.06 +/- 0.11	0.24	U
14234-35-6	Sb-125	-0.01 +/- 0.22	0.47	U
13967-63-0	Sc-46	0 +/- 0.13	0.25	U
15623-47-9	Th-227	-0.03 +/- 0.44	0.81	U
15065-10-8	Th-234	1.1 +/- 1.1	1.8	U
14913-50-9	Tl-208	0.32 +/- 0.15	0.19	
15117-96-1	U-235	-0.18 +/- 0.49	0.91	U
13982-39-3	Zn-65	-0.70 +/- 0.43	0.94	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-D1
Lab ID: 0405152-12

Library: RA-226

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 196 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040895D07B

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13982-63-3	Ra-226	1.16 +/- 0.29	0.48	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-D2
Lab ID: 0405152-13

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 185 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040967D08A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14331-83-0	Ac-228	1.09 +/- 0.44	0.71	
14391-76-5	Ag-110m	0.01 +/- 0.10	0.19	U
14682-66-7	Al-26	-0.034 +/- 0.086	0.220	U
14596-10-2	Am-241	-0.03 +/- 0.17	0.30	U
13966-02-4	Be-7	-0.4 +/- 1.0	2.0	U
14913-49-6	Bi-212	1.3 +/- 1.8	2.9	U
14733-03-0	Bi-214	0.59 +/- 0.35	0.51	J
13982-30-4	Ce-139	-0.036 +/- 0.073	0.137	U
14762-78-8	Ce-144	0.15 +/- 0.41	0.71	U
14093-03-9	Co-56	0.26 +/- 0.35	0.57	U
13981-50-5	Co-57	0.023 +/- 0.053	0.092	U
13981-38-9	Co-58	0.15 +/- 0.12	0.16	U
10198-40-0	Co-60	0.07 +/- 0.11	0.17	U
14392-02-0	Cr-51	-0.5 +/- 1.6	3.0	U
13967-70-9	Cs-134	-0.03 +/- 0.12	0.22	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-D2
Lab ID: 0405152-13

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 185 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040967D08A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
10045-97-3	Cs-137	-0.05 +/- 0.11	0.22	U
14683-23-9	Eu-152	-0.15 +/- 0.56	1.19	U
15585-10-1	Eu-154	-0.14 +/- 0.52	1.10	U
14391-16-3	Eu-155	0.18 +/- 0.20	0.32	U
14596-12-4	Fe-59	0.08 +/- 0.39	0.72	U
10043-66-0	I-131	-0.1 +/- 1.4	2.5	U
13966-00-2	K-40	21.9 +/- 4.6	2.2	
13966-31-9	Mn-54	0.03 +/- 0.12	0.22	U
13966-32-0	Na-22	0.07 +/- 0.14	0.24	U
14681-63-1	Nb-94	-0.01 +/- 0.11	0.20	U
13967-76-5	Nb-95	0.05 +/- 0.15	0.27	U
15100-28-4	Pa-234m	4 +/- 17	32	U
15092-94-1	Pb-212	0.88 +/- 0.27	0.33	
15067-28-4	Pb-214	1.00 +/- 0.28	0.35	J
13967-48-1	Ru-106	0.04 +/- 0.91	1.71	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-D2
Lab ID: 0405152-13

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 185 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040967D08A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14683-10-4	Sb-124	-0.09 +/- 0.17	0.32	U
14234-35-6	Sb-125	0.36 +/- 0.22	0.29	TI
13967-63-0	Sc-46	-0.06 +/- 0.15	0.30	U
15623-47-9	Th-227	-0.14 +/- 0.47	0.88	U
15065-10-8	Th-234	0.9 +/- 1.2	1.9	U
14913-50-9	Tl-208	0.37 +/- 0.15	0.18	
15117-96-1	U-235	-0.02 +/- 0.44	0.80	U
13982-39-3	Zn-65	-0.31 +/- 0.31	0.67	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-D2
Lab ID: 0405152-13

Library: RA-226

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 185 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040967D08B

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13982-63-3	Ra-226	1.13 +/- 0.30	0.45	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-D3
Lab ID: 0405152-14

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 189 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040946D10A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14331-83-0	Ac-228	0.82 +/- 0.29	0.63	
14391-76-5	Ag-110m	-0.073 +/- 0.090	0.168	U
14682-66-7	Al-26	-0.006 +/- 0.089	0.166	U
14596-10-2	Am-241	0.14 +/- 0.31	0.52	U
13966-02-4	Be-7	0.04 +/- 0.84	1.47	U
14913-49-6	Bi-212	1.3 +/- 1.4	2.2	U
14733-03-0	Bi-214	0.77 +/- 0.27	0.40	J
13982-30-4	Ce-139	-0.050 +/- 0.063	0.114	U
14762-78-8	Ce-144	0.05 +/- 0.41	0.70	U
14093-03-9	Co-56	-0.17 +/- 0.30	0.54	U
13981-50-5	Co-57	0.009 +/- 0.054	0.092	U
13981-38-9	Co-58	-0.09 +/- 0.12	0.22	U
10198-40-0	Co-60	0.043 +/- 0.093	0.158	U
14392-02-0	Cr-51	-0.2 +/- 1.1	2.0	U
13967-70-9	Cs-134	-0.04 +/- 0.90	1.49	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-D3
Lab ID: 0405152-14

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 189 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040946D10A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
10045-97-3	Cs-137	0.026 +/- 0.091	0.157	U
14683-23-9	Eu-152	0.62 +/- 0.46	0.70	U
15585-10-1	Eu-154	-0.17 +/- 0.56	1.01	U
14391-16-3	Eu-155	0.22 +/- 0.20	0.32	U
14596-12-4	Fe-59	0.01 +/- 0.36	0.63	U
10043-66-0	I-131	0 +/- 1.2	2.1	U
13966-00-2	K-40	24.1 +/- 3.8	2.1	
13966-31-9	Mn-54	0.02 +/- 0.11	0.18	U
13966-32-0	Na-22	0.06 +/- 0.11	0.19	U
14681-63-1	Nb-94	0.034 +/- 0.095	0.161	U
13967-76-5	Nb-95	0.06 +/- 0.12	0.21	U
15100-28-4	Pa-234m	-1 +/- 16	28	U
15092-94-1	Pb-212	0.87 +/- 0.21	0.23	
15067-28-4	Pb-214	0.60 +/- 0.20	0.33	J
13967-48-1	Ru-106	-0.03 +/- 0.82	1.44	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-D3
Lab ID: 0405152-14

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 189 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040946D10A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14683-10-4	Sb-124	-0.19 +/- 0.26	2.12	U
14234-35-6	Sb-125	0.07 +/- 0.20	0.34	U
13967-63-0	Sc-46	-0.03 +/- 0.12	0.22	U
15623-47-9	Th-227	-0.80 +/- 0.64	1.19	U
15065-10-8	Th-234	0.9 +/- 1.3	2.1	U
14913-50-9	Tl-208	0.25 +/- 0.11	0.15	
15117-96-1	U-235	-0.08 +/- 0.39	0.69	U
13982-39-3	Zn-65	0.40 +/- 0.40	0.64	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: B-D3
Lab ID: 0405152-14

Library: RA-226

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 189 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040946D10B

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13982-63-3	Ra-226	0.89 +/- 0.23	0.44	LT

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-A0
Lab ID: 0405152-15

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 187 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040896D07A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14331-83-0	Ac-228	0.92 +/- 0.52	0.60	TI
14391-76-5	Ag-110m	-0.03 +/- 0.11	0.22	U
14682-66-7	Al-26	0.049 +/- 0.069	0.066	U
14596-10-2	Am-241	-0.10 +/- 0.17	0.33	U
13966-02-4	Be-7	0.4 +/- 1.3	2.3	U
14913-49-6	Bi-212	-0.5 +/- 2.0	3.9	U
14733-03-0	Bi-214	0.56 +/- 0.31	0.42	J
13982-30-4	Ce-139	-0.005 +/- 0.063	0.117	U
14762-78-8	Ce-144	-0.19 +/- 0.49	0.92	U
14093-03-9	Co-56	-0.07 +/- 0.34	0.67	U
13981-50-5	Co-57	-0.024 +/- 0.061	0.115	U
13981-38-9	Co-58	0.05 +/- 0.15	0.27	U
10198-40-0	Co-60	0 +/- 0.12	0.24	U
14392-02-0	Cr-51	-0.6 +/- 1.5	3.0	U
13967-70-9	Cs-134	-0.09 +/- 0.11	0.22	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-A0
Lab ID: 0405152-15

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 187 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040896D07A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
10045-97-3	Cs-137	-0.07 +/- 0.10	0.22	U
14683-23-9	Eu-152	-0.46 +/- 0.62	1.46	U
15585-10-1	Eu-154	-0.40 +/- 0.73	1.55	U
14391-16-3	Eu-155	0.02 +/- 0.19	0.34	U
14596-12-4	Fe-59	-0.14 +/- 0.41	0.85	U
10043-66-0	I-131	0 +/- 1.5	2.8	U
13966-00-2	K-40	21.2 +/- 4.7	2.0	
13966-31-9	Mn-54	-0.03 +/- 0.13	0.26	U
13966-32-0	Na-22	0.07 +/- 0.16	0.29	U
14681-63-1	Nb-94	-0.03 +/- 0.11	0.21	U
13967-76-5	Nb-95	-0.05 +/- 0.14	0.29	U
15100-28-4	Pa-234m	5 +/- 20	38	U
15092-94-1	Pb-212	0.77 +/- 0.25	0.28	
15067-28-4	Pb-214	0.66 +/- 0.26	0.41	J
13967-48-1	Ru-106	-0.40 +/- 0.94	1.95	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-A0
Lab ID: 0405152-15

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 187 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040896D07A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14683-10-4	Sb-124	-0.07 +/- 0.14	0.29	U
14234-35-6	Sb-125	-0.19 +/- 0.23	0.49	U
13967-63-0	Sc-46	-0.07 +/- 0.12	0.27	U
15623-47-9	Th-227	-0.19 +/- 0.72	1.33	U
15065-10-8	Th-234	0.8 +/- 1.0	1.7	U
14913-50-9	Tl-208	0.29 +/- 0.21	0.32	U
15117-96-1	U-235	0.36 +/- 0.52	0.86	U
13982-39-3	Zn-65	-0.04 +/- 0.34	0.66	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-A0
Lab ID: 0405152-15

Library: RA-226

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 187 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040896D07B

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13982-63-3	Ra-226	0.80 +/- 0.26	0.51	LT

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-A1
Lab ID: 0405152-16

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 187 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040968D08A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14331-83-0	Ac-228	1.14 +/- 0.50	0.81	
14391-76-5	Ag-110m	0.03 +/- 0.11	0.20	U
14682-66-7	Al-26	0.033 +/- 0.087	0.170	U
14596-10-2	Am-241	0.03 +/- 0.20	0.35	U
13966-02-4	Be-7	0 +/- 1.1	2.1	U
14913-49-6	Bi-212	2.2 +/- 1.4	1.9	
14733-03-0	Bi-214	1.19 +/- 0.35	0.39	J
13982-30-4	Ce-139	0.008 +/- 0.073	0.129	U
14762-78-8	Ce-144	-0.07 +/- 0.40	0.74	U
14093-03-9	Co-56	0.17 +/- 0.35	0.60	U
13981-50-5	Co-57	-0.008 +/- 0.056	0.101	U
13981-38-9	Co-58	-0.10 +/- 0.15	0.30	U
10198-40-0	Co-60	0.13 +/- 0.13	0.19	U
14392-02-0	Cr-51	0.3 +/- 1.6	2.8	U
13967-70-9	Cs-134	-0.03 +/- 0.11	0.21	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-A1
Lab ID: 0405152-16

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 187 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040968D08A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
10045-97-3	Cs-137	0 +/- 0.12	0.23	U
14683-23-9	Eu-152	0.13 +/- 0.71	1.33	U
15585-10-1	Eu-154	-0.26 +/- 0.54	1.17	U
14391-16-3	Eu-155	0.11 +/- 0.22	0.37	U
14596-12-4	Fe-59	0.15 +/- 0.43	0.76	U
10043-66-0	I-131	-0.5 +/- 1.5	3.0	U
13966-00-2	K-40	22.6 +/- 4.6	2.1	
13966-31-9	Mn-54	0.01 +/- 0.11	0.20	U
13966-32-0	Na-22	0.06 +/- 0.17	0.30	U
14681-63-1	Nb-94	-0.03 +/- 0.11	0.21	U
13967-76-5	Nb-95	0.12 +/- 0.15	0.24	U
15100-28-4	Pa-234m	-12 +/- 17	38	U
15092-94-1	Pb-212	0.98 +/- 0.25	0.25	
15067-28-4	Pb-214	1.24 +/- 0.29	0.31	J
13967-48-1	Ru-106	0.9 +/- 1.0	1.7	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-A1
Lab ID: 0405152-16

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 187 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040968D08A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14683-10-4	Sb-124	-0.09 +/- 0.16	0.32	U
14234-35-6	Sb-125	0.04 +/- 0.26	0.46	U
13967-63-0	Sc-46	0.04 +/- 0.14	0.26	U
15623-47-9	Th-227	0.14 +/- 0.50	0.87	U
15065-10-8	Th-234	0.9 +/- 1.4	2.2	U
14913-50-9	Tl-208	0.35 +/- 0.15	0.19	
15117-96-1	U-235	0.10 +/- 0.42	0.74	U
13982-39-3	Zn-65	0.40 +/- 0.59	0.98	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-A1
Lab ID: 0405152-16

Library: RA-226

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 187 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040968D08B

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13982-63-3	Ra-226	1.59 +/- 0.32	0.40	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-A2
Lab ID: 0405152-17

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 169 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040947D10A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14331-83-0	Ac-228	0.93 +/- 0.39	0.70	G
14391-76-5	Ag-110m	-0.13 +/- 0.11	0.20	U,G
14682-66-7	Al-26	-0.02 +/- 0.11	0.20	U,G
14596-10-2	Am-241	0.15 +/- 0.33	0.56	U,G
13966-02-4	Be-7	-0.08 +/- 0.90	1.60	U,G
14913-49-6	Bi-212	1.5 +/- 1.5	2.3	U,G
14733-03-0	Bi-214	0.88 +/- 0.30	0.43	G,J
13982-30-4	Ce-139	-0.032 +/- 0.070	0.124	U,G
14762-78-8	Ce-144	0.06 +/- 0.48	0.83	U,G
14093-03-9	Co-56	0.28 +/- 0.27	0.44	U,G
13981-50-5	Co-57	0.014 +/- 0.060	0.102	U,G
13981-38-9	Co-58	-0.12 +/- 0.14	0.27	U,G
10198-40-0	Co-60	0.07 +/- 0.12	0.21	U,G
14392-02-0	Cr-51	-0.2 +/- 1.2	2.1	U,G
13967-70-9	Cs-134	-0.08 +/- 0.99	1.64	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-A2
Lab ID: 0405152-17

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 169 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040947D10A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
10045-97-3	Cs-137	0.02 +/- 0.11	0.19	U,G
14683-23-9	Eu-152	0.23 +/- 0.58	1.00	U,G
15585-10-1	Eu-154	-0.17 +/- 0.62	1.11	U,G
14391-16-3	Eu-155	-0.20 +/- 0.24	0.44	U,G
14596-12-4	Fe-59	-0.13 +/- 0.36	0.65	U,G
10043-66-0	I-131	0.5 +/- 1.3	2.3	U,G
13966-00-2	K-40	22.7 +/- 3.7	2.1	G
13966-31-9	Mn-54	0.05 +/- 0.12	0.21	U,G
13966-32-0	Na-22	-0.20 +/- 0.15	0.29	U,G
14681-63-1	Nb-94	0 +/- 0.10	0.18	U,G
13967-76-5	Nb-95	0.04 +/- 0.14	0.23	U,G
15100-28-4	Pa-234m	5 +/- 18	32	U,G
15092-94-1	Pb-212	1.12 +/- 0.25	0.27	G
15067-28-4	Pb-214	0.87 +/- 0.24	0.35	G,J
13967-48-1	Ru-106	-0.50 +/- 0.95	1.72	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-A2
Lab ID: 0405152-17

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 169 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040947D10A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14683-10-4	Sb-124	-0.07 +/- 0.29	2.33	U,G
14234-35-6	Sb-125	0.12 +/- 0.22	0.38	U,G
13967-63-0	Sc-46	-0.04 +/- 0.13	0.23	U,G
15623-47-9	Th-227	-0.91 +/- 0.71	1.31	U,G
15065-10-8	Th-234	0.1 +/- 1.4	2.4	U,G
14913-50-9	Tl-208	0.36 +/- 0.14	0.19	G
15117-96-1	U-235	-0.06 +/- 0.44	0.76	U,G
13982-39-3	Zn-65	0.37 +/- 0.42	0.69	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-A2
Lab ID: 0405152-17

Library: RA-226

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 169 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040947D10B

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13982-63-3	Ra-226	1.19 +/- 0.27	0.47	G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-B0
Lab ID: 0405152-18

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 186 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 041032D04A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14331-83-0	Ac-228	1.31 +/- 0.41	0.67	
14391-76-5	Ag-110m	-0.017 +/- 0.084	0.166	U
14682-66-7	Al-26	0.030 +/- 0.069	0.132	U
14596-10-2	Am-241	-0.04 +/- 0.41	0.76	U
13966-02-4	Be-7	0.2 +/- 1.0	1.8	U
14913-49-6	Bi-212	1.4 +/- 1.5	2.3	U
14733-03-0	Bi-214	0.58 +/- 0.27	0.35	J
13982-30-4	Ce-139	-0.041 +/- 0.057	0.113	U
14762-78-8	Ce-144	-0.14 +/- 0.42	0.78	U
14093-03-9	Co-56	0.17 +/- 0.28	0.47	U
13981-50-5	Co-57	-0.029 +/- 0.049	0.095	U
13981-38-9	Co-58	0.029 +/- 0.092	0.170	U
10198-40-0	Co-60	-0.008 +/- 0.075	0.163	U
14392-02-0	Cr-51	-0.6 +/- 1.4	2.6	U
13967-70-9	Cs-134	-0.036 +/- 0.083	0.166	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-B0
Lab ID: 0405152-18

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 186 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 041032D04A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
10045-97-3	Cs-137	0.009 +/- 0.093	0.174	U
14683-23-9	Eu-152	0.52 +/- 0.52	0.78	U
15585-10-1	Eu-154	0.29 +/- 0.55	0.96	U
14391-16-3	Eu-155	-0.12 +/- 0.25	0.46	U
14596-12-4	Fe-59	0.07 +/- 0.32	0.60	U
10043-66-0	I-131	1.6 +/- 1.3	2.0	U
13966-00-2	K-40	18.7 +/- 3.9	1.8	
13966-31-9	Mn-54	0.07 +/- 0.11	0.18	U
13966-32-0	Na-22	-0.05 +/- 0.11	0.24	U
14681-63-1	Nb-94	0.055 +/- 0.088	0.148	U
13967-76-5	Nb-95	-0.06 +/- 0.13	0.26	U
15100-28-4	Pa-234m	-2 +/- 17	33	U
15092-94-1	Pb-212	1.13 +/- 0.28	0.28	
15067-28-4	Pb-214	0.70 +/- 0.20	0.24	J
13967-48-1	Ru-106	0.15 +/- 0.96	1.74	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-B0
Lab ID: 0405152-18

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 186 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 041032D04A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14683-10-4	Sb-124	-0.03 +/- 0.12	0.23	U
14234-35-6	Sb-125	-0.21 +/- 0.24	0.49	U
13967-63-0	Sc-46	0.033 +/- 0.094	0.174	U
15623-47-9	Th-227	0.18 +/- 0.64	1.07	U
15065-10-8	Th-234	1.2 +/- 1.5	2.5	U
14913-50-9	Tl-208	0.48 +/- 0.16	0.17	
15117-96-1	U-235	-0.29 +/- 0.41	0.78	U
13982-39-3	Zn-65	0.02 +/- 0.22	0.42	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-B0
Lab ID: 0405152-18

Library: RA-226

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 186 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 041032D04B

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13982-63-3	Ra-226	0.85 +/- 0.22	0.30	LT

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-B1
Lab ID: 0405152-19

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 206 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040897D07A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14331-83-0	Ac-228	0.71 +/- 0.50	0.68	TI
14391-76-5	Ag-110m	0 +/- 0.12	0.23	U
14682-66-7	Al-26	0.11 +/- 0.12	0.18	U
14596-10-2	Am-241	0.10 +/- 0.17	0.28	U
13966-02-4	Be-7	0 +/- 1.2	2.2	U
14913-49-6	Bi-212	0 +/- 1.9	3.5	U
14733-03-0	Bi-214	0.55 +/- 0.37	0.55	J
13982-30-4	Ce-139	-0.021 +/- 0.079	0.144	U
14762-78-8	Ce-144	0.07 +/- 0.43	0.76	U
14093-03-9	Co-56	0.28 +/- 0.39	0.65	U
13981-50-5	Co-57	0.019 +/- 0.058	0.101	U
13981-38-9	Co-58	0.04 +/- 0.11	0.20	U
10198-40-0	Co-60	-0.08 +/- 0.12	0.28	U
14392-02-0	Cr-51	-0.5 +/- 1.3	2.6	U
13967-70-9	Cs-134	0.03 +/- 0.11	0.19	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

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SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-B1
Lab ID: 0405152-19

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 206 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040897D07A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
10045-97-3	Cs-137	-0.01 +/- 0.12	0.23	U
14683-23-9	Eu-152	0.34 +/- 0.58	1.01	U
15585-10-1	Eu-154	-0.22 +/- 0.56	1.20	U
14391-16-3	Eu-155	-0.03 +/- 0.21	0.38	U
14596-12-4	Fe-59	0.08 +/- 0.44	0.80	U
10043-66-0	I-131	-0.7 +/- 1.4	2.8	U
13966-00-2	K-40	19.6 +/- 4.4	2.5	
13966-31-9	Mn-54	0.07 +/- 0.11	0.18	U
13966-32-0	Na-22	-0.05 +/- 0.14	0.30	U
14681-63-1	Nb-94	0.06 +/- 0.11	0.19	U
13967-76-5	Nb-95	0.01 +/- 0.16	0.30	U
15100-28-4	Pa-234m	-9 +/- 20	41	U
15092-94-1	Pb-212	0.95 +/- 0.27	0.29	
15067-28-4	Pb-214	0.74 +/- 0.23	0.31	J
13967-48-1	Ru-106	-0.18 +/- 0.68	1.44	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-B1
Lab ID: 0405152-19

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 206 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040897D07A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14683-10-4	Sb-124	0.02 +/- 0.15	0.27	U
14234-35-6	Sb-125	0.02 +/- 0.22	0.41	U
13967-63-0	Sc-46	0.08 +/- 0.13	0.23	U
15623-47-9	Th-227	0.15 +/- 0.70	1.19	U
15065-10-8	Th-234	1.7 +/- 1.0	2.0	U
14913-50-9	Tl-208	0.29 +/- 0.14	0.16	
15117-96-1	U-235	0.02 +/- 0.48	0.84	U
13982-39-3	Zn-65	-0.27 +/- 0.33	0.70	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-B1
Lab ID: 0405152-19

Library: RA-226

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 206 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040897D07B

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13982-63-3	Ra-226	0.88 +/- 0.26	0.39	LT

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

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SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-B2
Lab ID: 0405152-20

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 200 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040969D08A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14331-83-0	Ac-228	1.13 +/- 0.46	0.84	
14391-76-5	Ag-110m	-0.11 +/- 0.10	0.22	U
14682-66-7	Al-26	-0.04 +/- 0.10	0.24	U
14596-10-2	Am-241	-0.01 +/- 0.18	0.32	U
13966-02-4	Be-7	0.7 +/- 1.1	1.9	U
14913-49-6	Bi-212	1.4 +/- 1.8	2.9	U
14733-03-0	Bi-214	1.22 +/- 0.36	0.40	J
13982-30-4	Ce-139	-0.059 +/- 0.074	0.140	U
14762-78-8	Ce-144	-0.29 +/- 0.40	0.77	U
14093-03-9	Co-56	0.33 +/- 0.29	0.44	U
13981-50-5	Co-57	0.011 +/- 0.050	0.088	U
13981-38-9	Co-58	-0.09 +/- 0.14	0.29	U
10198-40-0	Co-60	0 +/- 0.14	0.26	U
14392-02-0	Cr-51	-1.3 +/- 1.6	3.1	U
13967-70-9	Cs-134	-0.01 +/- 0.11	0.20	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.

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Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-B2
Lab ID: 0405152-20

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 200 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040969D08A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
10045-97-3	Cs-137	0.08 +/- 0.10	0.17	U
14683-23-9	Eu-152	-0.05 +/- 0.71	1.37	U
15585-10-1	Eu-154	0.05 +/- 0.50	0.97	U
14391-16-3	Eu-155	0.01 +/- 0.19	0.34	U
14596-12-4	Fe-59	0.25 +/- 0.29	0.46	U
10043-66-0	I-131	0.1 +/- 1.5	2.8	U
13966-00-2	K-40	22.8 +/- 4.6	2.4	
13966-31-9	Mn-54	0.04 +/- 0.12	0.21	U
13966-32-0	Na-22	0.06 +/- 0.15	0.27	U
14681-63-1	Nb-94	0.12 +/- 0.11	0.17	U
13967-76-5	Nb-95	-0.12 +/- 0.17	0.34	U
15100-28-4	Pa-234m	-4 +/- 16	33	U
15092-94-1	Pb-212	0.90 +/- 0.24	0.25	
15067-28-4	Pb-214	1.31 +/- 0.30	0.35	J
13967-48-1	Ru-106	-0.5 +/- 1.1	2.1	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.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-B2
Lab ID: 0405152-20

Library: FANP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 200 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040969D08A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14683-10-4	Sb-124	0.03 +/- 0.16	0.28	U
14234-35-6	Sb-125	0.11 +/- 0.25	0.44	U
13967-63-0	Sc-46	0.03 +/- 0.12	0.23	U
15623-47-9	Th-227	0 +/- 0.47	0.85	U
15065-10-8	Th-234	2.1 +/- 1.1	1.8	LT
14913-50-9	Tl-208	0.36 +/- 0.15	0.19	
15117-96-1	U-235	0.21 +/- 0.41	0.69	U
13982-39-3	Zn-65	0.59 +/- 0.57	0.91	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405152
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-B2
Lab ID: 0405152-20

Library: RA-226

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040527-2
QCBatchID: GS040527-2-1
Run ID: GS040527-2A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 200 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040969D08B

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13982-63-3	Ra-226	1.67 +/- 0.33	0.45	

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.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405152-1*

PARAGON ANALYTICS
225 Commerce Drive ◆ Fort Collins, CO 80524 ◆ (800) 443-1511 ◆ (970) 490-1511 ◆ FAX (970) 490-1522

June 22, 2004

Mr. Dan Spicuzza
New World Technology
3015 Navarre Ave, #303
Oregon, OH 43616

Re: Paragon Workorder: 04-05-153
Client Project Name: Picatinny
Client Project Number: GA00555

Dear Mr. Spicuzza:

Twelve soil samples were received from New World Technology on May 18, 2004. The samples were scheduled for Gamma Spectroscopy (pages 1-382) analysis. The results for this analysis are contained in the enclosed reports.

Thank you for your confidence in Paragon Analytics. Should you have any questions, please call.

Sincerely,

Paragon Analytics
Lance Steere
Senior Project Manager

LRS/ja
Enclosure: Report

Paragon Analytics

Radiochemistry Case Narrative
Gamma Spectroscopy

New World Technology

Picatinny / GA00555

Paragon Work Order 0405153

1. The following report consists of analysis results for twelve soil samples received by Paragon on 5/18/04.
2. The results for these samples are reported on a 'dry weight' basis in units of pCi/gram.
3. These samples were prepared according to Paragon Analytics procedure PA SOP739R8. The samples were sealed in steel cans on 5/25/04 and stored for at least 21 days to allow Rn-222 to approach equilibrium with its progeny. The degree of ingrowth achieved prior to analysis on 6/15/04 is at least 97.8%. Conservatively assuming a radon emanation efficiency of approximately 50%, the effective radon progeny ingrowth for these samples would be greater than 98.9%.
4. The samples were analyzed for the presence of gamma emitting radionuclides according to Paragon Analytics procedure PA SOP713R8. The analyses were completed on 6/16/04.
5. PA has observed a reproducible low bias in Ra-226 results (about -30% for the geometry in question) when using a mixed gamma source for the calibration of HPGe detectors for solid samples. This bias is eliminated by calibration using a NIST traceable Ra-226 source in the same geometry and configuration as the samples.
6. The library used for calibration and analysis employs multiple peaks for the Ra-226 progeny, Pb-214 (352 and 295 keV) and Bi-214 (609 and 1120 keV). Using these peaks avoids the use of the problematic Ra-226 photopeak at 186 keV, which suffers from poorly resolvable interference from U-235 at the same energy. Final activity results for Ra-226 are calculated, using the uncertainty-weighted mean of the activities for the four photopeaks, by the Seeker gamma spectroscopy software assuming secular equilibrium.
7. There are cases where the sample density is less than the associated calibration standard density. Cases that exceed the limit of +/- 15% of the density of the calibration standard are flagged with a 'G', denoting a significant density difference between the sample and calibration standard. Consequently, the results may be biased high for the flagged results in this workorder. If requested, Paragon Analytics will perform a transmission spike in order to estimate a magnitude of this bias. The results are reported without further qualification.
8. Paragon Analytics has found there to be a significant low bias to Pb-214 and Bi-214 results when using a mixed nuclide gamma source for efficiency calibrations. The magnitude of this

bias has been determined to be approximately 32% for Bi-214, and 23% for Pb-214. Therefore, any reported results for Pb-214 and Bi-214 are flagged with a "J" qualifier, indicating the activity values to be an estimated value. Results are reported without further qualification.

9. 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 abundance must be attained. Nuclides not meeting these requirements have been flagged with a "TI" qualifier.

10. **Th-234 concentrations are reported these samples as an indication of U-238 activity. Th-234 is assumed to be in secular equilibrium with its U-238. Consequently, depleted uranium concentrations can reasonably be assumed to be equal to the reported Th-234 activity.**

11. 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.

12. No further problems were encountered with either the client samples or the associated quality control 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 certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Radiochemistry Instrument Technician — Date: 6-30-04

Radiochemistry Final Data Review — Date: 6-30-04

1

PARAGON ANALYTICS
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

Radiochemistry Data Package

Section 2

QC RESULTS SUMMARY

Gamma Spectroscopy Results

PAI 713 Rev 8

Method Blank Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Lab ID: GS040526-3MB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 25-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes

Final Aliquot: 215 g
Result Units: pCi/g
File Name: 041036D04A

Library: FANP.LIB

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14331-83-0	Ac-228	-0.03 +/- 0.21	0.44	U
14391-76-5	Ag-110m	-0.060 +/- 0.052	0.126	U
14682-66-7	Al-26	0.029 +/- 0.041	0.039	U
14596-10-2	Am-241	0.03 +/- 0.23	0.43	U
13966-02-4	Be-7	0.05 +/- 0.37	0.72	U
14913-49-6	Bi-212	-0.62 +/- 0.88	1.95	U
14733-03-0	Bi-214	-0.04 +/- 0.14	0.28	U,J
13982-30-4	Ce-139	-0.032 +/- 0.030	0.066	U
14762-78-8	Ce-144	-0.05 +/- 0.21	0.40	U
14093-03-9	Co-56	-0.022 +/- 0.087	0.198	U
13981-50-5	Co-57	0.006 +/- 0.025	0.046	U
13981-38-9	Co-58	-0.019 +/- 0.040	0.097	U
10198-40-0	Co-60	-0.010 +/- 0.020	0.079	U
14392-02-0	Cr-51	-0.14 +/- 0.40	0.79	U
13967-70-9	Cs-134	0.036 +/- 0.062	0.105	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.

M - Requested MDC not met.

B - Analyte concentration greater than MDC.

B3 - Analyte concentration greater than MDC but less than Requested MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Method Blank Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Lab ID: GS040526-3MB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 25-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes

Final Aliquot: 215 g
Result Units: pCi/g
File Name: 041036D04A

Library: FANP.LIB

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
10045-97-3	Cs-137	0.067 +/- 0.054	0.069	U
14683-23-9	Eu-152	-0.11 +/- 0.22	0.60	U
15585-10-1	Eu-154	-0.34 +/- 0.36	0.86	U
14391-16-3	Eu-155	0.01 +/- 0.12	0.23	U
14596-12-4	Fe-59	0 +/- 0.11	0.22	U
10043-66-0	I-131	0.014 +/- 0.042	0.076	U
13966-00-2	K-40	0.25 +/- 0.77	1.44	U
13966-31-9	Mn-54	-0.020 +/- 0.047	0.108	U
13966-32-0	Na-22	-0.015 +/- 0.060	0.137	U
14681-63-1	Nb-94	-0.027 +/- 0.051	0.113	U
13967-76-5	Nb-95	0.009 +/- 0.056	0.108	U
15100-28-4	Pa-234m	7.5 +/- 9.0	13.9	U
15092-94-1	Pb-212	-0.007 +/- 0.073	0.139	U
15067-28-4	Pb-214	0.03 +/- 0.10	0.18	U,J
13967-48-1	Ru-106	0.18 +/- 0.56	1.02	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.

M - Requested MDC not met.

B - Analyte concentration greater than MDC.

B3 - Analyte concentration greater than MDC but less than Requested MDC.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Method Blank Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Lab ID: GS040526-3MB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 25-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes

Final Aliquot: 215 g
Result Units: pCi/g
File Name: 041036D04A

Library: FANP.LIB

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14683-10-4	Sb-124	-0.054 +/- 0.062	0.134	U
14234-35-6	Sb-125	0.11 +/- 0.13	0.21	U
13967-63-0	Sc-46	-0.025 +/- 0.056	0.126	U
15623-47-9	Th-227	-0.11 +/- 0.25	0.51	U
15065-10-8	Th-234	0.25 +/- 0.69	1.20	U
14913-50-9	Tl-208	0.032 +/- 0.067	0.118	U
15117-96-1	U-235	0.16 +/- 0.23	0.37	U
13982-39-3	Zn-65	-0.06 +/- 0.13	0.29	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.
M - Requested MDC not met.
B - Analyte concentration greater than MDC.
B3 - Analyte concentration greater than MDC but less than Requested MDC.

Abbreviations:

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

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Method Blank Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Lab ID: GS040526-3MB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 25-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes

Final Aliquot: 215 g
Result Units: pCi/g
File Name: 041036D04B

Library: RA226.LIB

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13982-63-3	Ra-226	0.04 +/- 0.13	0.23	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.
M - Requested MDC not met.
B - Analyte concentration greater than MDC.
B3 - Analyte concentration greater than MDC but less than Requested MDC.

Abbreviations:

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

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Laboratory Control Sample(s)

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Lab ID: GS040526-3ALCS

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 25-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3B
Count Time: 30 minutes

Final Aliquot: 215 g
Result Units: pCi/g
File Name: 040973D08A

Library: 1

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
14596-10-2	Am-241	465 +/- 54	3	470	98.9	85 - 115	P
10198-40-0	Co-60	193 +/- 23	1	180	107	85 - 115	P
10045-97-3	Cs-137	186 +/- 22	1	176	106	85 - 115	P

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

Y2 - Chemical Yield outside default limits.

L - LCS Recovery below lower control limit.

H - LCS Recovery above upper control limit.

P - LCS Recovery within control limits.

M - The requested MDC was not met.

M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.

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.

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Laboratory Control Sample(s)

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Lab ID: GS040526-3LCS

Library: 1

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 25-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3B
Count Time: 30 minutes

Final Aliquot: 215 g
Result Units: pCi/g
File Name: 040901D07A

CASNO	Target Nuclide	Results +/- 2s TPU	MDC	Spike Added	% Rec	Control Limits	Lab Qualifier
13982-63-3	Ra-226	462 +/- 54	2	471	98.1	85 - 115	P

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

Y2 - Chemical Yield outside default limits.

L - LCS Recovery below lower control limit.

H - LCS Recovery above upper control limit.

P - LCS Recovery within control limits.

M - The requested MDC was not met.

M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.

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.

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Duplicate Sample Results (DER)

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-C1
Lab ID: 0405153-3DUP

Library: FANP.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 215 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040980D02A

CASNO	Analyte	Sample Result +/- 2 s TPU	Duplicate Result +/- 2 s TPU	DER	Control Limit	Lab Qualifiers
14331-83-0	Ac-228	1.09 +/- 0.35	0.95 +/- 0.37	0.28	2.13	
14391-76-5	Ag-110m	0.036 +/- 0.081	-0.007 +/- 0.081	0.38	2.13	U
14682-66-7	Al-26	0.046 +/- 0.085	0.014 +/- 0.028	0.36	2.13	U
14596-10-2	Am-241	-0.25 +/- 0.29	0.07 +/- 0.54	0.53	2.13	U
13966-02-4	Be-7	0.52 +/- 0.72	-0.04 +/- 0.84	0.50	2.13	U
14913-49-6	Bi-212	1.7 +/- 1.2	1.0 +/- 1.2	0.41	2.13	U
14733-03-0	Bi-214	0.48 +/- 0.22	0.55 +/- 0.25	0.23	2.13	J
13982-30-4	Ce-139	0.018 +/- 0.062	-0.016 +/- 0.055	0.42	2.13	U
14762-78-8	Ce-144	-0.16 +/- 0.39	-0.02 +/- 0.38	0.26	2.13	U
14093-03-9	Co-56	0.03 +/- 0.26	0.22 +/- 0.20	0.57	2.13	U
13981-50-5	Co-57	-0.042 +/- 0.047	-0.003 +/- 0.051	0.57	2.13	U
13981-38-9	Co-58	-0.009 +/- 0.099	0 +/- 0.13	0.05	2.13	U
10198-40-0	Co-60	0.056 +/- 0.088	0.055 +/- 0.092	0.00	2.13	U
14392-02-0	Cr-51	0.7 +/- 1.1	0.1 +/- 1.1	0.41	2.13	U
13967-70-9	Cs-134	0 +/- 0.12	-0.013 +/- 0.090	0.11	2.13	U
10045-97-3	Cs-137	-0.034 +/- 0.087	0.008 +/- 0.090	0.34	2.13	U
14683-23-9	Eu-152	-0.18 +/- 0.50	0.05 +/- 0.39	0.36	2.13	U

Comments:

Duplicate 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.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
LT - Result is less than Request MDC, greater than sample specific MDC
M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside 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.
G - Sample density differs by more than 15% of LCS density.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
DER - Duplicate Error Ratio
BDL - Below Detection Limit
NR - Not Reported

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Duplicate Sample Results (DER)

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-C1
Lab ID: 0405153-3DUP

Library: FANP.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 215 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040980D02A

15585-10-1	Eu-154	0.03 +/- 0.50	0 +/- 0.42	0.05	2.13	U
14391-16-3	Eu-155	0.10 +/- 0.20	0.10 +/- 0.22	0.02	2.13	U
14596-12-4	Fe-59	-0.08 +/- 0.26	0.06 +/- 0.27	0.37	2.13	U
10043-66-0	I-131	0 +/- 1.1	0.2 +/- 1.4	0.13	2.13	U
13966-00-2	K-40	23.2 +/- 3.6	19.2 +/- 3.8	0.76	2.13	
13966-31-9	Mn-54	0.003 +/- 0.094	-0.012 +/- 0.084	0.11	2.13	U
13966-32-0	Na-22	-0.01 +/- 0.10	0.043 +/- 0.087	0.39	2.13	U
14681-63-1	Nb-94	0.009 +/- 0.083	0.024 +/- 0.078	0.13	2.13	U
13967-76-5	Nb-95	0.04 +/- 0.12	0 +/- 0.12	0.20	2.13	U
15100-28-4	Pa-234m	-11 +/- 16	1 +/- 12	0.61	2.13	U
15092-94-1	Pb-212	1.11 +/- 0.21	0.94 +/- 0.25	0.54	2.13	
15067-28-4	Pb-214	0.55 +/- 0.17	0.69 +/- 0.21	0.49	2.13	J
13967-48-1	Ru-106	0.47 +/- 0.78	0.07 +/- 0.58	0.41	2.13	U
14683-10-4	Sb-124	-0.04 +/- 0.13	-0.02 +/- 0.13	0.13	2.13	U
14234-35-6	Sb-125	-0.15 +/- 0.17	0.09 +/- 0.20	0.91	2.13	U
13967-63-0	Sc-46	0.048 +/- 0.093	0.075 +/- 0.098	0.20	2.13	U
15623-47-9	Th-227	-0.69 +/- 0.61	-0.39 +/- 0.61	0.35	2.13	U
15065-10-8	Th-234	0 +/- 1.1	0.4 +/- 1.2	0.28	2.13	U
14913-50-9	Tl-208	0.39 +/- 0.12	0.20 +/- 0.11	1.21	2.13	

Comments:

Duplicate 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.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
LT - Result is less than Request MDC, greater than sample specific MDC
M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside 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.
G - Sample density differs by more than 15% of LCS density.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
DER - Duplicate Error Ratio
BDL - Below Detection Limit
NR - Not Reported

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Duplicate Sample Results (DER)

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-C1
Lab ID: 0405153-3DUP

Library: FANP.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 215 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040980D02A

15117-96-1	U-235	-0.31 +/- 0.37	-0.05 +/- 0.35	0.52	2.13	U
13982-39-3	Zn-65	0.10 +/- 0.32	-0.10 +/- 0.26	0.48	2.13	U

Comments:

Duplicate 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.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
LT - Result is less than Request MDC, greater than sample specific MDC
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M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside 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.
G - Sample density differs by more than 15% of LCS density.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
DER - Duplicate Error Ratio
BDL - Below Detection Limit
NR - Not Reported

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Duplicate Sample Results (DER)

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-C2
Lab ID: 0405153-4DUP

Library: FANP.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 209 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040899D07A

CASNO	Analyte	Sample Result +/- 2 s TPU	Duplicate Result +/- 2 s TPU	DER	Control Limit	Lab Qualifiers
14331-83-0	Ac-228	0.95 +/- 0.43	1.02 +/- 0.46	0.11	2.13	
14391-76-5	Ag-110m	-0.008 +/- 0.075	-0.02 +/- 0.11	0.06	2.13	U
14682-66-7	Al-26	0.010 +/- 0.070	-0.01 +/- 0.12	0.15	2.13	U
14596-10-2	Am-241	0.10 +/- 0.39	0.02 +/- 0.18	0.19	2.13	U
13966-02-4	Be-7	-0.18 +/- 0.87	-0.3 +/- 1.2	0.07	2.13	U
14913-49-6	Bi-212	1.8 +/- 1.2	1.1 +/- 1.9	0.30	2.13	U
14733-03-0	Bi-214	1.33 +/- 0.37	0.84 +/- 0.32	1.00	2.13	J
13982-30-4	Ce-139	-0.054 +/- 0.058	0 +/- 0.074	0.57	2.13	U
14762-78-8	Ce-144	0.28 +/- 0.38	-0.24 +/- 0.50	0.83	2.13	U
14093-03-9	Co-56	0.30 +/- 0.25	0.09 +/- 0.33	0.51	2.13	U
13981-50-5	Co-57	-0.023 +/- 0.053	-0.037 +/- 0.057	0.19	2.13	U
13981-38-9	Co-58	0.02 +/- 0.10	-0.09 +/- 0.14	0.64	2.13	U
10198-40-0	Co-60	-0.037 +/- 0.082	-0.07 +/- 0.11	0.22	2.13	U
14392-02-0	Cr-51	-0.1 +/- 1.2	0.2 +/- 1.4	0.18	2.13	U
13967-70-9	Cs-134	0.089 +/- 0.085	-0.017 +/- 0.093	0.84	2.13	U
10045-97-3	Cs-137	0.030 +/- 0.091	0.06 +/- 0.12	0.18	2.13	U
14683-23-9	Eu-152	-0.17 +/- 0.41	0.33 +/- 0.62	0.67	2.13	U

Comments:

Duplicate 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.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
LT - Result is less than Request MDC, greater than sample specific MDC
M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside 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.
G - Sample density differs by more than 15% of LCS density.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
DER - Duplicate Error Ratio
BDL - Below Detection Limit
NR - Not Reported

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Duplicate Sample Results (DER)

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-C2
Lab ID: 0405153-4DUP

Library: FANP.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 209 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040899D07A

15585-10-1	Eu-154	-0.15 +/- 0.46	-0.14 +/- 0.53	0.01	2.13	U
14391-16-3	Eu-155	-0.01 +/- 0.21	0.14 +/- 0.21	0.50	2.13	U
14596-12-4	Fe-59	0.17 +/- 0.31	0.09 +/- 0.35	0.17	2.13	U
10043-66-0	I-131	-0.3 +/- 1.2	1.3 +/- 1.5	0.79	2.13	U
13966-00-2	K-40	22.4 +/- 4.2	23.3 +/- 4.9	0.13	2.13	
13966-31-9	Mn-54	0.002 +/- 0.098	0.11 +/- 0.13	0.64	2.13	U
13966-32-0	Na-22	-0.01 +/- 0.11	0.05 +/- 0.13	0.35	2.13	U
14681-63-1	Nb-94	-0.014 +/- 0.078	0.03 +/- 0.11	0.35	2.13	U
13967-76-5	Nb-95	-0.03 +/- 0.13	0.08 +/- 0.17	0.51	2.13	U
15100-28-4	Pa-234m	-11 +/- 17	-6 +/- 20	0.17	2.13	U
15092-94-1	Pb-212	0.93 +/- 0.23	1.10 +/- 0.29	0.46	2.13	
15067-28-4	Pb-214	1.18 +/- 0.27	1.07 +/- 0.28	0.28	2.13	J
13967-48-1	Ru-106	0.07 +/- 0.85	0.6 +/- 1.0	0.43	2.13	U
14683-10-4	Sb-124	0 +/- 0.12	-0.06 +/- 0.14	0.33	2.13	U
14234-35-6	Sb-125	0.03 +/- 0.21	-0.16 +/- 0.24	0.58	2.13	U
13967-63-0	Sc-46	0.01 +/- 0.10	0.06 +/- 0.12	0.30	2.13	U
15623-47-9	Th-227	-0.19 +/- 0.59	0.12 +/- 0.63	0.35	2.13	U
15065-10-8	Th-234	1.6 +/- 1.4	0.99 +/- 0.93	0.34	2.13	U
14913-50-9	Tl-208	0.24 +/- 0.12	0.30 +/- 0.15	0.30	2.13	

Comments:

Duplicate 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.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
LT - Result is less than Request MDC, greater than sample specific MDC
M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside 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.
G - Sample density differs by more than 15% of LCS density.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
DER - Duplicate Error Ratio
BDL - Below Detection Limit
NR - Not Reported

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Duplicate Sample Results (DER)

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-C2
Lab ID: 0405153-4DUP

Library: FANP.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 209 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040899D07A

15117-96-1	U-235	-0.11 +/- 0.36	-0.19 +/- 0.43	0.14	2.13	U
13982-39-3	Zn-65	-0.19 +/- 0.28	0.03 +/- 0.28	0.57	2.13	U

Comments:

Duplicate 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.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
LT - Result is less than Request MDC, greater than sample specific MDC
M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside 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.
G - Sample density differs by more than 15% of LCS density.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
DER - Duplicate Error Ratio
BDL - Below Detection Limit
NR - Not Reported

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Duplicate Sample Results (DER)

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-C1
Lab ID: 0405153-3DUP

Library: RA226.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 215 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040980D02B

CASNO	Analyte	Sample Result +/- 2 s TPU	Duplicate Result +/- 2 s TPU	DER	Control Limit	Lab Qualifiers
13982-63-3	Ra-226	0.72 +/- 0.20	0.81 +/- 0.22	0.29	2.13	LT

Comments:

Duplicate 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.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
LT - Result is less than Request MDC, greater than sample specific MDC
M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside 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.
G - Sample density differs by more than 15% of LCS density.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
DER - Duplicate Error Ratio
BDL - Below Detection Limit
NR - Not Reported

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Duplicate Sample Results (DER)

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-C2
Lab ID: 0405153-4DUP

Library: RA226.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 209 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040899D07B

CASNO	Analyte	Sample Result +/- 2 s TPU	Duplicate Result +/- 2 s TPU	DER	Control Limit	Lab Qualifiers
13982-63-3	Ra-226	1.58 +/- 0.31	1.26 +/- 0.29	0.77	2.13	

Comments:

Duplicate 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.
W - DER is greater than Warning Limit of 1.42
D - DER is greater than Control Limit of 2.13
LT - Result is less than Request MDC, greater than sample specific MDC
M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside 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.
G - Sample density differs by more than 15% of LCS density.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)
DER - Duplicate Error Ratio
BDL - Below Detection Limit
NR - Not Reported

Data Package ID: *GSS0405153-1*

PARAGON ANALYTICS
Radiochemistry Data Package

3

Section 3

INDIVIDUAL SAMPLE RESULTS

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-B3
Lab ID: 0405153-1

Library: FANP.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 186 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040898D07B

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14331-83-0	Ac-228	0.96 +/- 0.60	0.78	TI
14391-76-5	Ag-110m	-0.21 +/- 0.16	0.34	U
14682-66-7	Al-26	0.04 +/- 0.13	0.25	U
14596-10-2	Am-241	0.02 +/- 0.18	0.31	U
13966-02-4	Be-7	0.6 +/- 1.3	2.2	U
14913-49-6	Bi-212	0.7 +/- 2.0	3.5	U
14733-03-0	Bi-214	0.63 +/- 0.38	0.55	J
13982-30-4	Ce-139	-0.028 +/- 0.077	0.144	U
14762-78-8	Ce-144	-0.55 +/- 0.46	0.92	U
14093-03-9	Co-56	0 +/- 0.38	0.72	U
13981-50-5	Co-57	-0.024 +/- 0.065	0.121	U
13981-38-9	Co-58	-0.04 +/- 0.15	0.31	U
10198-40-0	Co-60	-0.06 +/- 0.13	0.30	U
14392-02-0	Cr-51	-0.9 +/- 1.6	3.2	U
13967-70-9	Cs-134	0.01 +/- 0.11	0.21	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-B3
Lab ID: 0405153-1

Library: FANP.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 186 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040898D07B

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
10045-97-3	Cs-137	0.23 +/- 0.14	0.19	TI
14683-23-9	Eu-152	0 +/- 0.74	1.47	U
15585-10-1	Eu-154	-0.40 +/- 0.80	1.65	U
14391-16-3	Eu-155	0.07 +/- 0.21	0.36	U
14596-12-4	Fe-59	0.06 +/- 0.36	0.69	U
10043-66-0	I-131	-0.5 +/- 1.8	3.5	U
13966-00-2	K-40	19.0 +/- 4.5	2.8	
13966-31-9	Mn-54	-0.04 +/- 0.11	0.23	U
13966-32-0	Na-22	-0.02 +/- 0.14	0.29	U
14681-63-1	Nb-94	0 +/- 0.14	0.26	U
13967-76-5	Nb-95	-0.01 +/- 0.18	0.34	U
15100-28-4	Pa-234m	7 +/- 23	42	U
15092-94-1	Pb-212	0.95 +/- 0.30	0.36	
15067-28-4	Pb-214	0.52 +/- 0.23	0.42	J
13967-48-1	Ru-106	0.4 +/- 1.0	1.8	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-B3
Lab ID: 0405153-1

Library: FANP.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 186 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040898D07B

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14683-10-4	Sb-124	-0.04 +/- 0.17	0.33	U
14234-35-6	Sb-125	-0.06 +/- 0.25	0.49	U
13967-63-0	Sc-46	0.05 +/- 0.15	0.28	U
15623-47-9	Th-227	-0.32 +/- 0.62	1.22	U
15065-10-8	Th-234	1.6 +/- 1.6	2.6	U
14913-50-9	Tl-208	0.27 +/- 0.16	0.22	
15117-96-1	U-235	0.02 +/- 0.46	0.82	U
13982-39-3	Zn-65	0.01 +/- 0.29	0.57	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-B3
Lab ID: 0405153-1

Library: RA226.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 186 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040898D07C

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13982-63-3	Ra-226	0.70 +/- 0.26	0.53	LT

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-C0
Lab ID: 0405153-2

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 211 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040970D08A

Library: FANP.LIB

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14331-83-0	Ac-228	0.58 +/- 0.36	0.44	TI
14391-76-5	Ag-110m	-0.058 +/- 0.090	0.187	U
14682-66-7	Al-26	0.04 +/- 0.10	0.19	U
14596-10-2	Am-241	0.14 +/- 0.16	0.26	U
13966-02-4	Be-7	0.71 +/- 0.97	1.60	U
14913-49-6	Bi-212	1.2 +/- 1.4	2.3	U
14733-03-0	Bi-214	0.48 +/- 0.24	0.32	J
13982-30-4	Ce-139	-0.042 +/- 0.064	0.122	U
14762-78-8	Ce-144	0.12 +/- 0.38	0.65	U
14093-03-9	Co-56	0.17 +/- 0.30	0.52	U
13981-50-5	Co-57	-0.004 +/- 0.045	0.082	U
13981-38-9	Co-58	-0.108 +/- 0.094	0.227	U
10198-40-0	Co-60	-0.07 +/- 0.14	0.29	U
14392-02-0	Cr-51	-0.7 +/- 1.4	2.6	U
13967-70-9	Cs-134	-0.034 +/- 0.099	0.190	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-C0
Lab ID: 0405153-2

Library: FANP.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 211 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040970D08A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
10045-97-3	Cs-137	0.15 +/- 0.11	0.16	U
14683-23-9	Eu-152	0.33 +/- 0.64	1.12	U
15585-10-1	Eu-154	-0.16 +/- 0.59	1.17	U
14391-16-3	Eu-155	-0.10 +/- 0.20	0.37	U
14596-12-4	Fe-59	0.07 +/- 0.38	0.70	U
10043-66-0	I-131	0.1 +/- 1.3	2.4	U
13966-00-2	K-40	23.2 +/- 4.5	2.1	
13966-31-9	Mn-54	0 +/- 0.093	0.179	U
13966-32-0	Na-22	0.04 +/- 0.12	0.22	U
14681-63-1	Nb-94	0.07 +/- 0.11	0.19	U
13967-76-5	Nb-95	-0.06 +/- 0.14	0.27	U
15100-28-4	Pa-234m	-7 +/- 16	33	U
15092-94-1	Pb-212	0.80 +/- 0.23	0.26	
15067-28-4	Pb-214	0.68 +/- 0.22	0.31	J
13967-48-1	Ru-106	-1.1 +/- 1.0	2.1	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-C0
Lab ID: 0405153-2

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 211 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040970D08A

Library: FANP.LIB

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14683-10-4	Sb-124	0.04 +/- 0.14	0.25	U
14234-35-6	Sb-125	0.07 +/- 0.21	0.37	U
13967-63-0	Sc-46	-0.09 +/- 0.11	0.25	U
15623-47-9	Th-227	-0.10 +/- 0.40	0.75	U
15065-10-8	Th-234	1.1 +/- 1.2	2.0	U
14913-50-9	Tl-208	0.27 +/- 0.13	0.16	
15117-96-1	U-235	0.16 +/- 0.37	0.63	U
13982-39-3	Zn-65	-0.35 +/- 0.30	0.65	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-C0
Lab ID: 0405153-2

Library: RA226.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 211 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040970D08B

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13982-63-3	Ra-226	0.78 +/- 0.22	0.40	LT

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-C1
Lab ID: 0405153-3

Library: FANP.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 219 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040949D10A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14331-83-0	Ac-228	1.09 +/- 0.35	0.66	
14391-76-5	Ag-110m	0.036 +/- 0.081	0.138	U
14682-66-7	Al-26	0.046 +/- 0.085	0.144	U
14596-10-2	Am-241	-0.25 +/- 0.29	0.51	U
13966-02-4	Be-7	0.52 +/- 0.72	1.18	U
14913-49-6	Bi-212	1.7 +/- 1.2	1.8	U
14733-03-0	Bi-214	0.48 +/- 0.22	0.32	J
13982-30-4	Ce-139	0.018 +/- 0.062	0.105	U
14762-78-8	Ce-144	-0.16 +/- 0.39	0.69	U
14093-03-9	Co-56	0.03 +/- 0.26	0.45	U
13981-50-5	Co-57	-0.042 +/- 0.047	0.086	U
13981-38-9	Co-58	-0.009 +/- 0.099	0.177	U
10198-40-0	Co-60	0.056 +/- 0.088	0.148	U
14392-02-0	Cr-51	0.7 +/- 1.1	1.8	U
13967-70-9	Cs-134	0 +/- 0.12	0.20	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-C1
Lab ID: 0405153-3

Library: FANP.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 219 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040949D10A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
10045-97-3	Cs-137	-0.034 +/- 0.087	0.156	U
14683-23-9	Eu-152	-0.18 +/- 0.50	0.91	U
15585-10-1	Eu-154	0.03 +/- 0.50	0.88	U
14391-16-3	Eu-155	0.10 +/- 0.20	0.34	U
14596-12-4	Fe-59	-0.08 +/- 0.26	0.47	U
10043-66-0	I-131	0 +/- 1.1	1.9	U
13966-00-2	K-40	23.2 +/- 3.6	2.1	
13966-31-9	Mn-54	0.003 +/- 0.094	0.164	U
13966-32-0	Na-22	-0.01 +/- 0.10	0.18	U
14681-63-1	Nb-94	0.009 +/- 0.083	0.143	U
13967-76-5	Nb-95	0.04 +/- 0.12	0.20	U
15100-28-4	Pa-234m	-11 +/- 16	29	U
15092-94-1	Pb-212	1.11 +/- 0.21	0.20	
15067-28-4	Pb-214	0.55 +/- 0.17	0.27	J
13967-48-1	Ru-106	0.47 +/- 0.78	1.30	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-C1
Lab ID: 0405153-3

Library: FANP.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 219 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040949D10A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14683-10-4	Sb-124	-0.04 +/- 0.13	0.23	U
14234-35-6	Sb-125	-0.15 +/- 0.17	0.32	U
13967-63-0	Sc-46	0.048 +/- 0.093	0.157	U
15623-47-9	Th-227	-0.69 +/- 0.61	1.10	U
15065-10-8	Th-234	0 +/- 1.1	1.9	U
14913-50-9	Tl-208	0.39 +/- 0.12	0.14	
15117-96-1	U-235	-0.31 +/- 0.37	0.67	U
13982-39-3	Zn-65	0.10 +/- 0.32	0.53	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-C1
Lab ID: 0405153-3

Library: RA226.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 219 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040949D10B

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13982-63-3	Ra-226	0.72 +/- 0.20	0.36	LT

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Duplicate Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-C1
Lab ID: 0405153-3DUP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 215 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040980D02A

Library: FANP.LIB

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14331-83-0	Ac-228	0.95 +/- 0.37	0.60	
14391-76-5	Ag-110m	-0.007 +/- 0.081	0.155	U
14682-66-7	Al-26	0.014 +/- 0.028	0.037	U
14596-10-2	Am-241	0.07 +/- 0.54	0.98	U
13966-02-4	Be-7	-0.04 +/- 0.84	1.60	U
14913-49-6	Bi-212	1.0 +/- 1.2	2.0	U
14733-03-0	Bi-214	0.55 +/- 0.25	0.31	J
13982-30-4	Ce-139	-0.016 +/- 0.055	0.104	U
14762-78-8	Ce-144	-0.02 +/- 0.38	0.68	U
14093-03-9	Co-56	0.22 +/- 0.20	0.30	U
13981-50-5	Co-57	-0.003 +/- 0.051	0.092	U
13981-38-9	Co-58	0 +/- 0.13	0.25	U
10198-40-0	Co-60	0.055 +/- 0.092	0.156	U

Comments:

Qualifiers/Flags:

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

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

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

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Duplicate Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-C1
Lab ID: 0405153-3DUP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 215 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040980D02A

Library: FANP.LIB

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14392-02-0	Cr-51	0.1 +/- 1.1	2.0	U
13967-70-9	Cs-134	-0.013 +/- 0.090	0.168	U
10045-97-3	Cs-137	0.008 +/- 0.090	0.166	U
14683-23-9	Eu-152	0.05 +/- 0.39	0.77	U
15585-10-1	Eu-154	0 +/- 0.42	0.82	U
14391-16-3	Eu-155	0.10 +/- 0.22	0.38	U
14596-12-4	Fe-59	0.06 +/- 0.27	0.50	U
10043-66-0	I-131	0.2 +/- 1.4	2.6	U
13966-00-2	K-40	19.2 +/- 3.8	1.9	
13966-31-9	Mn-54	-0.012 +/- 0.084	0.165	U
13966-32-0	Na-22	0.043 +/- 0.087	0.153	U
14681-63-1	Nb-94	0.024 +/- 0.078	0.140	U
13967-76-5	Nb-95	0 +/- 0.12	0.23	U

Comments:

Qualifiers/Flags:

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

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

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

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Duplicate Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-C1
Lab ID: 0405153-3DUP

Library: FANP.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 215 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040980D02A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
15100-28-4	Pa-234m	1 +/- 12	24	U
15092-94-1	Pb-212	0.94 +/- 0.25	0.28	
15067-28-4	Pb-214	0.69 +/- 0.21	0.28	J
13967-48-1	Ru-106	0.07 +/- 0.58	1.11	U
14683-10-4	Sb-124	-0.02 +/- 0.13	0.24	U
14234-35-6	Sb-125	0.09 +/- 0.20	0.35	U
13967-63-0	Sc-46	0.075 +/- 0.098	0.160	U
15623-47-9	Th-227	-0.39 +/- 0.61	1.17	U
15065-10-8	Th-234	0.4 +/- 1.2	2.1	U
14913-50-9	Tl-208	0.20 +/- 0.11	0.14	
15117-96-1	U-235	-0.05 +/- 0.35	0.65	U
13982-39-3	Zn-65	-0.10 +/- 0.26	0.51	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU.

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

Y2 - Chemical Yield outside default limits.

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

M - The requested MDC was not met.

M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.

W - DER is greater than Warning Limit of 1.42

D - DER is greater than Control Limit of 2.13

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Duplicate Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-C1
Lab ID: 0405153-3DUP

Library: RA226.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 215 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040980D02B

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13982-63-3	Ra-226	0.81 +/- 0.22	0.34	LT

Comments:

Qualifiers/Flags:

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

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

Abbreviations:

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

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-C2
Lab ID: 0405153-4

Library: FANP.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 211 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 041034D04A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14331-83-0	Ac-228	0.95 +/- 0.43	0.79	
14391-76-5	Ag-110m	-0.008 +/- 0.075	0.146	U
14682-66-7	Al-26	0.010 +/- 0.070	0.148	U
14596-10-2	Am-241	0.10 +/- 0.39	0.69	U
13966-02-4	Be-7	-0.18 +/- 0.87	1.68	U
14913-49-6	Bi-212	1.8 +/- 1.2	1.6	TI
14733-03-0	Bi-214	1.33 +/- 0.37	0.37	J
13982-30-4	Ce-139	-0.054 +/- 0.058	0.114	U
14762-78-8	Ce-144	0.28 +/- 0.38	0.62	U
14093-03-9	Co-56	0.30 +/- 0.25	0.36	U
13981-50-5	Co-57	-0.023 +/- 0.053	0.098	U
13981-38-9	Co-58	0.02 +/- 0.10	0.19	U
10198-40-0	Co-60	-0.037 +/- 0.082	0.182	U
14392-02-0	Cr-51	-0.1 +/- 1.2	2.2	U
13967-70-9	Cs-134	0.089 +/- 0.085	0.131	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-C2
Lab ID: 0405153-4

Library: FANP.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 211 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 041034D04A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
10045-97-3	Cs-137	0.030 +/- 0.091	0.162	U
14683-23-9	Eu-152	-0.17 +/- 0.41	0.90	U
15585-10-1	Eu-154	-0.15 +/- 0.46	0.95	U
14391-16-3	Eu-155	-0.01 +/- 0.21	0.39	U
14596-12-4	Fe-59	0.17 +/- 0.31	0.53	U
10043-66-0	I-131	-0.3 +/- 1.2	2.3	U
13966-00-2	K-40	22.4 +/- 4.2	1.8	
13966-31-9	Mn-54	0.002 +/- 0.098	0.183	U
13966-32-0	Na-22	-0.01 +/- 0.11	0.22	U
14681-63-1	Nb-94	-0.014 +/- 0.078	0.151	U
13967-76-5	Nb-95	-0.03 +/- 0.13	0.25	U
15100-28-4	Pa-234m	-11 +/- 17	34	U
15092-94-1	Pb-212	0.93 +/- 0.23	0.23	
15067-28-4	Pb-214	1.18 +/- 0.27	0.39	J
13967-48-1	Ru-106	0.07 +/- 0.85	1.57	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-C2
Lab ID: 0405153-4

Library: FANP.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 211 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 041034D04A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14683-10-4	Sb-124	0 +/- 0.12	0.22	U
14234-35-6	Sb-125	0.03 +/- 0.21	0.39	U
13967-63-0	Sc-46	0.01 +/- 0.10	0.19	U
15623-47-9	Th-227	-0.19 +/- 0.59	1.07	U
15065-10-8	Th-234	1.6 +/- 1.4	2.2	U
14913-50-9	Tl-208	0.24 +/- 0.12	0.16	
15117-96-1	U-235	-0.11 +/- 0.36	0.67	U
13982-39-3	Zn-65	-0.19 +/- 0.28	0.56	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-C2
Lab ID: 0405153-4

Library: RA226.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 211 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 041034D04B

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13982-63-3	Ra-226	1.58 +/- 0.31	0.49	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Duplicate Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-C2
Lab ID: 0405153-4DUP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 209 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040899D07A

Library: FANP.LIB

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14331-83-0	Ac-228	1.02 +/- 0.46	0.77	
14391-76-5	Ag-110m	-0.02 +/- 0.11	0.21	U
14682-66-7	Al-26	-0.01 +/- 0.12	0.26	U
14596-10-2	Am-241	0.02 +/- 0.18	0.32	U
13966-02-4	Be-7	-0.3 +/- 1.2	2.2	U
14913-49-6	Bi-212	1.1 +/- 1.9	3.2	U
14733-03-0	Bi-214	0.84 +/- 0.32	0.41	J
13982-30-4	Ce-139	0 +/- 0.074	0.133	U
14762-78-8	Ce-144	-0.24 +/- 0.50	0.93	U
14093-03-9	Co-56	0.09 +/- 0.33	0.60	U
13981-50-5	Co-57	-0.037 +/- 0.057	0.109	U
13981-38-9	Co-58	-0.09 +/- 0.14	0.30	U
10198-40-0	Co-60	-0.07 +/- 0.11	0.25	U

Comments:

Qualifiers/Flags:

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

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

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

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Duplicate Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-C2
Lab ID: 0405153-4DUP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 209 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040899D07A

Library: FANP.LIB

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14392-02-0	Cr-51	0.2 +/- 1.4	2.5	U
13967-70-9	Cs-134	-0.017 +/- 0.093	0.180	U
10045-97-3	Cs-137	0.06 +/- 0.12	0.20	U
14683-23-9	Eu-152	0.33 +/- 0.62	1.08	U
15585-10-1	Eu-154	-0.14 +/- 0.53	1.13	U
14391-16-3	Eu-155	0.14 +/- 0.21	0.35	U
14596-12-4	Fe-59	0.09 +/- 0.35	0.65	U
10043-66-0	I-131	1.3 +/- 1.5	2.5	U
13966-00-2	K-40	23.3 +/- 4.9	2.5	
13966-31-9	Mn-54	0.11 +/- 0.13	0.22	U
13966-32-0	Na-22	0.05 +/- 0.13	0.24	U
14681-63-1	Nb-94	0.03 +/- 0.11	0.19	U
13967-76-5	Nb-95	0.08 +/- 0.17	0.30	U

Comments:

Qualifiers/Flags:

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

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

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

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Duplicate Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-C2
Lab ID: 0405153-4DUP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 209 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040899D07A

Library: FANP.LIB

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
15100-28-4	Pa-234m	-6 +/- 20	40	U
15092-94-1	Pb-212	1.10 +/- 0.29	0.31	
15067-28-4	Pb-214	1.07 +/- 0.28	0.35	J
13967-48-1	Ru-106	0.6 +/- 1.0	1.7	U
14683-10-4	Sb-124	-0.06 +/- 0.14	0.28	U
14234-35-6	Sb-125	-0.16 +/- 0.24	0.49	U
13967-63-0	Sc-46	0.06 +/- 0.12	0.21	U
15623-47-9	Th-227	0.12 +/- 0.63	1.09	U
15065-10-8	Th-234	0.99 +/- 0.93	2.04	U
14913-50-9	Tl-208	0.30 +/- 0.15	0.20	
15117-96-1	U-235	-0.19 +/- 0.43	0.81	U
13982-39-3	Zn-65	0.03 +/- 0.28	0.54	U

Comments:

Qualifiers/Flags:

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

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

Abbreviations:

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

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Duplicate Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-C2
Lab ID: 0405153-4DUP

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 209 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040899D07B

Library: RA226.LIB

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13982-63-3	Ra-226	1.26 +/- 0.29	0.44	

Comments:

Qualifiers/Flags:

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

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

Abbreviations:

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

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-C3
Lab ID: 0405153-5

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 169 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040971D08A

Library: FANP.LIB

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14331-83-0	Ac-228	0.87 +/- 0.57	0.76	TI,G
14391-76-5	Ag-110m	-0.01 +/- 0.12	0.22	U,G
14682-66-7	Al-26	0.15 +/- 0.14	0.19	U,G
14596-10-2	Am-241	0.13 +/- 0.19	0.32	U,G
13966-02-4	Be-7	0.2 +/- 1.0	1.9	U,G
14913-49-6	Bi-212	1.8 +/- 1.8	2.8	U,G
14733-03-0	Bi-214	0.42 +/- 0.25	0.34	G,J
13982-30-4	Ce-139	-0.031 +/- 0.072	0.136	U,G
14762-78-8	Ce-144	0.17 +/- 0.43	0.74	U,G
14093-03-9	Co-56	0 +/- 0.33	0.62	U,G
13981-50-5	Co-57	-0.014 +/- 0.056	0.104	U,G
13981-38-9	Co-58	-0.05 +/- 0.12	0.25	U,G
10198-40-0	Co-60	0.10 +/- 0.13	0.21	U,G
14392-02-0	Cr-51	1.0 +/- 1.7	2.9	U,G
13967-70-9	Cs-134	0.08 +/- 0.11	0.19	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-C3
Lab ID: 0405153-5

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 169 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040971D08A

Library: FANP.LIB

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
10045-97-3	Cs-137	0.05 +/- 0.12	0.20	U,G
14683-23-9	Eu-152	0.13 +/- 0.51	0.99	U,G
15585-10-1	Eu-154	0.06 +/- 0.62	1.20	U,G
14391-16-3	Eu-155	0.15 +/- 0.21	0.35	U,G
14596-12-4	Fe-59	0.25 +/- 0.44	0.76	U,G
10043-66-0	I-131	0.3 +/- 1.6	3.0	U,G
13966-00-2	K-40	19.8 +/- 4.4	2.0	G
13966-31-9	Mn-54	-0.07 +/- 0.15	0.29	U,G
13966-32-0	Na-22	-0.03 +/- 0.12	0.26	U,G
14681-63-1	Nb-94	0.04 +/- 0.12	0.22	U,G
13967-76-5	Nb-95	0.06 +/- 0.17	0.30	U,G
15100-28-4	Pa-234m	0 +/- 21	40	U,G
15092-94-1	Pb-212	1.10 +/- 0.31	0.35	G
15067-28-4	Pb-214	0.46 +/- 0.23	0.35	G,J
13967-48-1	Ru-106	0.8 +/- 1.2	2.0	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-C3
Lab ID: 0405153-5

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 169 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040971D08A

Library: FANP.LIB

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14683-10-4	Sb-124	-0.10 +/- 0.17	0.33	U,G
14234-35-6	Sb-125	-0.04 +/- 0.22	0.43	U,G
13967-63-0	Sc-46	-0.12 +/- 0.17	0.36	U,G
15623-47-9	Th-227	-0.40 +/- 0.46	0.92	U,G
15065-10-8	Th-234	1.6 +/- 1.4	2.3	U,G
14913-50-9	Tl-208	0.28 +/- 0.14	0.17	G
15117-96-1	U-235	0 +/- 0.43	0.78	U,G
13982-39-3	Zn-65	-0.09 +/- 0.38	0.73	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-C3
Lab ID: 0405153-5

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 169 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040971D08B

Library: RA226.LIB

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13982-63-3	Ra-226	0.58 +/- 0.23	0.45	LT,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-D0
Lab ID: 0405153-6

Library: FANP.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 222 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040950D10A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14331-83-0	Ac-228	0.50 +/- 0.26	0.52	U
14391-76-5	Ag-110m	-0.051 +/- 0.079	0.145	U
14682-66-7	Al-26	-0.04 +/- 0.10	0.19	U
14596-10-2	Am-241	-0.19 +/- 0.26	0.47	U
13966-02-4	Be-7	-0.29 +/- 0.69	1.27	U
14913-49-6	Bi-212	1.0 +/- 1.1	1.8	U
14733-03-0	Bi-214	0.44 +/- 0.19	0.31	J
13982-30-4	Ce-139	-0.032 +/- 0.057	0.102	U
14762-78-8	Ce-144	-0.08 +/- 0.35	0.61	U
14093-03-9	Co-56	-0.05 +/- 0.25	0.44	U
13981-50-5	Co-57	0.013 +/- 0.046	0.079	U
13981-38-9	Co-58	-0.02 +/- 0.11	0.19	U
10198-40-0	Co-60	-0.023 +/- 0.098	0.177	U
14392-02-0	Cr-51	-0.4 +/- 1.0	1.8	U
13967-70-9	Cs-134	0.25 +/- 0.53	0.88	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-D0
Lab ID: 0405153-6

Library: FANP.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 222 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040950D10A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
10045-97-3	Cs-137	0.041 +/- 0.079	0.133	U
14683-23-9	Eu-152	0.34 +/- 0.43	0.71	U
15585-10-1	Eu-154	0.35 +/- 0.46	0.76	U
14391-16-3	Eu-155	0.04 +/- 0.19	0.32	U
14596-12-4	Fe-59	-0.03 +/- 0.30	0.53	U
10043-66-0	I-131	0.6 +/- 1.0	1.7	U
13966-00-2	K-40	23.0 +/- 3.6	2.0	
13966-31-9	Mn-54	0.019 +/- 0.083	0.143	U
13966-32-0	Na-22	-0.006 +/- 0.097	0.172	U
14681-63-1	Nb-94	-0.063 +/- 0.072	0.135	U
13967-76-5	Nb-95	-0.04 +/- 0.11	0.21	U
15100-28-4	Pa-234m	-3 +/- 15	26	U
15092-94-1	Pb-212	0.67 +/- 0.16	0.18	
15067-28-4	Pb-214	0.47 +/- 0.17	0.28	J
13967-48-1	Ru-106	-0.32 +/- 0.69	1.25	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-D0
Lab ID: 0405153-6

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 222 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040950D10A

Library: FANP.LIB

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14683-10-4	Sb-124	-0.07 +/- 0.13	0.23	U
14234-35-6	Sb-125	0.09 +/- 0.17	0.28	U
13967-63-0	Sc-46	-0.10 +/- 0.10	0.19	U
15623-47-9	Th-227	-0.85 +/- 0.53	1.00	U
15065-10-8	Th-234	0.8 +/- 1.3	2.2	U
14913-50-9	Tl-208	0.173 +/- 0.093	0.138	
15117-96-1	U-235	0.05 +/- 0.34	0.58	U
13982-39-3	Zn-65	0.23 +/- 0.31	0.50	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-D0
Lab ID: 0405153-6

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 222 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040950D10B

Library: RA226.LIB

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13982-63-3	Ra-226	0.62 +/- 0.18	0.37	LT

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-D1
Lab ID: 0405153-7

Library: FANP.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 209 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040981D02A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14331-83-0	Ac-228	1.01 +/- 0.38	0.56	
14391-76-5	Ag-110m	-0.023 +/- 0.077	0.155	U
14682-66-7	Al-26	0.038 +/- 0.079	0.144	U
14596-10-2	Am-241	-0.05 +/- 0.60	1.10	U
13966-02-4	Be-7	0.18 +/- 0.88	1.60	U
14913-49-6	Bi-212	1.1 +/- 1.7	2.8	U
14733-03-0	Bi-214	0.59 +/- 0.26	0.32	J
13982-30-4	Ce-139	0 +/- 0.062	0.111	U
14762-78-8	Ce-144	-0.01 +/- 0.38	0.68	U
14093-03-9	Co-56	0.06 +/- 0.21	0.38	U
13981-50-5	Co-57	0.002 +/- 0.051	0.092	U
13981-38-9	Co-58	-0.043 +/- 0.084	0.185	U
10198-40-0	Co-60	0 +/- 0.091	0.181	U
14392-02-0	Cr-51	-0.9 +/- 1.1	2.3	U
13967-70-9	Cs-134	0.007 +/- 0.089	0.163	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-D1
Lab ID: 0405153-7

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 209 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040981D02A

Library: FANP.LIB

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
10045-97-3	Cs-137	-0.016 +/- 0.082	0.161	U
14683-23-9	Eu-152	0.06 +/- 0.34	0.67	U
15585-10-1	Eu-154	0.10 +/- 0.56	1.02	U
14391-16-3	Eu-155	0.05 +/- 0.24	0.41	U
14596-12-4	Fe-59	0.24 +/- 0.30	0.49	U
10043-66-0	I-131	0.3 +/- 1.3	2.4	U
13966-00-2	K-40	17.4 +/- 3.6	1.8	
13966-31-9	Mn-54	-0.028 +/- 0.086	0.174	U
13966-32-0	Na-22	0.08 +/- 0.11	0.18	U
14681-63-1	Nb-94	-0.031 +/- 0.091	0.176	U
13967-76-5	Nb-95	-0.08 +/- 0.11	0.24	U
15100-28-4	Pa-234m	5 +/- 16	29	U
15092-94-1	Pb-212	1.20 +/- 0.29	0.30	
15067-28-4	Pb-214	0.85 +/- 0.23	0.34	J
13967-48-1	Ru-106	0.07 +/- 0.74	1.38	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-D1
Lab ID: 0405153-7

Library: FANP.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 209 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040981D02A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14683-10-4	Sb-124	-0.05 +/- 0.13	0.24	U
14234-35-6	Sb-125	-0.03 +/- 0.20	0.38	U
13967-63-0	Sc-46	-0.033 +/- 0.073	0.164	U
15623-47-9	Th-227	0.35 +/- 0.68	1.10	U
15065-10-8	Th-234	0.6 +/- 1.3	2.2	U
14913-50-9	Tl-208	0.21 +/- 0.11	0.15	
15117-96-1	U-235	-0.47 +/- 0.40	0.79	U
13982-39-3	Zn-65	-0.10 +/- 0.24	0.47	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-D1
Lab ID: 0405153-7

Library: RA226.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 209 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040981D02B

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13982-63-3	Ra-226	0.95 +/- 0.23	0.41	LT

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-D2
Lab ID: 0405153-8

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 195 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 041035D04A

Library: FANP.LIB

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14331-83-0	Ac-228	0.79 +/- 0.38	0.62	TI
14391-76-5	Ag-110m	0.081 +/- 0.089	0.141	U
14682-66-7	Al-26	-0.005 +/- 0.069	0.159	U
14596-10-2	Am-241	0.35 +/- 0.40	0.65	U
13966-02-4	Be-7	0.50 +/- 0.89	1.52	U
14913-49-6	Bi-212	0.7 +/- 1.2	2.0	U
14733-03-0	Bi-214	0.30 +/- 0.24	0.37	U,J
13982-30-4	Ce-139	-0.006 +/- 0.054	0.100	U
14762-78-8	Ce-144	0.01 +/- 0.38	0.68	U
14093-03-9	Co-56	0.16 +/- 0.26	0.43	U
13981-50-5	Co-57	0.005 +/- 0.048	0.086	U
13981-38-9	Co-58	-0.06 +/- 0.11	0.23	U
10198-40-0	Co-60	0.044 +/- 0.093	0.166	U
14392-02-0	Cr-51	-0.4 +/- 1.2	2.3	U
13967-70-9	Cs-134	0.041 +/- 0.084	0.146	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-D2
Lab ID: 0405153-8

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 195 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 041035D04A

Library: FANP.LIB

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
10045-97-3	Cs-137	-0.057 +/- 0.089	0.184	U
14683-23-9	Eu-152	-0.12 +/- 0.43	0.92	U
15585-10-1	Eu-154	0 +/- 0.49	0.95	U
14391-16-3	Eu-155	0.10 +/- 0.21	0.36	U
14596-12-4	Fe-59	-0.22 +/- 0.31	0.67	U
10043-66-0	I-131	-0.9 +/- 1.2	2.5	U
13966-00-2	K-40	19.1 +/- 4.0	2.5	
13966-31-9	Mn-54	-0.023 +/- 0.093	0.184	U
13966-32-0	Na-22	-0.034 +/- 0.096	0.205	U
14681-63-1	Nb-94	-0.007 +/- 0.080	0.155	U
13967-76-5	Nb-95	-0.08 +/- 0.14	0.27	U
15100-28-4	Pa-234m	0 +/- 15	30	U
15092-94-1	Pb-212	1.01 +/- 0.24	0.22	
15067-28-4	Pb-214	0.66 +/- 0.21	0.31	J
13967-48-1	Ru-106	-0.14 +/- 0.81	1.58	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-D2
Lab ID: 0405153-8

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 195 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 041035D04A

Library: FANP.LIB

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14683-10-4	Sb-124	-0.06 +/- 0.12	0.24	U
14234-35-6	Sb-125	-0.08 +/- 0.21	0.41	U
13967-63-0	Sc-46	0 +/- 0.097	0.191	U
15623-47-9	Th-227	0 +/- 0.62	1.08	U
15065-10-8	Th-234	1.6 +/- 1.3	2.0	U
14913-50-9	Tl-208	0.20 +/- 0.11	0.14	
15117-96-1	U-235	-0.15 +/- 0.36	0.68	U
13982-39-3	Zn-65	0 +/- 0.24	0.45	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-D2
Lab ID: 0405153-8

Library: RA226.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 195 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 041035D04B

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13982-63-3	Ra-226	0.68 +/- 0.21	0.39	LT

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-D3
Lab ID: 0405153-9

Library: FANP.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 167 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040900D07A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14331-83-0	Ac-228	1.23 +/- 0.58	1.01	G
14391-76-5	Ag-110m	-0.12 +/- 0.17	0.34	U,G
14682-66-7	Al-26	0.02 +/- 0.13	0.27	U,G
14596-10-2	Am-241	0 +/- 0.18	0.33	U,G
13966-02-4	Be-7	-0.4 +/- 1.5	2.8	U,G
14913-49-6	Bi-212	1.1 +/- 2.0	3.5	U,G
14733-03-0	Bi-214	0.80 +/- 0.38	0.49	G,J
13982-30-4	Ce-139	0 +/- 0.081	0.147	U,G
14762-78-8	Ce-144	0.58 +/- 0.57	0.91	U,G
14093-03-9	Co-56	-0.19 +/- 0.46	0.91	U,G
13981-50-5	Co-57	0.004 +/- 0.070	0.124	U,G
13981-38-9	Co-58	0.15 +/- 0.19	0.31	U,G
10198-40-0	Co-60	0.04 +/- 0.12	0.22	U,G
14392-02-0	Cr-51	0 +/- 2.1	3.8	U,G
13967-70-9	Cs-134	-0.04 +/- 0.10	0.21	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-D3
Lab ID: 0405153-9

Library: FANP.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 167 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040900D07A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
10045-97-3	Cs-137	0.25 +/- 0.17	0.23	G,TI
14683-23-9	Eu-152	0.21 +/- 0.58	1.11	U,G
15585-10-1	Eu-154	-0.18 +/- 0.62	1.34	U,G
14391-16-3	Eu-155	0.11 +/- 0.23	0.40	U,G
14596-12-4	Fe-59	-0.25 +/- 0.38	0.87	U,G
10043-66-0	I-131	1.8 +/- 1.7	2.7	U,G
13966-00-2	K-40	17.6 +/- 4.6	3.3	G
13966-31-9	Mn-54	0.02 +/- 0.11	0.20	U,G
13966-32-0	Na-22	-0.02 +/- 0.15	0.30	U,G
14681-63-1	Nb-94	0.01 +/- 0.15	0.27	U,G
13967-76-5	Nb-95	0.11 +/- 0.18	0.31	U,G
15100-28-4	Pa-234m	0 +/- 17	35	U,G
15092-94-1	Pb-212	1.06 +/- 0.31	0.34	G
15067-28-4	Pb-214	0.49 +/- 0.25	0.37	G,J
13967-48-1	Ru-106	-0.6 +/- 1.1	2.3	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-D3
Lab ID: 0405153-9

Library: FANP.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 167 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040900D07A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14683-10-4	Sb-124	-0.03 +/- 0.15	0.29	U,G
14234-35-6	Sb-125	0.04 +/- 0.30	0.55	U,G
13967-63-0	Sc-46	0 +/- 0.19	0.37	U,G
15623-47-9	Th-227	-0.40 +/- 0.89	1.66	U,G
15065-10-8	Th-234	1.6 +/- 1.1	2.2	U,G
14913-50-9	Tl-208	0.26 +/- 0.17	0.24	G
15117-96-1	U-235	0.11 +/- 0.52	0.91	U,G
13982-39-3	Zn-65	-0.32 +/- 0.39	0.84	U,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-D3
Lab ID: 0405153-9

Library: RA226.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 167 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040900D07B

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13982-63-3	Ra-226	0.74 +/- 0.27	0.47	LT,G

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-2
Lab ID: 0405153-10

Library: FANP.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 209 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040972D08A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14331-83-0	Ac-228	0.98 +/- 0.43	0.80	
14391-76-5	Ag-110m	-0.043 +/- 0.088	0.181	U
14682-66-7	Al-26	-0.08 +/- 0.10	0.26	U
14596-10-2	Am-241	0.10 +/- 0.19	0.32	U
13966-02-4	Be-7	-0.2 +/- 1.1	2.0	U
14913-49-6	Bi-212	1.9 +/- 1.7	2.6	U
14733-03-0	Bi-214	0.78 +/- 0.30	0.36	J
13982-30-4	Ce-139	-0.043 +/- 0.071	0.134	U
14762-78-8	Ce-144	0.23 +/- 0.39	0.66	U
14093-03-9	Co-56	0.30 +/- 0.32	0.50	U
13981-50-5	Co-57	0.039 +/- 0.052	0.085	U
13981-38-9	Co-58	0.02 +/- 0.12	0.23	U
10198-40-0	Co-60	-0.02 +/- 0.10	0.22	U
14392-02-0	Cr-51	0.7 +/- 1.2	2.1	U
13967-70-9	Cs-134	0.004 +/- 0.096	0.176	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-2
Lab ID: 0405153-10

Library: FANP.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 209 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040972D08A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
10045-97-3	Cs-137	0.063 +/- 0.096	0.160	U
14683-23-9	Eu-152	-0.03 +/- 0.64	1.25	U
15585-10-1	Eu-154	-0.26 +/- 0.61	1.25	U
14391-16-3	Eu-155	0 +/- 0.19	0.35	U
14596-12-4	Fe-59	-0.03 +/- 0.31	0.62	U
10043-66-0	I-131	0.9 +/- 1.2	1.9	U
13966-00-2	K-40	17.9 +/- 3.9	2.2	
13966-31-9	Mn-54	-0.03 +/- 0.11	0.21	U
13966-32-0	Na-22	0.06 +/- 0.14	0.24	U
14681-63-1	Nb-94	0.06 +/- 0.10	0.17	U
13967-76-5	Nb-95	-0.05 +/- 0.13	0.25	U
15100-28-4	Pa-234m	19 +/- 18	27	U
15092-94-1	Pb-212	1.26 +/- 0.28	0.27	
15067-28-4	Pb-214	0.49 +/- 0.18	0.27	J
13967-48-1	Ru-106	-0.21 +/- 0.86	1.67	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-2
Lab ID: 0405153-10

Library: FANP.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 209 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040972D08A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14683-10-4	Sb-124	0.07 +/- 0.14	0.23	U
14234-35-6	Sb-125	0.14 +/- 0.23	0.42	U
13967-63-0	Sc-46	-0.19 +/- 0.15	0.33	U
15623-47-9	Th-227	0.30 +/- 0.45	0.76	U
15065-10-8	Th-234	6.1 +/- 1.4	2.0	LT
14913-50-9	Tl-208	0.33 +/- 0.13	0.16	
15117-96-1	U-235	0.19 +/- 0.40	0.67	U
13982-39-3	Zn-65	-0.28 +/- 0.28	0.60	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-2
Lab ID: 0405153-10

Library: RA226.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 209 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040972D08B

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13982-63-3	Ra-226	0.74 +/- 0.21	0.35	LT

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-3
Lab ID: 0405153-11

Library: FANP.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 215 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040951D10A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14331-83-0	Ac-228	0.91 +/- 0.30	0.58	
14391-76-5	Ag-110m	-0.075 +/- 0.085	0.158	U
14682-66-7	Al-26	0.049 +/- 0.093	0.158	U
14596-10-2	Am-241	-0.22 +/- 0.30	0.53	U
13966-02-4	Be-7	-0.60 +/- 0.72	1.36	U
14913-49-6	Bi-212	2.1 +/- 1.3	1.9	TI
14733-03-0	Bi-214	0.75 +/- 0.24	0.34	J
13982-30-4	Ce-139	0.014 +/- 0.062	0.105	U
14762-78-8	Ce-144	0.06 +/- 0.40	0.69	U
14093-03-9	Co-56	-0.02 +/- 0.26	0.45	U
13981-50-5	Co-57	0.018 +/- 0.050	0.085	U
13981-38-9	Co-58	0 +/- 0.11	0.20	U
10198-40-0	Co-60	-0.08 +/- 0.11	0.21	U
14392-02-0	Cr-51	0.4 +/- 1.1	1.8	U
13967-70-9	Cs-134	0.05 +/- 0.70	1.16	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-3
Lab ID: 0405153-11

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 215 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040951D10A

Library: FANP.LIB

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
10045-97-3	Cs-137	-0.037 +/- 0.084	0.151	U
14683-23-9	Eu-152	0.15 +/- 0.53	0.91	U
15585-10-1	Eu-154	0.49 +/- 0.46	0.72	U
14391-16-3	Eu-155	0.15 +/- 0.20	0.33	U
14596-12-4	Fe-59	0.31 +/- 0.27	0.43	U
10043-66-0	I-131	-0.8 +/- 1.1	2.1	U
13966-00-2	K-40	21.7 +/- 3.4	2.1	
13966-31-9	Mn-54	-0.069 +/- 0.097	0.177	U
13966-32-0	Na-22	0.01 +/- 0.11	0.20	U
14681-63-1	Nb-94	-0.032 +/- 0.085	0.152	U
13967-76-5	Nb-95	0.10 +/- 0.12	0.19	U
15100-28-4	Pa-234m	7 +/- 15	25	U
15092-94-1	Pb-212	1.28 +/- 0.23	0.21	
15067-28-4	Pb-214	0.96 +/- 0.21	0.28	J
13967-48-1	Ru-106	0.14 +/- 0.85	1.46	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-3
Lab ID: 0405153-11

Library: FANP.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 215 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040951D10A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14683-10-4	Sb-124	-0.05 +/- 0.13	0.23	U
14234-35-6	Sb-125	-0.01 +/- 0.18	0.31	U
13967-63-0	Sc-46	0.03 +/- 0.11	0.18	U
15623-47-9	Th-227	-1.32 +/- 0.65	1.21	U
15065-10-8	Th-234	0.77 +/- 0.99	1.62	U
14913-50-9	Tl-208	0.34 +/- 0.11	0.14	
15117-96-1	U-235	-0.04 +/- 0.38	0.66	U
13982-39-3	Zn-65	0.18 +/- 0.35	0.58	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-3
Lab ID: 0405153-11

Library: RA226.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 13-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 215 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040951D10B

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13982-63-3	Ra-226	1.20 +/- 0.24	0.37	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-1
Lab ID: 0405153-12

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 12-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 202 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040982D02A

Library: FANP.LIB

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14331-83-0	Ac-228	1.48 +/- 0.60	0.97	
14391-76-5	Ag-110m	0.04 +/- 0.13	0.22	U
14682-66-7	Al-26	0.03 +/- 0.10	0.19	U
14596-10-2	Am-241	0.4 +/- 1.1	1.8	U
13966-02-4	Be-7	-2.1 +/- 1.5	3.0	U
14913-49-6	Bi-212	2.1 +/- 2.0	3.1	U
14733-03-0	Bi-214	9.6 +/- 2.1	2.0	J
13982-30-4	Ce-139	0.04 +/- 0.12	0.20	U
14762-78-8	Ce-144	-0.31 +/- 0.71	1.26	U
14093-03-9	Co-56	0.95 +/- 0.42	0.54	TI
13981-50-5	Co-57	-0.002 +/- 0.098	0.170	U
13981-38-9	Co-58	-0.10 +/- 0.15	0.30	U
10198-40-0	Co-60	-0.07 +/- 0.13	0.26	U
14392-02-0	Cr-51	1.3 +/- 2.2	3.6	U
13967-70-9	Cs-134	-0.02 +/- 0.13	0.23	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

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SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-1
Lab ID: 0405153-12

Library: FANP.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 12-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 202 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040982D02A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
10045-97-3	Cs-137	-0.10 +/- 0.13	0.26	U
14683-23-9	Eu-152	1.22 +/- 0.79	1.10	TI
15585-10-1	Eu-154	-0.68 +/- 0.91	1.87	U
14391-16-3	Eu-155	-0.08 +/- 0.40	0.71	U
14596-12-4	Fe-59	-0.06 +/- 0.39	0.75	U
10043-66-0	I-131	0.8 +/- 2.3	3.9	U
13966-00-2	K-40	19.2 +/- 3.9	2.4	
13966-31-9	Mn-54	-0.08 +/- 0.13	0.26	U
13966-32-0	Na-22	-0.01 +/- 0.14	0.27	U
14681-63-1	Nb-94	0.01 +/- 0.14	0.25	U
13967-76-5	Nb-95	-0.19 +/- 0.35	0.64	U
15100-28-4	Pa-234m	49 +/- 25	32	
15092-94-1	Pb-212	1.45 +/- 0.39	0.47	
15067-28-4	Pb-214	11.2 +/- 1.4	0.5	J
13967-48-1	Ru-106	-0.2 +/- 1.2	2.2	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.

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M - The requested MDC was not met.

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SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-1
Lab ID: 0405153-12

Library: FANP.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 12-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 202 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040982D02A

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
14683-10-4	Sb-124	0.01 +/- 0.18	0.32	U
14234-35-6	Sb-125	-0.02 +/- 0.37	0.67	U
13967-63-0	Sc-46	-0.03 +/- 0.18	0.34	U
15623-47-9	Th-227	-0.2 +/- 1.1	2.0	U
15065-10-8	Th-234	26.4 +/- 4.6	4.5	
14913-50-9	Tl-208	0.26 +/- 0.17	0.25	
15117-96-1	U-235	0.48 +/- 0.66	1.09	U
13982-39-3	Zn-65	0.05 +/- 0.55	0.95	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Gamma Spectroscopy Results

PAI 713 Rev 8

Sample Results

Lab Name: Paragon Analytics
Work Order Number: 0405153
Client Name: New World Technology
ClientProject ID: Picatinny GA00555

Field ID: DPH-1
Lab ID: 0405153-12

Library: RA226.LIB

Sample Matrix: SOIL
Prep SOP: PAI 739 Rev 8
Date Collected: 12-May-04
Date Prepared: 25-May-04
Date Analyzed: 16-Jun-04

Prep Batch: GS040526-3
QCBatchID: GS040526-3-1
Run ID: GS040526-3A
Count Time: 30 minutes
Report Basis: Dry Weight

Final Aliquot: 202 g
Prep Basis: Dry Weight
Moisture(%): NA
Result Units: pCi/g
File Name: 040982D02B

CASNO	Target Nuclide	Result +/- 2 s TPU	MDC	Lab Qualifier
13982-63-3	Ra-226	13.6 +/- 1.7	0.6	

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU

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

Y2 - Chemical Yield outside default limits.

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

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

SQ - Spectral quality prevents accurate quantitation.

SI - Nuclide identification and/or quantitation is tentative.

TI - Nuclide identification is tentative.

R - Nuclide has exceeded 8 halflives.

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

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

BDL - Below Detection Limit

Data Package ID: *GSS0405153-1*

Appendix G Sample Chain of Custody Records

Paragon Analytics, Inc.

225 Commerce Drive Fort Collins, CO 80524
800-443-1511 or (970) 490-1511 (970) 490-1522 Fax

Accession Number (LAB ID) 0405152

Chain-of-Custody

Date 5-13-04 Page 1 of 4

Project Name / No.: Roadway / GA0055 Sampler(s): Spencer (circle one) Turnaround: Standard or Rush (Due _____) Dispose or Return to Client

Report To: Dan Spencer
Phone: (414) 824-7333
Fax: (414) 824-8256
Company: NWT
Address: 312 Albert St.
Turtle Creek, PA
15145

circle method or specify under comments

Sample ID	Date	Time *	Lab ID	Matrix	No. of Containers	VOCs SW8260B E624 E524.2 OLMO__	BTEX (only) SW8021B	SVOCs SW8270C E625 OLMO__	OC Pesticides SW8081A E608 E505 OLMO__	PCBs SW8082 E608 E508 OLMO__	OP Pesticides SW8141A E614	Herbicides SW8151A E615	TCLP Organics SW1311 8260B 8270C 8081A 8151A	TCLP Metals SW 1311 6010B 7471	Total Metals SW6010B 7470 7471 E200 ILMO__	Dissolved Metals SW6010B 7470 E200 ILMO__	Reactive CN / S SW846 Chapter 7	Hexavalent Chromium SW7196A Alkaline Digest? Y / N	Inorganic Anions ** SW9056 E300.0	pH SW9040B 9045C	Oil & Grease SW9071A E413.2	TPH GRO DRO SW8015B (both)	TOX SW9020B	Gross Alpha / Beta SW9310 E900.0	Actinides by PAI SOP (circle): Pu / U / Am / Th / Cm	Total Uranium by KPA D5174-91	Tritium E906.0	Total Alpha-Emitting Radium SW9315 E903.0	Radium 226 SW9315 E903.0 Radium 228 SW9320 E904.0	Strontium 89 D5811-96 Strontium 90 D5811-96	Gamma Isotopes ** E901.1		
B-A1	5-12-04	0950	1	S	1																									X		
B-A2		0955	2	S	1																									X		
B-A3		0940	3	S	1																									X		
B-B1		0950	4	S	1																									X		
B-B2		0945	5	S	1																									X		
B-B3		0942	6	S	1																									X		
B-B4		0940	7	S	1																									X		
B-C1		0955	8	S	1																									X		
B-C2		1000	9	S	1																									X		
B-C3	J	1005	10	S	1																									X		

Comments:
S - Soil
** Y Spec
Ra-226, Depleted Uranium

Relinquished By: (1)	Relinquished By: (2)
Signature D. Spencer	Signature
Printed Name D. Spencer	Printed Name
Date 5-13-04 Time 1400	Date Time
Company NWT	Company
Received By: (1)	**Received By: (2)**
Signature Amy Wolf	Signature
Printed Name Amy Wolf	Printed Name
Date 5/18/04 Time 0930	Date Time
Company Paragon Analytics	Company

Form 202r4.xls (1/3/01)

* Time Zone (circle one): EST CST MST PST

** Indicate specific analytes under comments.

Distribution: white / yellow (Paragon); pink retained by originator.

Paragon Analytics, Inc.

225 Commerce Drive Fort Collins, CO 80524
800-443-1511 or (970) 490-1511 (970) 490-1522 Fax

Accession Number (LAB ID) 0405152

Chain-of-Custody

Date 5-13-04 Page 1 of 4

Project Name / No.: Piceance / GA00555 Sampler(s): Spruell (circle one) Turnaround: Standard or Rush (Due _____) Dispose or Return to Client

Report To: See Page 1.
Phone:
Fax:
Company:
Address:

circle method or specify under comments

Sample ID	Date	Time *	Lab ID	Matrix	No. of Containers	VOCs SW8260B E624 E524.2 OLMO__	BTEX (only) SW8021B	SVOCs SW8270C E625 E525 OLMO__	OC Pesticides SW8081A E608 E506 OLMO__	PCBs SW8082 E608 E508 OLMO__	OP Pesticides SW8141A E614	Herbicides SW8151A E615	TCLP Organics SW1311 8260B 8270C 8081A 8151A	TCLP Metals SW 1311 6010B 7471	Total Metals SW6010B 7470 7471 E200 ILMO__	Dissolved Metals SW6010B 7470 E200 ILMO__	Reactive CN / S SW846 Chapter 7	Hexavalent Chromium SW7196A Alkaline Digest? Y / N	Inorganic Anions ** SW9056 E300.0	pH SW9040B 9045C	Oil & Grease SW9071A E413.2	TPH GRO DRO SW8015B (both)	TOX SW9020B	Gross Alpha / Beta SW9310 E900.0	Actinides by PAI SOP (circle) Pu / U / Am / Th / Cm	Total Uranium by KPA D5174-91	Tritium E906.0	Total Alpha-Emitting Radium SW9315 E903.0	Radium 226 SW9315 E903.0 Radium 228 SW9320 E904.0	Strontium 89 D5811-96 Strontium 90 D5811-96	Gamma Isotopes ** E901.1		
B-C4	5-13-04	1010	11	S	1																									X		
B-D1		1035	12	S	1																									X		
B-D2		1020	13	S	1																									X		
B-D3		1015	14	S	1																									X		
DPH-A0	5-13-04	1050	15	S	1																									X		
DPH-A1		1110	16	S	1																									X		
DPH-A2		1145	17	S	1																									X		
DPH-B0		1055	18	S	1																									X		
DPH-B1		1115	19	S	1																									X		
DPH-B2		1150	20	S	1																									X		

Comments: S - Soil
** Y Spec
Ra-226, Depleted Uranium

Form 202r4.xls (1/3/01)

Relinquished By: (1)	Relinquished By: (2)
Signature D. Spruell	Signature
Printed Name D. Spruell	Printed Name
Date 5-17-04 Time 1300	Date Time
Company MWL	Company

Received By: (1)	Received By: (2)
Signature	Signature
Printed Name Amy Wolf	Printed Name
Date 5/18/04 Time 0930	Date Time
Company Paragon Analytics	Company

* Time Zone (circle one) (EST) CST MST PST

** Indicate specific analytes under comments.

Distribution: white / yellow (Paragon); pink retained by originator.

Paragon Analytics, Inc. -- Fort Collins, Colorado

CONDITION OF SAMPLE UPON RECEIPT FORM

CLIENT: NWT WORKORDER NO: 0405152

PROJECT MANAGER: Lance Steere INITIALS: AW DATE: 5/18/04

1. Does this project require any special handling in addition to standard Paragon procedures?		Yes	(No)
IS PRE-SCREENING REQUIRED? (radiochemistry, DOE, etc.)		(Yes)	No
2. Are custody seals on shipping containers intact? How many custody seals are provided? 1	N/A	(Yes)	No
3. Are the custody seals on sample containers intact?	(N/A)	Yes	No
4. Is there a Chain-of-Custody (COC) or other representative documents, letters, or shipping memos?		(Yes)	No
5. Is the COC complete? Relinquished: Yes ✓ No ___ Analyses Requested: Yes ✓ No ___	N/A	(Yes)	No
6. Is the COC in agreement with the samples received? No. of Samples: Yes ✓ No ___ Sample ID's: Yes ✓ No ___ Matrix: Yes ✓ No ___ No. of Containers: Yes ✓ No ___	N/A	(Yes)	No
7. Were COC (if applicable) and sample labels legible?		(Yes)	No
8. Were airbills present and/or removable?	N/A	(Yes)	No
9. Are all aqueous samples requiring chemical preservation preserved correctly (excluding volatile organics)?	(N/A)	Yes	No
Are all aqueous **non-preserved** samples at the correct pH?		Yes	No
10. Is there enough sample for requested analyses? If so, were samples placed in the proper containers?		(Yes)	No
11. Are all samples within holding times for the requested analyses?		(Yes)	No
12. Were all sample containers received intact? (not broken or leaking, etc.)		(Yes)	No
13. Are samples requiring no headspace (volatiles, reactive cyanide/sulfide, radon), headspace free? **Size of bubble:** ___ < **green pea;** ___ > **green pea** (List sample IDs and affected containers on Page 2)	(N/A)	Yes	No
14. Were samples checked for and free from the presence of residual chlorine?	(N/A)	Yes	No
15. Were the sample(s) shipped on ice?	(N/A)	Yes	No
16. Were cooler temperatures measured at 0.1 - 6 °C ? **IR Gun Used*: 1 2**	(N/A)	Yes	No
17. Were all samples cooled that should have been cooled?	(N/A)	Yes	No

Cooler #'s 1

Temperature Ambient ___ ___ ___ ___ ___ °C

Project Manager Signature / Date: 5/19/04

A NO RESPONSE TO ANY QUESTION EXCEPT # 1 REQUIRES THE COMPLETION OF PAGE 2 OF THIS FORM

* IR Gun #1 (original): Raytek, SN SC-PM3/T29403
IR Gun #2 (newer): Oakton, SN 2SCIR1201

0405152
0405153

FedEx Express **USA Airbill**

FedEx Tracking Number 8366 8127 5095

Form I.D. No. 0200

1 From

Date

Sender's Name — Phone

Company

Address — Dept./Floor/Suite/Room

City — State — ZIP

2 Your Internal Billing Reference

3 To

Recipient's Name — Phone

Company

Address — Dept./Floor/Suite/Room

City — State CO ZIP

8366 8127 5095

4a Express Package Service — *Packages up to 150 lbs.* Delivery commitment may be later in some areas.

- FedEx Priority Overnight — Next business morning
- FedEx Standard Overnight — Next business afternoon
- FedEx First Overnight — Earliest next business morning delivery to select locations
- FedEx 2Day — Second business day
- FedEx Express Saver — Third business day

FedEx Envelope rate not available. Minimum charge: One-pound rate

4b Express Freight Service — *Packages over 150 lbs.* Delivery commitment may be later in some areas.

- FedEx 1Day Freight* — Next business day
- FedEx 2Day Freight — Second business day
- FedEx 3Day Freight — Third business day

* Call for Confirmation:

5 Packaging — * Declared value limit $500

- FedEx Envelope*
- FedEx Pak* — Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak
- Other

6 Special Handling — Include FedEx address in Section 3.

- SATURDAY Delivery — Available only for FedEx Priority Overnight and FedEx 2Day to select ZIP codes
- HOLD Weekday at FedEx Location — Not available for FedEx First Overnight
- HOLD Saturday at FedEx Location — Available only for FedEx Priority Overnight and FedEx 2Day to select locations

Does this shipment contain dangerous goods? One box must be checked.

- No
- Yes — As per attached Shipper's Declaration
- Yes — Shipper's Declaration not required
- Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous Goods (including Dry Ice) cannot be shipped in FedEx packaging.

- Cargo Aircraft Only

7 Payment *Bill to:* Enter FedEx Acct. No. or Credit Card No. below.

- Sender — Acct. No. in Section 1 will be billed.
- Recipient
- Third Party
- Credit Card
- Cash/Check
- Obtain Recip. Acct. No.

Total Packages	Total Weight	Total Declared Value†	Total Charges
1	70	$ .00	

†Our liability is limited to $100 unless you declare a higher value. See back for details.

Credit Card Auth.

8 Release Signature *Sign to authorize delivery without obtaining signature.*

By signing you authorize us to deliver this shipment without obtaining a signature and agree to indemnify and hold us harmless from any resulting claims.

Questions? Visit our Web site at fedex.com or call 1.800.Go.FedEx® 800.463.3339.

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Paragon Analytics, Inc.

225 Commerce Drive Fort Collins, CO 80524
800-443-1511 or (970) 490-1511 (970) 490-1522 Fax

Accession Number (LAB ID) 0405153

Chain-of-Custody

Date 5-17-04 Page 3 of 4

Project Name / No.: Pantex / 6800555 Sampler(s): Spaeth (circle one) Turnaround: Standard or Rush (Due _____) Dispose or Return to Client

Report To: See Page 1.
Phone:
Fax:
Company:
Address:

circle method or specify under comments

Sample ID	Date	Time *	Lab ID	Matrix	No. of Containers	VOCs SW8260B E624 E524.2 OLMO__	BTEX (only) SW8021B	SVOCs SW8270C E625 E525 OLMO__	OC Pesticides SW8081A E608 E508 OLMO__	PCBs SW8082 E608 E508 OLMO__	OP Pesticides SW8141A E614	Herbicides SW8151A E615	TCLP Organics SW1311 8260B 8270C 8081A 8151A	TCLP Metals SW 1311 6010B 7471	Total Metals SW6010B 7470 7471 E200 ILMO__	Dissolved Metals SW6010B 7470 E200 ILMO__	Reactive CN / S SW846 Chapter 7	Hexavalent Chromium SW7196A Alkaline Digest? Y / N	Inorganic Anions ** SW9056 E300.0	pH SW9040B 9045C	Oil & Grease SW9071A E413.2	TPH GRO DRO SW8015B (both)	TOX SW9020B	Gross Alpha / Beta SW9310 E900.0	Actinides by PAI SOP (circle): Pu / U / Am / Th / Cm	Total Uranium by KPA D5174-91	Tritium E906.0	Total Alpha-Emitting Radium SW9315 E903.0	Radium 226 SW9315 E903.0 Radium 228 SW9320 E904.0	Strontium 89 D5811-96 Strontium 90 D5811-96	Gamma Isotopes ** E901.1		
DPH-B3	5-13-04	1305	1	S	1																									X		
DPH-C0		1655	2	S	1																									X		
DPH-C1		1120	3	S	1																									X		
DPH-C2		1135	4	S	1																									X		
DPH-C3		1210	5	S	1																									X		
DPH-D0		1100	6	S	1																									X		
DPH-D1		1125	7	S	1																									X		
DPH-D2		1200	8	S	1																									X		
DPH-D3	↓	1115	9	S	1																									X		
DPH-T	5-13-04	1350	10	S	1																									X		

Comments:
S - Soil
** Y Spec
Ra-226: Declared Unusable

Relinquished By: (1)	Relinquished By: (2)
Signature	Signature
Printed Name D Spaeth	Printed Name
Date 5-17-04 Time 1700	Date Time
Company NWT	Company
Received By: (1)	**Received By: (2)**
Signature	Signature
Printed Name Amy Wolf	Printed Name
Date 5/18/04 Time 0930	Date Time
Company Paragon Analytics	Company

Form 202r4.xls (1/3/01)

* Time Zone (circle one) EST CST MST PST

** Indicate specific analytes under comments.

Distribution: white / yellow (Paragon); pink retained by originator.

Paragon Analytics, Inc.

225 Commerce Drive Fort Collins, CO 80524
800-443-1511 or (970) 490-1511 (970) 490-1522 Fax

Accession Number (LAB ID) 0405153

Chain-of-Custody

Date 5-3-04 Page 1 of 1

Project Name / No.: Radium 226 Sampler(s): Spruell (circle one) Turnaround: Standard or Rush (Due _____) Dispose or Return to Client

Report To: See Page 1.
Phone:
Fax:
Company:
Address:

circle method or specify under comments

Sample ID	Date	Time *	Lab ID	Matrix	No. of Containers	VOCs SW8260B E624 E524.2 OLMO__	BTEX (only) SW8021B	SVOCs SW8270C E625 E525 OLMO__	OC Pesticides SW8081A E608 E508 OLMO__	PCBs SW8082 E608 E508 OLMO__	OP Pesticides SW8141A E614	Herbicides SW8151A E615	TCLP Organics SW1311 8260B 8270C 8081A 8151A	TCLP Metals SW 1311 6010B 7471	Total Metals SW6010B 7470 7471 E200 ILMO__	Dissolved Metals SW6010B 7470 E200 ILMO__	Reactive CN / S SW846 Chapter 7	Hexavalent Chromium SW7196A Alkaline Digest? Y / N	Inorganic Anions ** SW9056 E300.0	pH SW9040B 9045C	Oil & Grease SW9071A E413.2	TPH GRO DRO SW8015B (both)	TOX SW9020B	Gross Alpha / Beta SW9310 E900.0	Actinides by PAI SOP (circle): Pu / U / Am / Th / Cm	Total Uranium by KPA D5174-91	Tritium E906.0	Total Alpha-Emitting Radium SW9315 E903.0	Radium 226 SW9315 E903.0 Radium 228 SW9320 E904.0	Strontium 89 D5811-96 Strontium 90 D5811-96	Gamma Isotopes ** E901.1
DPH-3	5-3-04	1155	11	S	1																									X
* DPH-1 *	5-3-04	1400	12	S	1																									X

Comments:
S- Soil
** Y Spec
Ra-226, Depleted Uranium
* Return sample to ARDEC following Analysis.

Form 202r4.xls (1/3/01)

Relinquished By: (1)	Relinquished By: (2)
Signature D. Spruell	Signature
Printed Name D. Spruell	Printed Name
Date 5-17-04 Time 1200	Date Time
Company NWT	Company
Received By: (1)	**Received By: (2)**
Signature	Signature
Printed Name Amy Isvell	Printed Name
Date 5/18/04 Time 0930	Date Time
Company Paragon Analytics	Company

* Time Zone (circle one) EST CST MST PST

** Indicate specific analytes under comments.

Distribution: white / yellow (Paragon); pink retained by originator.

Paragon Analytics, Inc. -- Fort Collins, Colorado

CONDITION OF SAMPLE UPON RECEIPT FORM

CLIENT: NWT WORKORDER NO: 0405153

PROJECT MANAGER: Lance Steere INITIALS: QW DATE: 5/18/04

1. Does this project require any special handling in addition to standard Paragon procedures?		Yes	(No)
IS PRE-SCREENING REQUIRED? (radiochemistry, DOE, etc.)		(Yes)	No
2. Are custody seals on shipping containers intact? How many custody seals are provided? 1	N/A	(Yes)	No
3. Are the custody seals on sample containers intact?	(N/A)	Yes	No
4. Is there a Chain-of-Custody (COC) or other representative documents, letters, or shipping memos?		(Yes)	No
5. Is the COC complete? Relinquished: Yes ✓ No ___ Analyses Requested: Yes ✓ No ___	N/A	(Yes)	No
6. Is the COC in agreement with the samples received? No. of Samples: Yes ✓ No ___ Sample ID's: Yes ✓ No ___ Matrix: Yes ✓ No ___ No. of Containers: Yes ✓ No ___	N/A	(Yes)	No
7. Were COC (if applicable) and sample labels legible?		(Yes)	No
8. Were airbills present and/or removable?	N/A	(Yes)	No
9. Are all aqueous samples requiring chemical preservation preserved correctly (excluding volatile organics)?	(N/A)	Yes	No
Are all aqueous **non-preserved** samples at the correct pH?		Yes	No
10. Is there enough sample for requested analyses? If so, were samples placed in the proper containers?		(Yes)	No
11. Are all samples within holding times for the requested analyses?		(Yes)	No
12. Were all sample containers received intact? (not broken or leaking, etc.)		(Yes)	No
13. Are samples requiring no headspace (volatiles, reactive cyanide/sulfide, radon), headspace free? **Size of bubble:** ___ < **green pea;** ___ > **green pea** (List sample IDs and affected containers on Page 2)	(N/A)	Yes	No
14. Were samples checked for and free from the presence of residual chlorine?	(N/A)	Yes	No
15. Were the sample(s) shipped on ice?	(N/A)	Yes	No
16. Were cooler temperatures measured at 0.1 - 6 °C ? **IR Gun Used*: 1 2**	(N/A)	Yes	No
17. Were all samples cooled that should have been cooled?	(N/A)	Yes	No

Cooler #'s 1 ° C

Temperature Ambient

Project Manager Signature / Date: 5/19/04

A NO RESPONSE TO ANY QUESTION EXCEPT # 1 REQUIRES THE COMPLETION OF PAGE 2 OF THIS FORM

* IR Gun #1 (original): Raytek, SN SC-PM3/T29403
IR Gun #2 (newer): Oakton, SN 2SCIR1201

0405152
0405153

FedEx Express USA Airbill

FedEx Tracking Number 8366 8127 5095

Form I.D. No. 0200

1 From

Date 5/10/04

Sender's Name [illegible] Phone [illegible]

Company [illegible]

Address [illegible] Dept/Floor/Suite/Room

City [illegible] State [illegible] ZIP [illegible]

2 Your Internal Billing Reference [illegible]

3 To

Recipient's Name [illegible] Phone [illegible]

Company [illegible]

Address [illegible] Dept/Floor/Suite/Room

To "HOLD" at FedEx location, do not write address.

City [illegible] State CO ZIP 80524

8366 8127 5095

4a Express Package Service — Packages up to 150 lbs. Delivery commitment may be later in some areas.

- FedEx Priority Overnight — Next business morning
- [X] FedEx Standard Overnight — Next business afternoon
- FedEx First Overnight — Earliest next business morning delivery to select locations
- FedEx 2Day — Second business day
- FedEx Express Saver — Third business day

FedEx Envelope rate not available. Minimum charge: One-pound rate

4b Express Freight Service — Packages over 150 lbs. Delivery commitment may be later in some areas.

- FedEx 1Day Freight* — Next business day
- FedEx 2Day Freight — Second business day
- FedEx 3Day Freight — Third business day

* Call for Confirmation: [illegible] * Declared value limit $500

5 Packaging

- FedEx Envelope*
- FedEx Pak* — Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak
- [X] Other

6 Special Handling — Include FedEx address in Section 3.

- SATURDAY Delivery — Available only for FedEx Priority Overnight and FedEx 2Day to select ZIP codes
- HOLD Weekday at FedEx Location — Not available for FedEx First Overnight
- HOLD Saturday at FedEx Location — Available only for FedEx Priority Overnight and FedEx 2Day to select locations

Does this shipment contain dangerous goods? One box must be checked.

- [X] No
- Yes — As per attached Shipper's Declaration
- Yes — Shipper's Declaration not required
- Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous Goods (including Dry Ice) cannot be shipped in FedEx packaging.

- Cargo Aircraft Only

7 Payment Bill to: — Enter FedEx Acct. No. or Credit Card No. below.

- [X] Sender — Acct. No. in Section 1 will be billed.
- Recipient
- Third Party
- Credit Card
- Cash/Check
- Obtain Recip. Acct. No.

Total Packages	Total Weight	Total Declared Value†	Total Charges
1	70	$ .00	Credit Card Auth.

†Our liability is limited to $100 unless you declare a higher value. See back for details.

8 Release Signature — Sign to authorize delivery without obtaining signature.

By signing you authorize us to deliver this shipment without obtaining a signature and agree to indemnify and hold us harmless from any resulting claims.

Questions? Visit our Web site at fedex.com or call 1.800.Go.FedEx® 800.463.3339.

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446

24 @ 1 set Ambient

Appendix H Soil Pile Survey/Sample Data

RADIOLOGICAL SURVEY REPORT

NWTS #:

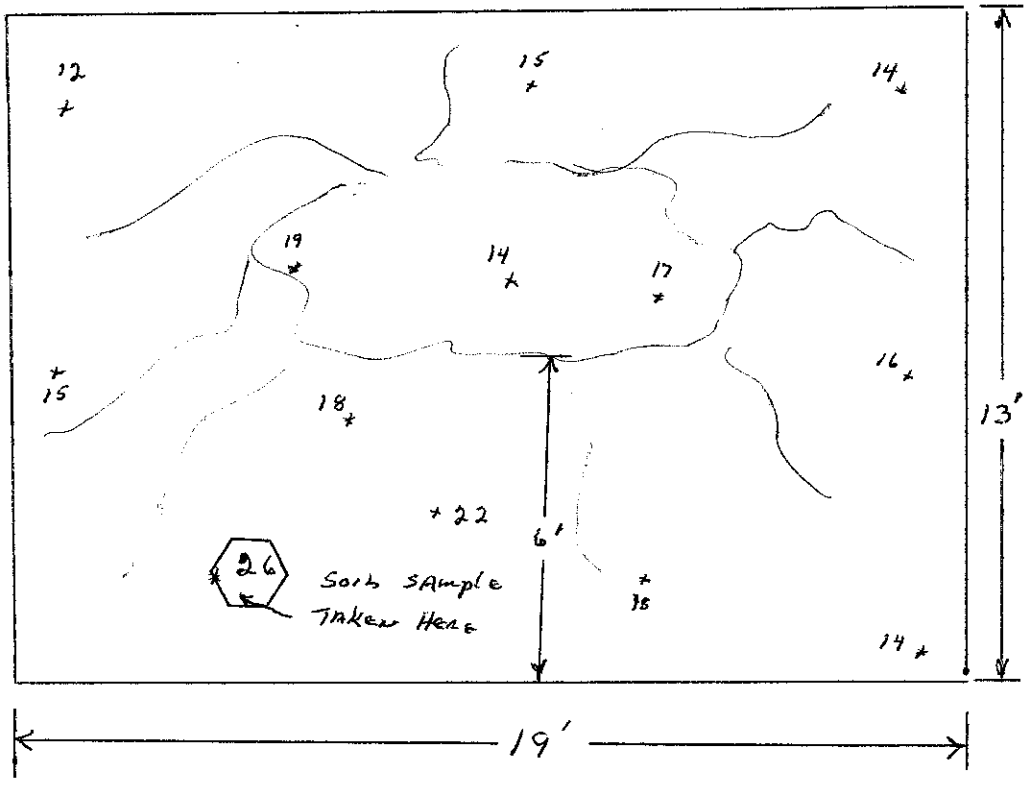
DATE: 10-31-01	INSTRUMENTATION USED				
TIME: 1400	MODEL	S/N	EFF.%	BKRD	CAL. DUE DATE
SURVEYOR: K. CORBETT / D. KOUNTZ	2356	95353	2	11K	9-10-02
LOCATION: PICATINNY, GORGE AREA	PR 44-10	170810	N/A		
REVIEWED BY:					

Smear Locations Circled; Dose Rates = µR/hr

PURPOSE OF SURVEY: INVESTIGATION OF HILL OF DIRT IN THE GORGE AREA

N

DIRT PILE # 1



SMEAR RESULTS
RESULTS = DPM/100cm²
UNLESS NOTED

#	βγ	α
	N/A	

Remarks: * High Reading Taken
All Readings K cpm
⬡ Denotes Area where soil sample was Taken

RADIOLOGICAL SURVEY REPORT

Grid ID #: Pile #1
Survey Unit #: N/A
Survey Unit Class: 1
DATE: 10/31/2002
TIME: 0945
SURVEYOR: Kathy Corbett
LOCATION: Picatinny Arsenal
REVIEWED BY: Dan Spicuzza
Purpose of Survey: Characterization Survey of Dirt Pile #1

INSTRUMENTATION USED

Meter		Detector					
Model	S/N	Model	S/N	EFF.%	MDC	BKRD (CPM)	CAL. DUE DATE
2350	95353	44-10	170810	2	14,800 CPM	12,000	09/10/2002
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Gross CPM Net CPM SS#	Gross CPM Net CPM SS#	Gross CPM Net CPM SS#	Gross CPM Net CPM SS#	Gross CPM Net CPM SS#	Gross CPM Net CPM SS#	Gross CPM Net CPM SS#	Gross CPM Net CPM SS#	Gross CPM Net CPM SS#	Gross CPM Net CPM SS#
12000 0	13000 1000	14000 2000	15000 3000	15000 3000	14000 2000	15000 3000	15000 3000	14000 2000	14000 2000
18000 6000	19000 7000	26000 14000 SS# P-1	18000 6000	22000 10000	18000 6000	17000 5000	15000 3000	15000 3000	14000 2000
16000 4000	17000 5000	16000 4000	14000 2000	14000 2000	14000 2000	16000 4000	14000 2000	15000 3000	15000 3000
14000 2000	14000 2000	15000 3000	17000 5000	18000 6000	16000 4000	13000 1000	15000 3000	15000 3000	13000 1000
15000 3000	18000 6000	18000 6000	16000 4000	14000 2000	15000 3000	15000 3000	16000 4000	15000 3000	15000 3000
14000 2000	14000 2000	14000 2000	15000 3000	15000 3000	15000 3000	15000 3000	14000 2000	14000 2000	14000 2000
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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

#	α	βγ
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Remarks: SS#- Denotes Soil Sample Location This is a scan survey. Probe was held within 2" of surface being surveyed.
Detector speed ~ 1' second.

North is top left hand corner of grid pattern.

RADIOLOGICAL SURVEY REPORT

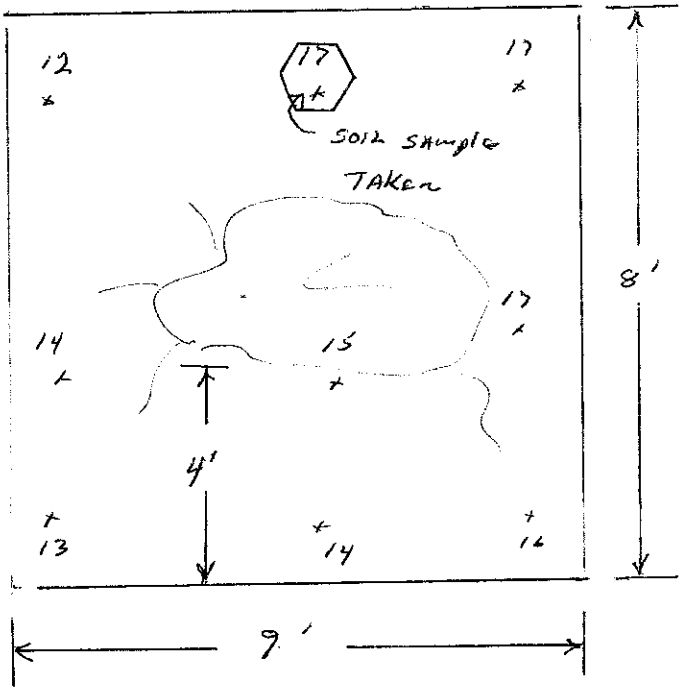
NWTS #: N/A

DATE: 10-31-01	INSTRUMENTATION USED				
TIME: 1410	MODEL	S/N	EFF.%	BKRD	CAL. DUE DATE
SURVEYOR: K. CORBETT	2350	85353	2	11K	8-10-02
LOCATION: PICATINNY GORGE AREA	PR 4440	170 818	N/A		
REVIEWED BY:					

Smear Locations Circled; Dose Rates = µR/hr

PURPOSE OF SURVEY: INVESTIGATION OF DIRT PILE

DIRT PILE #2



SMEAR RESULTS
RESULTS = DPM/100cm²
UNLESS NOTED

#	βγ	α

N/A

Remarks: * HIGH READINGS TAKEN
ALL READINGS K cpm
DENOTES AREA WHERE SOIL SAMPLE WAS TAKEN

RADIOLOGICAL SURVEY REPORT

Grid ID #:	Pile #2	Survey Unit #:	N/A	INSTRUMENTATION USED							
Survey Unit Class:	1			Meter		Detector					
DATE:	10/31/2001			Model	S/N	Model	S/N	EFF.%	MDC	BKRD (CPM)	CAL. DUE DATE
TIME:	1050			2350	95353	44-10	170810	2	14,800 CPM	12,000	09/10/2002
SURVEYOR: Kathy Corbett				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LOCATION: Picatinny Arsenal				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
REVIEWED BY:	Dan Spicuzza										
Purpose of Survey:	Characterization Survey of Dirt Pile #2										

Gross CPM Net CPM SS#	Gross CPM Net CPM SS#	Gross CPM Net CPM SS#	Gross CPM Net CPM SS#	Gross CPM Net CPM SS#	Gross CPM Net CPM SS#	Gross CPM Net CPM SS#	Gross CPM Net CPM SS#	Gross CPM Net CPM SS#	Gross CPM Net CPM SS#
12000 0	12000 0	12000 0	13000 1000	13000 1000	17000 5000 SS# P-2	17000 5000	17000 5000	17000 5000	17000 5000
14000 2000	15000 3000	15000 3000	15000 3000	15000 3000	17000 5000	17000 5000	17000 5000	17000 5000	17000 5000
13000 1000	13000 1000	14000 2000	15000 3000	15000 3000	13000 1000	14000 2000	15000 3000	16000 4000	16000 4000
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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

#	α	βγ
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Remarks: SS#- Denotes Soil Sample Location This is a scan survey. Probe was held within 2" of surface being surveyed.

Detector speed ~ 1' second.

North is bottom right hand corner of grid pattern.

Gamma Spectroscopy Results

Method PAI SOP 713R6

Sample Results

Reported on: Wednesday, November 07, 2001 09:24:15

Client Name: New World Technology
Client Project Name: Picatinny
Client Project Number: GA00401

Laboratory Name: Paragon Analytics, Inc.
PAI Work Order: 0111014

Field ID: P-1
Lab ID: 0111014-11

Sample Matrix: Soil
Date Prepared: 06-Nov-01
Prep SOP: PAI 739R4
Prep Batch: GS01235

Date Collected: 31-Oct-01
Date Analyzed: 06-Nov-01
Analytical SOP: PAI 713R6
Spectrum Code: 011184D01A

Final Aliquot: 479.4
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 15

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
U-238	1.1 +/- 1.2	1.9	pCi/g	U

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0111014-1*

Gamma Spectroscopy Results

Method PAI SOP 713R6

Sample Results

Reported on: Wednesday, November 07, 2001 09:24:15

Client Name: New World Technology

Client Project Name: Picatinny

Client Project Number: GA00401

Laboratory Name: Paragon Analytics, Inc.

PAI Work Order: 0111014

Field ID: P-2

Lab ID: 0111014-12

Sample Matrix: Soil
Date Prepared: 06-Nov-01
Prep SOP: PAI 739R4
Prep Batch: GS01235

Date Collected: 31-Oct-01
Date Analyzed: 06-Nov-01
Analytical SOP: PAI 713R6
Spectrum Code: 010861D02A

Final Aliquot: 512.0
Aliquot Units: g
Report Basis: Dry Weight
Count Time (min.): 15

Target Nuclide	Result +/- 2 s TPU	MDC	Reporting Units	Lab Qualifier
U-238	5.5 +/- 3.4	5.3	pCi/g	TI

Comments:

Qualifiers/Flags:

U - Result is less than the sample specific MDC or less than the associated TPU.

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.

Abbreviations:

TPU - Total Propagated Uncertainty (see PAI SOP 743)

MDC - Minimum Detectable Concentration (see PAI SOP 709)

Data Package ID: *GSS0111014-1*