



DEPARTMENT OF THE ARMY
US ARMY RESEARCH, DEVELOPMENT AND ENGINEERING COMMAND
EDGEWOOD CHEMICAL BIOLOGICAL CENTER
5183 BLACKHAWK ROAD
ABERDEEN PROVING GROUND, MD 21010-5424

REPLY TO
ATTENTION OF

September 18, 2008

Risk Reduction Office

U.S. Nuclear Regulatory Commission
Attention: Mr. Dennis Lawyer
Region I, 475 Allendale Road
King of Prussia, Pennsylvania 19406-1415

Dear Mr. Lawyer:

Reference NRC License No. 10-10306-01, Docket No. 030-04552, Final Status Survey Report Approval for Bush River Study Area, Rad Yard site.

Enclosed with this letter are copies (electronic and hard copy) of the Final Status Survey Report, dated September 2008 for the Rad Yard site. Please review this report and provide your approval or comments to be addressed.

If this document fulfills the requirements to release the Rad Yard site for unrestricted use, please provide written authorization that the site is released from regulation under the above referenced license.

If you have any questions regarding this action, please address them to Eric Kujala, ECBC Radiation Safety Officer, or telephone (410) 436-1381, facsimile (410) 612-5378, or by e-mail eric.kujala@us.army.mil. Additionally, you can also contact Bob Schoenfelder, who is with the contractor Weston Solutions, at (505) 837-6556 or email r.schoenfelder@westonsolutions.com.

Sincerely,

A handwritten signature in black ink, appearing to read "Eric M. Kujala", is written over a horizontal dashed line.

Eric M. Kujala
ECBC Radiation Safety Officer
Risk Reduction Office

Enclosure



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18 September 2008

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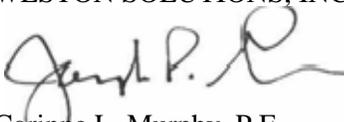
Reference: Contract Number: W91ZLK-04-D-0014, Delivery Order 0005
Bush River Rad Yard, Southern Bush River Area
DCN: 11785.004.006.AABF
Subject: Final Status Survey Report (Final Version)

Dear Mr. Kujala:

Enclosed please find one (1) hard copy final version of the Final Status Survey Report (FSSR) under the Bush River Rad Yard Nuclear Regulatory Commission (NRC) Site Delisting Project for your use. An additional hard copy is being provided to both Mr. Dennis Lawyer at the NRC and Mr. Rurik Loder at the Directorate of Safety, Health and Environment (DSHE). Comments from DSHE and ECBC have been addressed in this final version of the FSSR.

Please do not hesitate to contact me with any questions or concerns at (410) 612-5933, or Joe Gross at (410) 612-5910.

Very truly yours,
WESTON SOLUTIONS, INC.

for 
Corinne L. Murphy, P.E.
Project Manager

cc: Joe Gross (WESTON)
Bob Schoenfelder (WESTON)
WESTON File

Enclosure

FINAL STATUS SURVEY REPORT

BUSH RIVER STUDY AREA RADIOACTIVE WASTE MANAGEMENT FACILITY

**Edgewood Area, Aberdeen Proving Ground, MD
Contract No: W91ZLK04-D-0014, DO 0005**

18 September 2008

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SURVEY PLAN

APPENDIX B SAMPLE ID KEY AND LABORATORY DATA

ACRONYMS

ALARA	As Low As Reasonably Achievable
APG	Aberdeen Proving Ground
As	Arsenic
BEST	Base Environmental Support Team
BRSA	Bush River Study Area
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
Cs	cesium
Co	cobalt
cm	centimeter
cm ²	square centimeter
cpm	counts per minute
DCGL	derived concentration guideline level
dpm	disintegrations per minute
DSHE	Directorate of Safety, Health and Environment
ECBC	Edgewood Chemical Biological Center
EE/CA	Engineering Evaluation/Cost Analysis
FSS	Final Status Survey
FSSP	Final Status Survey Plan
FSSR	Final Status Survey Report
ft	foot
GP	General Physics Corporation
GPS	global positioning system
H-3	tritium
ID	identification
keV	kiloelectron volt
kg	kilogram
LBGR	Lower Bound of the Gray Region
m ²	square meter
MARSSIM	Multi-Agency Radiation Survey and Site Investigation Manual
MD	Maryland

ACRONYMS (CONTINUED)

MDA	minimum detectable activity
MDC	minimum detection concentration
MDL	minimum detection level
MOU	Memorandum of Understanding
μR/h	microroentgen per hour
2x2 NaI	2 inch x 2 inch sodium iodide
NRC	U.S. Nuclear Regulatory Commission
pCi/g	picocuries per gram
RDECOM	U.S. Army Research Development and Engineering Command
SBCCOM	U.S. Army Soldier and Biological Chemical Command
Sr	strontium
SU	Soil Unit
U.S.	United States
UST	underground storage tank
WESTON	Weston Solutions, Inc.
yd ³	cubic yard

1. EXECUTIVE SUMMARY

Weston Solutions, Inc. (WESTON[®]) has been contracted to achieve United States (U.S.) Nuclear Regulatory Commission (NRC) delisting of the Bush River Rad Yard in the Edgewood Area of Aberdeen Proving Ground (APG), Maryland (MD). This work is being conducted under the Base Environmental Support Team (BEST) Contract (W91ZLK-04-D-0014), Delivery Order 0005 for the Directorate of Safety, Health and Environment (DSHE).

In 2003 the NRC determined that the Bush River Rad Yard (which shall be referred to as the 'Rad Yard' for the remainder of this report) was controlled under NRC license number 19-10306-01, which is held by the U.S. Army Research Development and Engineering Command (RDECOM), formerly the Edgewood Chemical Biological Center (ECBC), U.S. Army Soldier and Biological Chemical Command (SBCCOM). Remediation activities at the Rad Yard were completed in 2007 and the licensee would like to remove the site from its license. This Final Status Survey Report (FSSR) follows guidance in the *Multi-Agency Radioactive Survey and Site Investigation Manual* (MARSSIM) (NRC 2002), and *Consolidated NMSS Decommissioning Guidance Decommissioning Process for Materials Licensees, Final Report*. (NUREG-1757) (NRC 2006) in describing the pathway by which that license action will be supported. The objective of this FSSR is to have the Rad Yard removed from NRC control under the RDECOM license by December 2008. Control of other sites and activities under license number 19-10306-01 may continue, and the termination of that license is not part of this project goal. These activities are not intended to address regulatory control of the site by any other state or federal agencies.

This FSSR documents the site activities that implemented the Final Status Survey Plan (FSSP) (WESTON, 2007), provides a statistical evaluation of data from the Final Status Surveys (FSSs) in accordance with MARSSIM guidance, describes the basis used to determine the number of samples required from each survey unit, and describes the as low as reasonably achievable (ALARA) practices used to achieve the final activity levels at the site. The status of the Rad Yard as determined by the results of the FSSs is as follows: (1) evaluations of soil sample data indicate that all 11 survey units meet the criteria for their unrestricted release, (2) evaluations of structures and concrete pads at the site indicate that contamination levels meet the unrestricted release criteria, and (3) the Rad Yard qualifies for removal from the NRC license under which past site operations were conducted.

2. GENERAL SITE DESCRIPTION AND SUMMARY OF PAST ACTIVITIES

2.1 SITE PHYSICAL DESCRIPTION

The Rad Yard, which covers approximately 5 acres, is located in the Bush River Study Area (BRSA) at the Edgewood Area of APG, MD, as shown in Figure 1-1, Rad Yard Site Map. The Rad Yard is part of Operable Unit 3 in the BRSA, which includes the Radioactive Material Disposal Facility (the Rad Yard), the 22nd Street Landfill, and the former Adamsite Storage Pit. The Rad Yard includes an open storage yard, two structures (Buildings E2354 and E2371), an abandoned underground storage tank (UST), an abandoned sump at the 22nd Street Landfill, the basement of Building E2364, and three concrete pads that remain from the removal of Buildings E2366, E2368, and E2356 during the Non-Time Critical Removal Action.

As depicted in Figure 1-2, Rad Yard Site Boundary, WESTON specifically limits the boundary of the Rad Yard to the following:

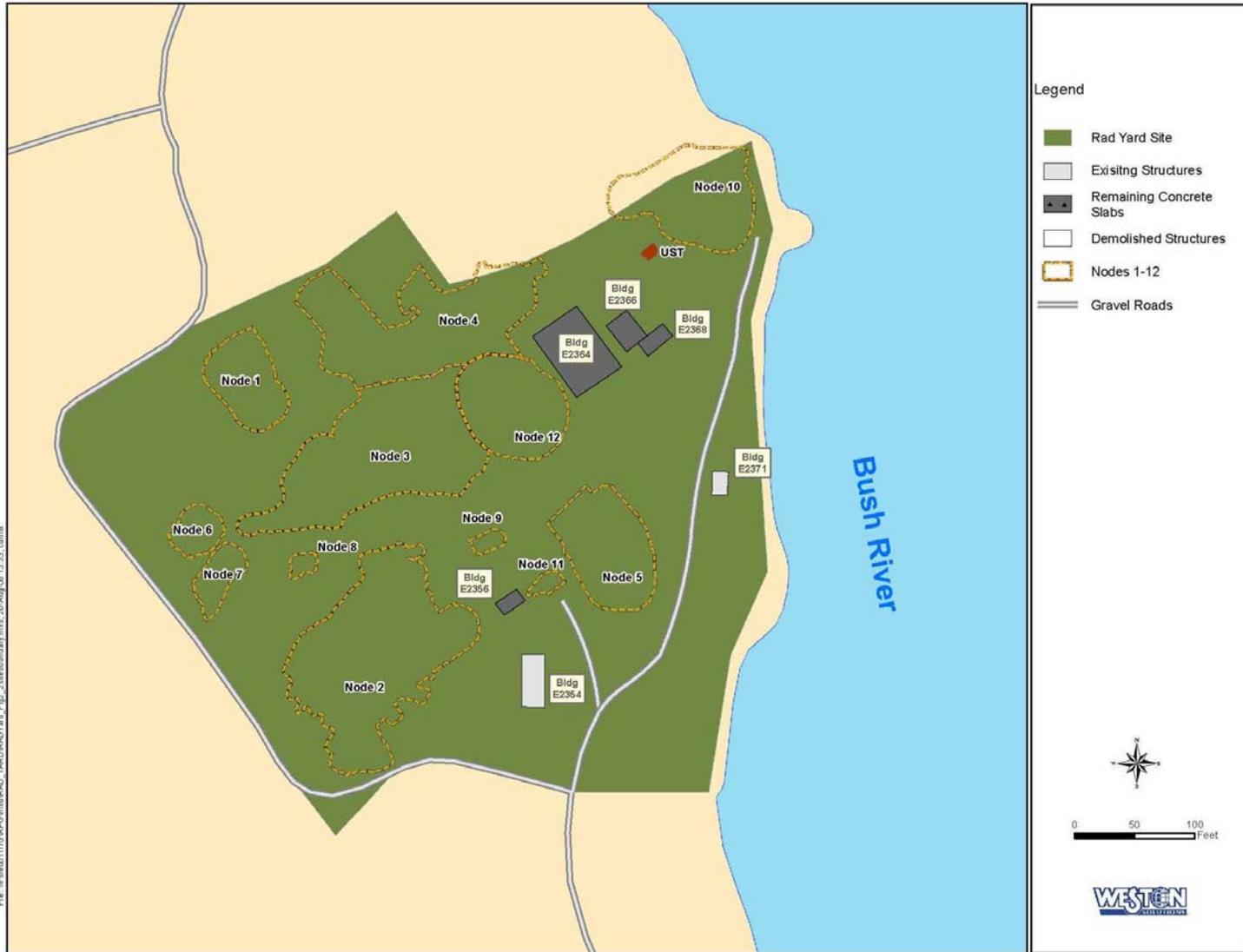
- The area above groundwater.
- The dirt/gravel road to the south and west of the Rad Yard.
- The physical security measure separating the 22nd Street Landfill from the Rad Yard to the north.
- The physical security measure separating the Bush River from the Rad Yard to the east.

Also indicated on Figure 1-2 are the outlines and locations of various site features such as the slabs that remain from former buildings and vaults, locations of existing buildings, USTs, sumps, and outlines of areas (Nodes 1-12) excavated as part of the Non-Time Critical Removal Action.

The Rad Yard, originally called the Toxic Gas Yard, was used for the consolidation, repackaging, and shipment of waste from the 1930s until 2002 (General Physics Corporation [GP], 2002). The site was built in 1931 as a storage facility for chemical warfare agents and ordnance. The facility was used for the management of military radioactive waste from the early 1960s until October 2002. During that time, a wide range of radionuclides were potentially processed, packaged, and temporarily stored at the Rad Yard, including tritium (H-3), cesium (Cs-137), cobalt (Co-60), Strontium (Sr)-90, and Radium (Ra)-226. Before 1985, wastes were received from military installations along the eastern U.S. for processing. After 1985, only small quantities of radioactive waste produced at APG were stored at the site. Since October 2002, no wastes have been stored at the Rad Yard and the site is currently not in use.



**Figure 1-1. Rad Yard Site Map
 Bush River Study Area
 APG, Maryland**



**Figure 1-2. Rad Yard Site Boundary
Bush River Rad Yard
APG, Maryland**

2.2 SUMMARY OF REMEDIATION ACTIVITIES

Between October 2004 and November 2006, WESTON conducted a Non-Time Critical Removal Action at the Rad Yard in accordance with the specifications of the Engineering Evaluation/Cost Analysis (EE/CA) completed by General Physics Corporation and documented in the *Engineering Evaluation/Cost Analysis, Radioactive Waste Management Facility Removal Action*. (GP, 2003). The primary objective of this removal action was to demolish contaminated structures and excavate and arrange disposal of radioactive (Cs-137 and Co-60) and hazardous (arsenic [As]) contaminated soils and other associated materials. This removal action was considered an interim remedy to facilitate future remediation at the BRSA under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), but was not conducted as an NRC decommissioning project. Contaminated structures were demolished and removed; soils and materials were excavated and disposed; verification and characterization soil samples were collected and analyzed for Cs-137, Co-60 and As; and radiological surveys of remaining concrete foundations and the entire site were conducted. All radiological soil characterization samples and surveys of remaining concrete foundations were below the established action levels. The removal action is described, and results of in-situ measurements and sample analyses are provided in the *Bush River Study Area Removal Action Report for Non-Time Critical Removal Action, Radioactive Waste Management Facility, Final, January 2007* (WESTON, 2007).

All verification samples collected from the excavated areas contained Cs-137 and Co-60 at concentrations less than the cleanup criteria. A FSSP was developed and submitted to the NRC. Samples were then collected and measurements were conducted in compliance with the FSSP. The sample results and statistical evaluations of the FSS data are described in this report.

2.3 FACILITY DERIVED CONCENTRATION GUIDELINE LEVELS (DCGLs) AND ALARA CONSIDERATIONS

2.3.1 Soil DCGLs

In the case of the Rad Yard removal action, the cleanup criteria or DCGLs applied were 5 pCi/g of Cs-137 and 0.5 pCi/g of Co-60. These criteria are also applied for the evaluation of the FSS results. Table 2-1 presents the values for Cs-137 and Co-60 taken from Tables B.2 and H.1 in NUREG-1757, Volume 1 (NRC, 2006) and compares them to the DCGLs for the removal action obtained from the FSSP.

Table 2-1. Comparison of Surface Soil Cleanup Criteria (pCi/g)

Radionuclide	NRC Screening Values NUREG-1757, Table B.2	MOU Triggers NUREG-1757, Table H.1		Removal Action/FSS DCGL
		Residential	Industrial	
Cs-137	11	6	11	5
Co-60	3.8	4	6	0.5

The cleanup criteria that were described in the FSSP and employed during the FSS of the Rad Yard are lower than the NRC acceptable screening values and the MOU triggers. These lower cleanup values were selected because they are ALARA, and because they are technically feasible from the standpoint that the lower concentrations were reliably detectable. The following sections of this report demonstrate that residual levels of contamination in the survey units are in the range of natural background or the detection limits for acceptable analytical methods. As a result, potential doses to site receptors have been reduced to negligible levels, contaminants have been reduced to levels that are statistically indistinguishable from background, and the ALARA goals for the site have been met.

MARSSIM advises that at sites impacted by multiple radionuclides, the DCGL for each radionuclide be weighted together using a unity rule. However, the ALARA DCGLs for Cs-137 and Co-60 were selected arbitrarily below the NRC release criteria and the sum of their predicted doses is less than unity.

2.3.2 DCGLs for Structures and Surfaces of Items

Table 2-2 presents the values for Cs-137 and Co-60 taken from Table B.1 of Appendix B in NUREG-1757, Volume 1 (NRC, 2006) and the surface contamination criteria from Regulatory Guide 1.86 (NRC, 1974) that were applied to concrete floors, walls, and building slabs left on-site following the removal action. These activity-based criteria used during the removal action for beta-gamma emitters (Cs-137 and Co-60) are significantly more restrictive than the dose-based screening values from NUREG-1757 (NRC, 2006) and were therefore used as the surface DCGLs, as required by the FSSP.

Table 2-2. Applicable Surface Contamination Limits

NUREG-1757, Table B.1 Screening values (dpm/100 cm ²)		Derived Concentration Guideline Levels [from Reg Guide 1.86 (dpm/100 cm ²)]
Cs-137	Co-60	Beta-gamma emitters
28,000	7100	5000 avg., 15,000 max

As shown by the comparisons in Tables 2-1 and 2-2, the criteria actually used during the removal action and now identified as DCGLs for the FSS were lower than the NRC allowable screening values. These lower values were selected for two reasons: (1) they were considered to be ALARA, and (2) they were considered to be technically feasible from the standpoint that the lower concentrations were reliably detectable.

3. SUMMARY DESCRIPTION OF FSSP APPROACH AND MODIFICATIONS TO THE PLAN

The following sections describe the requirements as described in the FSSP for the 11 soil survey units, the buildings, the remaining concrete pads, and the vaults. The methods used to determine the number of samples required in each survey unit, the general soil sampling and data interpretation protocols that were applied to all 11 survey units and structures, and the changes to FSSP requirements that were made to accommodate actual site conditions are also described below.

3.1 SURVEY UNIT DESCRIPTION AND BASIS FOR DETERMINATION OF NUMBER OF SAMPLES

3.1.1 Soil Survey Units

All areas contained within the site boundary were categorized as Class 1, and soil area survey units were therefore limited to areas less than 2000 m², as required by MARSSIM and described in the FSSP. Initial survey units ranging in area from approximately 700 to 1900 m² were designated for the FSSP using scaled maps of the site, hand-drawn boundaries, and calculated areas. Each of the initial 13 survey units was designated such that none would exceed the size limit described in MARSSIM.

Prior to conducting the FSSs, the survey unit boundaries were redesigned using global positioning system (GPS) data and systems that provided area calculations that were more accurate than the initial efforts. As a result, the FSS was conducted using 11 survey units that did not range in size as much as the initial 13 survey units did, yet each of them was still less than 2000 m². A letter notifying the NRC of this change is provided in Appendix A, and a map showing the final survey unit boundaries is provided in Figure 3-1. If a contaminated area was found on site during the FSS and extended beyond the site boundaries, the impacted area was to be included in the survey unit. No such areas of contamination were found.

3.1.2 Contaminated Surfaces

Buildings E2356 and E2368 were demolished during the Non-Time Critical Removal Action. These slabs were not anticipated to have residual surface contamination, but because they were located within the inner controlled access fence of the Rad Yard they were classified as Class 1 survey units. During the FSS, a 100% surface contamination survey of these two slabs was conducted. The slabs were gridded into 1 m² areas, and a beta surface contamination survey was performed in compliance with the procedure described in the FSSP.

During the removal action, Buildings E2354 and E2371 were located outside of the controlled access fence of the Rad Yard and were designated as support areas. As a result, Buildings E2354 and E2371 were classified as Class 2 structures in the FSSP. Low levels of contamination were found in E2371 during the FSS, so it was reclassified as a Class 1 structure and 100% of its surface areas were surveyed, as appropriate for Class 1 structures. Building E2354 is a one-story structure with a footprint thought to be 330 ft² (31 m²). Building E2371 is a one-story structure with a footprint of approximately 177 ft² (16 m²).

In the FSSP, Building E2354 was evaluated as a Class 2 structure. Based on the estimated footprint of 31 m², fourteen 1-m² survey points were planned for the floors and lower walls of the building. However, during the FSS, it was determined that the building was substantially larger and the number of measurement locations was increased to 20.

Also, additional suspect areas such as sink and shower drains were bias surveyed. Each measurement point was surveyed for surface contamination in accordance with the procedure described in the FSSP. The surveys covered approximately 16% of the interior surface of E2354 and 100% of the interior surface of E2371. This level of coverage is in compliance with MARSSIM guidance, which recommends survey coverage of 100% for Class 1 structures and between 10 to 100% for Class 2 structures. No measurement locations were found to have residual contamination above the release criteria, so neither building had to be reclassified as Class 1.

3.2 SUMMARY OF VALUES USED TO DETERMINE THE REQUIRED NUMBER OF SAMPLES IN THE FSSP

The FSSP provides a description of how the numbers of samples required for each survey unit and building surface were derived. The FSSP concluded, based on the removal action verification data, that 15 surface soil samples from each survey unit in the Class 1 areas, and 14 surface contamination measurements on Class 2 building surfaces were required. As shown in the FSS data and described in Section 4 of this report, these preliminary estimates were correct except for two cases. Additional soil samples were collected in Survey Unit 3 and 7, and 20 surface measurements were taken in Building E2354 due to its larger than expected area.

3.3 SUMMARY OF FSSP SOIL SAMPLING REQUIREMENTS

3.3.1 Sample Identification and Handling

WESTON used their corporate sampling program known as FieldFast for FSS sampling activities conducted at the Rad Yard. FieldFast is a database that helps organize large quantities of sampling data and generates computerized forms and labels. For the Rad Yard FSS activities, the FieldFast database was populated with project-specific values to help generate sample identifications (IDs), chain-of-custody forms, and sample labels.

3.3.2 Sampling Grid

As described in the FSSP, a minimum of 15 soil samples were collected for each survey unit. Starting at a randomly generated point the samples were systematically collected in the survey unit from each intersection of a triangular grid that was established from the following MARSSIM equation:

$$L = \sqrt{A/0.866n}$$

where:

L = Length of grid section,
A = Area of survey unit, and
n = number of samples from COMPASS.

The procedure used for laying out the triangular sampling grid for the soil area survey unit was as follows:

- A random starting point was located by drawing two random numbers from a uniform distribution on the interval [0, 1]. The first number was scaled by the length of the east-west coordinate axis. The coordinates were rounded to the nearest values that can be easily measured in the field (e.g., nearest meter). Similarly, a second random number was scaled by the length of the north-south coordinate axis to the nearest meter. This provided the starting coordinate for the sampling grid. If this point fell outside the area to be sampled, the next two random numbers were taken and continued to be taken until a point that fell within the sampling area was obtained.
- The spacing (L) of the sampling locations on the triangular grid was computed using the number of sampling locations required (n) rounded down to the nearest meter. Rounding down helped to place the requisite number of sampling points on the sampling grid.
- From the starting location, a row of sampling points was laid out parallel to the X-axis and distance L apart.
- To start additional rows, the midpoint was located between two adjacent sampling locations on the sample row and a spot marked at a distance perpendicular to the row. Again, this number was rounded down if necessary. This was the starting location for the new row.
- This process was continued until all grid points within the sampling area had been located. Sampling locations that fall outside the area to be sampled were ignored.

As described in the FSSP, the locations of verification and supplemental samples collected during the 2004-2006 removal action were compared to the grid sampling locations identified by the above method. If a sample location from previous surveys was within 5 ft of the MARSSIM survey required location, a new sample was not collected and the prior survey sample result was used in the statistical test. If neither the removal action verification sample nor the supplemental sample was within 5 feet of the MARSSIM specified location, a new sample was collected.

At locations where obstructions were encountered in the field that prevented a surface soil sample from being collected, an alternate location was selected by generating new coordinates using a random number routine. Obstructions encountered included concrete pads from demolished buildings, buildings remaining onsite, and footprints of buildings that had been demolished and removed in prior cleanup activities, such as Buildings E2364 and E2370. In the case of Buildings E2364 and E2370 it was known that clean fill had been placed over the building footprints after their removal. When alternate locations were sampled by this technique, it is noted as a change in the sampling plan in the discussion of survey results for each survey unit.

Figures presented in Sections 4.1 through 4.11 show the FSS sample locations for each of the 11 survey units. Appendix B provides the laboratory analytical data and a key that correlates the FSS sample identification numbers to the laboratory package identification numbers for any locations that were incorrectly identified or modified to present consistent nomenclature.

3.3.3 Surface Soil and Depth Profile Sampling Process

Soil samples were collected from the soil surface at the designated locations across the Rad Yard as described in the preceding sections. Samples were collected from the surface to a depth of 6 inches, and all were located using a GPS. Samples were approximately 1 kg and were placed into large mouth polypropylene jars. Large stones and vegetation were removed from the soil at the time of collection. At least one member of the field sampling crew was in visual contact with the samples at all times during the work day.

As discussed in the FSSP, there was a concern that clean fill might have been placed over excavated areas at the Rad Yard during the 2004-2006 removal action to improve water drainage from the site. The sample collection team was instructed to carefully observe the characteristics of the soil and to make a field judgment as to whether the soil on the surface represented clean fill or original soil. In every case, the field sampling team judged that the soil on the surface was original soil, not clean fill.

There were two primary soil sampling campaigns. The first was conducted from November 14 to December 12, 2007, with a few samples collected February 12, 2008. Based upon a preliminary review of these sample results, a second sampling campaign was conducted on May 22, 2008. The second sampling campaign was conducted primarily to collect additional profile samples and to assure that enough surface soil samples were collected for the statistical tests. The specifics of this second sampling campaign are documented as an email dated May 6, 2008 included in Appendix A.

In order to verify that soil contamination is contained within the top 6 inches of the soil surface, depth profile samples were collected at select locations. Sampling locations in each survey unit that had the highest gamma activity emanating from the soil surface as measured during the scanning survey were selected for profile sampling. At these locations, two additional soil samples were collected from depths of 6 to 12 inches and 12 to 18 inches. One sampling location was selected for this depth profile sampling protocol from each of the 11 survey units.

3.3.4 Analytical Methods

Soil samples collected during the FSS were logged into WESTON's FieldFast corporate sampling program to generate sample identification and chain-of-custody documentation and forwarded under chain-of-custody to Eberline Services radiochemistry laboratory in Oak Ridge, TN for analyses. Upon arrival at the laboratory, samples were logged into their sample management system that tracked and documented the sample's progress through the laboratory. Sample analyses were performed and a level 3 radiochemistry data package was generated.

Stones larger than 0.5 inch were removed from the sample and set aside for weighing. The entire remaining soil sample was dried, homogenized, and weighed. A minimum 500 grams aliquot of the soil was packed into a suitable counting geometry and analyzed by gamma spectrometry

using the LANL ER-130 modified method with a count time and background suitable to attain a minimum detection concentration (MDC) of 0.2 pCi/g for Cs-137 and Co-60. In every case this MDC or better was attained. The laboratory was also instructed to report all other identifiable and quantifiable radioisotopes.

4. OVERVIEW AND EVALUATIONS OF FINAL STATUS SURVEY RESULTS FOR SOILS

This section describes where and how the samples were collected and analyzed, the statistical tests that were applied to the soil sample analytical results, and the methods used to evaluate whether the soil sample and scanning data met the clean up criteria. Following these general discussions, data for each survey unit are presented in a consistent format in individual sections. Those data and their associated evaluations demonstrate that all of the survey units passed the statistical tests required by MARSSIM.

UNITY RULE APPLIED TO SOIL DCGLS

For sites like the Rad Yard where more than one radionuclide exists as a contaminant, the individual DCGLs for each radionuclide cannot be used to directly assess compliance. The unity rule is applied by determining the ratio between the concentration of each radionuclide in the mixture and its DCGL.

$$\text{Weighted Sum} = \text{Conc}_{\text{Cs-137}}/5.0 + \text{Conc}_{\text{Co-60}}/0.5$$

This average concentration, normalized to the individual DCGLs, is the LBGR used in subsequent calculations.

When using the unity rule, the DCGL is 1 (unity) and it is necessary to normalize the standard deviation, as shown below:

$$\sigma = \sqrt{\left(\frac{\sigma_{\text{Cs-137}}}{\text{DCGL}_{\text{Cs-137}}}\right)^2 + \left(\frac{\sigma_{\text{Co-60}}}{\text{DCGL}_{\text{Co-60}}}\right)^2}$$

The approach described above was used to evaluate the laboratory analytical results for each survey unit to evaluate compliance with the release criteria.

SIGN TEST FOR Co-60 AND Cs-137

To use the one-sample Sign test, background concentrations of Co-60 and Cs-137 are considered to be either zero or insignificant in comparison to the DCGL. Thus, there is no reference to background in statement of the null and alternative hypothesis. The null hypothesis is assumed to be true unless the statistical test indicates that it should be rejected in favor of the alternative. The parameter of interest is the mean concentration. The median is equal to the mean when the measurement distribution is symmetric, and is an approximation otherwise.

As discussed in the FSSP, the background concentration of Cs-137 in samples collected in the reference area were determined to be less than 10% of DCGL for this isotope, and no Co-60 was detected above the MDC in any of the reference area samples. Therefore, the Sign test is the appropriate statistical model to use when evaluating the survey units.

It will be shown in the discussion on each survey unit, that all of the FSS surface soil sample analytical results are less than the respective DCGLs for Cs-137 and Co-60, and therefore, the

weighted sum for each sample is always less than unity. As a result, the prescriptive analytical evaluation steps of the Sign test are not required to demonstrate compliance with the criteria.

RELEASING SURVEY UNITS

Survey units are individually released when the following conditions occur in each survey unit:

- All Cs-137 and Co-60 concentrations in final status soil samples are below their respective DGCLs; or
- Non-parametric tests for Cs-137 and Co-60 show that the null hypotheses representing false (not the true condition) distributions for each contaminant are rejected;
- Elevated areas of residual radioactivity pass the elevated measurement comparison; and
- Elevated areas of residual activity, when weighted in conjunction with the average activity in the survey unit, pass a Unity Rule.

Data for the 11 individual survey units are consistently presented and evaluated in this FSSR in the following format. The area of each survey unit is given to confirm that the MARSSIM prescribed maximum area of 2000 m² for Class 1 survey units is not exceeded. Analytical results of verification samples collected from the excavation nodes following the 2004-2006 removal action are presented as miscellaneous sample data, and are not used in the statistical evaluation. However, the miscellaneous data are representative of the current surface soil concentrations within these nodes, and therefore can contribute additional validation that the entire site meets the release criteria. It is shown that all of the verification samples are at a concentration level less than the DCGL for each respective isotope.

As discussed in the FSSP, at least 15 surface soil samples were collected from each survey unit for use in the statistical evaluation. It is shown in this FSSR that the individual concentration of each isotope is less than the DCGL for that isotope, and therefore the mean and median concentrations of each isotope in all of the survey units are less than their respective DCGL. The mean and standard deviation of each isotope in each survey unit are used to calculate the LBGR and normalized standard deviation as discussed above. These values are then used to calculate the Relative Shift for purposes of determining the minimum sample size according to the relation:

$$\text{Relative Shift} = (1.0 - \text{LBGR}) / \text{normalized standard deviation.}$$

It is shown in this FSSR for every survey unit that the calculated Relative Shift is greater than the maximum value of 3.0 recommended by MARSSIM. Therefore, in the statistical test for each survey unit, a Relative Shift of 3.0 is used instead of the calculated value.

As discussed in the FSSP, NUREG-1757 (NRC, 2006) guidance recommends a Type I decision error of 0.05, but allows the licensee to select the Type II decision error, with possible values ranging from 0.01 to 0.25. A mid-range of 0.05 was selected for the subsequent analysis. Applying a Relative Shift of 3.0, and decision errors of 0.05, the value of N, or the minimum number of samples per survey unit can be obtained from Table 5.5 of MARSSIM. This minimum

number of samples already includes the MARSSIM-recommended 20% increase in sample set size.

It is demonstrated in this FSSR that all of the samples have concentrations less than their respective DCGLs, and that at least the minimum number of samples were collected.

NUREG-1757 recommends that a histogram of the sample data be generated to allow visual interpretation of the data set, specifically to observe if the data set appears to be symmetric. A histogram is provided for each survey unit in discussions that follow.

Scanning survey results are depicted on an accompanying figure for each survey unit. Scanning data were collected using a Ludlum 44-10 detector (2x2 NaI detector) coupled to a Ludlum 2221 ratemeter/scaler set in scaler (count rate) mode. The detector window was opened completely, and the threshold set to approximately 50 kiloelectron volts (keV). Count rate data were downloaded in 2-second intervals, and tagged with location coordinates using a differential corrected GPS system. Each survey unit was scanned using 1 meter transect spacing at a rate of approximately 0.5 meters per second, with the detector held at approximately 10 cm height above the ground surface.

Scanning count rate data were reduced to exposure rate using a conversion factor supplied by the manufacturer of 900 cpm per microRoentgen per hour ($\mu\text{R/h}$). This conversion factor is applicable for a gamma-ray energy of 662 keV, which is the spectral energy for Cs-137.

Surface conditions across the Rad Yard varied from crushed stone applied as a working surface during Army operations, to bare soil that resulted after the 2004-2006 removal action. It was observed during the removal action that the background gamma count rate using the scanning instrument varied from approximately 6000 cpm to 9000 cpm over uncontaminated soil, depending on the material in the soil surface. This observation is reported in the Non-Time Critical Removal Action Report (January 2007). Review of the background data in this report reveals that the majority of the area of the site has a background count rate of 8000 cpm. To direct soil excavation operations during the removal action, an empirical correlation of 700 cpm above background per pCi/g was observed to provide a reasonable estimate of the residual Cs-137 soil concentration. Using this correlation, and an assumed background of 8000 cpm, a gross count rate of 10,800 cpm would estimate the Cs-137 concentration at 4 pCi/g. Using the manufacturer-supplied conversion factor of 900 cpm per $\mu\text{R/h}$, 10,800 cpm would be equivalent to 12 $\mu\text{R/h}$. Therefore, an exposure rate of 12 $\mu\text{R/h}$ was used to as the Investigation Level when interpreting the scanning data.

4.1 SURVEY UNIT 1

4.1.1 Introduction

Survey Unit 1 is located in the northwest corner of the Rad Yard, and has a surface area of 1867 m². The majority of this area was used during the 2004-2006 removal action to store filled lift liners awaiting transport to the rail yard. However, approximately one-half of the excavated area of Node 1 resided within this survey unit. As depicted on Figure 3-1, three confirmation samples were collected and analyzed during the removal action from the area now identified as

Survey Unit 1. The Cs-137 concentrations in these confirmation samples ranged from 0.16 to 0.37 pCi/g, and the Co-60 concentrations were all below the MDC of the analysis.

4.1.2 FSS Analytical Results

During the FSS, 15 surface samples were collected across this survey unit. The sample locations are depicted on Figure 4-1, and analytical results for these samples are presented in Table 4-1. The maximum Cs-137 concentration detected in these 15 samples was approximately 1.8 pCi/g, or 36% of the DCGL for Cs-137. The mean concentration of Cs-137 was 0.4 pCi/g, or 8% of the DCGL, and the median was 0.2 pCi/g. The standard deviation around the mean was 0.5 pCi/g. The highest Co-60 concentration detected in these 15 samples was approximately 0.05 pCi/g, or 10% of the DCGL for Co-60. The mean Co-60 concentration was 0.001 pCi/g, or 0.2% of the DCGL, and the median was -0.003 pCi/g. The standard deviation around the mean was 0.03 pCi/g.

The LBGR for the combined contaminants, using the unity rule, was 8% of the DCGL, and the overall normalized standard deviation was 0.12. Using these values, the Relative Shift for the combined contaminants was 7.7.

Profile samples were initially collected at location 012 at depths of 0-6 in., 6-12 in., and 12-18 in. While all profile samples were below the DCGL for Cs-137, the highest concentration of 1.7 pCi/g was detected at the 12-18 in. depth. To demonstrate that an elevated concentration did not continue below the 18 in. depth, three additional profile samples were collected from this location during a second sampling campaign at depths of 18-24 in., 24-30 in., and 30-36 in. Analysis of these deeper profile samples confirmed that the Cs-137 concentrations decreased with increasing depth, and therefore the depth of contamination was bounded. All analytical results for Co-60 were less than the DCGL for Co-60, and less than the MDC for the analysis.

4.1.3 FSS Data Interpretation

While the Relative Shift for the combined data set calculates to 7.7, MARSSIM recommends as a design goal that a maximum Relative Shift of 3.0 be used. Based on values of N for use with the Sign Test, obtained from MARSSIM Table 5-5, the minimum number of samples required to demonstrate compliance is 14. In Survey Unit 1, 15 samples were collected during the FSS; therefore, this requirement is met. Analytical results for every sample collected within the survey unit are below the DCGL, therefore the survey unit meets the release criteria.

All of the analytical results for Co-60 were less than the minimum detection level (MDL) reported by the laboratory for this analyte, and review of the histogram of concentrations for this contaminant presented on Figure 4-2 indicates an average concentration centered around 0.0. Of the 15 analytical results for Cs-137, nine were greater than the MDL reported by the laboratory for this analyte. Review of the histogram of concentrations for this contaminant presented on Figure 4-2 indicates that the data are symmetrical and without bimodality.

4.1.4 Scanning Survey Results

Scanning survey data are depicted on Figure 4-1 and indicate a relatively uniform exposure rate across the survey unit. Exposure rates generally ranged from 5 to 9 $\mu\text{R/h}$. No areas above 12 $\mu\text{R/h}$ were detected, and therefore the Investigation Level was not exceeded.

4.1.5 Conclusion

The FSSP was followed with two exceptions. First, additional profile samples were collected at deeper depths to demonstrate that the depth of contamination was bounded. Second, an obstruction caused the relocation of sample SU1-015-01.

Based upon the data provided in this FSSR; that the minimum samples required to demonstrate compliance is exceeded, that all of the FSS sample analytical results were less than the DCGL, and that the scanning survey identified no areas requiring further investigation, it is concluded that the survey unit satisfies the DCGL.

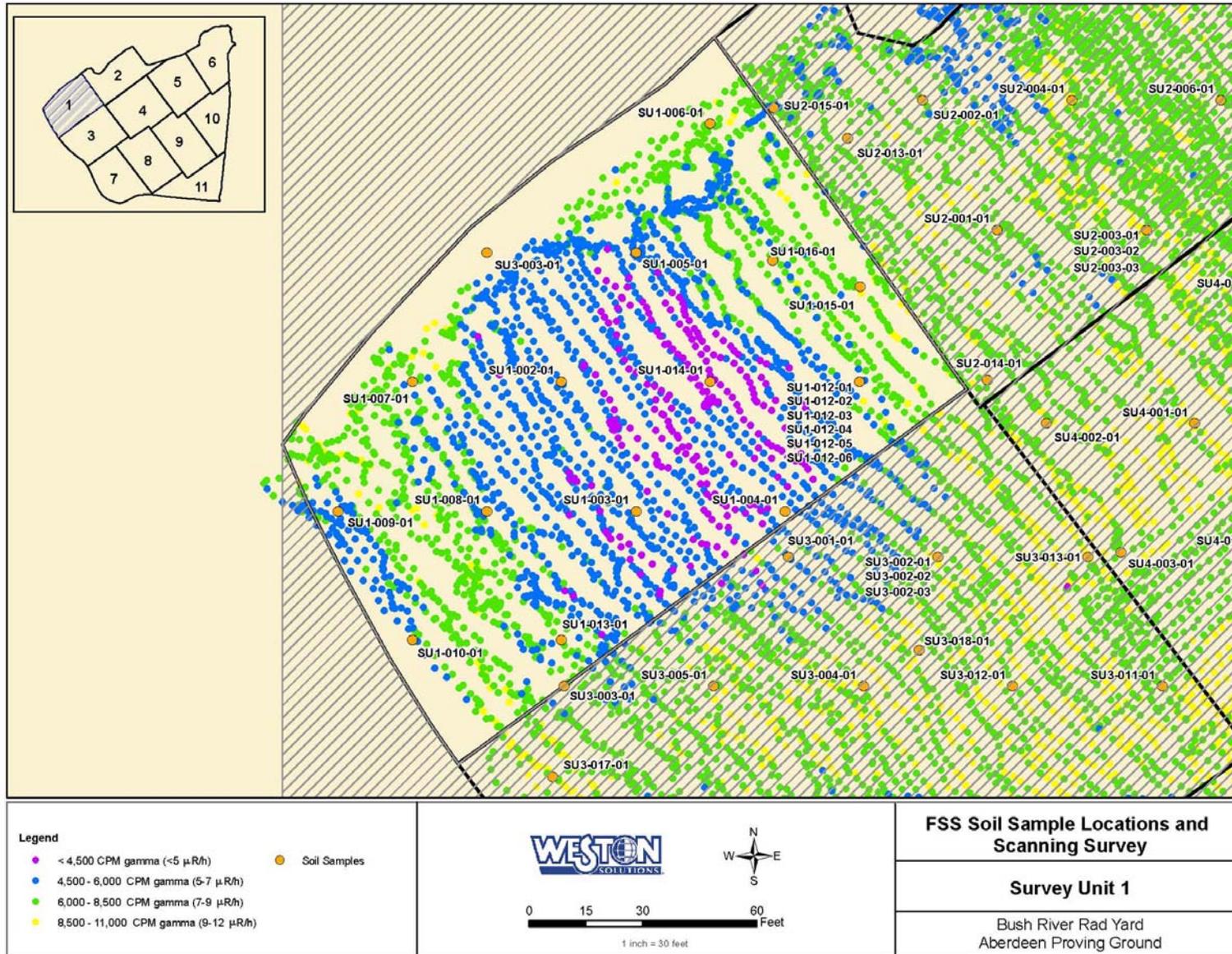


Figure 4-1. FSS Soil Sample Locations and Scanning Survey

Table 4-1. Analytical Results from SU-1 Soil Samples

Survey Unit 1 FSS Sample Summary		
Surface Sample ID	Cs-137 (pCi/g)	Co-60 (pCi/g)
SU1-001	9.57E-02	-1.86E-02
SU1-002	1.43E-01	-4.34E-04
SU1-003	-1.21E-03	-8.18E-03
SU1-004	1.45E-01	2.65E-02
SU1-005	1.86E-01	-2.72E-02
SU1-006	5.67E-01	-2.77E-03
SU1-007	8.00E-02	2.79E-02
SU1-008	1.43E-01	4.53E-02
SU1-009	2.39E-01	-3.50E-03
SU1-010	2.37E-01	2.63E-02
SU1-012	2.93E-01	-3.11E-03
SU1-013	1.78E+00	2.67E-02
SU1-014	2.09E-01	-1.84E-02
SU1-015	1.47E+00	8.71E-03
SU1-016	5.57E-02	-5.70E-02

Mean	3.76E-01	1.48E-03
Standard Deviation	5.27E-01	2.64E-02
Median	1.86E-01	-2.77E-03
DCGL	5.00E+00	5.00E-01

LBGR, Unity Rule (Cs-137 + Co-60)	8.00E-02
Combined Standard Deviation (Cs-137 + Co-60)	1.20E-01
Relative Shift (Cs-137 + Co-60)	7.70E+00

Profile Samples			
Sample ID	Depth (inches)	Cs-137 (pCi/g)	Co-60 (pCi/g)
SU1-012-01	0-6	2.93E-01	-3.11E-03
SU1-012-02	6-12	1.18E+00	-3.41E-02
SU1-012-03	12-18	1.66E+00	-3.65E-02
SU1-012-04	18-24	4.11E-01	-5.82E-04
SU1-012-05	24-30	1.06E-01	-1.18E-02
SU1-012-06	30-36	4.94E-02	6.39E-02

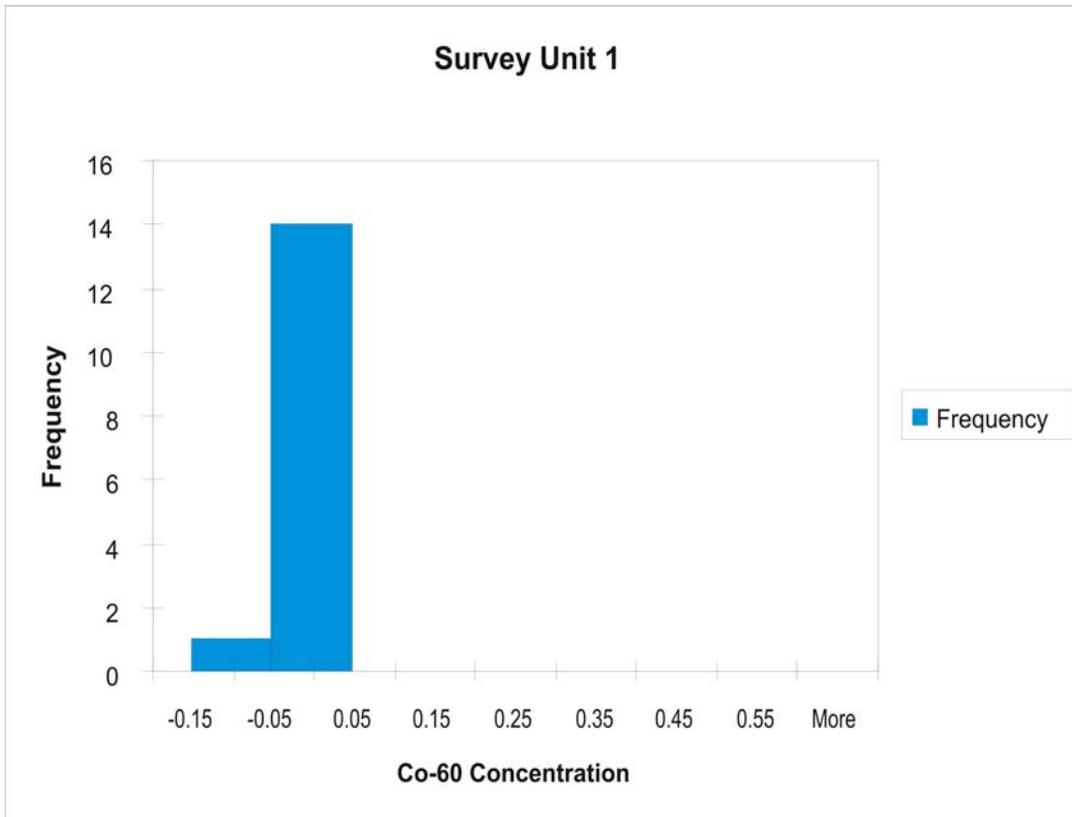
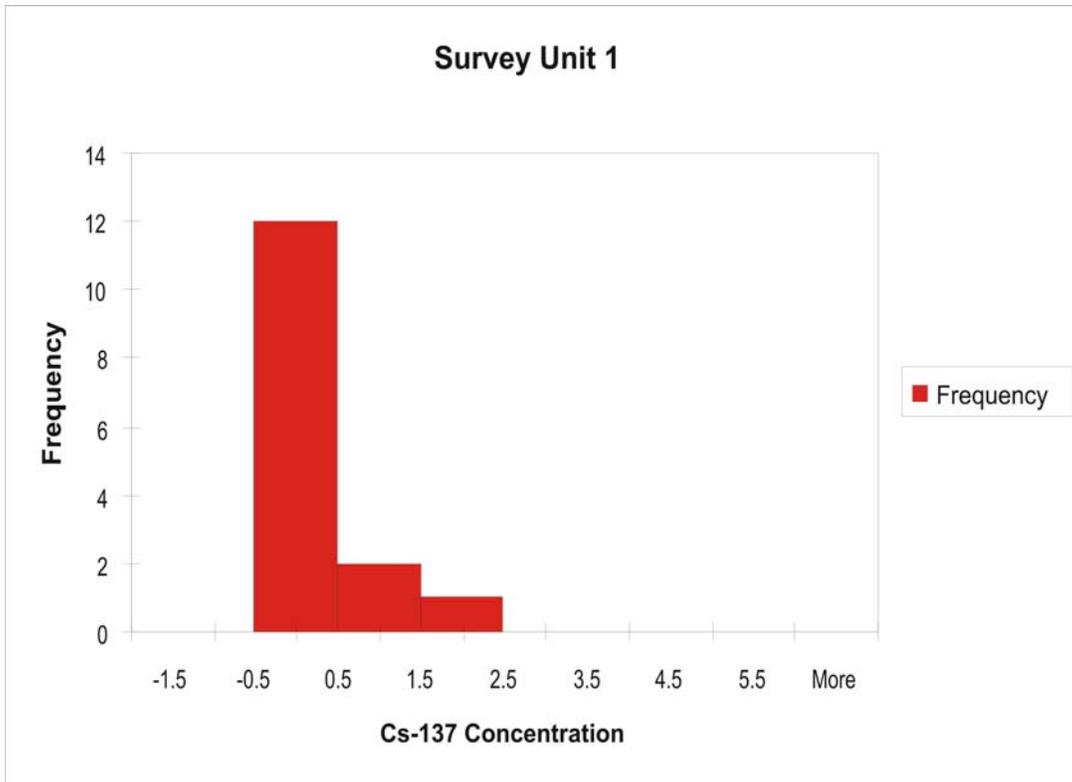


Figure 4-2. Frequency Distribution of Soil Sample Results – SU1 (pCi/g)

4.2 SURVEY UNIT 2

4.2.1 Introduction

Survey Unit 2 is located along the northern border of the Rad Yard, and has a surface area of 1876 m². This survey unit encompasses about one-half of the areas of Node 1 and the majority of Node 4 excavated during the 2004-2006 removal action. As depicted on Figure 3-1, ten confirmation samples were collected and analyzed during the removal action from the area now identified as Survey Unit 2. The Cs-137 concentrations in these confirmation samples ranged from less than the MDC of the analysis to 2.99 pCi/g, and the Co-60 concentrations were all below the MDC of the analysis.

4.2.2 FSS Analytical Results

During the FSS, 15 surface samples were collected across this survey unit. The sample locations are depicted on Figure 4-3, and analytical results for these samples are presented in Table 4-2. The maximum Cs-137 concentration detected in these 15 samples was approximately 1.6 pCi/g, or 32% of the DCGL for Cs-137. The mean concentration of Cs-137 was 0.5 pCi/g, or 10% of the DCGL, and the median was 0.4 pCi/g. The standard deviation around the mean was 0.4 pCi/g. The highest Co-60 concentration detected in these 15 samples was approximately 0.07 pCi/g, or 14% of the DCGL for Co-60. The mean Co-60 concentration was 0.01 pCi/g, or 2% of the DCGL, and the median was 0.02 pCi/g. The standard deviation around the mean was 0.03 pCi/g.

The LBGR for the combined contaminants, using the unity rule, was 12% of the DCGL, and the overall normalized standard deviation was 0.098. Using these values, the Relative Shift for the combined contaminants was 8.8.

Profile samples were collected at location 003 at depths of 0-6 in., 6-12 in., and 12-18 in. All profile sample results were below the DCGL for Cs-137, with the highest concentration of 0.09 pCi/g detected in the 0-6 in. sample. All analytical results for Co-60 were less than the DCGL for Co-60, and less than the MDC for the analysis. The highest concentration for Co-60 was also in the 0-6 in. depth sample.

4.2.3 FSS Data Interpretation

While the Relative Shift for the combined data set calculates to 8.8, MARSSIM recommends as a design goal that a maximum Relative Shift of 3.0 be used. Based on values of N for use with the Sign Test, obtained from MARSSIM Table 5.5, the minimum number of samples required to demonstrate compliance is 14. In Survey Unit 2, 15 samples were collected during the FSS; therefore, this requirement is met. Analytical results for every sample collected within the survey unit are below the DCGL, therefore the survey unit meets the release criteria.

All of the analytical results for Co-60 were less than the MDL reported by the laboratory for this analyte, and review of the histogram of concentrations for this contaminant presented on Figure 4-4 indicates an average concentration centered around 0.0. Of the 15 analytical results for Cs-137, 12 were greater than the MDL reported by the laboratory for this analyte. Review of the histogram of concentrations for this contaminant presented on Figure 4-4 indicates that the data are symmetrical and without bimodality.

4.2.4 Scanning Survey Results

Scanning survey data are depicted on Figure 4-3 and indicate a relatively uniform exposure rate across the survey unit. Exposure rates generally ranged from 7 to 9 $\mu\text{R}/\text{h}$. No areas above 12 $\mu\text{R}/\text{h}$ were detected, and therefore the Investigation Level was not exceeded.

4.2.5 Conclusion

The FSSP was followed with two exceptions. Obstructions encountered in the field caused the relocation of samples SU2-013-01 and SU2-014-01. No unusual circumstances were encountered during the FSS that resulted in any other changes to the FSSP.

Based upon the data provided in this FSSR that the minimum samples required to demonstrate compliance is exceeded, that all of the FSS sample analytical results were less than the DCGL, and that the scanning survey identified no areas requiring further investigation, it is concluded that the survey unit satisfies the DCGL.

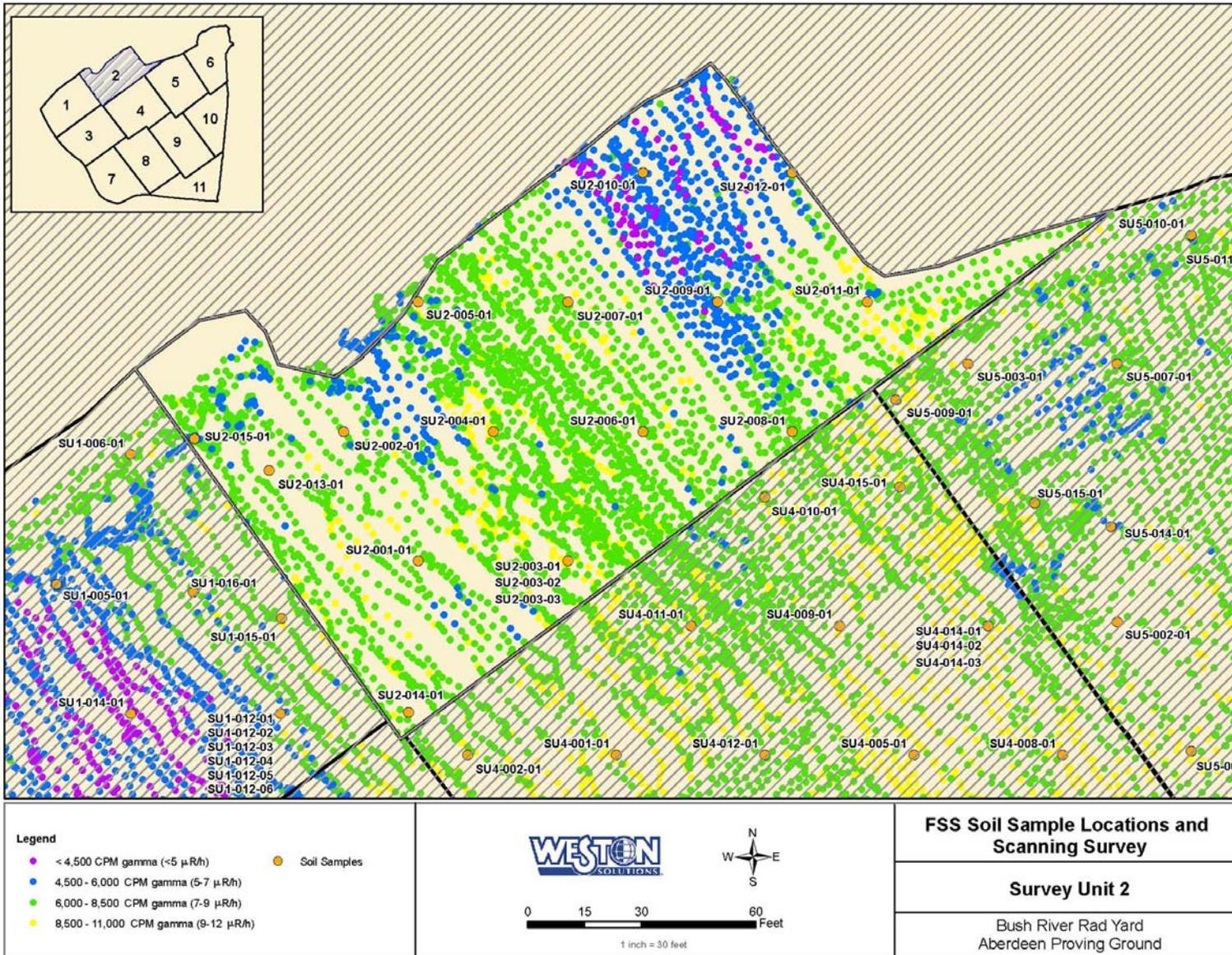


Figure 4-3. FSS Soil Sample Locations and Scanning Survey

Table 4-2. Analytical Results from SU-2 Soil Samples

Survey Unit 2 FSS Sample Summary		
Surface Sample ID	Cs-137 (pCi/g)	Co-60 (pCi/g)
SU2-001	1.88E-01	2.03E-02
SU2-002	9.44E-01	-1.03E-02
SU2-003	8.90E-02	5.95E-02
SU2-004	2.29E-02	3.58E-02
SU2-005	5.91E-01	-3.26E-03
SU2-006	3.70E-01	-5.08E-03
SU2-007	3.27E-01	-1.63E-02
SU2-008	4.57E-01	-1.64E-02
SU2-009	4.97E-01	6.69E-02
SU2-010	2.60E-01	2.03E-02
SU2-011	3.40E-01	-2.73E-02
SU2-012	1.57E+00	1.55E-02
SU2-013	8.82E-01	2.66E-02
SU2-014	3.07E-02	3.31E-02
SU2-015	5.95E-01	1.79E-02

Mean	4.78E-01	1.45E-02
Standard Deviation	4.09E-01	2.77E-02
Median	3.70E-01	1.79E-02
DCGL	5.00E+00	5.00E-01

LBGR, Unity Rule (Cs-137 + Co-60)	1.20E-01
Combined Standard Deviation (Cs-137 + Co-60)	9.80E-02
Relative Shift (Cs-137 + Co-60)	8.80E+00

Profile Samples			
Sample ID	Depth (inches)	Cs-137 (pCi/g)	Co-60 (pCi/g)
SU2-003-01	0-6	8.90E-02	5.95E-02
SU2-003-02	6-12	8.34E-03	1.53E-02
SU2-003-03	12-18	1.28E-02	-2.10E-02

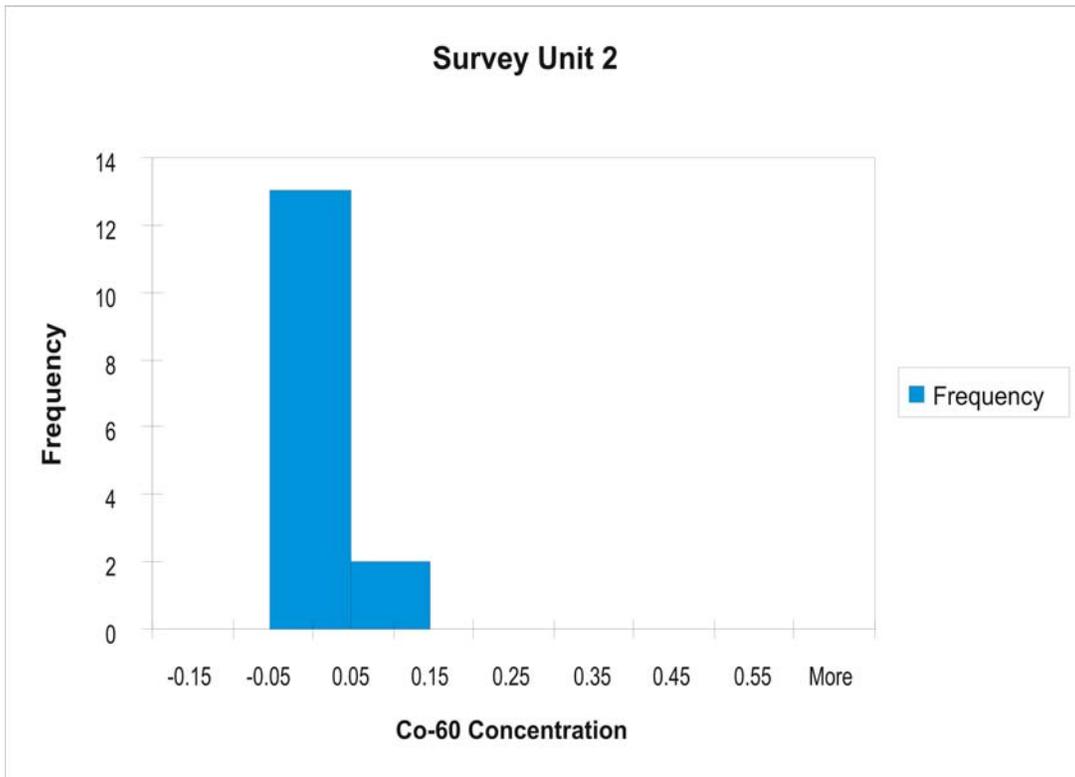
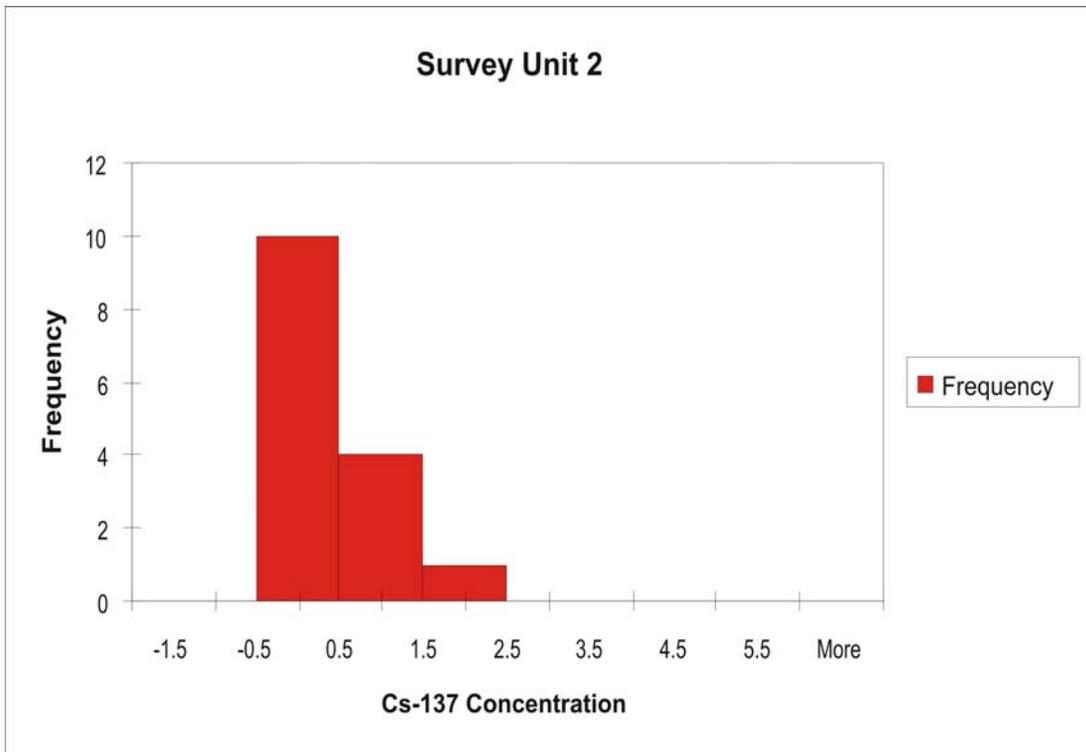


Figure 4-4. Frequency Distribution of Soil Sample Results – SU2 (pCi/g)

4.3 SURVEY UNIT 3

4.3.1 Introduction

Survey Unit 3 is located along the western border of the Rad Yard, and has a surface area of 1882 m². This survey unit encompasses all of the areas of Nodes 6, 7, and 8, and approximately 20% of Node 3 excavated during the 2004-2006 removal action. As depicted on Figure 3-1, 14 confirmation samples were collected and analyzed during the removal action from the area now identified as Survey Unit 3. The Cs-137 concentrations in these confirmation samples ranged from less than the MDC of the analysis to 2.8 pCi/g, and the Co-60 concentrations were all below the MDC of the analysis.

4.3.2 FSS Analytical Results

During the FSS, 18 surface samples were collected across this survey unit. The sample locations are depicted on Figure 4-5, and analytical results for these samples are presented in Table 4-3. The maximum Cs-137 concentration detected in these samples was approximately 2.8 pCi/g, or 56% of the DCGL for Cs-137. The mean concentration of Cs-137 was 0.6 pCi/g, or 12% of the DCGL, and the median was 0.6 pCi/g. The standard deviation around the mean was 0.7 pCi/g. The highest Co-60 concentration detected in these 18 samples was approximately 0.03 pCi/g, or 6% of the DCGL for Co-60. The mean Co-60 concentration was -0.001 pCi/g, and the median was 0.004 pCi/g. The standard deviation around the mean was 0.03 pCi/g.

The LBGR for the combined contaminants, using the unity rule, was 12% of the DCGL, and the overall normalized standard deviation was 0.15. Using these values, the Relative Shift for the combined contaminants was 6.1.

Profile samples were collected at location 002 at depths of 0-6 in., 6-12 in., and 12-18 in. All profile sample results were below the DCGL for Cs-137, with the highest concentration of 0.02 pCi/g detected in the 0-6 in. sample. All analytical results for Co-60 were less than the DCGL for Co-60, and less than the MDC for the analysis. The highest concentration for Co-60 was also in the 0-6 in. depth sample.

4.3.3 FSS Data Interpretation

While the Relative Shift for the combined data set calculates to 6.1, MARSSIM recommends as a design goal that a maximum Relative Shift of 3.0 be used. Based on values of N for use with the Sign Test, obtained from MARSSIM Table 5.5, the minimum number of samples required to demonstrate compliance is 14. In Survey Unit 3, 18 samples were collected during the FSS; therefore, this requirement is met. Analytical results for every sample collected within the survey unit are below the DCGL, therefore the survey unit meets the release criteria.

All of the analytical results for Co-60 were less than the MDL reported by the laboratory for this analyte, and review of the histogram of concentrations for this contaminant presented on Figure 4-6 indicates an average concentration centered around 0.0. Of the 18 analytical results for Cs-137, 13 were greater than the MDL reported by the laboratory for this analyte. Review of the histogram of concentrations for this contaminant presented on Figure 4-6 indicates that the data are symmetrical and without bimodality.

4.3.4 Scanning Survey Results

Scanning survey data are depicted on Figure 4-5 and indicate a relatively uniform exposure rate across the survey unit. Exposure rates generally ranged from 7 to 12 $\mu\text{R}/\text{h}$. No areas above 12 $\mu\text{R}/\text{h}$ were detected, and therefore the Investigation Level was not exceeded.

4.3.5 Conclusion

Based upon a preliminary assessment of the analytical data from the first sampling campaign, it was decided three additional samples should be collected from this survey unit. The second sampling campaign was conducted in May 2008, when samples SU3-016, -017, and -018 were collected. No unusual circumstances were encountered during the FSS that resulted in any other changes to the FSSP.

Based upon the data provided in this FSSR that the minimum samples required to demonstrate compliance is exceeded, that all of the FSS sample analytical results were less than the DCGL, and that the scanning survey identified no areas requiring further investigation, it is concluded that the survey unit satisfies the DCGL.

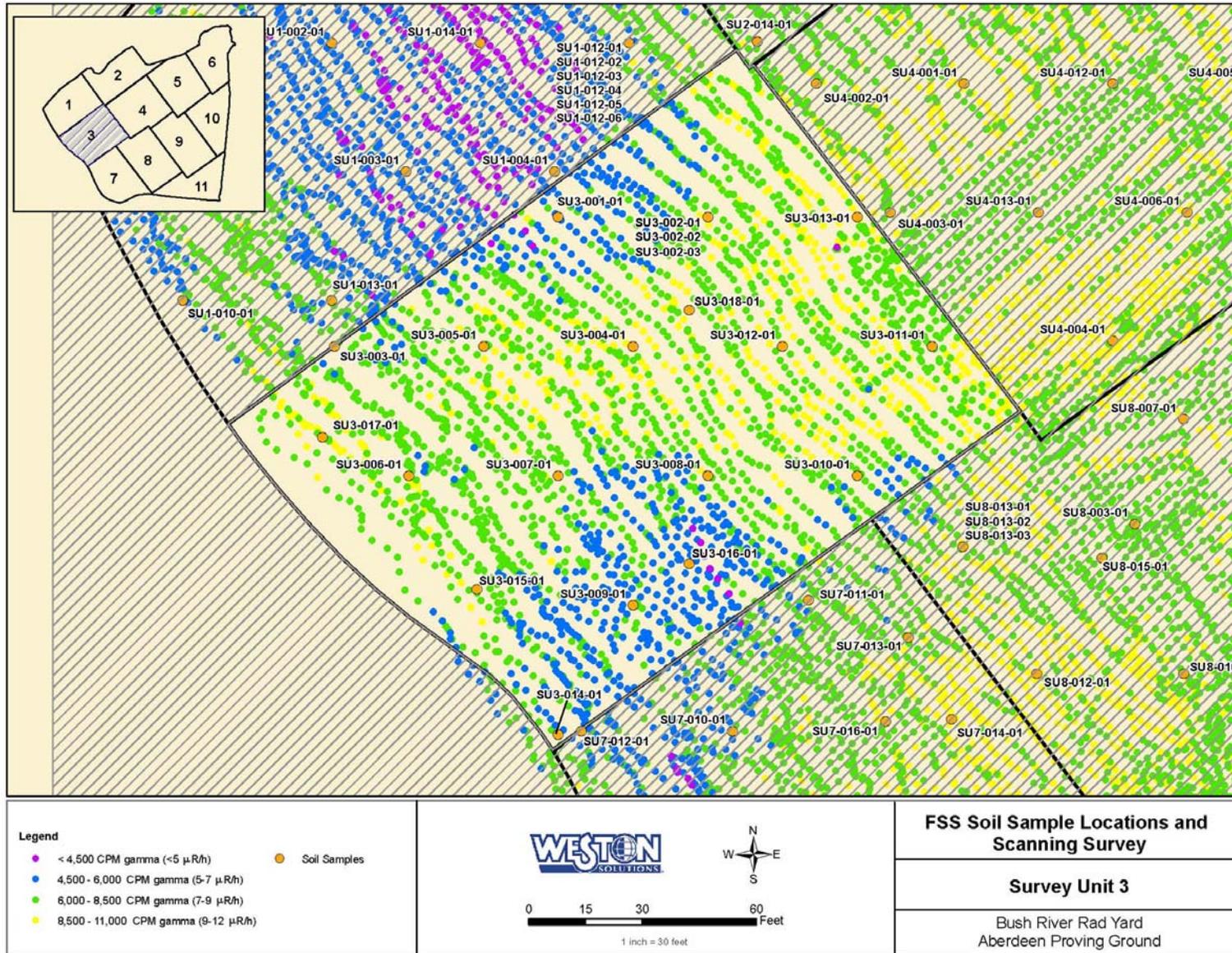


Figure 4-5. FSS Soil Sample Locations and Scanning Survey

Table 4-3. Analytical Results from SU-3 Soil Samples

Survey Unit 3 FSS Sample Summary		
Surface Sample ID	Cs-137 (pCi/g)	Co-60 (pCi/g)
SU3-001	8.08E-01	-1.28E-02
SU3-002	1.57E-02	2.97E-02
SU3-003	7.05E-01	2.68E-03
SU3-004	7.07E-01	1.03E-03
SU3-005	4.83E-01	2.07E-02
SU3-006	2.82E+00	2.74E-02
SU3-007	1.19E+00	-7.97E-03
SU3-008	7.84E-01	6.97E-03
SU3-009	3.22E-01	-8.54E-02
SU3-010	1.71E-01	-9.75E-03
SU3-011	3.54E-01	3.28E-02
SU3-012	7.16E-02	5.26E-03
SU3-013	1.44E-01	2.53E-02
SU3-014	6.90E-01	2.06E-02
SU3-015	1.17E+00	-8.94E-03
SU3-016	5.71E-02	-3.09E-03
SU3-017	2.34E-01	-2.37E-02
SU3-018	7.91E-02	-4.08E-02

Mean	6.00E-01	-1.11E-03
Standard Deviation	6.67E-01	2.89E-02
Median	5.87E-01	3.97E-03
DCGL	5.00E+00	5.00E-01

LBGR, Unity Rule (Cs-137 + Co-60)	1.20E-01
Combined Standard Deviation (Cs-137 + Co-60)	1.50E-01
Relative Shift (Cs-137 + Co-60)	6.10E+00

Profile Samples			
Sample ID	Depth (inches)	Cs-137 (pCi/g)	Co-60 (pCi/g)
SU3-002-01	0-6	1.57E-02	2.97E-02
SU3-002-02	6-12	7.01E-03	1.16E-02
SU3-002-03	12-18	1.28E-02	-8.76E-02

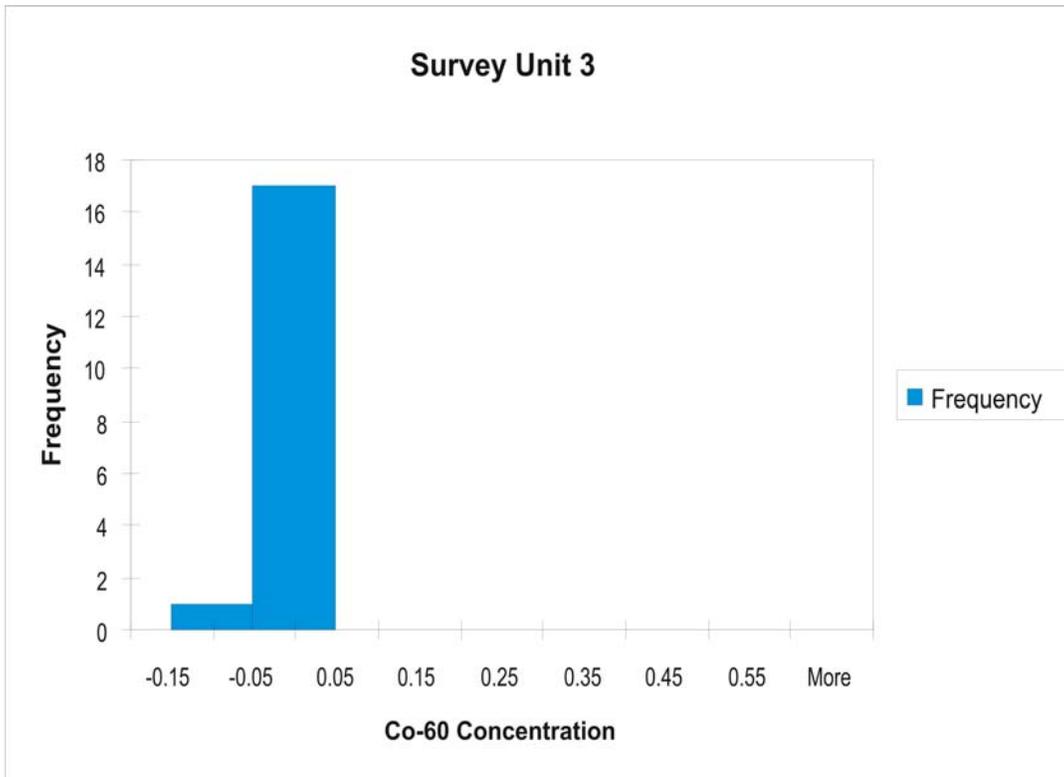
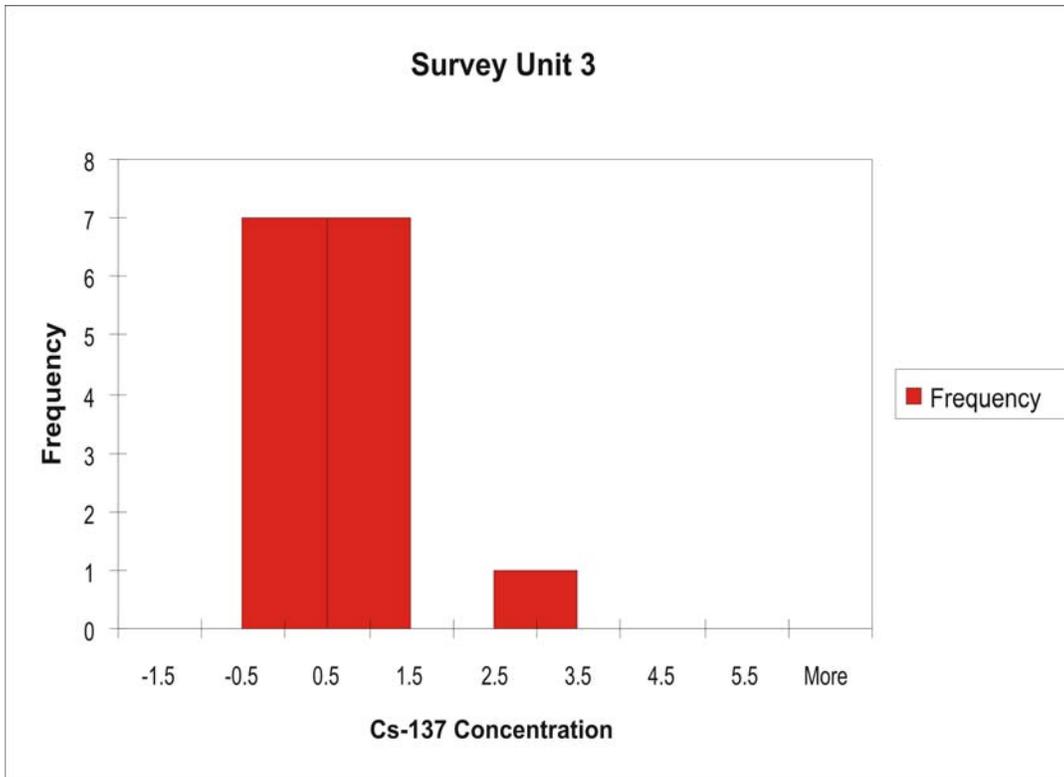


Figure 4-6. Frequency Distribution of Soil Sample Results – SU3 (pCi/g)

4.4 SURVEY UNIT 4

4.4.1 Introduction

Survey Unit 4 is located in approximately the center of the Rad Yard, and has a surface area of 1855 m². This survey unit encompasses about 60% of the areas of Node 3 and about one-half of Node 12 excavated during the 2004-2006 removal action. This survey unit also encompasses about one-half of the footprint of Building E2362, which was demolished and removed during the removal action. As depicted on Figure 3-1, 13 confirmation samples were collected and analyzed during the removal action from the area now identified as Survey Unit 4. The Cs-137 concentrations in these confirmation samples ranged from less than the MDC of the analysis to 3.8 pCi/g, and the Co-60 concentrations were all below the MDC of the analysis.

4.4.2 FSS Analytical Results

During the FSS, 15 surface samples were collected across this survey unit. The sample locations are depicted on Figure 4-7, and analytical results for these samples are presented in Table 4-4. The maximum Cs-137 concentration detected in these 15 samples was approximately 2.0 pCi/g, or 40% of the DCGL for Cs-137. The mean concentration of Cs-137 was 0.5 pCi/g, or 10% of the DCGL, and the median was 0.2 pCi/g. The standard deviation around the mean was 0.6 pCi/g. The highest Co-60 concentration detected in these 15 samples was approximately 0.1 pCi/g, or 20% of the DCGL for Co-60. The mean Co-60 concentration was 0.01 pCi/g, or 2% of the DCGL, and the median was 0.01 pCi/g. The standard deviation around the mean was 0.03 pCi/g.

The LBGR for the combined contaminants, using the unity rule, was 12% of the DCGL, and the overall normalized standard deviation was 0.13. Using these values, the Relative Shift for the combined contaminants was 6.8.

Profile samples were collected at location 014 at depths of 0-6 in., 6-12 in., and 12-18 in. All profile sample results were below the DCGL for Cs-137, with the highest concentration of 1.3 pCi/g detected in the 0-6 in. sample. All analytical results for Co-60 were less than the DCGL for Co-60, and less than the MDC for the analysis. The highest concentration for Co-60 was also in the 0-6 in. depth sample.

4.4.3 FSS Data Interpretation

While the Relative Shift for the combined data set calculates to 6.8, MARSSIM recommends as a design goal that a maximum Relative Shift of 3.0 be used. Based on values of N for use with the Sign Test, obtained from MARSSIM Table 5.5, the minimum number of samples required to demonstrate compliance is 14. In Survey Unit 4, 15 samples were collected during the FSS; therefore, this requirement is met. Analytical results for every sample collected within the survey unit are below the DCGL, therefore the survey unit meets the release criteria.

All of the analytical results for Co-60 were less than the MDL reported by the laboratory for this analyte, and review of the histogram of concentrations for this contaminant presented on Figure 4-8 indicates an average concentration centered around 0.0. Of the 15 analytical results for Cs-137, 13 were greater than the MDL reported by the laboratory for this analyte. Review of

the histogram of concentrations for this contaminant presented on Figure 4-8 indicates that the data are symmetrical and without bimodality.

4.4.4 Scanning Survey Results

Scanning survey data are depicted on Figure 4-7 and indicate a relatively uniform exposure rate across the survey unit. Exposure rates generally ranged from 7 to 12 $\mu\text{R}/\text{h}$. No areas above 12 $\mu\text{R}/\text{h}$ were detected, and therefore the Investigation Level was not exceeded.

4.4.5 Conclusion

The FSSP was followed without exception. No unusual circumstances were encountered during the FSS that resulted in a change to the FSSP.

Based upon the data provided in this FSSR that the minimum samples required to demonstrate compliance is exceeded, that all of the FSS sample analytical results were less than the DCGL, and that the scanning survey identified no areas requiring further investigation, it is concluded that the survey unit satisfies the DCGL.

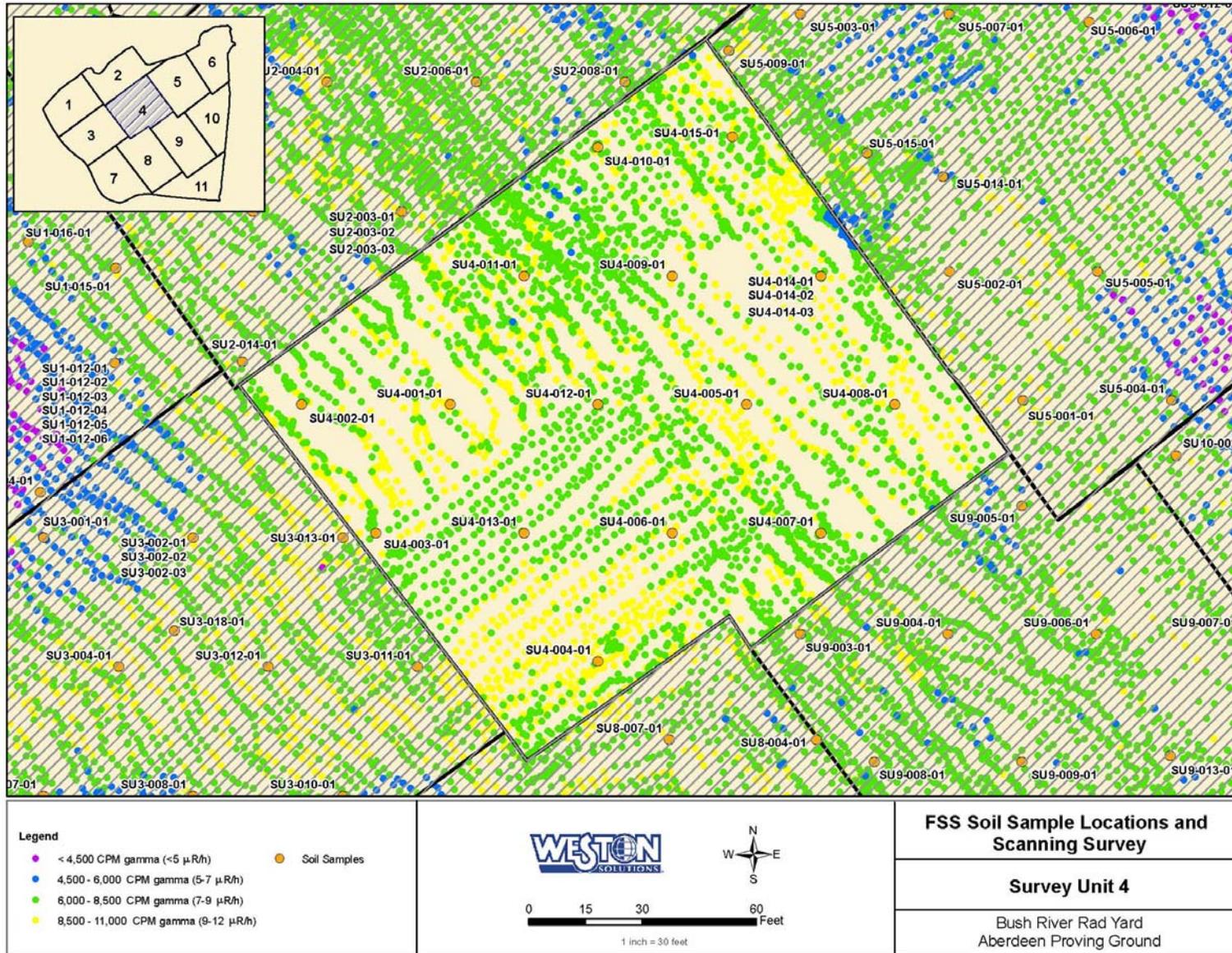


Figure 4-7. FSS Soil Sample Locations and Scanning Survey

Table 4-4. Analytical Results from SU-4 Soil Samples

Survey Unit 4 FSS Sample Summary		
Surface Sample ID	Cs-137 (pCi/g)	Co-60 (pCi/g)
SU4-001	1.18E-01	-7.80E-03
SU4-002	1.03E-01	1.72E-02
SU4-003	1.42E-01	1.07E-02
SU4-004	5.28E-02	2.16E-02
SU4-005	2.37E-02	-2.63E-02
SU4-006	3.12E-01	9.75E-02
SU4-007	1.43E-01	-1.41E-02
SU4-008	3.34E-01	2.68E-02
SU4-009	1.25E+00	2.46E-02
SU4-010	1.27E-01	5.23E-03
SU4-011	6.82E-01	2.14E-02
SU4-012	1.68E-01	-7.74E-03
SU4-013	4.57E-01	5.47E-03
SU4-014	1.28E+00	1.00E-02
SU4-015	1.99E+00	4.92E-03

Mean	4.79E-01	1.26E-02
Standard Deviation	5.80E-01	2.80E-02
Median	1.68E-01	1.00E-02
DCGL	5.00E+00	5.00E-01

LBGR, Unity Rule (Cs-137 + Co-60)	1.20E-01
Combined Standard Deviation (Cs-137 + Co-60)	1.30E-01
Relative Shift (Cs-137 + Co-60)	6.80E+00

Profile Samples			
Sample ID	Depth (inches)	Cs-137 (pCi/g)	Co-60 (pCi/g)
SU4-014-01	0-6	1.28E+00	1.00E-02
SU4-014-02	6-12	1.16E-01	-6.24E-02
SU4-014-03	12-18	1.02E-01	8.00E-03

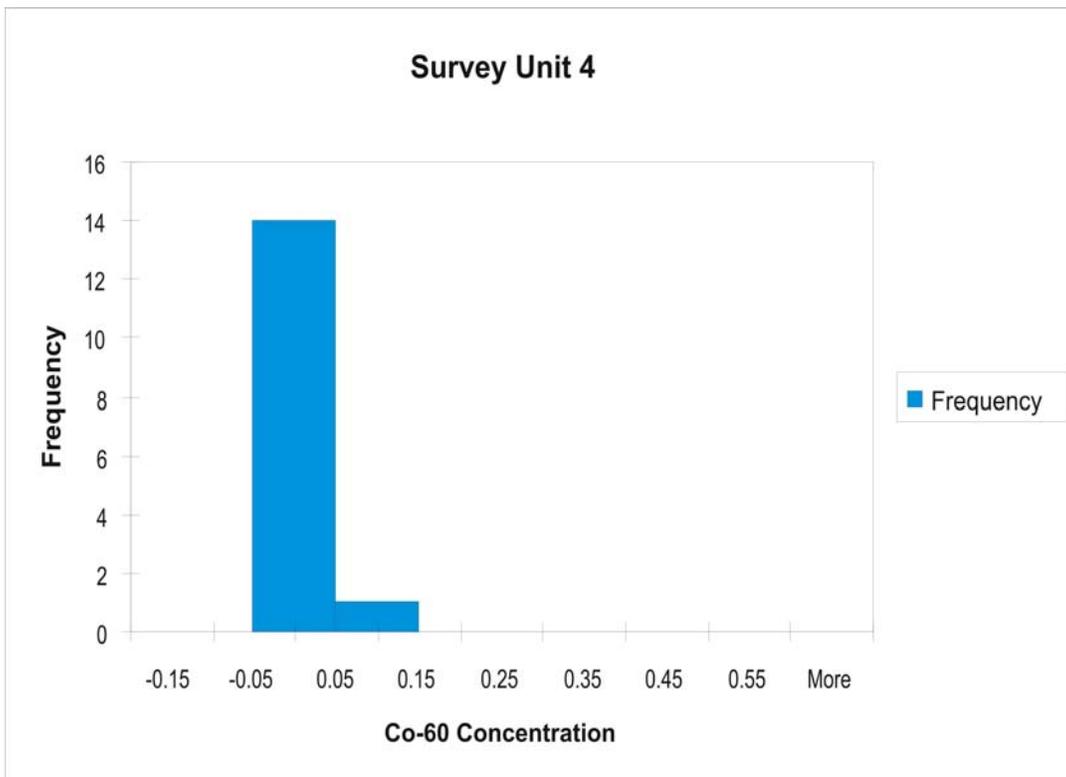
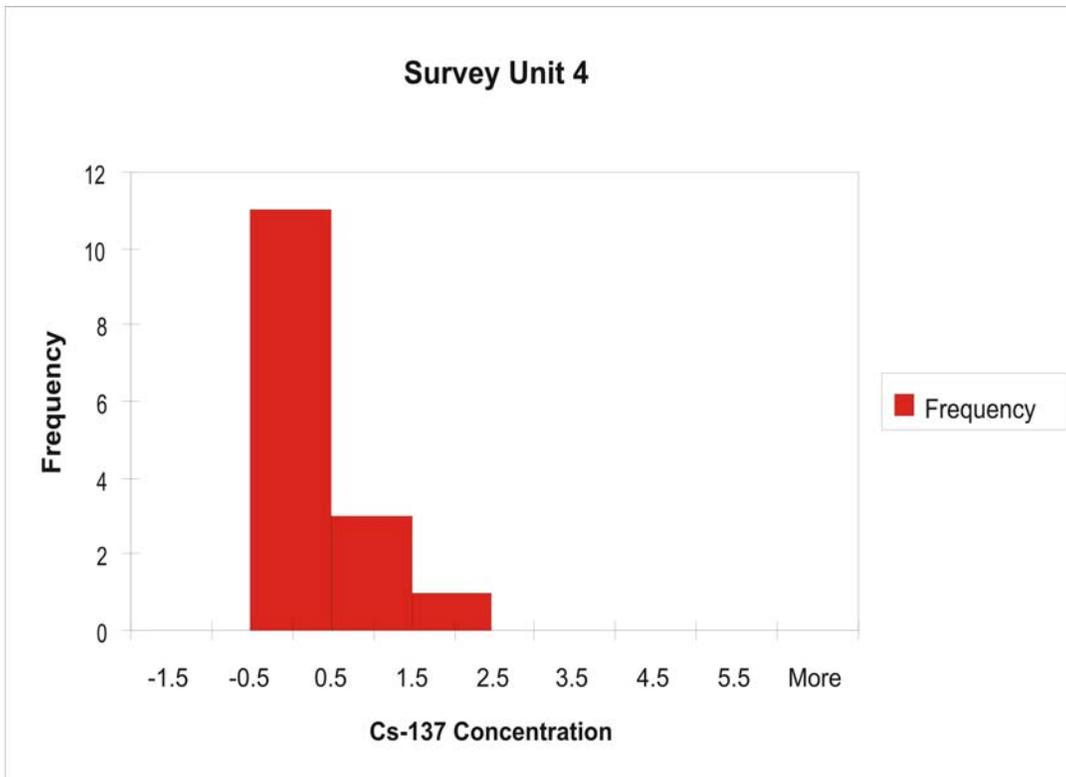


Figure 4-8. Frequency Distribution of Soil Sample Results – SU4 (pCi/g)

4.5 SURVEY UNIT 5

4.5.1 Introduction

Survey Unit 5 is located along the northern border of the Rad Yard, and has a surface area of 1855 m². This survey unit encompasses about 20% of the area of Node 3 and about 50% of Node 12 excavated during the 2004-2006 removal action, and the footprints of about 50% of Buildings E2362 and E2366, all of the footprint of Building E2364, and about 20% of Building E2370. As depicted on Figure 3-1, fourteen confirmation surface soil and waste water line samples were collected and analyzed during the removal action from the area now identified as Survey Unit 5. The Cs-137 concentrations in these confirmation samples ranged from less than the MDC of the analysis to 4.7 pCi/g, and the Co-60 concentrations were all below the MDC of the analysis.

4.5.2 FSS Analytical Results

During the FSS, 15 surface samples were collected across this survey unit. The sample locations are depicted on Figure 4-9, and analytical results for these samples are presented in Table 4-5. The maximum Cs-137 concentration detected in these 15 samples was approximately 1.8 pCi/g, or 36% of the DCGL for Cs-137. The mean concentration of Cs-137 was 0.5 pCi/g, or 10% of the DCGL, and the median was 0.3 pCi/g. The standard deviation around the mean was 0.5 pCi/g. The highest Co-60 concentration detected in these 15 samples was approximately 0.14 pCi/g, or 28% of the DCGL for Co-60. The mean Co-60 concentration was 0.03 pCi/g, or 6% of the DCGL, and the median was 0.02 pCi/g. The standard deviation around the mean was 0.04 pCi/g.

The LBGR for the combined contaminants, using the unity rule, was 17% of the DCGL, and the overall normalized standard deviation was 0.14. Using these values, the Relative Shift for the combined contaminants was 6.0.

Profile samples were collected at location 015 at depths of 0-6 in., 6-12 in., and 12-18 in. All profile sample results were below the DCGL for Cs-137, with the highest concentration of 2.97 pCi/g detected in the 6-12 in. sample. All analytical results for Co-60 were less than the DCGL for Co-60, and less than the MDC for the analysis. The highest concentration for Co-60 was also in the 6-12 in. depth sample.

4.5.3 FSS Data Interpretation

While the Relative Shift for the combined data set calculates to 6.0, MARSSIM recommends as a design goal that a maximum Relative Shift of 3.0 be used. Based on values of N for use with the Sign Test, obtained from MARSSIM Table 5.5, the minimum number of samples required to demonstrate compliance is 14. In Survey Unit 5, 15 samples were collected during the FSS; therefore, this requirement is met. Analytical results for every sample collected within the survey unit are below the DCGL, therefore the survey unit meets the release criteria.

One of the analytical results for Co-60 was slightly greater than the MDL for this analyte, and the remainder was less than the MDL reported by the laboratory. Review of the histogram of concentrations for this contaminant presented on Figure 4-10 indicates an average concentration centered around 0.0. Of the 15 analytical results for Cs-137, 11 were greater than the MDL reported by the laboratory for this analyte. Review of the histogram of concentrations for this

contaminant presented on Figure 4-10 indicates that the data are symmetrical and without bimodality.

4.5.4 Scanning Survey Results

Scanning survey data are depicted on Figure 4-9 and indicate a relatively uniform exposure rate across the survey unit. Exposure rates generally ranged from 7 to 9 $\mu\text{R}/\text{h}$. No areas above 12 $\mu\text{R}/\text{h}$ were detected, and therefore the Investigation Level was not exceeded.

4.5.5 Conclusion

The FSSP was followed with three exceptions. Due to multiple building footprints encountered in this survey unit, sample locations SU5-009, -011, and -014 were relocated. No unusual circumstances were encountered during the FSS that resulted in any other changes to the FSSP.

Based upon the data provided in this FSSR that the minimum samples required to demonstrate compliance is exceeded, that all of the FSS sample analytical results were less than the DCGL, and that the scanning survey identified no areas requiring further investigation, it is concluded that the survey unit satisfies the DCGL.

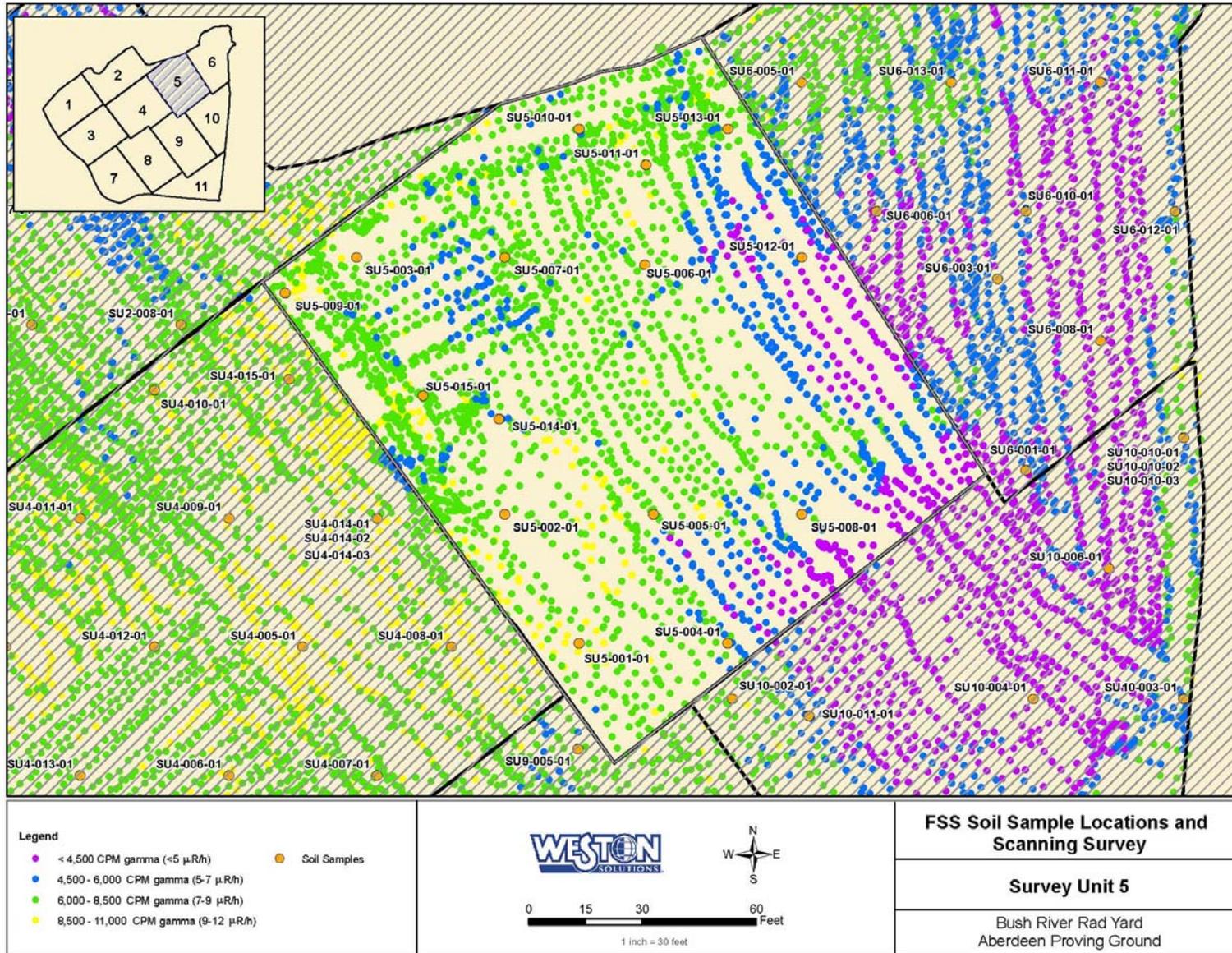


Figure 4-9. FSS Soil Sample Locations and Scanning Survey

Table 4-5. Analytical Results from SU-5 Soil Samples

Survey Unit 5 FSS Sample Summary		
Surface Sample ID	Cs-137 (pCi/g)	Co-60 (pCi/g)
SU5-001	2.37E-01	3.48E-02
SU5-002	8.63E-01	7.56E-02
SU5-003	1.83E+00	7.78E-03
SU5-004	2.59E-01	1.25E-02
SU5-005	3.08E-01	1.78E-02
SU5-006	2.33E-01	-1.61E-02
SU5-007	9.90E-01	6.69E-02
SU5-008	2.44E-01	2.88E-03
SU5-009	-3.96E-02	1.43E-01
SU5-010	3.92E-01	9.39E-03
SU5-011	-1.31E-02	1.05E-02
SU5-012	1.27E+00	2.30E-02
SU5-013	7.42E-02	1.63E-02
SU5-014	-2.36E-03	3.18E-02
SU5-015	8.72E-01	-1.54E-02

Mean	5.01E-01	2.81E-02
Standard Deviation	5.46E-01	4.06E-02
Median	2.59E-01	1.63E-02
DCGL	5.00E+00	5.00E-01

LBGR, Unity Rule (Cs-137 + Co-60)	1.65E-01
Combined Standard Deviation (Cs-137 + Co-60)	1.40E-01
Relative Shift (Cs-137 + Co-60)	6.00E+00

Profile Samples			
Sample ID	Depth (inches)	Cs-137 (pCi/g)	Co-60 (pCi/g)
SU5-015-01	0-6	8.72E-01	-1.54E-02
SU5-015-02	6-12	2.97E+00	1.01E-02
SU5-015-03	12-18	3.14E-01	-2.96E-02

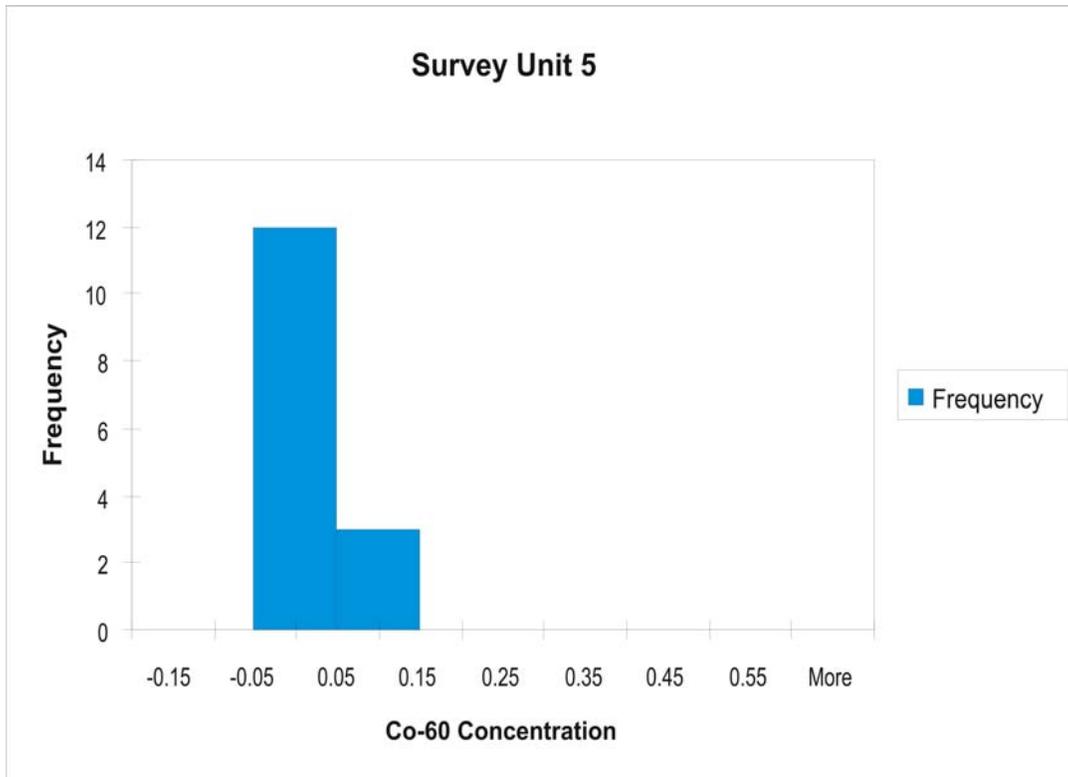
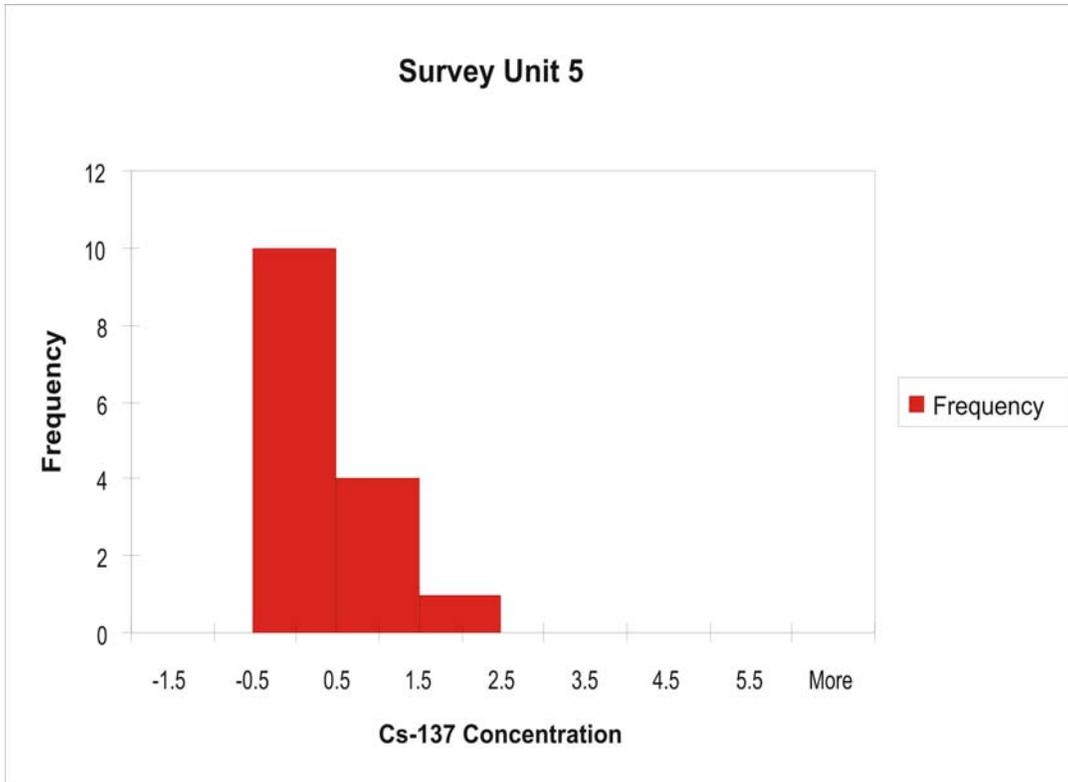


Figure 4-10. Frequency Distribution of Soil Sample Results – SU5 (pCi/g)

4.6 SURVEY UNIT 6

4.6.1 Introduction

Survey Unit 6 is located in the northeast corner of the Rad Yard, and has a surface area of 1880 m². This survey unit encompasses all of the area of Node 10 excavated during the 2004-2006 removal action, and the footprints of about 50% of Buildings E2366 and all of E2368. As depicted on Figure 3-1, nine confirmation surface soil and waste water line samples were collected and analyzed during the removal action from the area now identified as Survey Unit 6. The Cs-137 concentrations in these confirmation samples ranged from less than the MDC of the analysis to 1.6 pCi/g, and the Co-60 concentrations were all below the MDC of the analysis.

4.6.2 FSS Analytical Results

During the FSS, 15 surface samples were collected across this survey unit. The sample locations are depicted on Figure 4-11, and analytical results for these samples are presented in Table 4-6. The maximum Cs-137 concentration detected in these 15 samples was approximately 1.4 pCi/g, or 28% of the DCGL for Cs-137. The mean concentration of Cs-137 was 0.6 pCi/g, or 12% of the DCGL, and the median was 0.4 pCi/g. The standard deviation around the mean was 0.4 pCi/g. The highest Co-60 concentration detected in these 15 samples was approximately 0.07 pCi/g, or 14% of the DCGL for Co-60. The mean Co-60 concentration was 0.01 pCi/g, or 2% of the DCGL, and the median was 0.005 pCi/g. The standard deviation around the mean was 0.02 pCi/g.

The LBGR for the combined contaminants, using the unity rule, was 13% of the DCGL, and the overall normalized standard deviation was 0.1. Using these values, the Relative Shift for the combined contaminants was 8.8.

Profile samples were collected at location 007 at depths of 0-6 in., 6-12 in., and 12-18 in. All profile sample results were below the DCGL for Cs-137, with the highest concentration of 1.82 pCi/g detected in the 6-12 in. sample. All analytical results for Co-60 were less than the DCGL for Co-60, and less than the MDC for the analysis. The highest concentration for Co-60 was in the 0-6 in. depth sample.

4.6.3 FSS Data Interpretation

While the Relative Shift for the combined data set calculates to 8.8, MARSSIM recommends as a design goal that a maximum Relative Shift of 3.0 be used. Based on values of N for use with the Sign Test, obtained from MARSSIM Table 5.5, the minimum number of samples required to demonstrate compliance is 14. In Survey Unit 6, 15 samples were collected during the FSS; therefore, this requirement is met. Analytical results for every sample collected within the survey unit are below the DCGL, therefore the survey unit meets the release criteria.

All of the analytical results for Co-60 were less than the MDL for this analyte reported by the laboratory. Review of the histogram of concentrations for this contaminant presented on Figure 4-12 indicates an average concentration centered around 0.0. Of the 15 analytical results for Cs-137, 13 were greater than the MDL reported by the laboratory for this analyte. Review of the histogram of concentrations for this contaminant presented on Figure 4-12 indicates that the data are symmetrical and without bimodality.

4.6.4 Scanning Survey Results

Scanning survey data are depicted on Figure 4-11 and indicate a relatively uniform exposure rate across the survey unit. Exposure rates generally ranged from 5 to 9 $\mu\text{R/h}$. No areas above 12 $\mu\text{R/h}$ were detected, and therefore the Investigation Level was not exceeded.

4.6.5 Conclusion

The FSSP was followed with three exceptions. Due to obstructions encountered in this survey unit, sample locations SU6-003, -004, and -015 were relocated. No unusual circumstances were encountered during the FSS that resulted in any other changes to the FSSP.

Based upon the data provided in this FSSR that the minimum samples required to demonstrate compliance is exceeded, that all of the FSS sample analytical results were less than the DCGL, and that the scanning survey identified no areas requiring further investigation, it is concluded that the survey unit satisfies the DCGL.

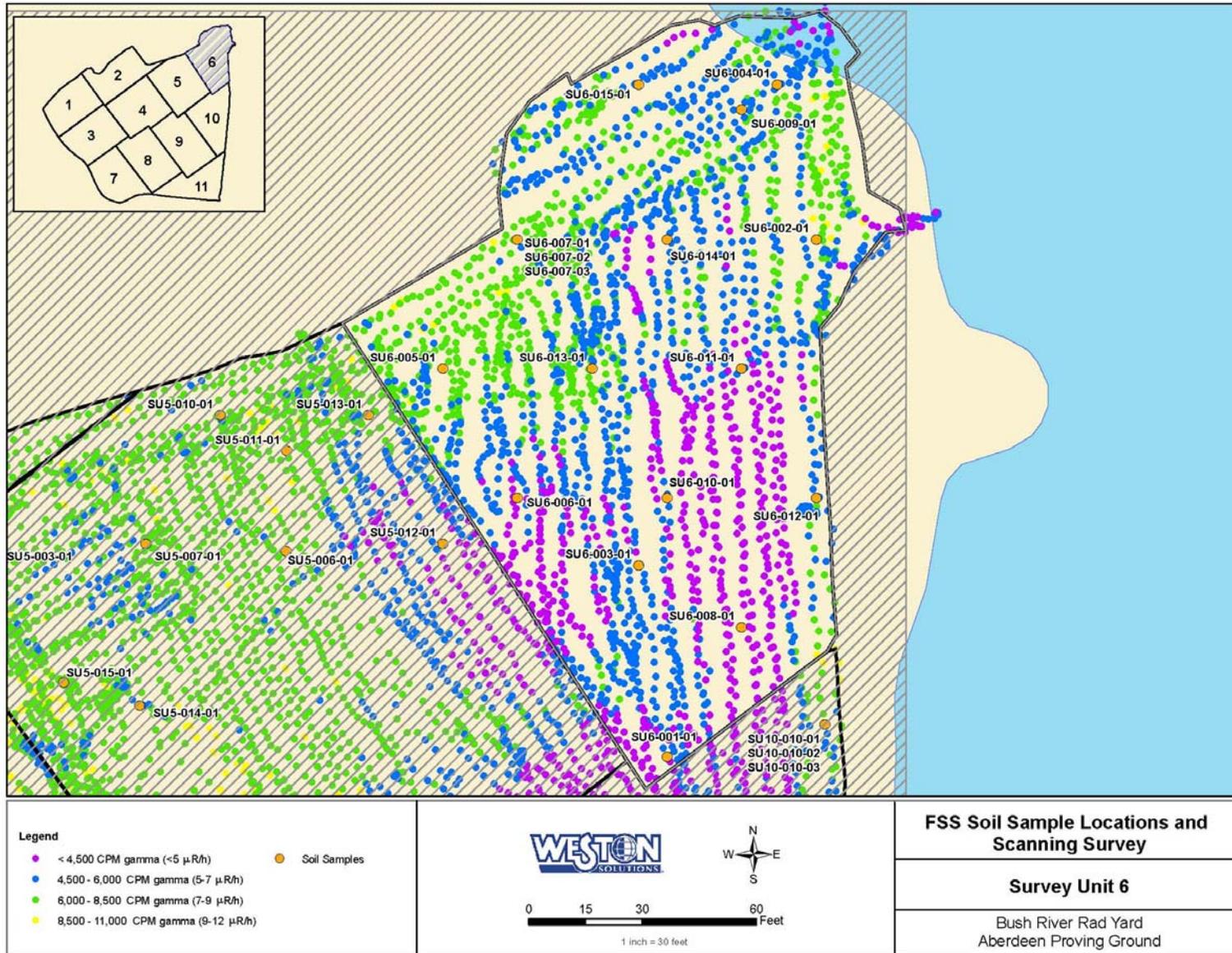


Figure 4-11. FSS Soil Sample Locations and Scanning Survey

Table 4-6. Analytical Results from SU-6 Soil Samples

Survey Unit 6 FSS Sample Summary		
Surface Sample ID	Cs-137 (pCi/g)	Co-60 (pCi/g)
SU6-001	3.71E-01	1.10E-02
SU6-002	3.27E-01	2.85E-02
SU6-003	2.57E-01	1.86E-02
SU6-004	2.40E-01	-2.10E-02
SU6-005	3.32E-01	6.69E-02
SU6-006	9.68E-01	-4.49E-03
SU6-007	1.05E+00	5.13E-02
SU6-008	1.21E+00	3.00E-03
SU6-009	1.21E-01	-2.04E-02
SU6-010	9.31E-02	-4.33E-03
SU6-011	1.41E+00	2.42E-03
SU6-012	8.99E-01	1.95E-02
SU6-013	5.61E-01	1.52E-02
SU6-014	3.93E-01	4.57E-03
SU6-015	9.56E-02	3.54E-04

Mean	5.55E-01	1.14E-02
Standard Deviation	4.36E-01	2.39E-02
Median	3.71E-01	4.57E-03
DCGL	5.00E+00	5.00E-01

LBGR, Unity Rule (Cs-137 + Co-60)	1.30E-01
Combined Standard Deviation (Cs-137 + Co-60)	9.90E-02
Relative Shift (Cs-137 + Co-60)	8.80E+00

Profile Samples			
Sample ID	Depth (inches)	Cs-137 (pCi/g)	Co-60 (pCi/g)
SU6-007-01	0-6	1.05E+00	5.13E-02
SU6-007-02	6-12	1.82E+00	2.95E-02
SU6-007-03	12-18	9.11E-01	8.57E-03

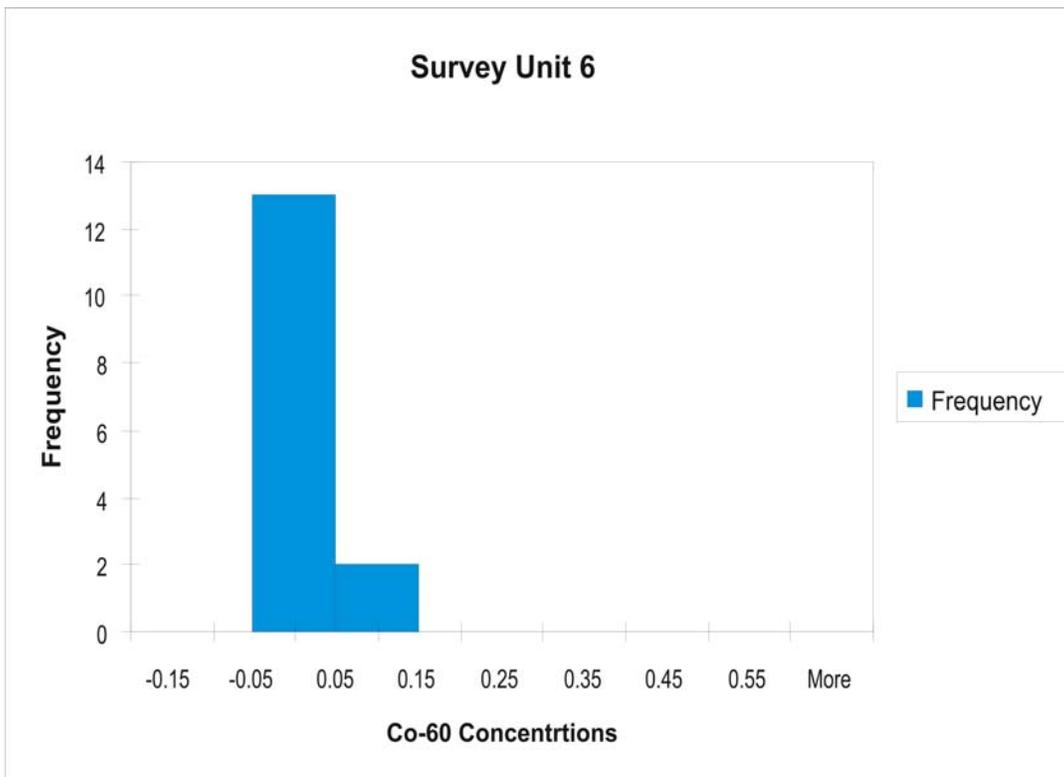
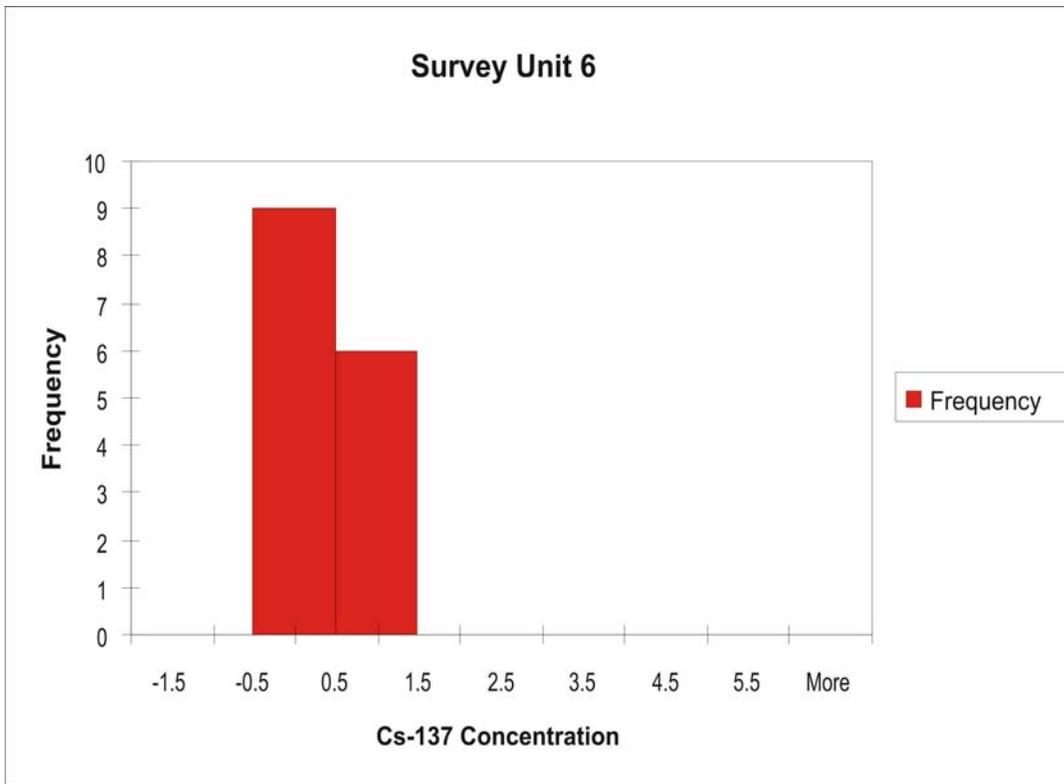


Figure 4-12. Frequency Distribution of Soil Sample Results – SU6 (pCi/g)

4.7 SURVEY UNIT 7

4.7.1 Introduction

Survey Unit 7 is located in the southwest corner of the Rad Yard, and has a surface area of 1930 m². This survey unit encompasses about 50% of the area of Node 2 excavated during the 2004-2006 removal action. As depicted on Figure 3-1, 10 confirmation samples were collected and analyzed during the removal action from the area now identified as Survey Unit 7. The Cs-137 concentrations in these confirmation samples ranged from 0.2 pCi/g to 1.5 pCi/g, and the Co-60 concentrations were all below the MDC of the analysis.

4.7.2 FSS Analytical Results

During the FSS, 16 surface samples were collected across this survey unit. The sample locations are depicted on Figure 4-13, and analytical results for these samples are presented in Table 4-7. The maximum Cs-137 concentration detected in these 16 samples was approximately 3.8 pCi/g, or 76% of the DCGL for Cs-137. The mean concentration of Cs-137 was 1.0 pCi/g, or 20% of the DCGL, and the median was 0.9 pCi/g. The standard deviation around the mean was 0.9 pCi/g. The highest Co-60 concentration detected in these 16 samples was approximately 0.07 pCi/g, or 14% of the DCGL for Co-60. The mean Co-60 concentration was -0.007 pCi/g, and the median was -0.002 pCi/g. The standard deviation around the mean was 0.04 pCi/g.

The LBGR for the combined contaminants, using the unity rule, was 18% of the DCGL, and the overall normalized standard deviation was 0.20. Using these values, the Relative Shift for the combined contaminants was 4.1.

Profile samples were collected at location 005 at depths of 0-6 in., 6-12 in., and 12-18 in. All profile sample results were below the DCGL for Cs-137, with the highest concentration of 0.4 pCi/g detected in the 0-6 in. sample. All analytical results for Co-60 were less than the DCGL for Co-60, and less than the MDC for the analysis.

4.7.3 FSS Data Interpretation

While the Relative Shift for the combined data set calculates to 4.1, MARSSIM recommends as a design goal that a maximum Relative Shift of 3.0 be used. Based on values of N for use with the Sign Test, obtained from MARSSIM Table 5.5, the minimum number of samples required to demonstrate compliance is 14. In Survey Unit 7, 16 samples were collected during the FSS; therefore, this requirement is met. Analytical results for every sample collected within the survey unit are below the DCGL, therefore the survey unit meets the release criteria.

All of the analytical results for Co-60 were less than the MDL reported by the laboratory for this analyte, and review of the histogram of concentrations for this contaminant presented on Figure 4-14 indicates an average concentration centered around 0.0. Of the 16 analytical results for Cs-137, 13 were greater than the MDL reported by the laboratory for this analyte. Review of the histogram of concentrations for this contaminant presented on Figure 4-14 indicates that the data are symmetrical and without bimodality, with the exception of sample number 003. This sample located near the southern edge of the excavated area, is an area requiring additional investigation, as discussed in Section 4.7.4.

4.7.4 Scanning Survey Results

Scanning survey data are depicted on Figure 4-13 and indicate a relatively uniform exposure rate across the survey unit. Exposure rates generally ranged from 7 to 12 $\mu\text{R/h}$. No areas above 12 $\mu\text{R/h}$ were detected, and therefore the Investigation Level was not exceeded. It therefore appears that the area around sample location 003 does not contain residual contamination of significant concentration or size. This area was rescanned in February 2008 and no elevated readings were observed.

4.7.5 Conclusion

Based upon a preliminary assessment of the analytical data from the first sampling campaign, it was decided one additional sample should be collected from this survey unit. The second sampling campaign was conducted in May 2008, when sample SU7-016 was collected. Due to an obstruction encountered in the field, sample SU7-013 was relocated. No other unusual circumstances were encountered during the FSS that resulted in any other changes to the FSSP.

Based upon the data provided in this FSSR that the minimum samples required to demonstrate compliance is exceeded, that all of the FSS sample analytical results were less than the DCGL, and that the scanning survey identified no areas requiring further investigation, it is concluded that the survey unit satisfies the DCGL.

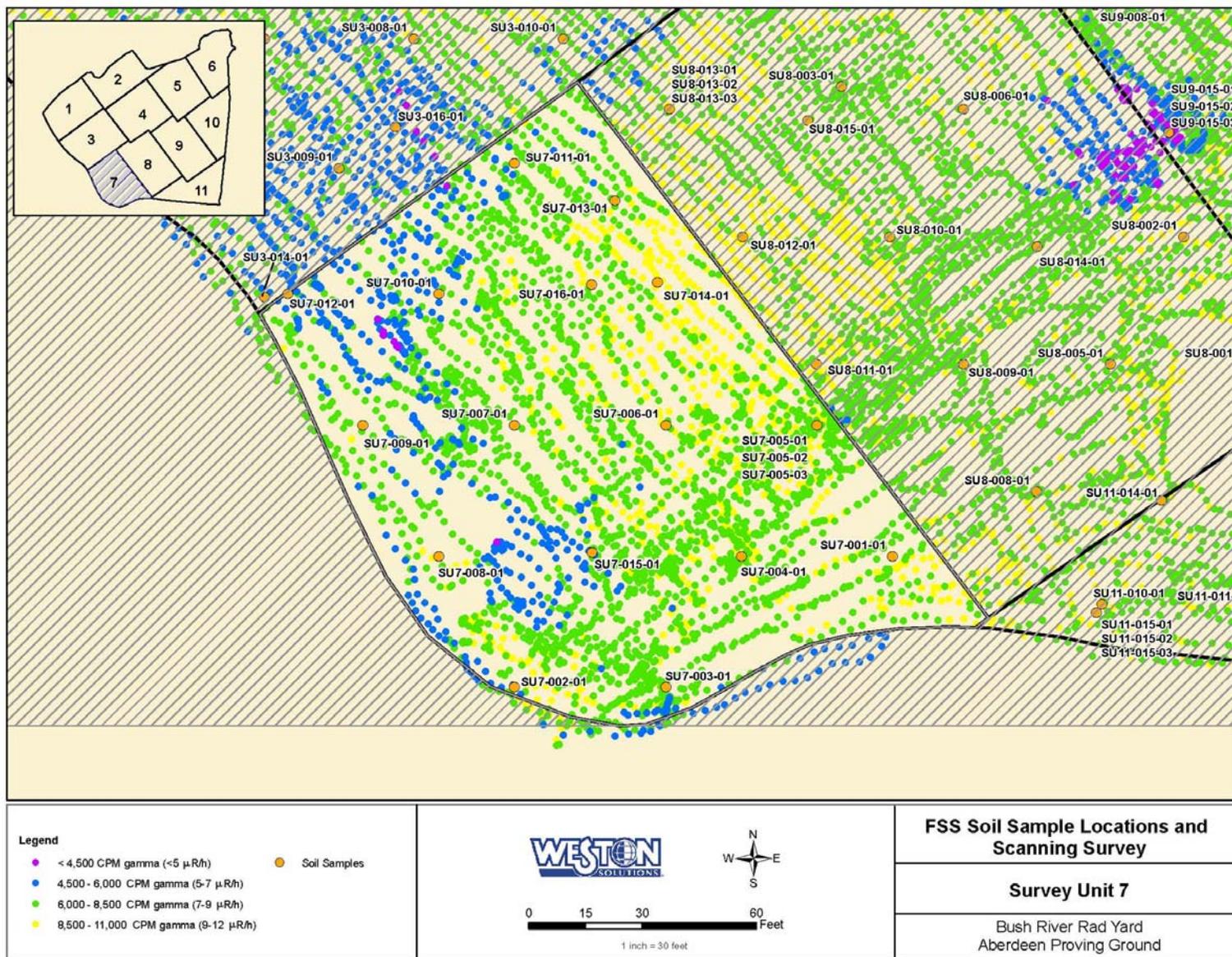


Figure 4-13. FSS Soil Sample Locations and Scanning Survey

Table 4-7. Analytical Results from SU-7 Soil Samples

Survey Unit 7 FSS Sample Summary		
Surface Sample ID	Cs-137 (pCi/g)	Co-60 (pCi/g)
SU7-001	4.71E-01	-4.24E-02
SU7-002	1.15E+00	-6.76E-02
SU7-003	3.77E+00	7.14E-02
SU7-004	2.11E+00	-1.77E-03
SU7-005	3.88E-01	-6.16E-02
SU7-006	1.72E-01	-2.17E-03
SU7-007	1.05E+00	-1.04E-02
SU7-008	5.30E-01	-1.55E-02
SU7-009	1.25E+00	3.64E-02
SU7-010	9.94E-01	1.12E-03
SU7-011	3.32E-01	7.78E-03
SU7-012	9.82E-01	1.10E-02
SU7-013	3.11E-01	3.86E-02
SU7-014	7.70E-01	-9.05E-02
SU7-015	1.19E+00	-1.88E-02
SU7-016	2.26E-01	3.10E-02

Mean	9.81E-01	-7.09E-03
Standard Deviation	9.00E-01	4.27E-02
Median	8.76E-01	-1.97E-03
DCGL	5.00E+00	5.00E-01

LBGR, Unity Rule (Cs-137 + Co-60)	1.80E-01
Combined Standard Deviation (Cs-137 + Co-60)	2.00E-01
Relative Shift (Cs-137 + Co-60)	4.10E+00

Profile Samples			
Sample ID	Depth (inches)	Cs-137 (pCi/g)	Co-60 (pCi/g)
SU7-005-01	0-6	3.88E-01	-6.16E-02
SU7-005-02	6-12	2.55E-01	3.47E-02
SU7-005-03	12-18	2.91E-02	5.54E-02

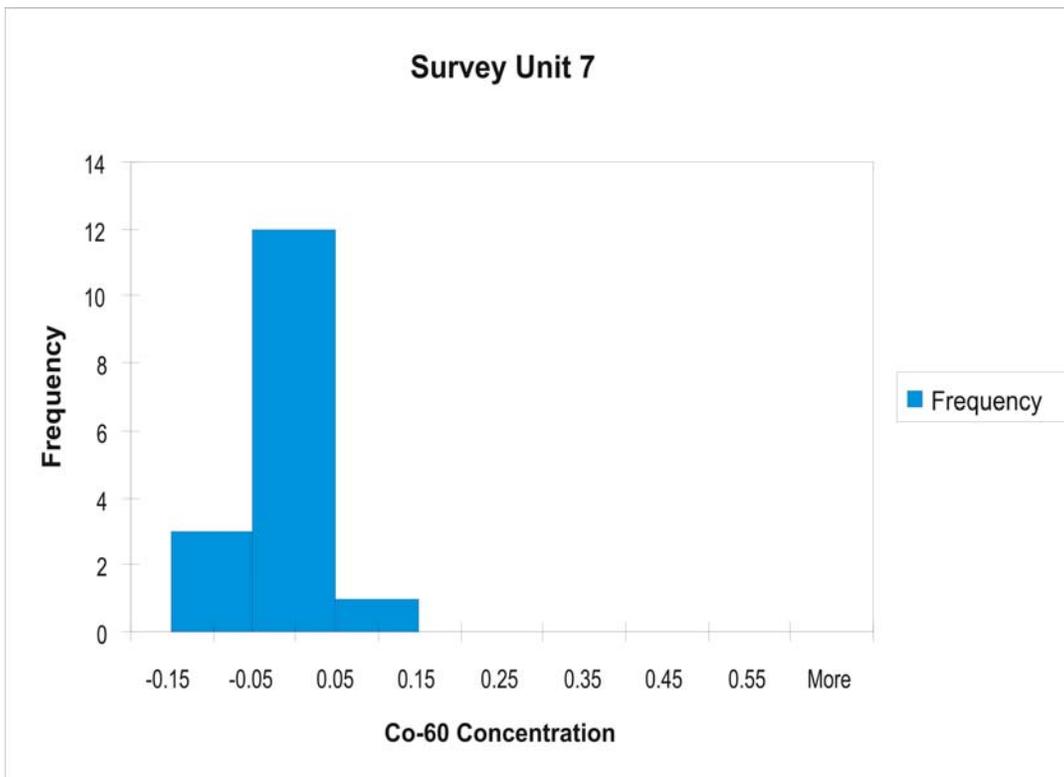
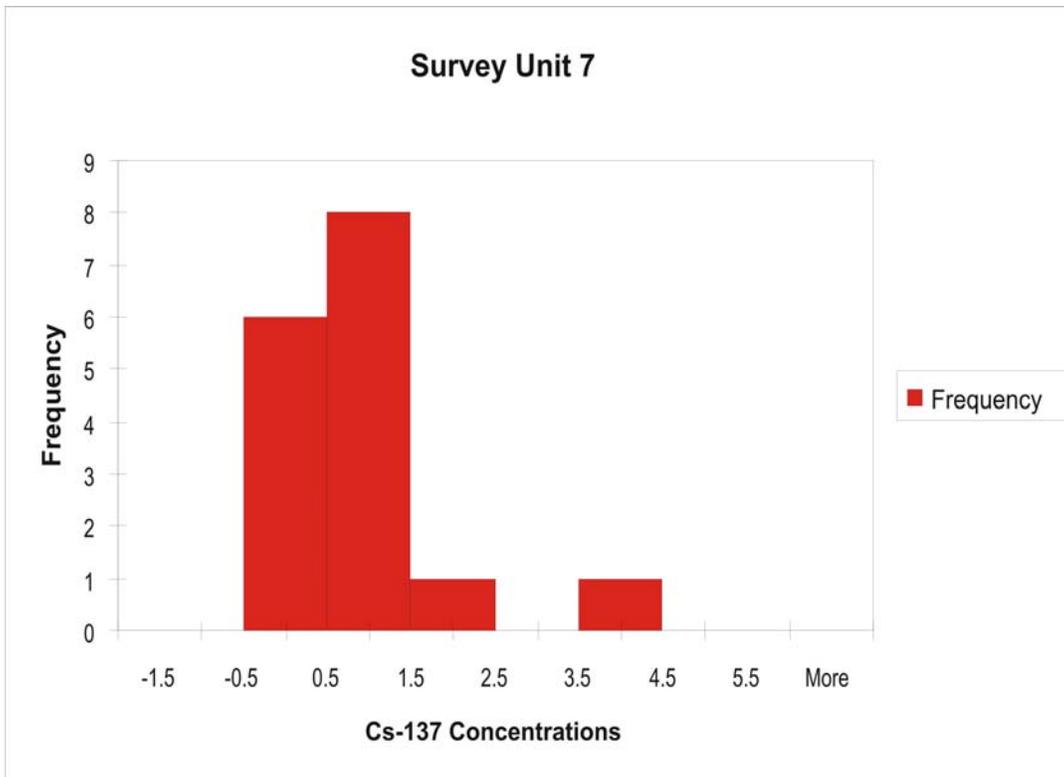


Figure 4-14. Frequency Distribution of Soil Sample Results – SU7 (pCi/g)

4.8 SURVEY UNIT 8

4.8.1 Introduction

Survey Unit 8 is located near the southern boundary of the Rad Yard, and has a surface area of 1823 m². This survey unit encompasses about 50% of the area of Node 2 excavated during the 2004-2006 removal action. This survey unit also encompasses about one-half of the footprint of Building E2356, and most of Building E2354, which is one of the two remaining buildings on the Rad Yard. As depicted on Figure 3-1, 10 confirmation samples were collected and analyzed during the removal action from the area now identified as Survey Unit 8. The Cs-137 concentrations in these confirmation samples ranged from less than the MDC of the analysis to 3.9 pCi/g and the Co-60 concentrations were all below the MDC of the analysis.

4.8.2 FSS Analytical Results

During the FSS, 15 surface samples were collected across this survey unit. The sample locations are depicted on Figure 4-15, and analytical results for these samples are presented in Table 4-8. The maximum Cs-137 concentration detected in these 15 samples was approximately 1.1 pCi/g, or 22% of the DCGL for Cs-137. The mean concentration of Cs-137 was 0.4 pCi/g, or 8% of the DCGL, and the median was 0.3 pCi/g. The standard deviation around the mean was 0.3 pCi/g. The highest Co-60 concentration detected in these 15 samples was approximately 0.04 pCi/g, or 8% of the DCGL for Co-60. The mean Co-60 concentration was 0.003 pCi/g, or less than 1% of the DCGL, and the median was 0.01 pCi/g. The standard deviation around the mean was 0.02 pCi/g.

The LBGR for the combined contaminants, using the unity rule, was 8% of the DCGL, and the overall normalized standard deviation was 0.08. Using these values, the Relative Shift for the combined contaminants was 11.5.

Profile samples were collected at location 013 at depths of 0-6 in., 6-12 in., and 12-18 in. All profile sample results were below the DCGL for Cs-137, with the highest concentration of 0.3 pCi/g detected in the 0-6 in. sample. All analytical results for Co-60 were less than the DCGL for Co-60, and less than the MDC for the analysis.

4.8.3 FSS Data Interpretation

While the Relative Shift for the combined data set calculates to 11.5, MARSSIM recommends as a design goal that a maximum Relative Shift of 3.0 be used. Based on values of N for use with the Sign Test, obtained from MARSSIM Table 5.5, the minimum number of samples required to demonstrate compliance is 14. In Survey Unit 8, 15 samples were collected during the FSS; therefore, this requirement is met. Analytical results for every sample collected within the survey unit are below the DCGL, therefore the survey unit meets the release criteria.

All of the analytical results for Co-60 were less than the MDL reported by the laboratory for this analyte, and review of the histogram of concentrations for this contaminant presented on Figure 4-16 indicates an average concentration centered around 0.0. Of the 15 analytical results for Cs-137, 11 were greater than the MDL reported by the laboratory for this analyte. Review of the histogram of concentrations for this contaminant presented on Figure 4-16 indicates that the data are symmetrical and without bimodality.

4.8.4 Scanning Survey Results

Scanning survey data are depicted on Figure 4-15 and indicate a relatively uniform exposure rate across the survey unit. Exposure rates generally ranged from 7 to 12 $\mu\text{R/h}$. The area in the southeast corner where scanning data is not presented is the area occupied by Building E2354. No areas above 12 $\mu\text{R/h}$ were detected, and therefore the Investigation Level was not exceeded.

4.8.5 Conclusion

The FSSP was followed with one exception. Due to an obstruction encountered in the field, sample SU8-003 was relocated. No unusual circumstances were encountered during the FSS that resulted in any other changes to the FSSP.

Based upon the data provided in this FSSR that the minimum samples required to demonstrate compliance is exceeded, that all of the FSS sample analytical results were less than the DCGL, and that the scanning survey identified no areas requiring further investigation, it is concluded that the survey unit satisfies the DCGL.

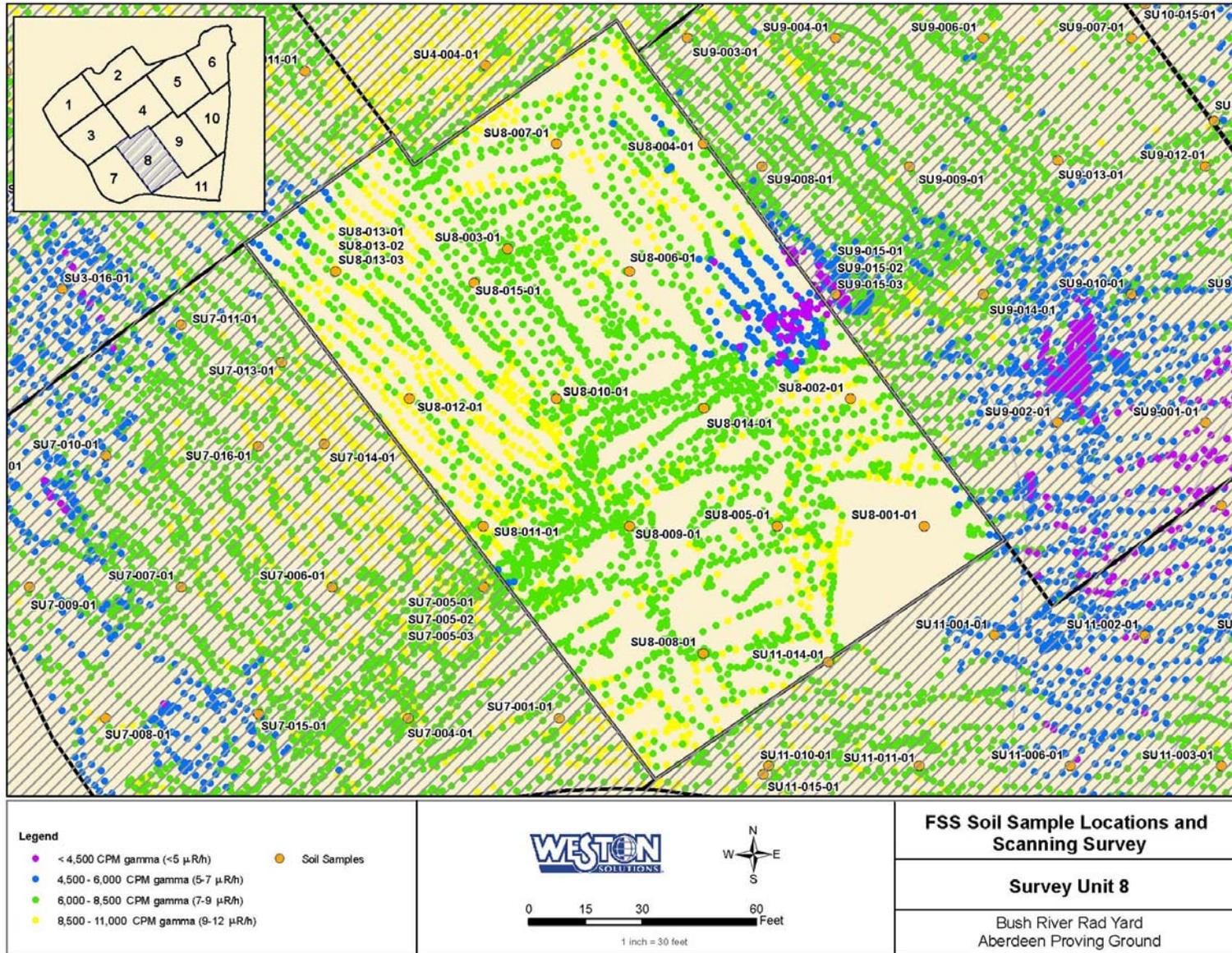


Figure 4-15. FSS Soil Sample Locations and Scanning Survey

Table 4-8. Analytical Results from SU-8 Soil Samples

Survey Unit 8 FSS Sample Summary		
Surface Sample ID	Cs-137 (pCi/g)	Co-60 (pCi/g)
SU8-001	5.20E-01	9.65E-03
SU8-002	8.13E-01	2.61E-02
SU8-003	1.07E+00	9.92E-03
SU8-004	6.38E-02	-4.13E-02
SU8-005	5.34E-01	-1.53E-02
SU8-006	-1.93E-02	-6.78E-03
SU8-007	1.11E-01	4.32E-02
SU8-008	4.44E-01	-7.25E-03
SU8-009	5.39E-01	1.84E-02
SU8-010	5.95E-02	-7.67E-03
SU8-011	2.51E-01	1.89E-02
SU8-012	4.42E-02	1.07E-02
SU8-013	2.74E-01	-3.54E-02
SU8-014	1.45E-01	-3.12E-03
SU8-015	9.37E-01	3.13E-02

Mean	3.86E-01	3.42E-03
Standard Deviation	3.46E-01	2.35E-02
Median	2.74E-01	9.65E-03
DCGL	5.00E+00	5.00E-01

LBGR, Unity Rule (Cs-137 + Co-60)	8.40E-02
Combined Standard Deviation (Cs-137 + Co-60)	8.40E-02
Relative Shift (Cs-137 + Co-60)	1.15E+01

Profile Samples			
Sample ID	Depth (inches)	Cs-137 (pCi/g)	Co-60 (pCi/g)
SU8-013-01	0-6	2.74E-01	-3.54E-02
SU8-013-02	6-12	-2.61E-02	8.55E-02
SU8-013-03	12-18	-4.56E-02	2.00E-02

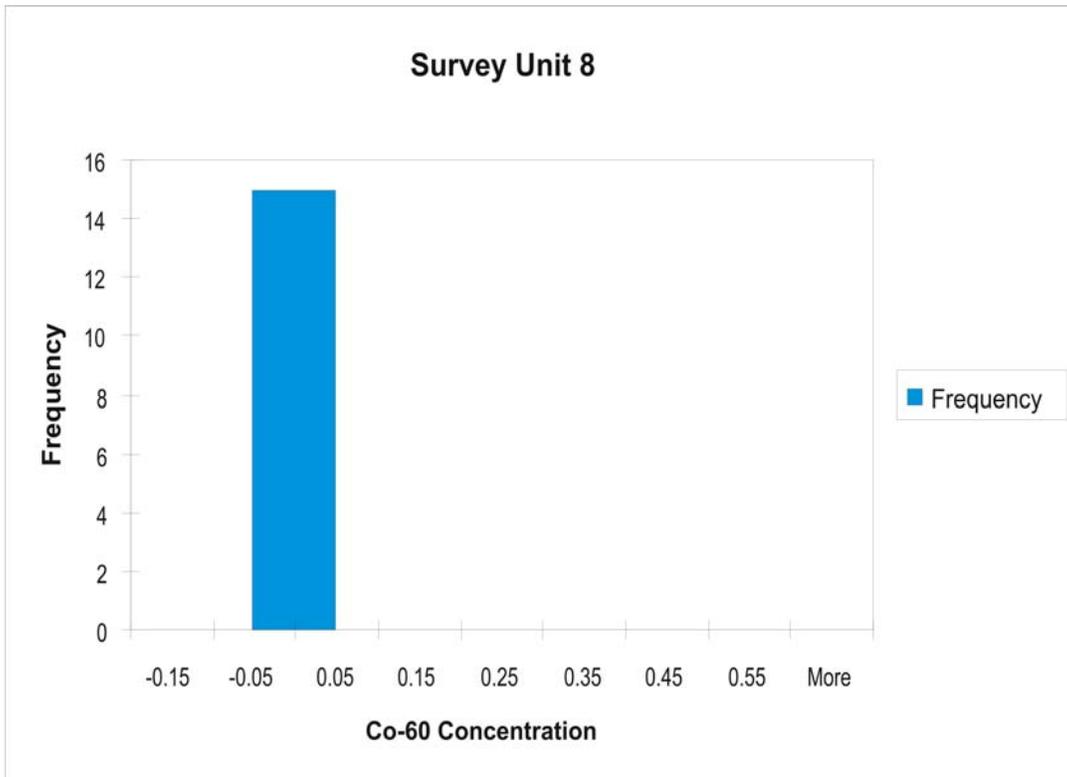
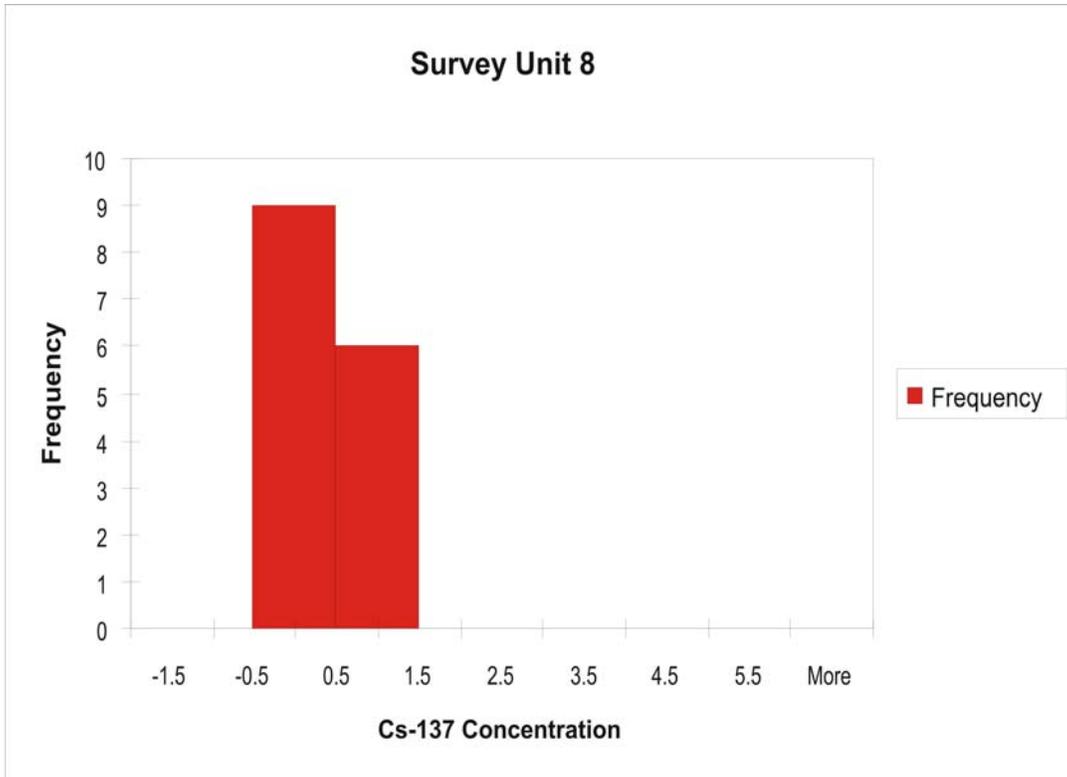


Figure 4-16. Frequency Distribution of Soil Sample Results – SU8 (pCi/g)

4.9 SURVEY UNIT 9

4.9.1 Introduction

Survey Unit 9 is located near the center of the Rad Yard, and has a surface area of 1844 m². This survey unit encompasses about 80% of the area of Node 5 and all of the areas of Nodes 9 and 11 excavated during the 2004-2006 removal action. This survey unit also encompasses about one-half of the footprint of Building E2356, and most of Building E2360, which was demolished and removed during the removal action. As depicted on Figure 3-1, 16 surface soil and waste water confirmation samples were collected and analyzed during the removal action from the area now identified as Survey Unit 9. The Cs-137 concentrations in these confirmation samples ranged from less than the MDC of the analysis to 3.5 pCi/g, and the Co-60 concentrations were all below the MDC of the analysis.

4.9.2 FSS Analytical Results

During the FSS, 15 surface samples were collected across this survey unit. The sample locations are depicted on Figure 4-17, and analytical results for these samples are presented in Table 4-9. The maximum Cs-137 concentration detected in these 15 samples was approximately 1.4 pCi/g, or 28% of the DCGL for Cs-137. The mean concentration of Cs-137 was 0.4 pCi/g, or 8% of the DCGL, and the median was 0.2 pCi/g. The standard deviation around the mean was 0.5 pCi/g. The highest Co-60 concentration detected in these 15 samples was approximately 0.06 pCi/g, or 12% of the DCGL for Co-60. The mean Co-60 concentration was 0.004 pCi/g, or less than 1% of the DCGL, and the median was 0.003 pCi/g. The standard deviation around the mean was 0.02 pCi/g.

The LBGR for the combined contaminants, using the unity rule, was 8% of the DCGL, and the overall normalized standard deviation was 0.1. Using these values, the Relative Shift for the combined contaminants was 9.2.

Profile samples were collected at location 015 at depths of 0-6 in., 6-12 in., and 12-18 in. All profile sample results were below the DCGL for Cs-137, with the highest concentration of 0.2 pCi/g detected in the 0-6 in. sample. All analytical results for Co-60 were less than the DCGL for Co-60, and less than the MDC for the analysis.

4.9.3 FSS Data Interpretation

While the Relative Shift for the combined data set calculates to 9.2, MARSSIM recommends as a design goal that a maximum Relative Shift of 3.0 be used. Based on values of N for use with the Sign Test, obtained from MARSSIM Table 5.5, the minimum number of samples required to demonstrate compliance is 14. In Survey Unit 9, 15 samples were collected during the FSS; therefore, this requirement is met. Analytical results for every sample collected within the survey unit are below the DCGL, therefore the survey unit meets the release criteria.

All of the analytical results for Co-60 were less than the MDL reported by the laboratory for this analyte, and review of the histogram of concentrations for this contaminant presented on Figure 4-18 indicates an average concentration centered around 0.0. Of the 15 analytical results for Cs-137, nine were greater than the MDL reported by the laboratory for this analyte. Review

of the histogram of concentrations for this contaminant presented on Figure 4-18 indicates that the data are symmetrical and without bimodality.

4.9.4 Scanning Survey Results.

Scanning survey data are depicted on Figure 4-17 and indicate a relatively uniform exposure rate across the survey unit. Exposure rates generally ranged from 5 to 9 $\mu\text{R/h}$. No areas above 12 $\mu\text{R/h}$ were detected, and therefore the Investigation Level was not exceeded.

4.9.5 Conclusion

The FSSP was followed without exception. No unusual circumstances were encountered during the FSS that resulted in any other changes to the FSSP.

Based upon the data provided in this FSSR that the minimum samples required to demonstrate compliance is exceeded, that all of the FSS sample analytical results were less than the DCGL, and that the scanning survey identified no areas requiring further investigation, it is concluded that the survey unit satisfies the DCGL.

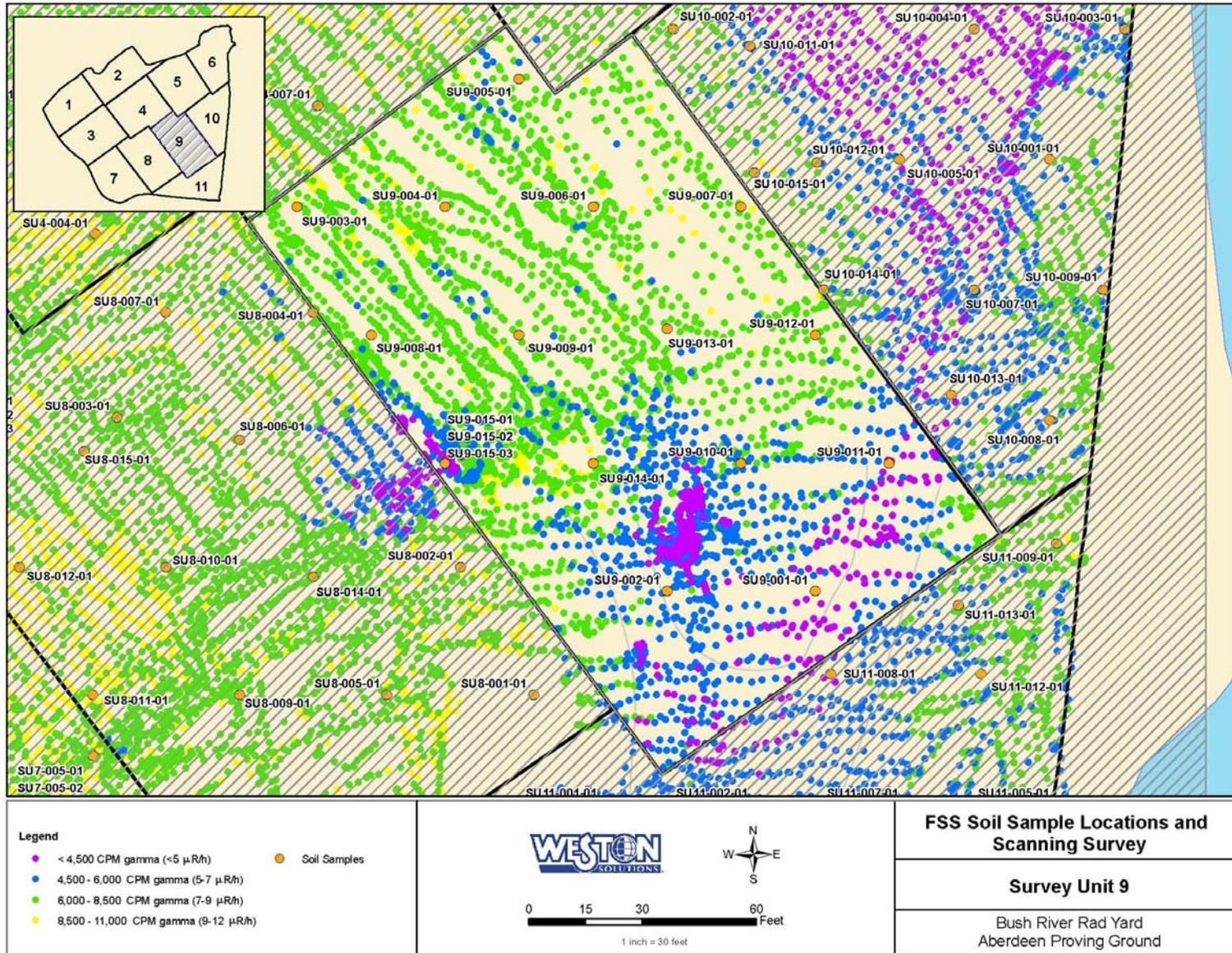


Figure 4-17. FSS Soil Sample Locations and Scanning Survey

Table 4-9. Analytical Results from SU-9 Soil Samples

Survey Unit 9 FSS Sample Summary		
Surface Sample ID	Cs-137 (pCi/g)	Co-60 (pCi/g)
SU9-001	1.10E-02	3.66E-03
SU9-002	2.64E-02	1.71E-02
SU9-003	1.53E-01	1.12E-02
SU9-004	1.29E+00	-1.17E-02
SU9-005	6.92E-01	3.41E-02
SU9-006	8.16E-02	5.74E-02
SU9-007	9.73E-02	-6.29E-03
SU9-008	8.79E-01	8.46E-03
SU9-009	1.35E+00	2.03E-04
SU9-010	2.44E-01	5.11E-03
SU9-011	7.68E-03	-8.85E-03
SU9-012	1.14E-01	-1.65E-02
SU9-013	9.13E-03	9.65E-05
SU9-014	3.70E-01	3.13E-03
SU9-015	2.08E-01	-3.06E-02

Mean	3.69E-01	4.43E-03
Standard Deviation	4.62E-01	2.10E-02
Median	1.53E-01	3.13E-03
DCGL	5.00E+00	5.00E-01

LBGR, Unity Rule (Cs-137 + Co-60)	8.30E-02
Combined Standard Deviation (Cs-137 + Co-60)	1.00E-01
Relative Shift (Cs-137 + Co-60)	9.20E+00

Profile Samples			
Sample ID	Depth (inches)	Cs-137 (pCi/g)	Co-60 (pCi/g)
SU9-015-01	0-6	2.08E-01	-3.06E-02
SU9-015-02	6-12	1.39E-01	1.74E-02
SU9-015-03	12-18	5.90E-02	1.27E-02

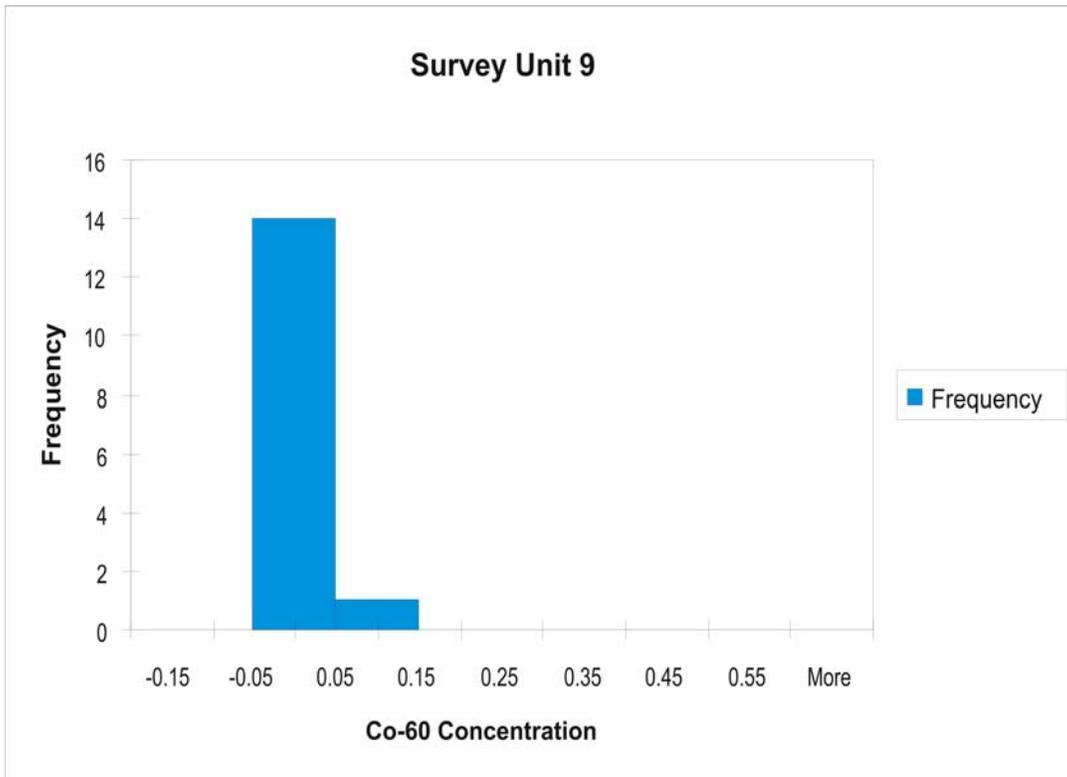
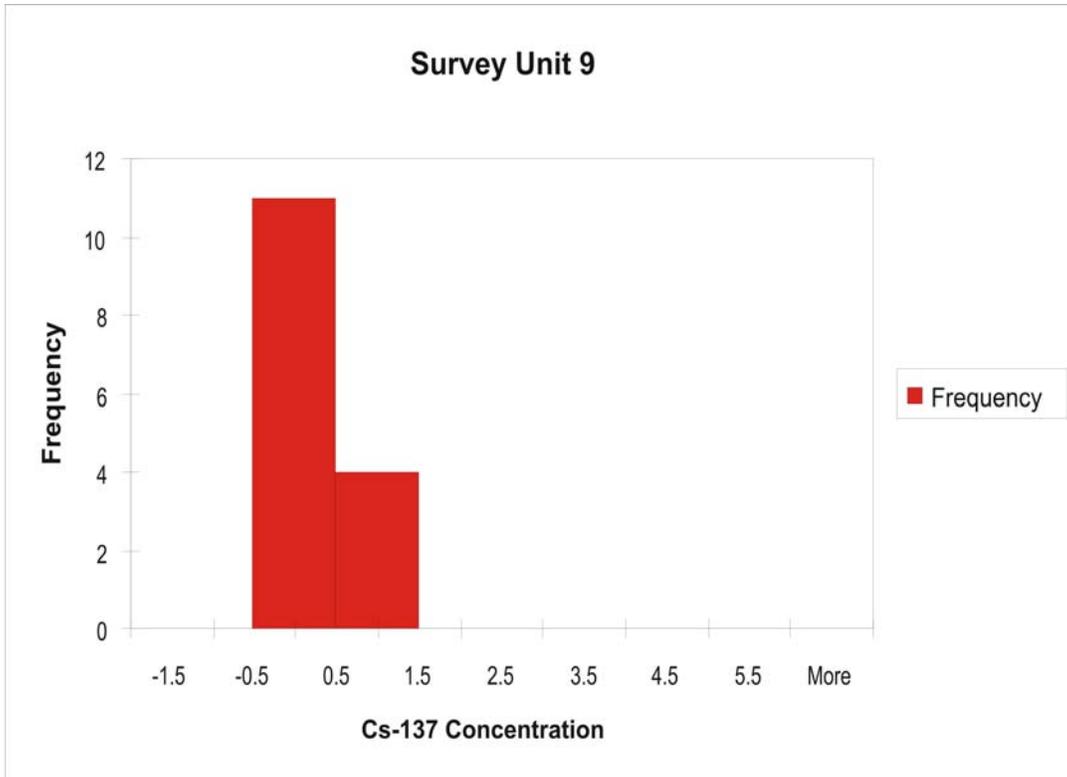


Figure 4-18. Frequency Distribution of Soil Sample Results – SU9 (pCi/g)

4.10 SURVEY UNIT 10

4.10.1 Introduction

Survey Unit 10 is located along the eastern border of the Rad Yard near the Bush River, and has a surface area of 1909 m². This survey unit encompasses about 20% of the area of Node 5 excavated during the 2004-2006 removal action. This survey unit also encompasses most of the footprint of Building E2370, which was demolished and filled with stone in 1995, and Building E2371, which is one of two remaining buildings on the Rad Yard. As depicted on Figure 3-1, four waste water line confirmation samples were collected and analyzed during the removal action from the area now identified as Survey Unit 10. The Cs-137 concentrations in these confirmation samples ranged from less than the MDC of the analysis to 0.1 pCi/g, and the Co-60 concentrations were all below the MDC of the analysis.

4.10.2 FSS Analytical Results

During the FSS, 15 surface samples were collected across this survey unit. The sample locations are depicted on Figure 4-19, and analytical results for these samples are presented in Table 4-10. The maximum Cs-137 concentration detected in these 15 samples was approximately 0.8 pCi/g, or 16% of the DCGL for Cs-137. The mean concentration of Cs-137 was 0.3 pCi/g, or 6% of the DCGL, and the median was 0.2 pCi/g. The standard deviation around the mean was 0.3 pCi/g. The highest Co-60 concentration detected in these 15 samples was approximately 0.02 pCi/g, or 4% of the DCGL for Co-60. The mean Co-60 concentration was -0.01 pCi/g and the median was -0.006 pCi/g. The standard deviation around the mean was 0.02 pCi/g.

The LBGR for the combined contaminants, using the unity rule, was 5% of the DCGL, and the overall normalized standard deviation was 0.07. Using these values, the Relative Shift for the combined contaminants was 13.6.

Profile samples were collected at location 010 at depths of 0-6 in., 6-12 in., and 12-18 in. All profile sample results were below the DCGL for Cs-137, with the highest concentration of 0.7 pCi/g detected in the 0-6 in. sample. All analytical results for Co-60 were less than the DCGL for Co-60, and less than the MDC for the analysis.

4.10.3 FSS Data Interpretation

While the Relative Shift for the combined data set calculates to 13.6, MARSSIM recommends as a design goal that a maximum Relative Shift of 3.0 be used. Based on values of N for use with the Sign Test, obtained from MARSSIM Table 5.5, the minimum number of samples required to demonstrate compliance is 14. In Survey Unit 10, 15 samples were collected during the FSS; therefore, this requirement is met. Analytical results for every sample collected within the survey unit are below the DCGL, therefore the survey unit meets the release criteria.

All of the analytical results for Co-60 were less than the MDL reported by the laboratory for this analyte, and review of the histogram of concentrations for this contaminant presented on Figure 4-20 indicates an average concentration centered around 0.0. Of the 15 analytical results for Cs-137, 11 were greater than the MDL reported by the laboratory for this analyte. Review of the histogram of concentrations for this contaminant presented on Figure 4-20 indicates that the data are symmetrical and without bimodality.

4.10.4 Scanning Survey Results

Scanning survey data are depicted on Figure 4-19 and indicate a relatively uniform exposure rate across the survey unit. Exposure rates generally ranged from 5 to 9 $\mu\text{R}/\text{h}$. No areas above 12 $\mu\text{R}/\text{h}$ were detected, and therefore the Investigation Level was not exceeded.

4.10.5 Conclusion

The FSSP was followed with three exceptions. Obstructions encountered in the field caused the relocation of samples SU10-011, -012, and -013. No other unusual circumstances were encountered during the FSS that resulted in any other changes to the FSSP.

Based upon the data provided in this FSSR that the minimum samples required to demonstrate compliance is exceeded, that all of the FSS sample analytical results were less than the DCGL, and that the scanning survey identified no areas requiring further investigation, it is concluded that the survey unit satisfies the DCGL.

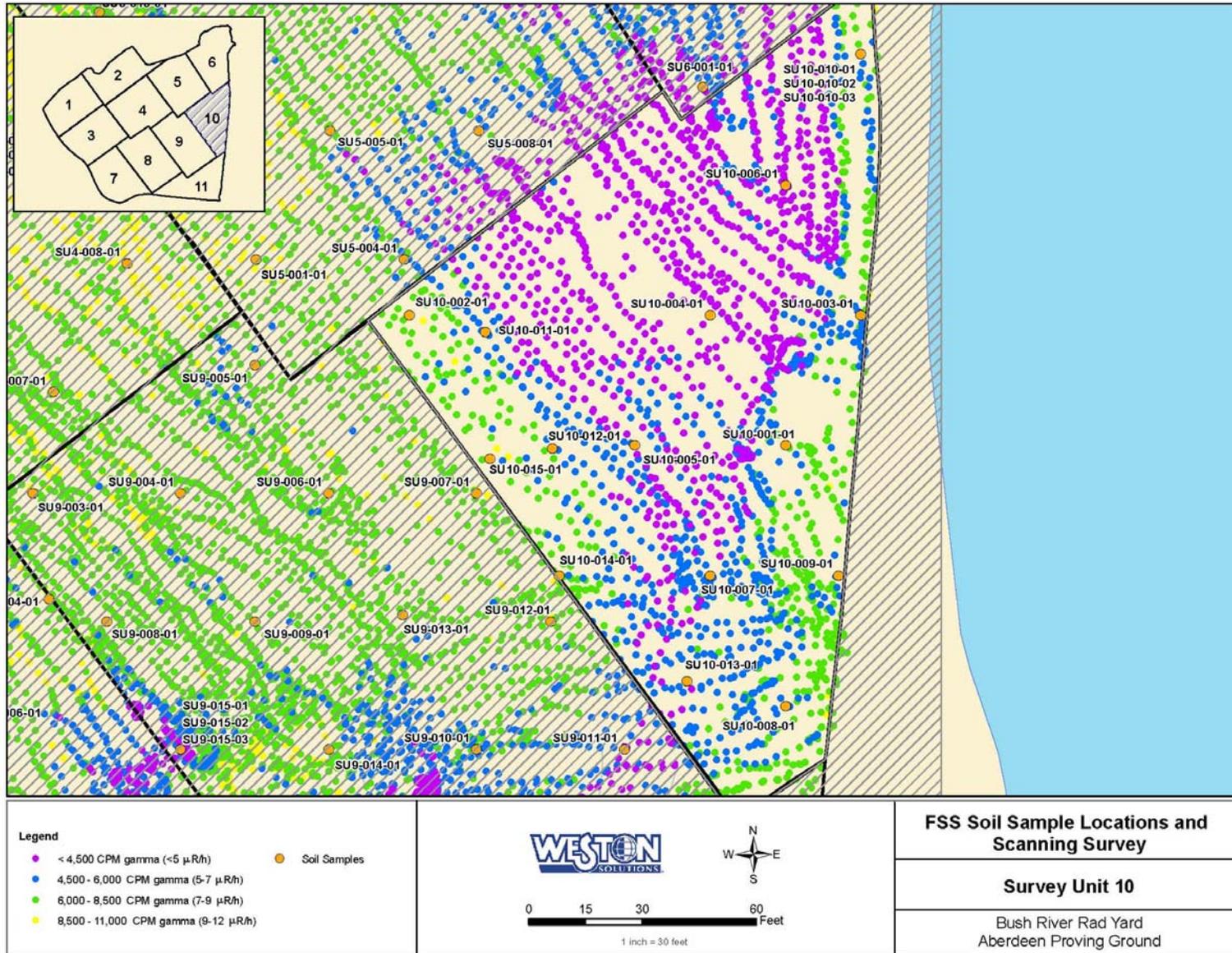


Figure 4-19. FSS Soil Sample Locations and Scanning Survey

Table 4-10. Analytical Results from SU-10 Soil Samples

Survey Unit 10 FSS Sample Summary		
Surface Sample ID	Cs-137 (pCi/g)	Co-60 (pCi/g)
SU10-001	4.58E-01	-1.63E-02
SU10-002	2.51E-01	-1.74E-02
SU10-003	6.66E-01	1.49E-02
SU10-004	8.09E-01	1.44E-02
SU10-005	2.82E-02	1.33E-03
SU10-006	8.06E-02	-1.53E-03
SU10-007	2.30E-01	1.32E-02
SU10-008	2.22E-01	-1.28E-02
SU10-009	4.26E-01	-2.49E-02
SU10-010	6.96E-01	-4.77E-03
SU10-011	3.38E-02	2.30E-02
SU10-012	1.65E-01	-5.59E-02
SU10-013	5.29E-01	-1.56E-02
SU10-014	2.41E-01	-5.73E-03
SU10-015	3.75E-02	-5.88E-02

Mean	3.25E-01	-9.79E-03
Standard Deviation	2.58E-01	2.38E-02
Median	2.41E-01	-5.73E-03
DCGL	5.00E+00	5.00E-01

LBGR, Unity Rule (Cs-137 + Co-60)	5.00E-02
Combined Standard Deviation (Cs-137 + Co-60)	7.00E-02
Relative Shift (Cs-137 + Co-60)	1.36E+01

Profile Samples			
Sample ID	Depth (inches)	Cs-137 (pCi/g)	Co-60 (pCi/g)
SU10-010-01	0-6	6.96E-01	-4.77E-03
SU10-010-02	6-12	3.59E-01	1.24E-02
SU10-010-03	12-18	9.13E-02	1.04E-03

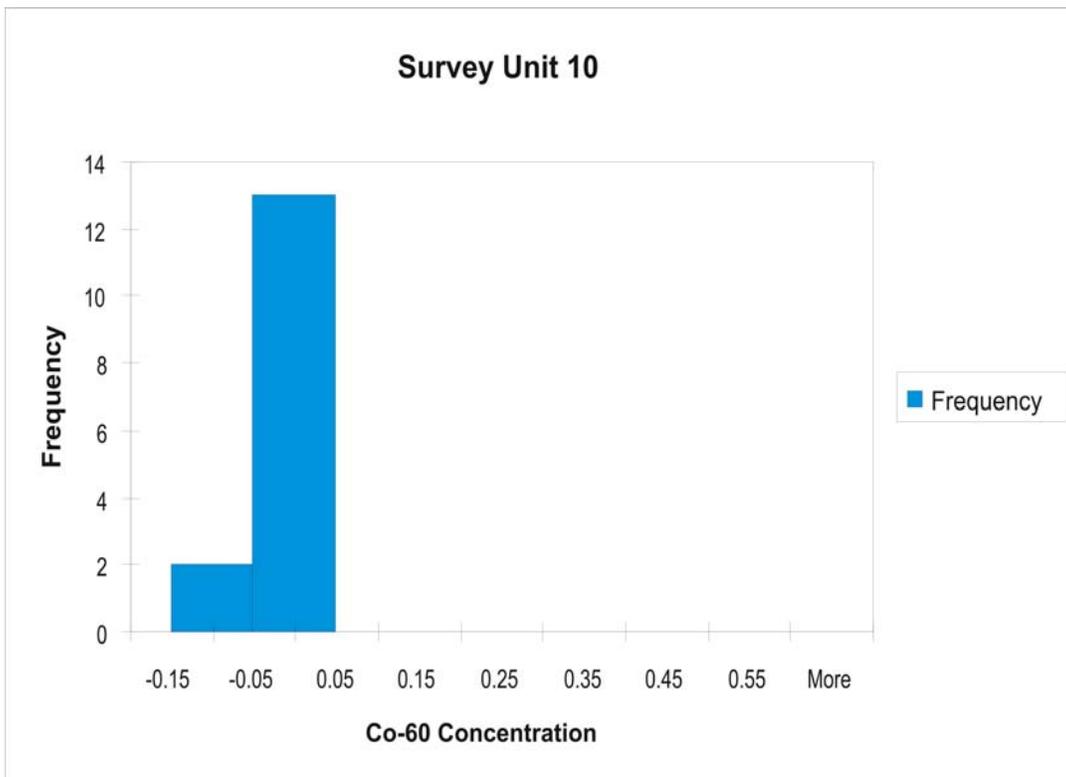
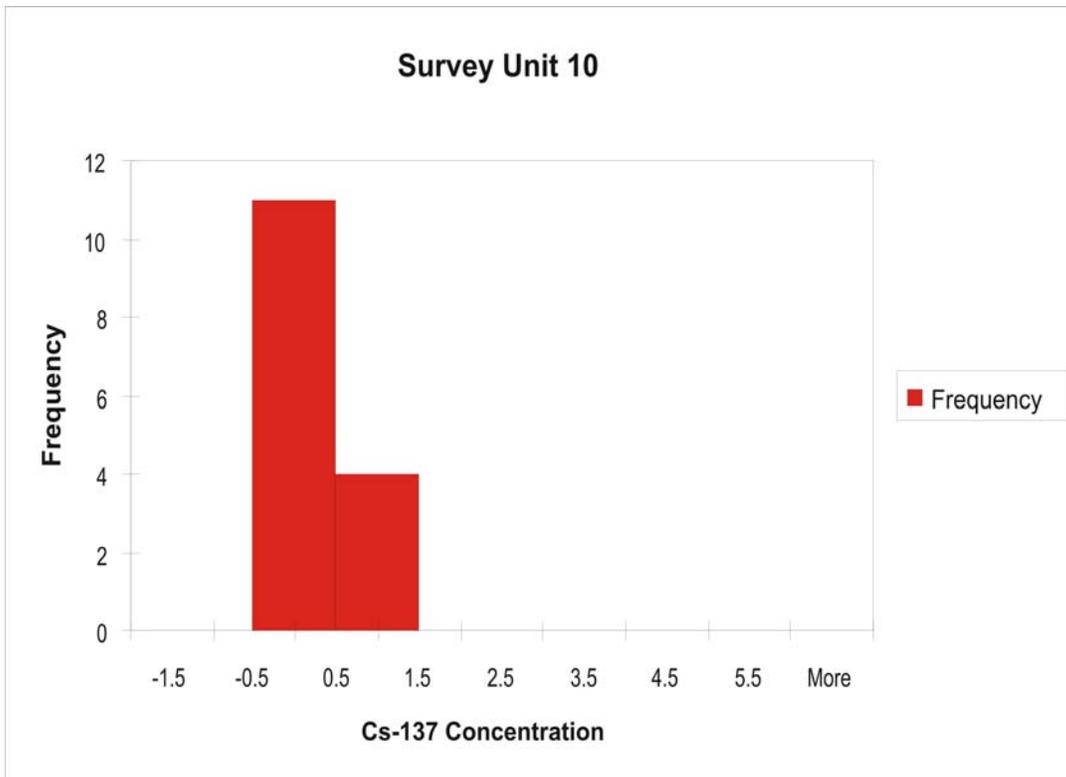


Figure 4-20. Frequency Distribution of Soil Sample Results – SU10 (pCi/g)

4.11 SURVEY UNIT 11

4.11.1 Introduction

Survey Unit 11 is located at the southeast corner of the Rad Yard, and has a surface area of 1916 m². No areas were excavated within this survey unit during the 2004-2006 removal action, and only a small fraction of Building E2354 resides within the survey unit. As depicted on Figure 3-1, no confirmation samples were collected and analyzed during the removal action from the area now identified as Survey Unit 11.

4.11.2 FSS Analytical Results

During the FSS, 15 surface samples were collected across this survey unit. The sample locations are depicted on Figure 4-21, and analytical results for these samples are presented in Table 4-11. The maximum Cs-137 concentration detected in these 15 samples was approximately 1.2 pCi/g, or 24% of the DCGL for Cs-137. The mean concentration of Cs-137 was 0.2 pCi/g, or 4% of the DCGL, and the median was 0.2 pCi/g. The standard deviation around the mean was 0.3 pCi/g. The highest Co-60 concentration detected in these 15 samples was approximately 0.02 pCi/g, or 4% of the DCGL for Co-60. The mean Co-60 concentration was 0.003 pCi/g, or less than 1% of the DCGL, and the median was 0.005 pCi/g. The standard deviation around the mean was 0.01 pCi/g.

The LBGR for the combined contaminants, using the unity rule, was 6% of the DCGL, and the overall normalized standard deviation was 0.065. Using these values, the Relative Shift for the combined contaminants was 14.5.

Profile samples were collected at location 015 at depths of 0-6 in., 6-12 in., and 12-18 in. All profile sample results were below the DCGL for Cs-137, with the highest concentration of 0.2 pCi/g detected in the 0-6 in. sample. All analytical results for Co-60 were less than the DCGL for Co-60, and less than the MDC for the analysis.

4.11.3 FSS Data Interpretation

While the Relative Shift for the combined data set calculates to 14.5, MARSSIM recommends as a design goal that a maximum Relative Shift of 3.0 be used. Based on values of N for use with the Sign Test, obtained from MARSSIM Table 5.5, the minimum number of samples required to demonstrate compliance is 14. In Survey Unit 11, 15 samples were collected during the FSS; therefore, this requirement is met. Analytical results for every sample collected within the survey unit are below the DCGL, therefore the survey unit meets the release criteria.

All of the analytical results for Co-60 were less than the MDL reported by the laboratory for this analyte, and review of the histogram of concentrations for this contaminant presented on Figure 4-22 indicates an average concentration centered around 0.0. Of the 15 analytical results for Cs-137, 10 were greater than the MDL reported by the laboratory for this analyte. Review of the histogram of concentrations for this contaminant presented on Figure 4-22 indicates that the data are symmetrical and without bimodality.

4.11.4 Scanning Survey Results

Scanning survey data are depicted on Figure 4-21 and indicate a relatively uniform exposure rate across the survey unit. Exposure rates generally ranged from 5 to 9 $\mu\text{R/h}$. No areas above 12 $\mu\text{R/h}$ were detected, and therefore the Investigation Level was not exceeded.

4.11.5 Conclusion

The FSSP was followed with three exceptions. Obstructions encountered in the field caused the relocation of samples SU11-013, -014, and -015. No other unusual circumstances were encountered during the FSS that resulted in any other changes to the FSSP.

Based upon the data provided in this FSSR that the minimum samples required to demonstrate compliance is exceeded, that all of the FSS sample analytical results were less than the DCGL, and that the scanning survey identified no areas requiring further investigation, it is concluded that the survey unit satisfies the DCGL.

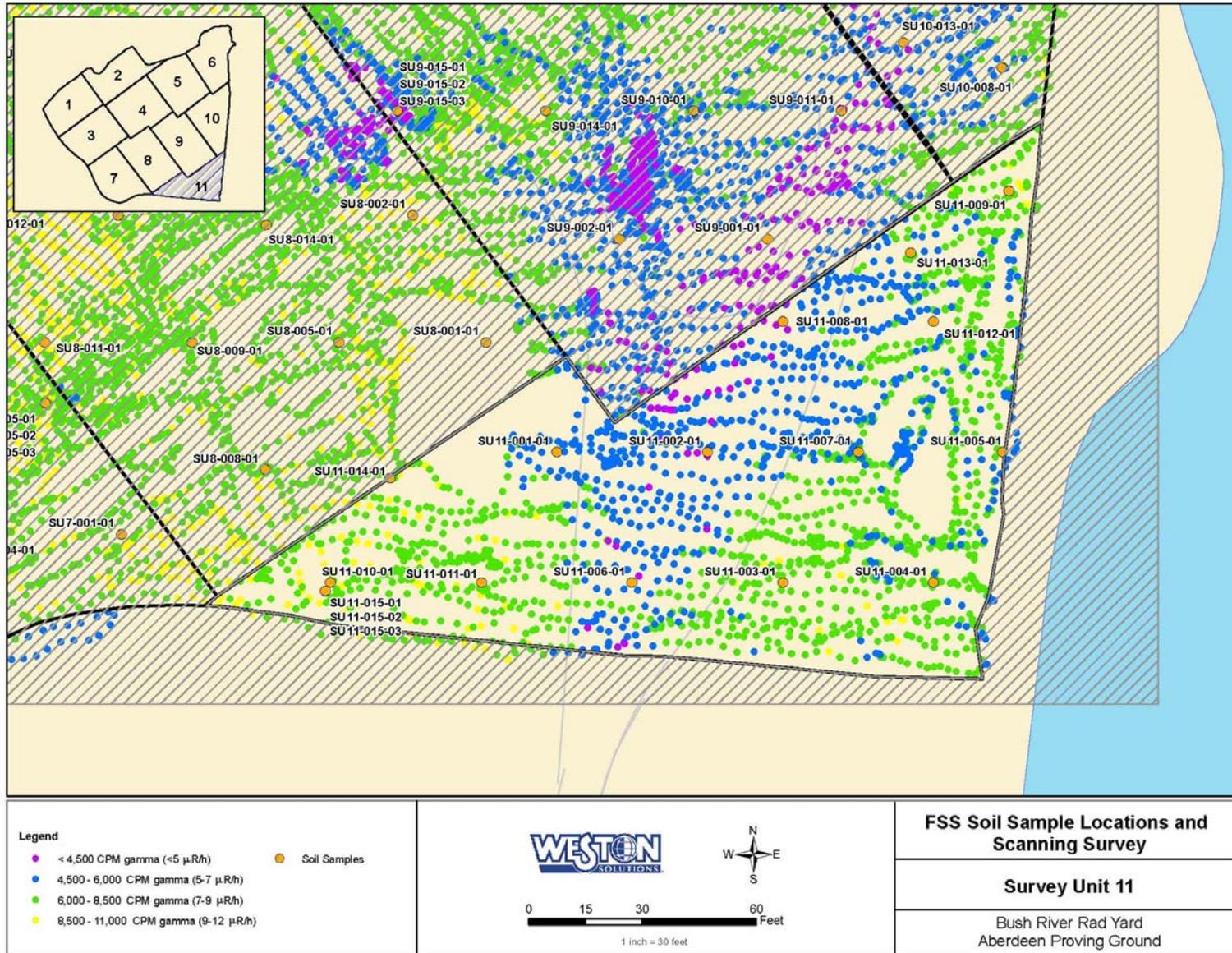


Figure 4-21. FSS Soil Sample Locations and Scanning Survey

Table 4-11. Analytical Results from SU-11 Soil Samples

Survey Unit 11 FSS Sample Summary		
Surface Sample ID	Cs-137 (pCi/g)	Co-60 (pCi/g)
SU11-001	8.21E-02	6.93E-04
SU11-002	-4.94E-02	1.62E-02
SU11-003	2.58E-01	2.18E-02
SU11-004	2.90E-02	1.36E-02
SU11-005	2.21E-01	5.01E-03
SU11-006	2.06E-01	-9.71E-03
SU11-007	3.76E-02	9.92E-03
SU11-008	-1.99E-02	-1.26E-03
SU11-009	1.16E+00	-2.00E-02
SU11-010	3.31E-01	1.93E-02
SU11-011	1.61E-01	-4.99E-03
SU11-012	1.73E-01	-2.42E-02
SU11-013	4.90E-01	1.09E-02
SU11-014	3.68E-01	3.65E-03
SU11-015	2.49E-01	6.00E-03

Mean	2.46E-01	3.13E-03
Standard Deviation	2.94E-01	1.35E-02
Median	2.06E-01	5.01E-03
DCGL	5.00E+00	5.00E-01

LBGR, Unity Rule (Cs-137 + Co-60)	5.50E-02
Combined Standard Deviation (Cs-137 + Co-60)	6.50E-02
Relative Shift (Cs-137 + Co-60)	1.45E+01

Profile Samples			
Sample ID	Depth (inches)	Cs-137 (pCi/g)	Co-60 (pCi/g)
SU11-015-01	0-6	2.49E-01	6.00E-03
SU11-015-02	6-12	-1.56E-02	-1.46E-02
SU11-015-03	12-18	3.03E-04	6.96E-02

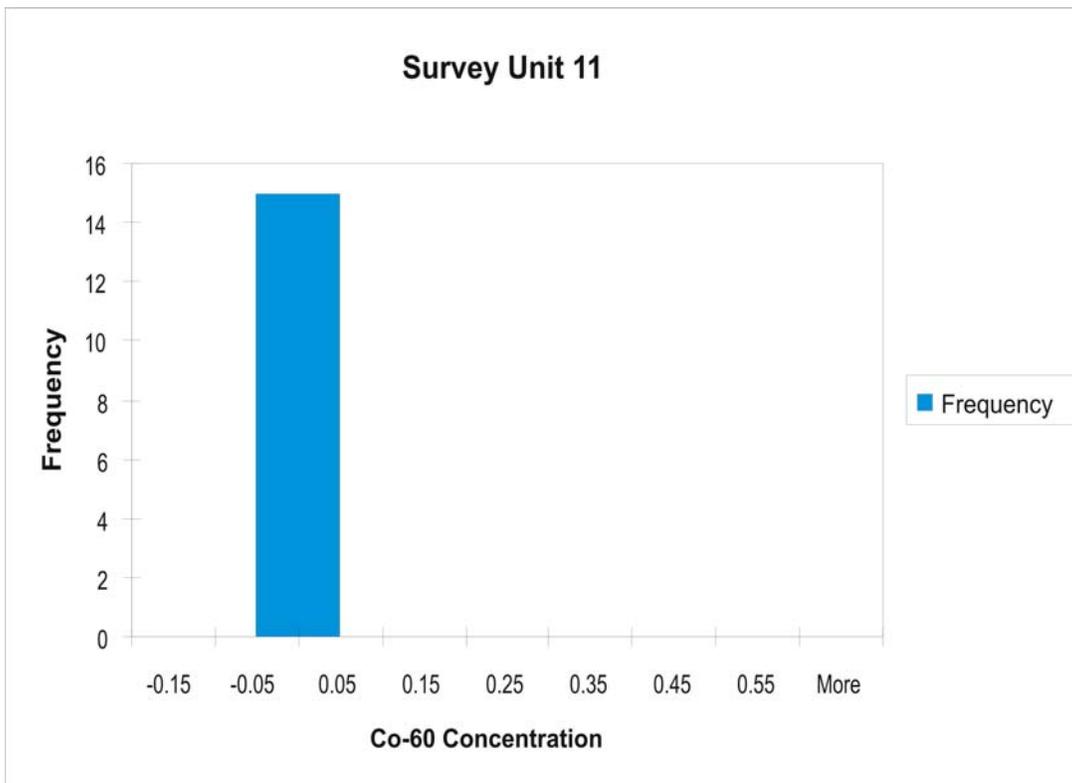
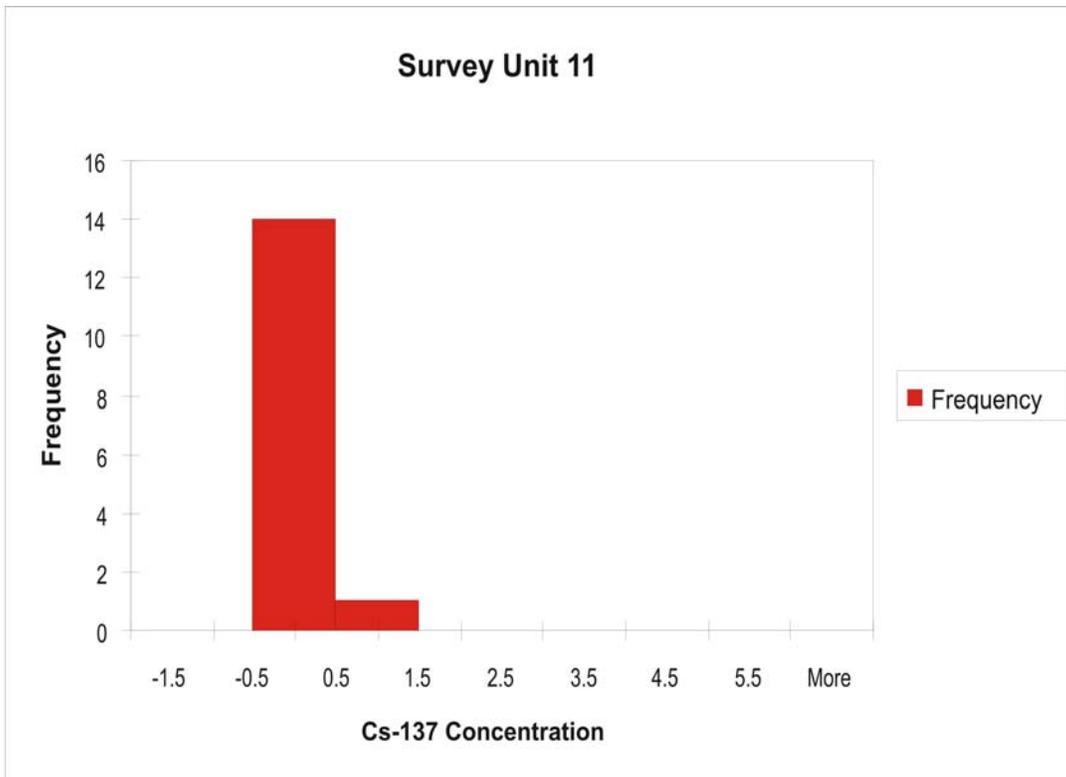


Figure 4-22. Frequency Distribution of Soil Sample Results – SU11 (pCi/g)

5. OVERVIEW AND EVALUATIONS OF FINAL STATUS SURVEY RESULTS FOR STRUCTURES AND ITEMS

This section describes the measurements that were made on surfaces of the structures that remain at the Rad Yard, the locations where they were collected, the processes by which they were evaluated, and the methods used to determine that adequate measurements were taken to meet or exceed the applicable Class 1, 2, or 3 survey frequencies required by MARSSIM.

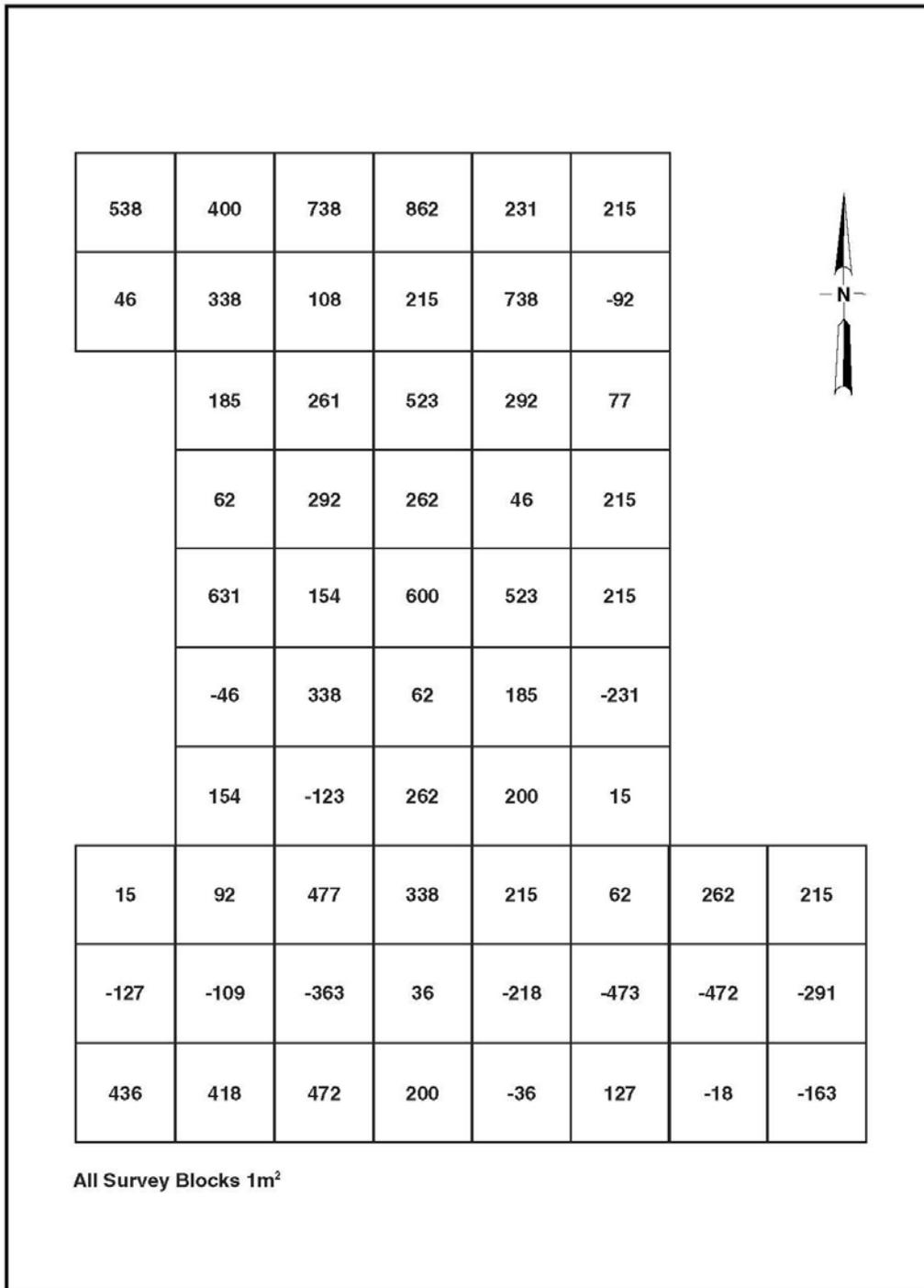
5.1 CONCRETE SLABS REMAINING FROM BUILDINGS E2356, E2366, AND E2368

There are three concrete slabs remaining on the Rad Yard; E2356, E2366, and E2368 as shown on Figure 1-2. The buildings that were located on these slabs were demolished during earlier removal actions. The slabs are cracked, with grass and weeds growing up between the cracks in the concrete. The concrete of E2356 was badly damaged around the perimeter, probably by heavy machinery driving over the slab. As a result, this slab is not rectangular.

All three slabs were considered as Class 1 survey areas. Data for E2366 were collected during the removal action in May 2005 using a Ludlum 44-166 beta scintillation detector coupled to a Ludlum 2221 rate meter-scaler. Data for E2356 and E2368 were collected during the FSS in November, 2007 using a Ludlum 43-93 coupled to a Ludlum 2360. Both detectors have similar face areas (100 cm^2) and beta efficiencies, the major difference being that the 43-93 can simultaneously detect and report alpha and beta radiation levels. Prior to initiating the survey on each slab, the surface was cleared of grass, weeds, and loose dirt that might shield the detection of any residual contamination, or puncture the mylar face of the detector. Following that, each slab was divided into 1 m^2 areas, and a 100% scan of each grid conducted.

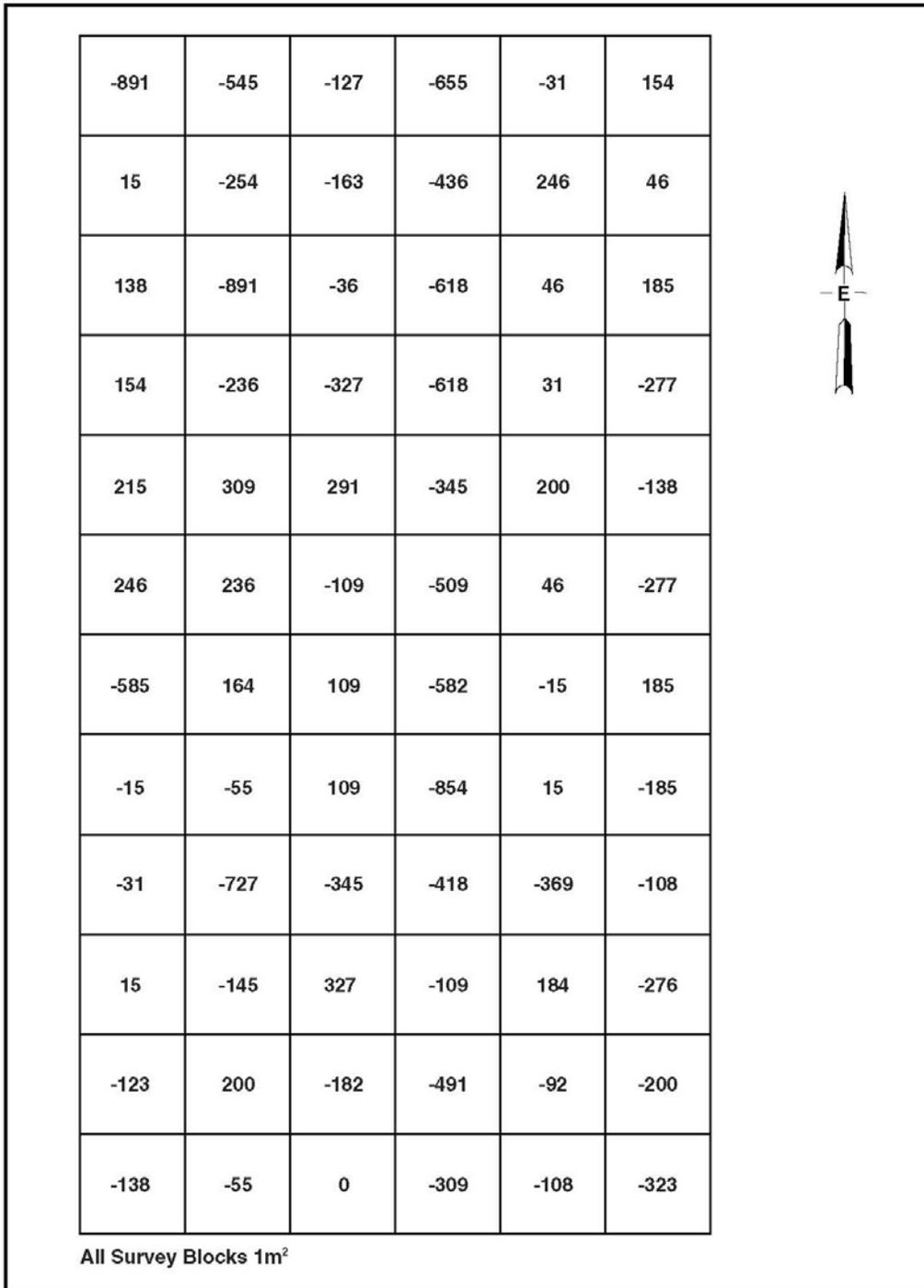
The survey technique followed the protocol described in the FSSP, with one clarification. The technique in the FSSP describes how the entire 1-m^2 area is scanned collecting an integrated count over 1 minute. A clarification was made in the field when it was recognized that at the specified scanning speed of 1 detector width/second, the entire 1-m^2 area would take approximately 1.7 minutes to scan. Therefore, the technique was modified to correctly scan for 1.7 minutes, while listening for any elevated areas of activity. If no elevated areas were detected by the audio output, the technician recorded the 1-minute integrated count as representative of the entire 1 m^2 area.

Survey data for the three slabs are presented in Figures 5-1, 5-2, and Table 5-1. Figures 5-1 and 5-2 represent E2356 and E2368, respectively. All results are presented as beta activity in $\text{dpm}/100 \text{ cm}^2$. Data for E2366 were collected in tabular format, therefore the relative positions of each survey measurement cannot be represented on a figure. The survey data for all three slabs were well below the applicable surface contamination criteria of $5000 \text{ dpm}/100 \text{ cm}^2$ discussed in section 5.1.4.1 of the FSSP.



ORP-0167-1

**Figure 5-1. Building E2356 Slab Beta (β)
Surface Activity (dpm/100 cm²)
Bush River Rad Yard,
APG, Maryland**



ORP-0167-2

**Figure 5-2. Building E2356 Slab Beta (β)
Surface Activity (dpm/100 cm²)
Bush River Rad Yard,
APG, Maryland**

**Table 5-1. Building E2366
Beta (β) Activity (dpm/100 cm²)**

Contamination Level			
-4	32	-58	-90
-126	-22	-213	-83
-76	-25	-25	-47
-90	-65	-90	-97
-83	14	-14	14
-47	47	7	-25
-170	65	14	-29
-7	-58	-51	-79
-159	-25	11	-137
-83	-94	-7	-58
-61	-76	-11	-79
281	-36	14	-51
69	-29	112	-7
14	-22	36	-36
-133	-54	14	-133
-36	47	115	-159
-51	69	-94	14
-79	-51	-54	-83
-58	-119	-170	69
-133	-76	-159	-61
-79	14	-4	281
-29	58	-94	-43
-25	69	-126	
14	87	-76	

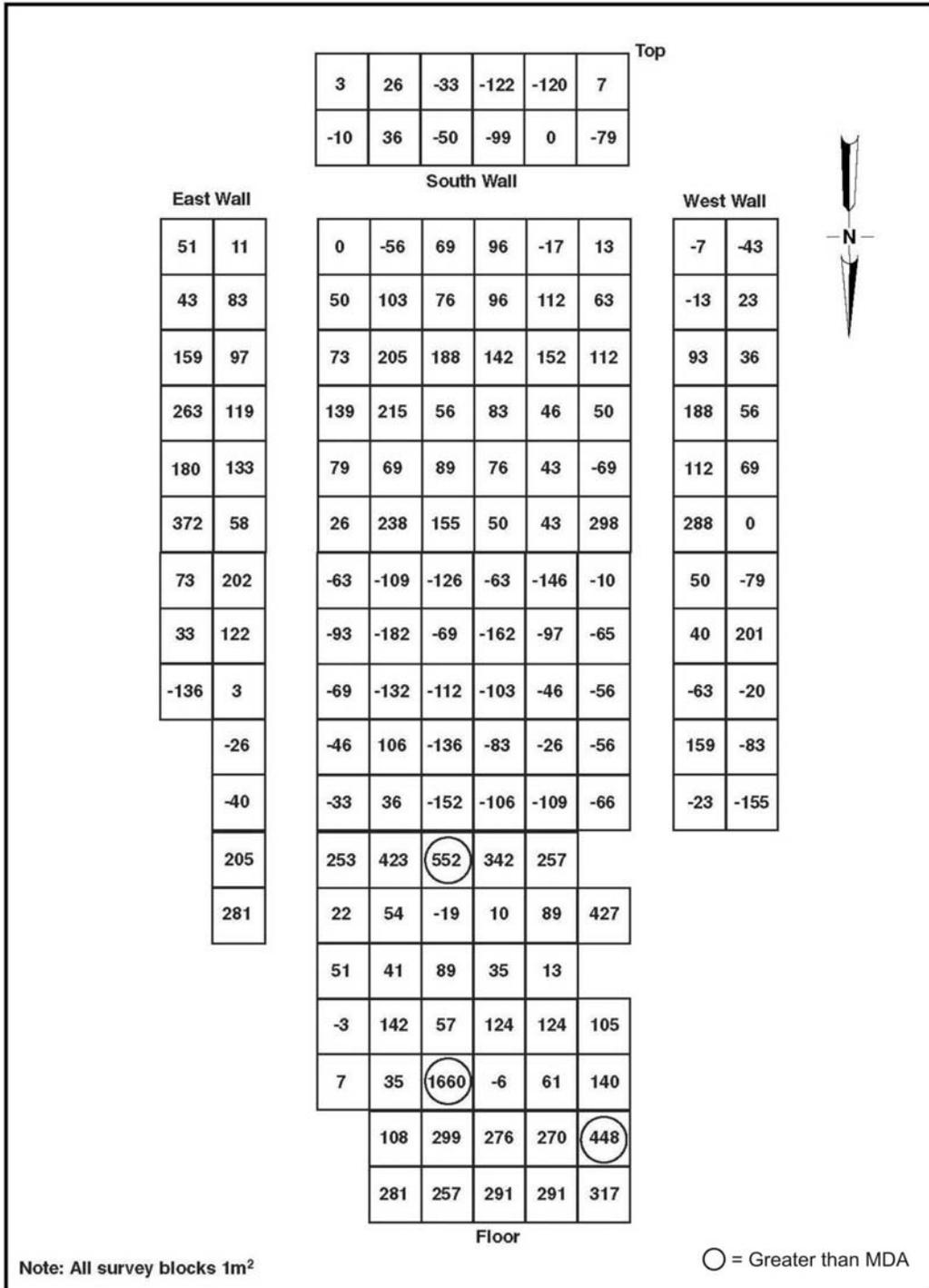
5.2 VAULTS AND SUMPS

There are two underground vaults that remain on the Rad Yard. The remediation done to these vaults is described in the FSSP (October 2007); Section 4.2.3, which discusses the east and west basements of E2364, and Section 4.2.5, which discusses the abandoned UST. Additional characterization data regarding these two vaults are provided in Sections 2.4 and 2.7.1 of the Non-Time Critical Removal Action Report (January 2007). Both of these vaults were backfilled with clean sand or flowable concrete as a contractual requirement during the removal action. Therefore, all FSS data presented were collected in April and May 2005.

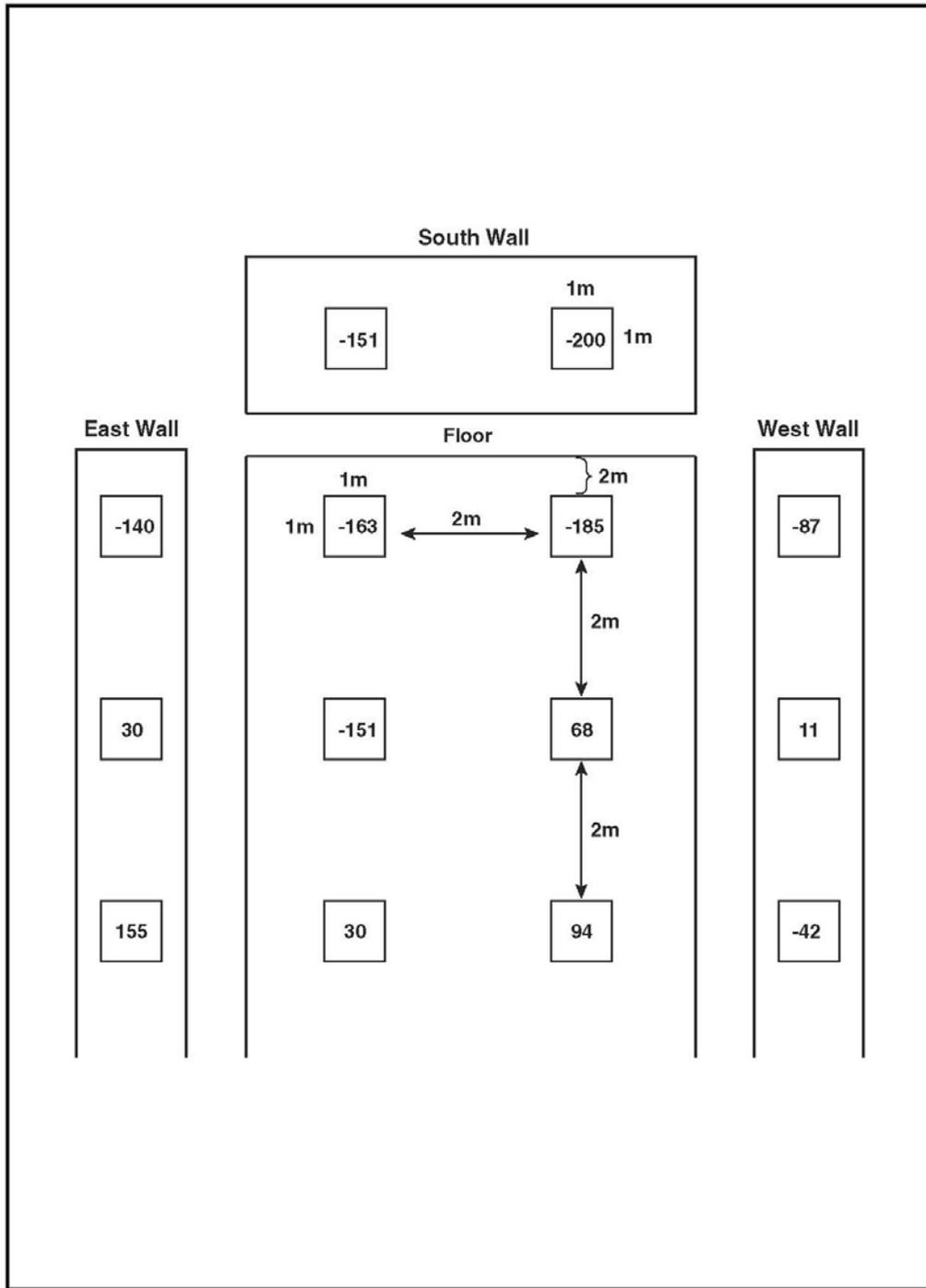
All FSS data were collected with a Ludlum 44-116 beta scintillation detector, coupled to a Ludlum 2221. The protocol used to collect the data is described in Section 4.2.1 of the FSSP.

The west basement of E2364 was designated a Class 1 survey area, and received 100% survey coverage of the concrete floor and walls remaining after demolition of the building and sumps. The results of this survey are presented in Figure 5-3, with the data in units of beta activity in dpm/100 cm². Of the 159 survey data points, only three were greater than the minimum detectable activity (MDA) of the instrument set, the highest being 1,660 dpm/100 cm². All of the results are less than the surface contamination criteria of 5000 dpm/100 cm². Figure 5-4 represents the survey data collected from the east basement of E2364. This basement was classified as a Class 2 survey area, from which 14 1-m² measurements were collected. All data are less than the MDA of the instrument set, and therefore all data are less than the applicable cleanup criteria.

Data for the abandoned UST were collected in tabular format, therefore the relative positions of each measurement cannot be represented on a figure. Review of the data collected from this UST, which are presented in Table 5-2, demonstrates that all measurement results were well below the applicable criteria listed in Section 5.1.4.1 of the FSSP.



**Figure 5-3. Building E2364 West Basement Beta (β)
Surface Activity (dpm/100 cm²)
Bush River Rad Yard,
APG, Maryland**



ORD.01R7.7

**Figure 5-4. Building E2364 East Basement Beta (β)
 Surface Activity (dpm/100 cm²)
 Bush River Rad Yard,
 APG, Maryland**

**Table 5-2. Abandoned Underground Storage Tank
Beta (β) Activity (dpm/100 cm²)
Data Collected 5/17/05**

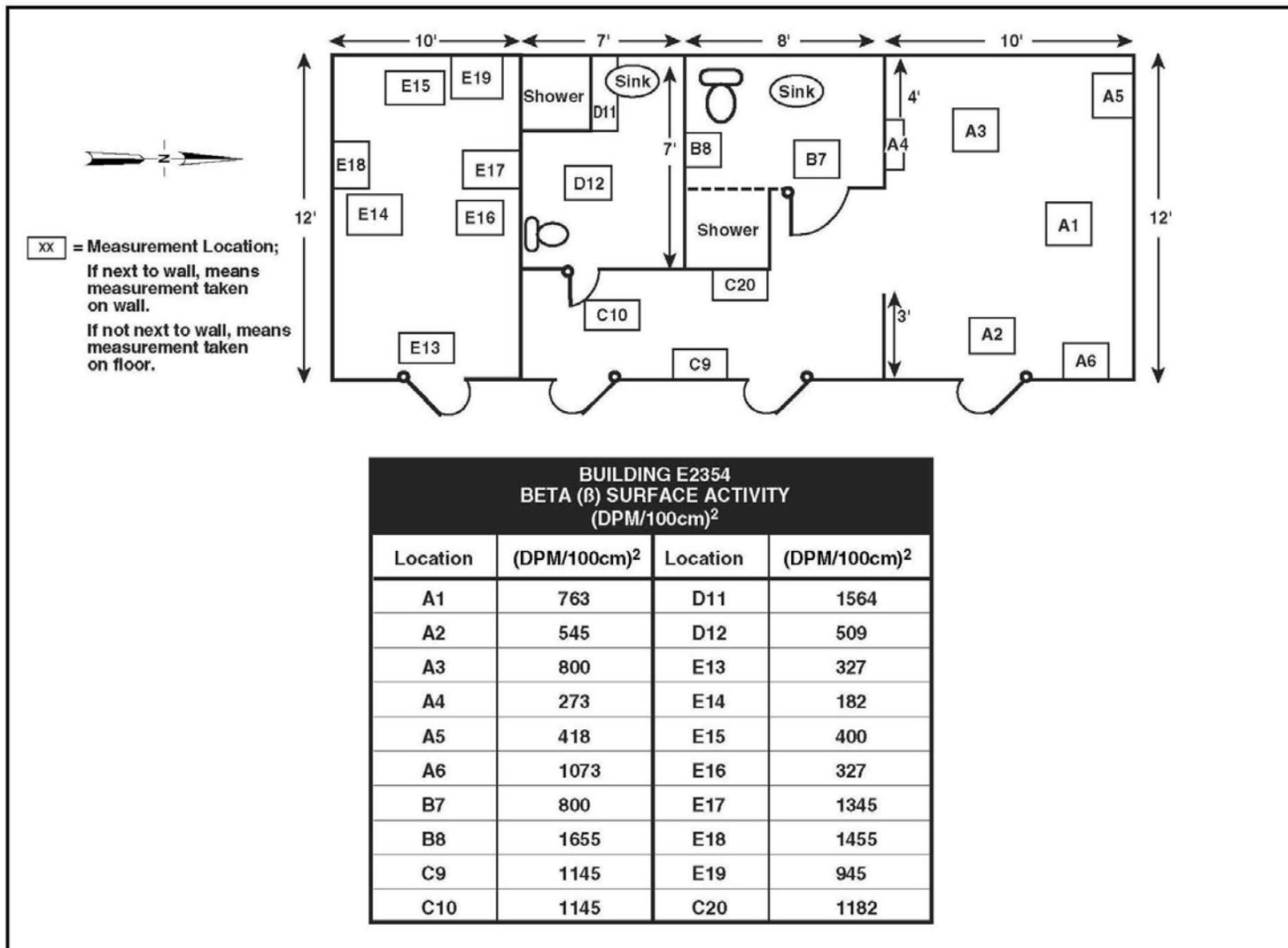
Contamination Level			
-21	587	231	-21
7	148	138	-38
152	90	873	3
148	1228	642	-93
290	873	1121	248
442	642	421	283
235	1121	-72	55
276	970	-86	7
362	421	3	-38
193	642	-76	787
345	797	48	631
355	190	69	497
311	531	62	293
86	221	155	273
183	186	355	659
35	380	248	383
14	442	480	131

5.3 BUILDING E2354

As described in Section 5.5.3 of the FSSP, Building E2354 was located outside of the controlled fence area, and recently used by National Guard troops providing surveillance of the Bush River. As a result, this building was identified as a Class 2 structure in the FSSP. Based upon physical measurements collected during the FSS, this one-story structure has an interior surface area, including walls and floor, of approximately 126 m², whereas in the FSSP, the estimated area was only 88 m². The FSSP forecast that 16% of the available surface area would be surveyed during the FSS, resulting in 14 measurement locations. Due to the actual surface area being larger than anticipated, the actual number of 1-m² survey location was increased to 20 thereby keeping the percentage of surveyed area constant at 16% of the available area.

Prior to initiating the surface contamination survey, Building E2354 was scanned with a 2x2 NaI detector to look for any anomalous sources of contamination. Particularly suspect areas such as sinks, drains, showers, and a concrete sump were scanned by this method. Two areas of slightly elevated gamma activity were identified on block walls of the building. An electric hammer/chisel was used to remove a solid sample from the wall for gamma spectrometry analysis. Analyses of these two samples failed to identify an obvious source of the elevated gamma readings, other than the naturally occurring radionuclides expected in concrete wall block.

All FSS surface contamination data were collected with a Ludlum 43-93 alpha/beta scintillation detector coupled to a Ludlum 2360 scaler. The survey protocol was as described in Section 4.2.1 of the FSSP. All data were collected in November 2007. Survey locations and the survey data are depicted on Figure 5-5. As can be discerned from the data, all measurements were well below the applicable cleanup criteria of 5000 dpm/100 cm².



08P-0167-3A

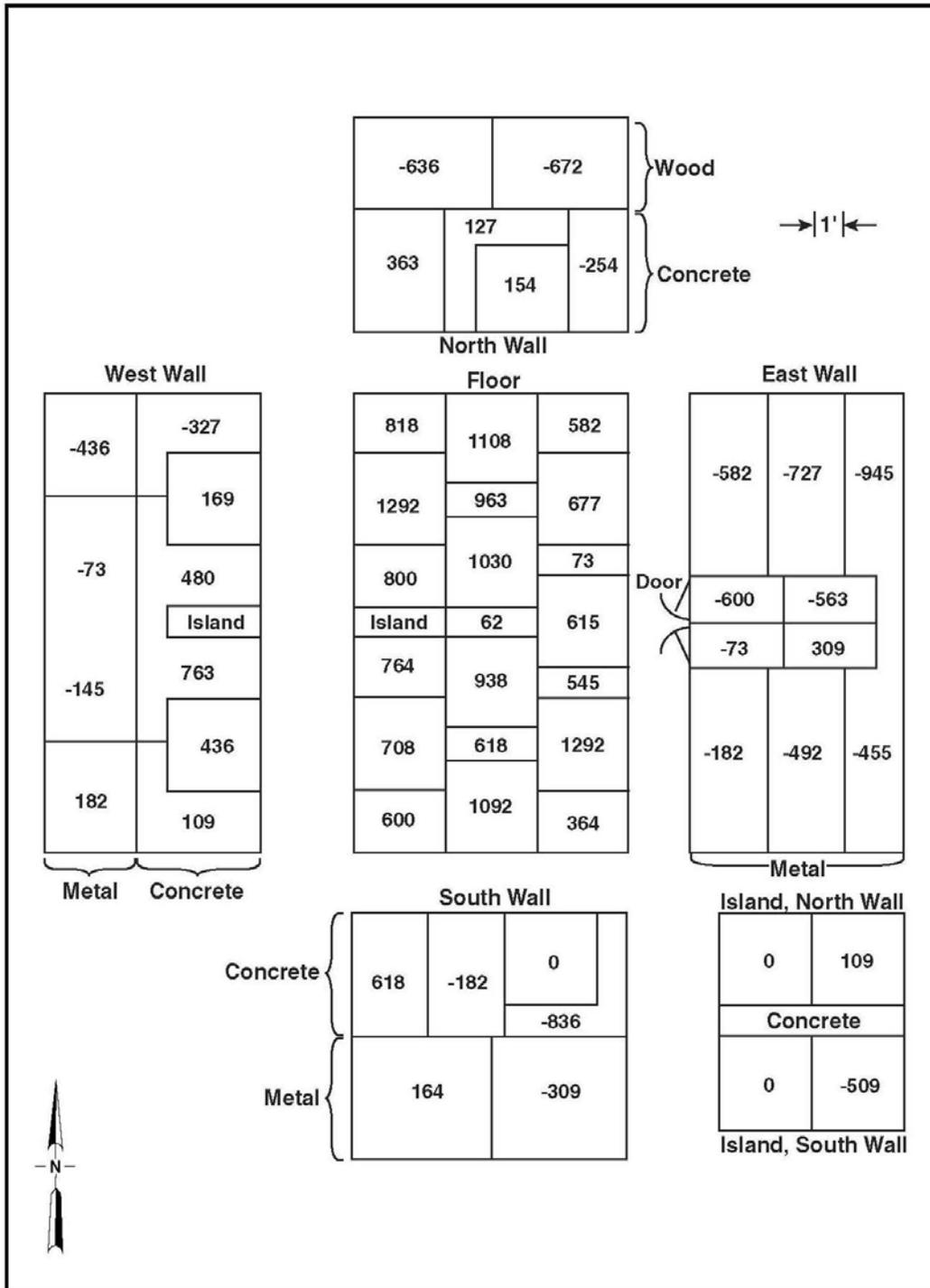
Figure 5-5. Building E2354 – Beta (β) Surface Measurement Locations
Bush River Rad Yard,
APG, Maryland

5.4 BUILDING E2371

As described in Section 5.5.3 of the FSSP, Building E2371 was designated as a support area outside of the controlled access fence of the Rad Yard. Most recently, this building was used to store supplemental verification soil samples collected during the 2004-2006 removal action. In the FSSP, this building was designated as a Class 2 structure.

It was originally planned that fourteen 1-m² survey areas would be adequate to document the contamination levels in Building E2371. However, during the preliminary assessment of this building, a small, approximately 12-inch diameter area, of elevated beta activity was detected on the concrete floor by the audio signal from the detector set. The estimated maximum concentration in this spot of beta contamination was approximately 9600 dpm/100 cm², which is above the cleanup criteria of 5000 dpm/100 cm². Through several repeated decontamination processes including use of both manual and electric chisels, the activity on this spot was reduced to 500 dpm/100 cm². Approximately 0.2 ft³ of chipped concrete was collected as radioactive waste and transferred to DSHE for disposal.

Due to contamination found in this building at a level above the cleanup criteria, the building was reclassified as a Class 1 structure, and a 100% survey was performed of the interior. All FSS surface contamination data were collected with a Ludlum 43-93 alpha/beta scintillation detector coupled to a Ludlum 2360 scaler. The survey protocol followed was as described in Section 4.2.1 of the FSSP. All data were collected on November 16, 2007. Survey data are depicted on Figure 5-6. As can be discerned for the survey data, all measurements were well below the applicable cleanup criteria.



08P-0167-6

**Figure 5-6. Building E2371 Interior Walls Beta (β)
Surface Activity (dpm/100 cm²)
Bush River Rad Yard,
APG, Maryland**

6. REFERENCES

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**APPENDIX A
DOCUMENTS SUPPORTING MODIFICATIONS
TO THE FINAL STATUS SURVEY PLAN**

Schoenfelder, Robert P.

From: Dennis Lawyer [Dennis.Lawyer@nrc.gov]
Sent: Wednesday, May 07, 2008 4:40 AM
To: Schoenfelder, Robert P.
Cc: Gross, Joseph; Johnson, Nels
Subject: RE: APG Rad Yard supplemental sampling plans

This looks good to me. However, I am in Florida May 12 & 13. If I wasn't in Florida, I had planned to do inspections in Virginia. Any possibility of doing the following week?

Getting someone else to do the inspection / collect samples would be near impossible at this close to the date.

From: Schoenfelder, Robert P. [mailto:R.Schoenfelder@WestonSolutions.com]
Sent: Tuesday, May 06, 2008 8:28 PM
To: Dennis Lawyer
Cc: Gross, Joseph; Johnson, Nels; Schoenfelder, Robert P.
Subject: APG Rad Yard supplemental sampling plans

Good Morning Dennis;

The following information provides the basis for our follow-up sampling, which we plan to conduct next week. Our staff are available to collect the additional samples next week, preferably on Monday or Tuesday the 12th or 13th of May. I will call you this morning (Wed., 5/7/08) to ensure that this meet your expectatin, and to determine if you or one of your staff will join us at the site.

As we discussed last week, I re-calculated the statistical evaluations of our data from the Final Status samples using the highest concentration from the three profile samples for the Survey Units in which the 0-6" sample was not the most contaminated. Our intent was to determine if the slightly elevated results from the deeper samples would impact the variability of the results in a manner that would require more samples than the 15 already collected. The results are summarized below.

1.) Survey Unit 1: The profile sample results for the 0-6", 6-12", and 12-18" increments are 0.3, 1.2, and 1.7 pCi/g, respectively. When the 1.7 value is used in the calculation of the relative shift, the result is 7.4 which translates to a minimum sample quantity of 14. We collected 15 samples, so no additional samples are required. However, the highest concentration in the profile samples was associated with the deepest sample, so we need to bound the contamination levels at depth. To do so, we will collect three additional samples from the original profile location at progressively deeper 6-inch intervals (18-24", 24-30", and 30-36").

2.) Survey Unit 3: The profile sample results are at or below the Minimum Detectable Activity (MDA) of the analytical method, so deeper profile samples are not required. The relative shift calculation indicated that a minimum of 17-18 samples are required to adequately address the variability in the Survey Unit, so we will collect three more surface samples at random locations.

3.) Survey Unit 5: The profile sample results for the 0-6", 6-12", and 12-18" increments are 1.0, 2.97, and 0.31 pCi/g, respectively. The deepest sample has the lowest value, so the contamination is bounded and no additional profile samples are required. The profile sample location was the same as the location from which supplemental sample SS-N12-001-F was collected. That sample result was 7.27 pCi/g, which was greater than the 6-12" value of 2.97 pCi/g. The relative shift was calculated to be 2.4 using the higher surface concentration. The 15 samples already collected are adequate to address the variability of the Survey Unit and additional samples are not required.

4.) Survey Unit 6: The profile sample results for the 0-6", 6-12", and 12-18" increments are 1.05, 1.82, and 0.91 pCi/g, respectively. The deepest sample has the lowest value, so the contamination is bounded and no additional profile samples are required. The relative shift was recalculated to be 8.4 using the higher concentration from the 6-12" depth. The 15 samples already collected are adequate to address the variability of the Survey Unit and additional samples are not required.

5.) Survey Unit 7: The relative shift was calculated to be 1.84, and the minimum number of samples required is 16. One additional surface sample, randomly located in Survey Unit 7, will be collected.

The results for Survey Units 2, 4, 8, 9, 10, and 11 indicated that no additional samples are required.

Regards,
 -Bob

8/15/2008

Robert Schoenfelder, CHP

Weston Solutions, Inc.
3840 Commons Ave. NE
Albuquerque, NM 87109
(505) 837-6556

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DEPARTMENT OF THE ARMY
US ARMY RESEARCH, DEVELOPMENT AND ENGINEERING COMMAND
EDGEWOOD CHEMICAL BIOLOGICAL CENTER
5183 BLACKHAWK ROAD
ABERDEEN PROVING GROUND, MD 21010-5424

REPLY TO
ATTENTION OF

November 6, 2007

Risk Reduction Office

U.S. Nuclear Regulatory Commission
Region I, 475 Allendale Road
King of Prussia, Pennsylvania 19406-1414
Attention: Mr. Dennis Lawyer

Subject: NRC License No. 19-10306-01, Docket No. 030-04552, Final Status Survey Plan (FSSP), Revision 1 for Bush River Study Area, Rad Yard site.

Dear Mr. Lawyer:

The purpose of this letter is to respond to NRC Comment #1 on the draft version of the FSSP document and provide you with a revised survey unit map that will be implemented in the field.

In response to your Comment #1, in reference to Section 2.1 of the FSSP, the county in which the Rad Yard site is located is Harford County. The current and future land uses in and around the Rad Yard site is industrial land use. Land use controls will also be implemented in and around the site prohibiting residential development.

Enclosed with this letter is a copy of a more precisely drawn and slightly revised survey unit map that will be implemented in the field. By using the GPS coordinates from the site in place of the hand-drawn lines on scaled maps that were provided in the final version of the FSSP, we have determined that there will be 11 survey units rather than the 13 that were originally indicated. In addition, this impacts Table 5-8 in the FSSP, which provided an estimate of the number of samples that might be necessary in each of the survey units. That table was provided strictly for illustrative purposes to show that the samples already collected from the remediate site could reduce the number of samples to be collected during the Final Status Survey, and it is therefore not necessary to provide a revised table with this letter.

Upon receipt of this letter and enclosure, please provide your approval of this final version of the FSSP so that we may prepare to conduct the final field activities as described in the document. We would like to mobilize to the field on Friday, November 9, 2007 to begin establishing the survey units so that we may begin the Final Status Survey activities on Monday, November 12, 2007. We will help arrange your access to the site, as necessary, for your site visits and inspections.

If you have any questions regarding this action, please address them to Eric Kujala, ECBC Radiation Safety Officer, or telephone (410) 436-1381, facsimile (410) 612-5378, or by e-mail eric.kujala@us.army.mil.

Sincerely,



E.K. Eric M. Kujala
ECBC Radiation Safety Officer
Risk Reduction Office

Enclosure

APPENDIX B
SAMPLE ID KEY AND LABORATORY DATA

SAMPLE ID KEY AND LABORATORY DATA

The sample identification (ID) and chain of custody process described in this report were intended to consistently assigned sample identification numbers to samples collected in the field. Some sample numbers assigned in the planning phase were found during the field effort to have been assigned to the incorrect Survey Unit. Also, verification samples collected during the removal action and used for the Final Status Survey were assigned ID numbers using a different protocol. Those samples were renamed to provide consistent sample ID names in this report. The following key relates each renamed sample to its sample IDs as provided in the laboratory data packages. This key should allow the reviewer to more easily find the appropriate value for each Final Status Survey sample.

Laboratory data from the Final Status Survey sampling are provided in the compact disc (CD) attached to this report. Laboratory data for verification samples collected as part of the removal action were provided in the CD that was attached to the Bush River Study Area Removal Action Report for Non-Time Critical Removal Action, Radioactive Waste Management Facility, Final, January 2007 (WESTON, 2007).

SURVEY UNIT NUMBER	ORIGINAL ID FROM DATA PACKAGE	NEW ID USED IN FINAL STATUS SURVEY REPORT
SU1	SS-N1-003-F	SU1-016
	SU1-011	SU3-003
SU2	EC-N1-005-W-1-1-0	SU2-015
SU3	SU1-011	SU3-003
	SS-N7-004-W (recollected 2/08)	SU3-015
	SU3-013 (collected 5/22/08)	SU3-016
	SU3-014 (collected 5/22/08)	SU3-017
	SU3-015 (collected 5/22/08)	SU3-018
SU4	EC-N4-010-W (collected 5-12-05)	SU4-015
SU5	EC-WW-001-F-1-1 (collected 4-26-05)	SU5-006
	SS-N12-001-F (resample collected 2-14-08)	SU5-015
	EC-N3-015-W-1-2	SU5-015-02
	EC-N3-015-W-1-3	SU5-015-03
SU7	SS-N2-006-F (resample collected 2/08)	SU7-016
	SS-N2-013-W	SU7-015
SU8	SS-N2-004-F	SU8-014
	SS-N2-005-F	SU8-015

SURVEY UNIT NUMBER	ORIGINAL ID FROM DATA PACKAGE	NEW ID USED IN FINAL STATUS SURVEY REPORT
SU9	SU9-013	SU10-014
	EC-N5-003-F-1-1	SU9-013
SU10	SU9-013	SU10-014
	EC-WW-007-F-1-1-0 (collected 4/28/05)	SU10-015

Note: Samples at locations SU3-013 and 014 were originally collected correctly on 12/06/07, and the data reported on Eberline Lab W/O #07-12056. These sample locations and results are acceptable and are reported in the FSSR as SU3-013 and 014. When three additional samples were collected from SU3 on 5/22/08 these locations were randomly selected and initially assigned the ID numbers of SU3-013, 014, and 015. The 5/22/08 samples have been renamed SU3-016, 017, and 018 to avoid confusing them with the original samples.

No changes in Sample ID were made for Survey Units 6 and 11.



EBS-OR-26828

January 3, 2008

Mr. Nels Johnson
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Albuquerque, NM 87109

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601 Scarboro Road
Oak Ridge, TN 37830
Phone (865) 481-0683
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CASE NARRATIVE
Work Order #07-12045-OR

SAMPLE RECEIPT

This work order contains ten soil samples received 12/11/2007. All samples were analyzed by Gamma Spectroscopy.

<u>CLIENT ID</u>	<u>LAB ID</u>	<u>CLIENT ID</u>	<u>LAB ID</u>
SS-N12-001-F	07-12045-04	SS-N1-003-F	07-12045-09
SS-N2-004-F	07-12045-05	SS-N7-004-W	07-12045-10
SS-N2-005-F	07-12045-06	E2354-E19W-01	07-12045-11
SS-N2-006-F	07-12045-07	E2354-B8W-01	07-12045-12
SS-N2-013-W	07-12045-08	E2371-W-01	07-12045-13

ANALYTICAL METHODS

Gamma Spectroscopy was performed using Method LANL ER-130 Modified.

ANALYTICAL RESULTS

Combined Standard Uncertainty is reported at 2-sigma value.

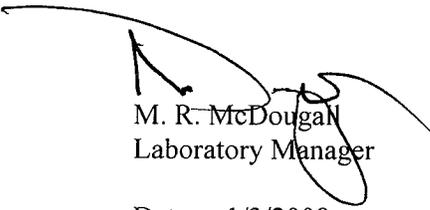
GAMMA SPECTROSCOPY

Samples for Gamma Spectroscopy analysis were prepared by transferring a known mass/aliquot of each prepared and homogenized sample to a standard geometry container. Samples were counted on High Purity Germanium (HPGe) gamma ray detectors.

Samples demonstrated non-detect equivalent results for Cobalt-60 activity and non-detect equivalent to slightly positive results for Cesium-137 activity. Results for the Cobalt-60 and Cesium-137 method blank demonstrated non-detect equivalent activity. Results for the Cobalt-60 replicate demonstrated a high relative percent difference; however, normalized difference is within acceptable limits for the analytical technique. Results for the Cesium-137 replicate demonstrated an acceptable relative percent difference and normalized difference. Results for the Cobalt-60 and Cesium-137 laboratory control sample demonstrated an acceptable percent recovery.

CERTIFICATION OF ACCURACY

I certify that this data report is in compliance with the terms and conditions of the Purchase Order, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data has been authorized by the cognizant project manager or his/her designee to be accurate as verified by the following signature.



M. R. McDougal
Laboratory Manager

Date: 1/3/2008

Eberline Services

Final Report of Analysis

Report To:

Nels Johnson
Weston Solutions
3840 Commons Avenue NE
Albuquerque, NM 87109

Work Order Details:

SDG: 07-12045
Purchase Order: 0060846
Analysis Category: ENVIRONMENTAL
Sample Matrix: SO

Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	Report Units
07-12045-01	LCS	KNOWN	12/11/07 00:00	12/11/2007	12/12/2007	07-12045	Cobalt-60	LANL ER-130 Modified	1.27E+02	3.36E+00			pCi/g
07-12045-01	LCS	KNOWN	12/11/07 00:00	12/11/2007	12/12/2007	07-12045	Cesium-137	LANL ER-130 Modified	7.82E+01	2.35E+00			pCi/g
07-12045-01	LCS	SPIKE	12/11/07 00:00	12/11/2007	12/12/2007	07-12045	Cobalt-60	LANL ER-130 Modified	1.32E+02	7.10E+00	7.10E+00	1.14E+00	pCi/g
07-12045-01	LCS	SPIKE	12/11/07 00:00	12/11/2007	12/12/2007	07-12045	Cesium-137	LANL ER-130 Modified	7.88E+01	5.64E+00	5.64E+00	9.26E-01	pCi/g
07-12045-02	MBL	BLANK	12/11/07 00:00	12/11/2007	12/12/2007	07-12045	Cobalt-60	LANL ER-130 Modified	9.12E-03	2.72E-02	2.72E-02	6.08E-02	pCi/g
07-12045-02	MBL	BLANK	12/11/07 00:00	12/11/2007	12/12/2007	07-12045	Cesium-137	LANL ER-130 Modified	-8.04E-03	2.65E-02	2.65E-02	4.93E-02	pCi/g
07-12045-03	DUP	SS-N12-001-F	12/06/07 13:30	12/11/2007	12/12/2007	07-12045	Cobalt-60	LANL ER-130 Modified	-3.27E-02	3.91E-02	3.91E-02	5.43E-02	pCi/g
07-12045-03	DUP	SS-N12-001-F	12/06/07 13:30	12/11/2007	12/12/2007	07-12045	Cesium-137	LANL ER-130 Modified	7.36E+00	5.16E-01	5.16E-01	5.85E-02	pCi/g
07-12045-04	DO	SS-N12-001-F	12/06/07 13:30	12/11/2007	12/12/2007	07-12045	Cobalt-60	LANL ER-130 Modified	2.07E+00	4.02E-02	4.02E-02	7.36E-02	pCi/g
07-12045-04	DO	SS-N12-001-F	12/06/07 13:30	12/11/2007	12/12/2007	07-12045	Cesium-137	LANL ER-130 Modified	7.22E+00	5.09E-01	5.09E-01	6.44E-02	pCi/g
07-12045-05	TRG	SS-N2-004-F	12/06/07 13:35	12/11/2007	12/12/2007	07-12045	Cobalt-60	LANL ER-130 Modified	-3.12E-03	4.00E-02	4.00E-02	7.25E-02	pCi/g
07-12045-05	TRG	SS-N2-004-F	12/06/07 13:35	12/11/2007	12/12/2007	07-12045	Cesium-137	LANL ER-130 Modified	1.45E-01	5.66E-02	5.66E-02	6.70E-02	pCi/g
07-12045-06	TRG	SS-N2-005-F	12/06/07 13:37	12/11/2007	12/12/2007	07-12045	Cobalt-60	LANL ER-130 Modified	3.13E-02	2.59E-02	2.59E-02	5.14E-02	pCi/g
07-12045-06	TRG	SS-N2-005-F	12/06/07 13:37	12/11/2007	12/12/2007	07-12045	Cesium-137	LANL ER-130 Modified	9.37E-01	1.21E-01	1.21E-01	4.19E-02	pCi/g
07-12045-07	TRG	SS-N2-006-F	12/06/07 13:32	12/11/2007	12/12/2007	07-12045	Cobalt-60	LANL ER-130 Modified	-8.22E-04	3.14E-02	3.14E-02	5.58E-02	pCi/g
07-12045-07	TRG	SS-N2-006-F	12/06/07 13:32	12/11/2007	12/12/2007	07-12045	Cesium-137	LANL ER-130 Modified	7.61E+00	5.28E-01	5.28E-01	5.86E-02	pCi/g
07-12045-08	TRG	SS-N2-013-W	12/06/07 13:42	12/11/2007	12/12/2007	07-12045	Cobalt-60	LANL ER-130 Modified	-1.88E-02	3.66E-02	3.66E-02	6.43E-02	pCi/g
07-12045-08	TRG	SS-N2-013-W	12/06/07 13:42	12/11/2007	12/12/2007	07-12045	Cesium-137	LANL ER-130 Modified	1.19E+00	1.51E-01	1.51E-01	6.95E-02	pCi/g
07-12045-09	TRG	SS-N1-003-F	12/06/07 13:45	12/11/2007	12/12/2007	07-12045	Cobalt-60	LANL ER-130 Modified	-5.70E-02	6.50E-02	6.50E-02	9.09E-02	pCi/g
07-12045-09	TRG	SS-N1-003-F	12/06/07 13:45	12/11/2007	12/12/2007	07-12045	Cesium-137	LANL ER-130 Modified	5.57E-02	5.87E-02	5.87E-02	1.13E-01	pCi/g
07-12045-10	TRG	SS-N7-004-W	12/06/07 13:47	12/11/2007	12/12/2007	07-12045	Cobalt-60	LANL ER-130 Modified	9.90E-03	2.26E-02	2.26E-02	4.33E-02	pCi/g
07-12045-10	TRG	SS-N7-004-W	12/06/07 13:47	12/11/2007	12/12/2007	07-12045	Cesium-137	LANL ER-130 Modified	1.01E+01	6.79E-01	6.79E-01	5.62E-02	pCi/g
07-12045-11	TRG	E2354-E19W-01	11/15/07 12:05	12/11/2007	12/12/2007	07-12045	Cobalt-60	LANL ER-130 Modified	-2.92E-02	6.84E-02	6.84E-02	1.06E-01	pCi/g
07-12045-11	TRG	E2354-E19W-01	11/15/07 12:05	12/11/2007	12/12/2007	07-12045	Cesium-137	LANL ER-130 Modified	1.80E-01	1.19E-01	1.19E-01	1.39E-01	pCi/g
07-12045-12	TRG	E2354-B8W-01	11/15/07 12:00	12/11/2007	12/12/2007	07-12045	Cobalt-60	LANL ER-130 Modified	4.00E-02	6.62E-02	6.62E-02	1.26E-01	pCi/g
07-12045-12	TRG	E2354-B8W-01	11/15/07 12:00	12/11/2007	12/12/2007	07-12045	Cesium-137	LANL ER-130 Modified	1.23E-01	7.41E-02	7.41E-02	1.01E-01	pCi/g
07-12045-13	TRG	E2371-W-01	12/06/07 14:15	12/11/2007	12/12/2007	07-12045	Cobalt-60	LANL ER-130 Modified	-1.12E-03	2.31E-02	2.31E-02	3.82E-02	pCi/g
07-12045-13	TRG	E2371-W-01	12/06/07 14:15	12/11/2007	12/12/2007	07-12045	Cesium-137	LANL ER-130 Modified	8.97E+00	6.91E-01	6.91E-01	4.52E-02	pCi/g

CU=Counting Uncertainty;CSU=Combined Standard Uncertainty (2-sigma);MDA=Minimal Detected Activity;LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original



EBERLINE
SERVICES

Oak Ridge Laboratory

601 Scarboro Road, Oak Ridge, TN 37830 865/481-0683 FAX 865/483-4621

07.12045



Chain of Custody Record/Lab Work Request

COC ID
EBL-1207-01

Client: Weston Solutions, Inc.
 Site Name: Rad Yard Contact Name: Joe Gross
 W.O. #: 11785.004.006.5030 Contact Phone: (410)-612-5910
 Lab: Eberline Lab Contact: Sample Management
 TAT: Standard Lab Phone: 865-481-0683

Lab Use Only

Temperature of cooler when received (°C)

COC Tape was present and unbroken on outer package? Y N

Samples received in good condition? Y N

Labels indicate properly preserved? Y N

Received within holding times? Y N

Discrepancies between sample labels and COC record? Y N

Lab ID	Sample ID	Matrix	MS	MSD	Number of Containers		Date Collected	Time Collected	Analyses Requested	Special Instructions/Comments
					Container Volume (ml)	Container Type (Plastic/Glass)				
4	SS-N12-001-F	S					12/6/2007	1330		
5	SS-N2-004-F	S					12/6/2007	1335		
6	SS-N2-005-F	S					12/6/2007	1337		
7	SS-N2-006-F	S					12/6/2007	1332		
8	SS-N2-013-W	S					12/6/2007	1342		
9	SS-N1-003-F	S					12/6/2007	1345		
10	SS-N7-004-W	S					12/6/2007	1347		
11	E23521-E19W-01	S					11/15/07	1205	Alpha Spec	
12	E23541-B38W-01	S					11/15/07	1200		
13	E2371-W-01	S					12/6/07	1415		

Matrix Codes

S - Soil

SE - Sediment

SO - Solid

SL - Sludge

W - Water

O - Oil

A - Air

DS - Drum Solids

DL - Drum Liquids

L - EPTCLP Leachate

WI - Wipe

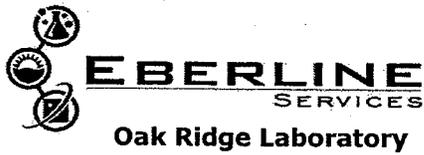
X - Other

F - Fish

Relinquished By: *[Signature]* Date: 12/10/07 Time: 1200

Received By: *[Signature]* Date: 12/11/07 Time: 0900

Additional Comments: RECEIVED DEC 11 2007 BY: KF



Internal Chain of Custody

Work Order #	07-12045
Lab Deadline	1/3/2008
Analysis	Gamma - Level 4
Sample Matrix	Soil/Solid

Comments	Sample Fraction	HP 210 / 270 Detector Activity	Storage Location	
Report Co60, Cs137	04	61	K1.4	
	05	46	K1.4	
	06	40	K1.4	
	07	55	K1.4	
	08	42	K1.4	
	09	54	K1.4	
	10	47	K1.4	
	11	50	K1.4	
	12	55	K1.4	
	13	44	K1.4	

	Location (circle one)					Initials	Date
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room 1200	Kenny Sealing	12-11-07
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room 1040	Kenny Sealing	12-12-07
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room	Mufson	12-12-07 1048
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room	Mufson	12-12-07 1737
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		



EBS-OR-26843

January 8, 2008

Mr. Nels Johnson
Weston Solutions
3840 Commons Avenue NE
Albuquerque, NM 87109

Oak Ridge Laboratory
601 Scarboro Road
Oak Ridge, TN 37830
Phone (865) 481-0683
Fax (865) 483-4621

CASE NARRATIVE
Work Order #07-12046-OR

SAMPLE RECEIPT

This work order contains seventeen soil samples received 12/11/2007. All samples were analyzed by Gamma Spectroscopy.

<u>CLIENT ID</u>	<u>LAB ID</u>	<u>CLIENT ID</u>	<u>LAB ID</u>
SU1-001-01	07-12046-04	SU1-010-01	07-12046-13
SU1-002-01	07-12046-05	SU1-011-01	07-12046-14
SU1-003-01	07-12046-06	SU1-012-01	07-12046-15
SU1-004-01	07-12046-07	SU1-013-01	07-12046-16
SU1-005-01	07-12046-08	SU1-014-01	07-12046-17
SU1-006-01	07-12046-09	SU1-015-01	07-12046-18
SU1-007-01	07-12046-10	SU2-001-01	07-12046-19
SU1-008-01	07-12046-11	SU2-002-01	07-12046-20
SU1-009-01	07-12046-12		

ANALYTICAL METHODS

Gamma Spectroscopy was performed using Method LANL ER-130 Modified.

ANALYTICAL RESULTS

Combined Standard Uncertainty is reported at 2-sigma value.

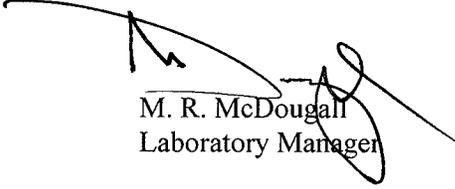
GAMMA SPECTROSCOPY

Samples for Gamma Spectroscopy analysis were prepared by transferring a known mass/aliquot of each prepared and homogenized sample to a standard geometry container. Samples were counted on High Purity Germanium (HPGe) gamma ray detectors.

Samples demonstrated non-detect equivalent results for Cobalt-60 activity and non-detect equivalent to slightly positive results for Cesium-137 activity. Results for the Cobalt-60 and Cesium-137 method blank demonstrated non-detect equivalent activity. Results for the Cobalt-60 and Cesium-137 replicate demonstrated an acceptable relative percent difference and normalized difference. Results for the Cobalt-60 and Cesium-137 laboratory control sample demonstrated an acceptable percent recovery.

CERTIFICATION OF ACCURACY

I certify that this data report is in compliance with the terms and conditions of the Purchase Order, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data has been authorized by the cognizant project manager or his/her designee to be accurate as verified by the following signature.



M. R. McDougall
Laboratory Manager

Date: 1/8/2008

Eberline Services Final Report of Analysis				Report To:				Work Order Details:					
Nels Johnson				SDG: 07-12046				Purchase Order: 0060846					
Weston Solutions				Analysis Category: ENVIRONMENTAL				Sample Matrix: SO					
3840 Commons Avenue NE				Batch ID				Result					
Albuquerque, NM 87109				Analysis Date				CU					
Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	Report Units
07-12046-01	LCS	KNOWN	12/11/07 00:00	12/11/2007	12/13/2007	07-12046	Cobalt-60	LANL ER-130 Modified	1.27E+02	3.36E+00			pCi/g
07-12046-01	LCS	KNOWN	12/11/07 00:00	12/11/2007	12/13/2007	07-12046	Cesium-137	LANL ER-130 Modified	7.82E+01	2.35E+00			pCi/g
07-12046-01	LCS	SPIKE	12/11/07 00:00	12/11/2007	12/13/2007	07-12046	Cobalt-60	LANL ER-130 Modified	1.29E+02	6.20E+00	6.20E+00	5.47E-01	pCi/g
07-12046-01	LCS	SPIKE	12/11/07 00:00	12/11/2007	12/13/2007	07-12046	Cesium-137	LANL ER-130 Modified	7.90E+01	7.14E+00	7.14E+00	4.42E-01	pCi/g
07-12046-02	MBL	BLANK	12/11/07 00:00	12/11/2007	12/13/2007	07-12046	Cobalt-60	LANL ER-130 Modified	6.00E-03	1.41E-02	1.41E-02	2.88E-02	pCi/g
07-12046-02	MBL	BLANK	12/11/07 00:00	12/11/2007	12/13/2007	07-12046	Cesium-137	LANL ER-130 Modified	-1.05E-03	1.50E-02	1.50E-02	2.79E-02	pCi/g
07-12046-03	DUP	SU1-001-01	11/16/07 15:20	12/11/2007	12/13/2007	07-12046	Cobalt-60	LANL ER-130 Modified	-1.66E-02	2.76E-02	2.76E-02	4.69E-02	pCi/g
07-12046-03	DUP	SU1-001-01	11/16/07 15:20	12/11/2007	12/13/2007	07-12046	Cesium-137	LANL ER-130 Modified	7.87E-02	4.80E-02	4.80E-02	5.28E-02	pCi/g
07-12046-04	DO	SU1-001-01	11/16/07 15:20	12/11/2007	12/13/2007	07-12046	Cobalt-60	LANL ER-130 Modified	-1.86E-02	3.10E-02	3.10E-02	5.25E-02	pCi/g
07-12046-04	DO	SU1-001-01	11/16/07 15:20	12/11/2007	12/13/2007	07-12046	Cesium-137	LANL ER-130 Modified	9.57E-02	6.02E-02	6.02E-02	4.92E-02	pCi/g
07-12046-05	TRG	SU1-002-01	11/16/07 15:30	12/11/2007	12/13/2007	07-12046	Cobalt-60	LANL ER-130 Modified	-4.34E-04	3.06E-02	3.06E-02	5.43E-02	pCi/g
07-12046-05	TRG	SU1-002-01	11/16/07 15:30	12/11/2007	12/13/2007	07-12046	Cesium-137	LANL ER-130 Modified	1.43E-01	4.79E-02	4.79E-02	5.54E-02	pCi/g
07-12046-06	TRG	SU1-003-01	11/16/07 15:32	12/11/2007	12/13/2007	07-12046	Cobalt-60	LANL ER-130 Modified	-8.18E-03	4.78E-02	4.78E-02	8.77E-02	pCi/g
07-12046-06	TRG	SU1-003-01	11/16/07 15:32	12/11/2007	12/13/2007	07-12046	Cesium-137	LANL ER-130 Modified	-1.21E-03	4.13E-02	4.13E-02	7.64E-02	pCi/g
07-12046-07	TRG	SU1-004-01	11/16/07 15:35	12/11/2007	12/13/2007	07-12046	Cobalt-60	LANL ER-130 Modified	2.65E-02	3.22E-02	3.22E-02	4.45E-02	pCi/g
07-12046-07	TRG	SU1-004-01	11/16/07 15:35	12/11/2007	12/13/2007	07-12046	Cesium-137	LANL ER-130 Modified	1.45E-01	4.12E-02	4.12E-02	3.70E-02	pCi/g
07-12046-08	TRG	SU1-005-01	11/16/07 15:45	12/11/2007	12/13/2007	07-12046	Cobalt-60	LANL ER-130 Modified	-2.72E-02	6.89E-02	6.89E-02	1.21E-01	pCi/g
07-12046-08	TRG	SU1-005-01	11/16/07 15:45	12/11/2007	12/13/2007	07-12046	Cesium-137	LANL ER-130 Modified	1.86E-01	9.89E-02	9.89E-02	1.09E-01	pCi/g
07-12046-09	TRG	SU1-006-01	11/16/07 15:53	12/11/2007	12/13/2007	07-12046	Cobalt-60	LANL ER-130 Modified	-2.77E-03	2.97E-02	2.97E-02	5.44E-02	pCi/g
07-12046-09	TRG	SU1-006-01	11/16/07 15:53	12/11/2007	12/13/2007	07-12046	Cesium-137	LANL ER-130 Modified	5.67E-01	9.65E-02	9.65E-02	5.53E-02	pCi/g
07-12046-10	TRG	SU1-007-01	11/16/07 15:55	12/11/2007	12/13/2007	07-12046	Cobalt-60	LANL ER-130 Modified	2.79E-02	3.57E-02	3.57E-02	6.32E-02	pCi/g
07-12046-10	TRG	SU1-007-01	11/16/07 15:55	12/11/2007	12/13/2007	07-12046	Cesium-137	LANL ER-130 Modified	8.00E-02	4.53E-02	4.53E-02	5.26E-02	pCi/g
07-12046-11	TRG	SU1-008-01	11/16/07 16:00	12/11/2007	12/13/2007	07-12046	Cobalt-60	LANL ER-130 Modified	4.53E-02	4.39E-02	4.39E-02	9.67E-02	pCi/g
07-12046-11	TRG	SU1-008-01	11/16/07 16:00	12/11/2007	12/13/2007	07-12046	Cesium-137	LANL ER-130 Modified	1.43E-01	6.72E-02	6.72E-02	1.40E-01	pCi/g

CU=Counting Uncertainty; CSU=Combined Standard Uncertainty (2-sigma); MDA=Minimal Detected Activity; LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original



Oak Ridge Laboratory

601 Scarboro Road, Oak Ridge, TN 37830 865/481-0683 FAX 865/483-4621

Eberline Services Final Report of Analysis				Report To:				Work Order Details:					
Nels Johnson				Weston Solutions				SDG: 07-12046					
3840 Commons Avenue NE				Albuquerque, NM 87109				Purchase Order: 0060846					
								Analysis Category: ENVIRONMENTAL					
								Sample Matrix: SO					
Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	Report Units
07-12046-12	TRG	SU1-009-01	11/16/07 16:05	12/11/2007	12/13/2007	07-12046	Cobalt-60	LANL ER-130 Modified	-3.50E-03	4.23E-02	4.23E-02	7.64E-02	pCi/g
07-12046-12	TRG	SU1-009-01	11/16/07 16:05	12/11/2007	12/13/2007	07-12046	Cesium-137	LANL ER-130 Modified	2.39E-01	8.31E-02	8.31E-02	5.83E-02	pCi/g
07-12046-13	TRG	SU1-010-01	11/16/07 16:10	12/11/2007	12/13/2007	07-12046	Cobalt-60	LANL ER-130 Modified	2.63E-02	3.19E-02	3.19E-02	6.41E-02	pCi/g
07-12046-13	TRG	SU1-010-01	11/16/07 16:10	12/11/2007	12/13/2007	07-12046	Cesium-137	LANL ER-130 Modified	2.37E-01	5.54E-02	5.54E-02	5.02E-02	pCi/g
07-12046-14	TRG	SU1-011-01	11/16/07 16:15	12/11/2007	12/13/2007	07-12046	Cobalt-60	LANL ER-130 Modified	2.68E-03	2.71E-02	2.71E-02	4.95E-02	pCi/g
07-12046-14	TRG	SU1-011-01	11/16/07 16:15	12/11/2007	12/13/2007	07-12046	Cesium-137	LANL ER-130 Modified	7.05E-01	8.55E-02	8.55E-02	4.49E-02	pCi/g
07-12046-15	TRG	SU1-012-01	11/16/07 16:20	12/11/2007	12/13/2007	07-12046	Cobalt-60	LANL ER-130 Modified	-3.11E-03	9.00E-02	9.00E-02	1.67E-01	pCi/g
07-12046-15	TRG	SU1-012-01	11/16/07 16:20	12/11/2007	12/13/2007	07-12046	Cesium-137	LANL ER-130 Modified	2.93E-01	1.64E-01	1.64E-01	1.37E-01	pCi/g
07-12046-16	TRG	SU1-013-01	11/16/07 16:45	12/11/2007	12/13/2007	07-12046	Cobalt-60	LANL ER-130 Modified	2.67E-02	3.03E-02	3.03E-02	6.32E-02	pCi/g
07-12046-16	TRG	SU1-013-01	11/16/07 16:45	12/11/2007	12/13/2007	07-12046	Cesium-137	LANL ER-130 Modified	1.78E+00	1.84E-01	1.84E-01	5.09E-02	pCi/g
07-12046-17	TRG	SU1-014-01	11/16/07 16:55	12/11/2007	12/13/2007	07-12046	Cobalt-60	LANL ER-130 Modified	-1.84E-02	2.77E-02	2.77E-02	4.65E-02	pCi/g
07-12046-17	TRG	SU1-014-01	11/16/07 16:55	12/11/2007	12/13/2007	07-12046	Cesium-137	LANL ER-130 Modified	2.09E-01	6.03E-02	6.03E-02	4.32E-02	pCi/g
07-12046-18	TRG	SU1-015-01	12/06/07 12:25	12/11/2007	12/13/2007	07-12046	Cobalt-60	LANL ER-130 Modified	8.71E-03	3.53E-02	3.53E-02	6.09E-02	pCi/g
07-12046-18	TRG	SU1-015-01	12/06/07 12:25	12/11/2007	12/13/2007	07-12046	Cesium-137	LANL ER-130 Modified	1.47E+00	1.42E-01	1.42E-01	5.67E-02	pCi/g
07-12046-19	TRG	SU2-001-01	11/19/07 14:30	12/11/2007	12/13/2007	07-12046	Cobalt-60	LANL ER-130 Modified	2.03E-02	5.44E-02	5.44E-02	1.14E-01	pCi/g
07-12046-19	TRG	SU2-001-01	11/19/07 14:30	12/11/2007	12/13/2007	07-12046	Cesium-137	LANL ER-130 Modified	1.88E-01	1.10E-01	1.10E-01	1.17E-01	pCi/g
07-12046-20	TRG	SU2-002-01	11/19/07 14:25	12/11/2007	12/13/2007	07-12046	Cobalt-60	LANL ER-130 Modified	-1.03E-02	2.50E-02	2.50E-02	4.44E-02	pCi/g
07-12046-20	TRG	SU2-002-01	11/19/07 14:25	12/11/2007	12/13/2007	07-12046	Cesium-137	LANL ER-130 Modified	9.44E-01	1.15E-01	1.15E-01	4.84E-02	pCi/g

CU=Counting Uncertainty; CSU=Combined Standard Uncertainty (2-sigma); MDA=Minimal Detected Activity; LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original



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Oak Ridge Laboratory

601 Scarboro Road, Oak Ridge, TN 37830 865/481-0683 FAX 865/483-4621



Internal Chain of Custody

Work Order #

07-12046

Lab Deadline

1/3/2008

Analysis

Gamma - Level 4

Sample Matrix

Soil/Solid

Comments	Sample Fraction	HP 210 / 270 Detector Activity	Storage Location
Report Co60, Cs137	04	41	K1.1
	05	42	K1.1
	06	29	K1.1
	07	38	K1.1
	08	34	K1.1
	09	48	K1.1
	10	50	K1.1
	11	40	K1.1
	12	46	K1.1
	13	45	K1.1
	14	42	K1.1
	15	34	K1.1
	16	43	K1.1
	17	44	K1.1
	18	48	K1.1
	19	46	K1.1
	20	40	K1.1

	Location (circle one)						Initials	Date
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room	1206	Kenny Sallis	12-11-07
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room	1046	Kenny Sallis	12-12-07
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		Murphy	12-12-07 1046
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		Murphy	12-13-07 1410
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room			
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room			
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room			
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room			
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room			
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room			
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room			
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room			



Chain of Custody Record/Lab Work Request

COC ID
EBL-1207-01

Client: Weston Solutions, Inc.
 Site Name: Rad Yard Contact Name: Joe Gross
 W.O. #: 11785.004.006.5030 Contact Phone: (410)-612-5910
 Lab: Eberline Lab Contact: Sample Management
 TAT: Standard Lab Phone: 865-481-0683

Lab Use Only

Temperature of cooler when received (°C) _____

COC Tape was present and unbroken on outer package? Y N

Samples received in good condition? Y N

Labels indicate properly preserved? Y N

Received within holding times? Y N

Discrepancies between sample labels and COC record? Y N

Lab ID	Sample ID	Matrix	MS	MSD	Number of Containers		Date Collected	Time Collected	Sample Weight (g)	Special Instructions/Comments
					Container Volume (ml)	Liquid / Solid				
16	SU1-013-01	S					11/16/07	1645		
17	SU1-014-01	S					11/16/07	1655		
18	SU1-015-01	S					12/06/07	1225		
19	SU2-001-01	S					11/19/07	1430		
20	SU2-002-01	S					11/19/07	1425		
	SU2-003-01	S					11/19/07	1455		
	SU2-004-01	S					11/19/07	1435		
	SU2-005-01	S					11/19/07	1440 1440		
	SU2-006-01	S					11/19/07	1505		
	SU2-007-01	S					11/19/07	1515		
	SU2-008-01	S					11/19/07	1510		
	SU2-009-01	S					11/19/07	1500		

Analyses Requested
Alpha Spec

Relinquished By	Date	Time	Received By	Date	Time
K. Martin	12/10/07	1200	[Signature]	12/11/07	0900

Additional Comments: **REC'D**

DEC 11 2007

BY: KF



EBS-OR-26829

January 3, 2008

Mr. Nels Johnson
Weston Solutions
3840 Commons Avenue NE
Albuquerque, NM 87109

Oak Ridge Laboratory
601 Scarboro Road
Oak Ridge, TN 37830
Phone (865) 481-0683
Fax (865) 483-4621

CASE NARRATIVE
Work Order #07-12047-OR

SAMPLE RECEIPT

This work order contains seventeen soil samples received 12/11/2007. All samples were analyzed by Gamma Spectroscopy.

<u>CLIENT ID</u>	<u>LAB ID</u>	<u>CLIENT ID</u>	<u>LAB ID</u>
SU2-003-01	07-12047-04	SU2-012-01	07-12047-13
SU2-004-01	07-12047-05	SU2-013-01	07-12047-14
SU2-005-01	07-12047-06	SU2-014-01	07-12047-15
SU2-006-01	07-12047-07	SU4-001-01	07-12047-16
SU2-007-01	07-12047-08	SU4-002-01	07-12047-17
SU2-008-01	07-12047-09	SU4-003-01	07-12047-18
SU2-009-01	07-12047-10	SU4-004-01	07-12047-19
SU2-010-01	07-12047-11	SU4-005-01	07-12047-20
SU2-011-01	07-12047-12		

ANALYTICAL METHODS

Gamma Spectroscopy was performed using Method LANL ER-130 Modified.

ANALYTICAL RESULTS

Combined Standard Uncertainty is reported at 2-sigma value.

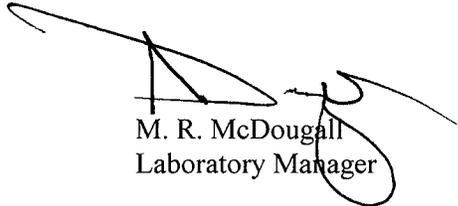
GAMMA SPECTROSCOPY

Samples for Gamma Spectroscopy analysis were prepared by transferring a known mass/aliquot of each prepared and homogenized sample to a standard geometry container. Samples were counted on High Purity Germanium (HPGe) gamma ray detectors.

Samples demonstrated non-detect equivalent results for Cobalt-60 activity and non-detect equivalent to slightly positive results for Cesium-137 activity. Results for the Cobalt-60 and Cesium-137 method blank demonstrated non-detect equivalent activity. Results for the Cobalt-60 and Cesium-137 replicate demonstrated a high relative percent difference; however, normalized difference is within acceptable limits for the analytical technique. Results for the Cobalt-60 and Cesium-137 laboratory control sample demonstrated an acceptable percent recovery.

CERTIFICATION OF ACCURACY

I certify that this data report is in compliance with the terms and conditions of the Purchase Order, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data has been authorized by the cognizant project manager or his/her designee to be accurate as verified by the following signature.



M. R. McDougall
Laboratory Manager

Date: 1/3/2008

Eberline Services Final Report of Analysis		Report To: Nels Johnson Weston Solutions 3840 Commons Avenue NE Albuquerque, NM 87109				Work Order Details: SDG: 07-12047 Purchase Order: 0060846 Analysis Category: ENVIRONMENTAL Sample Matrix: SO							
Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	Report Units
07-12047-01	LCS	KNOWN	12/11/07 00:00	12/11/2007	12/13/2007	07-12047	Cobalt-60	LANL ER-130 Modified	1.27E+02	3.36E+00			pCi/g
07-12047-01	LCS	KNOWN	12/11/07 00:00	12/11/2007	12/13/2007	07-12047	Cesium-137	LANL ER-130 Modified	7.82E+01	2.35E+00			pCi/g
07-12047-01	LCS	SPIKE	12/11/07 00:00	12/11/2007	12/13/2007	07-12047	Cobalt-60	LANL ER-130 Modified	1.27E+02	6.08E+00		5.54E-01	pCi/g
07-12047-01	LCS	SPIKE	12/11/07 00:00	12/11/2007	12/13/2007	07-12047	Cesium-137	LANL ER-130 Modified	7.72E+01	7.00E+00		4.62E-01	pCi/g
07-12047-02	MBL	BLANK	12/11/07 00:00	12/11/2007	12/13/2007	07-12047	Cobalt-60	LANL ER-130 Modified	7.43E-04	1.46E-02		2.59E-02	pCi/g
07-12047-02	MBL	BLANK	12/11/07 00:00	12/11/2007	12/13/2007	07-12047	Cesium-137	LANL ER-130 Modified	-8.10E-03	1.39E-02		2.44E-02	pCi/g
07-12047-03	DUP	SU2-003-01	11/19/07 14:55	12/11/2007	12/13/2007	07-12047	Cobalt-60	LANL ER-130 Modified	-5.05E-02	7.41E-02		1.16E-01	pCi/g
07-12047-03	DUP	SU2-003-01	11/19/07 14:55	12/11/2007	12/13/2007	07-12047	Cesium-137	LANL ER-130 Modified	-2.30E-02	7.87E-02		1.36E-01	pCi/g
07-12047-04	DO	SU2-003-01	11/19/07 14:55	12/11/2007	12/13/2007	07-12047	Cobalt-60	LANL ER-130 Modified	5.95E-02	7.33E-02		1.54E-01	pCi/g
07-12047-04	DO	SU2-003-01	11/19/07 14:55	12/11/2007	12/13/2007	07-12047	Cesium-137	LANL ER-130 Modified	8.90E-02	7.85E-02		1.56E-01	pCi/g
07-12047-05	TRG	SU2-004-01	11/19/07 14:35	12/11/2007	12/13/2007	07-12047	Cobalt-60	LANL ER-130 Modified	2.29E-02	4.06E-02		7.37E-02	pCi/g
07-12047-05	TRG	SU2-004-01	11/19/07 14:35	12/11/2007	12/13/2007	07-12047	Cesium-137	LANL ER-130 Modified	3.58E-02	4.59E-02		8.81E-02	pCi/g
07-12047-06	TRG	SU2-005-01	11/19/07 14:40	12/11/2007	12/13/2007	07-12047	Cobalt-60	LANL ER-130 Modified	-3.26E-03	2.05E-02		3.82E-02	pCi/g
07-12047-06	TRG	SU2-005-01	11/19/07 14:40	12/11/2007	12/13/2007	07-12047	Cesium-137	LANL ER-130 Modified	5.91E-01	8.66E-02		3.97E-02	pCi/g
07-12047-07	TRG	SU2-006-01	11/19/07 15:05	12/11/2007	12/13/2007	07-12047	Cobalt-60	LANL ER-130 Modified	-5.08E-03	4.08E-02		7.30E-02	pCi/g
07-12047-07	TRG	SU2-006-01	11/19/07 15:05	12/11/2007	12/13/2007	07-12047	Cesium-137	LANL ER-130 Modified	3.70E-01	8.83E-02		6.62E-02	pCi/g
07-12047-08	TRG	SU2-007-01	11/19/07 15:15	12/11/2007	12/13/2007	07-12047	Cobalt-60	LANL ER-130 Modified	-1.63E-02	3.42E-02		5.87E-02	pCi/g
07-12047-08	TRG	SU2-007-01	11/19/07 15:15	12/11/2007	12/13/2007	07-12047	Cesium-137	LANL ER-130 Modified	3.27E-01	8.59E-02		5.89E-02	pCi/g
07-12047-09	TRG	SU2-008-01	11/19/07 15:10	12/11/2007	12/13/2007	07-12047	Cobalt-60	LANL ER-130 Modified	-1.64E-02	2.86E-02		4.75E-02	pCi/g
07-12047-09	TRG	SU2-008-01	11/19/07 15:10	12/11/2007	12/13/2007	07-12047	Cesium-137	LANL ER-130 Modified	4.57E-01	6.94E-02		5.10E-02	pCi/g
07-12047-10	TRG	SU2-009-01	11/19/07 15:00	12/11/2007	12/13/2007	07-12047	Cobalt-60	LANL ER-130 Modified	6.69E-02	7.01E-02		1.47E-01	pCi/g
07-12047-10	TRG	SU2-009-01	11/19/07 15:00	12/11/2007	12/13/2007	07-12047	Cesium-137	LANL ER-130 Modified	4.97E-01	1.31E-01		9.03E-02	pCi/g
07-12047-11	TRG	SU2-010-01	11/19/07 14:45	12/11/2007	12/13/2007	07-12047	Cobalt-60	LANL ER-130 Modified	2.03E-02	2.76E-02		5.70E-02	pCi/g
07-12047-11	TRG	SU2-010-01	11/19/07 14:45	12/11/2007	12/13/2007	07-12047	Cesium-137	LANL ER-130 Modified	2.60E-01	6.96E-02		4.37E-02	pCi/g

CU=Counting Uncertainty;CSU=Combined Standard Uncertainty (2-sigma);MDA=Minimal Detected Activity;LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original



Oak Ridge Laboratory

601 Scarboro Road, Oak Ridge, TN 37830 865/481-0683 FAX 865/483-4621

Eberline Services Final Report of Analysis			Report To:				Work Order Details:						
Nels Johnson Weston Solutions 3840 Commons Avenue NE Albuquerque, NM 87109			SDG: 07-12047				Purchase Order: 0060846						
			Analysis Category: ENVIRONMENTAL				Sample Matrix: SO						
Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	Report Units
07-12047-12	TRG	SU2-011-01	11/19/07 15:07	12/11/2007	12/13/2007	07-12047	Cobalt-60	LANL ER-130 Modified	-2.73E-02	3.91E-02	3.91E-02	6.50E-02	pCi/g
07-12047-12	TRG	SU2-011-01	11/19/07 15:07	12/11/2007	12/13/2007	07-12047	Cesium-137	LANL ER-130 Modified	3.40E-01	9.32E-02	9.32E-02	5.39E-02	pCi/g
07-12047-13	TRG	SU2-012-01	11/19/07 14:50	12/11/2007	12/13/2007	07-12047	Cobalt-60	LANL ER-130 Modified	1.55E-02	3.01E-02	3.01E-02	5.74E-02	pCi/g
07-12047-13	TRG	SU2-012-01	11/19/07 14:50	12/11/2007	12/13/2007	07-12047	Cesium-137	LANL ER-130 Modified	1.57E+00	1.46E-01	1.46E-01	5.55E-02	pCi/g
07-12047-14	TRG	SU2-013-01	12/06/07 11:50	12/11/2007	12/13/2007	07-12047	Cobalt-60	LANL ER-130 Modified	2.66E-02	6.05E-02	6.05E-02	1.26E-01	pCi/g
07-12047-14	TRG	SU2-013-01	12/06/07 11:50	12/11/2007	12/13/2007	07-12047	Cesium-137	LANL ER-130 Modified	8.82E-01	1.79E-01	1.79E-01	1.08E-01	pCi/g
07-12047-15	TRG	SU2-014-01	12/06/07 12:00	12/11/2007	12/14/2007	07-12047	Cobalt-60	LANL ER-130 Modified	3.31E-02	4.13E-02	4.13E-02	8.09E-02	pCi/g
07-12047-15	TRG	SU2-014-01	12/06/07 12:00	12/11/2007	12/14/2007	07-12047	Cesium-137	LANL ER-130 Modified	3.07E-02	3.94E-02	3.94E-02	7.61E-02	pCi/g
07-12047-16	TRG	SU4-001-01	11/14/07 14:20	12/11/2007	12/14/2007	07-12047	Cobalt-60	LANL ER-130 Modified	-7.80E-03	3.69E-02	3.69E-02	6.42E-02	pCi/g
07-12047-16	TRG	SU4-001-01	11/14/07 14:20	12/11/2007	12/14/2007	07-12047	Cesium-137	LANL ER-130 Modified	1.18E-01	5.15E-02	5.15E-02	5.97E-02	pCi/g
07-12047-17	TRG	SU4-002-01	11/14/07 14:30	12/11/2007	12/14/2007	07-12047	Cobalt-60	LANL ER-130 Modified	1.72E-02	4.23E-02	4.23E-02	8.22E-02	pCi/g
07-12047-17	TRG	SU4-002-01	11/14/07 14:30	12/11/2007	12/14/2007	07-12047	Cesium-137	LANL ER-130 Modified	1.03E-01	7.15E-02	7.15E-02	6.94E-02	pCi/g
07-12047-18	TRG	SU4-003-01	11/14/07 14:38	12/11/2007	12/14/2007	07-12047	Cobalt-60	LANL ER-130 Modified	1.07E-02	8.41E-02	8.41E-02	1.57E-01	pCi/g
07-12047-18	TRG	SU4-003-01	11/14/07 14:38	12/11/2007	12/14/2007	07-12047	Cesium-137	LANL ER-130 Modified	1.42E-01	1.16E-01	1.16E-01	1.33E-01	pCi/g
07-12047-19	TRG	SU4-004-01	11/14/07 14:45	12/11/2007	12/14/2007	07-12047	Cobalt-60	LANL ER-130 Modified	2.16E-02	3.32E-02	3.32E-02	6.51E-02	pCi/g
07-12047-19	TRG	SU4-004-01	11/14/07 14:45	12/11/2007	12/14/2007	07-12047	Cesium-137	LANL ER-130 Modified	5.28E-02	3.69E-02	3.69E-02	7.32E-02	pCi/g
07-12047-20	TRG	SU4-005-01	11/14/07 14:50	12/11/2007	12/14/2007	07-12047	Cobalt-60	LANL ER-130 Modified	2.37E-02	3.67E-02	3.67E-02	6.94E-02	pCi/g
07-12047-20	TRG	SU4-005-01	11/14/07 14:50	12/11/2007	12/14/2007	07-12047	Cesium-137	LANL ER-130 Modified	-2.63E-02	3.76E-02	3.76E-02	6.39E-02	pCi/g

CU=Counting Uncertainty;CSU=Combined Standard Uncertainty;(2-sigma);MDA=Minimal Detected Activity;LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original



EBERLINE
SERVICES

Oak Ridge Laboratory

601 Scarboro Road, Oak Ridge, TN 37830 865/481-0683 FAX 865/483-4621



Chain of Custody Record/Lab Work Request

COC ID
EBL-1207-01

Client: Weston Solutions, Inc.
 Site Name: Rad Yard
 W.O. #: 11785.004.006.5030
 Lab: Eberline
 TAT: Standard
 Contact Name: Joe Gross
 Contact Phone: (410)-612-5910
 Lab Contact: Sample Management
 Lab Phone: 865-481-0683

Lab Use Only

Temperature of cooler when received (°C) _____

COC Tape was present and unbroken on outer package? Y N

Samples received in good condition? Y N

Labels indicate properly preserved? Y N

Received within holding times? Y N

Discrepancies between sample labels and COC record? Y N

Lab ID	Sample ID	Matrix	MS	MSD	Date Collected		Time Collected		Analyses Requested	Number of Containers	Container Volume (ml)	Container Type (Plastic/Glass)	Filtered Sample	Preservative	Sample Weight (g)	Matrix Codes	Special Instructions/Comments
					Date	Time	Date	Time									
	SU1-013-01	S			11/16/07	1645											
	SU1-014-01	S			11/16/07	1655											
	SU1-015-01	S			12/06/07	1225											
	SU2-001-01	S			11/19/07	1430											
	SU2-002-01	S			11/19/07	1425											
	SU2-003-01	S			11/19/07	1455											
4	SU2-004-01	S			11/19/07	1435											
5	SU2-005-01	S			11/19/07	1440											
6	SU2-006-01	S			11/19/07	1505											
7	SU2-007-01	S			11/19/07	1515											
8	SU2-008-01	S			11/19/07	1510											
9	SU2-009-01	S			11/19/07	1500											
10	SU2-009-01	S			11/19/07	1500											

Relinquished By: *[Signature]* Date: 12/10/07 Time: 1200

Received By: *[Signature]* Date: 12/11/07 Time: 0900

Additional Comments: **REC'D**
DEC 11 2007
BY: KF

oolla



Chain of Custody Record/Lab Work Request

COC ID
EBL-1207-01

Client: Weston Solutions, Inc.
 Site Name: Rad Yard Contact Name: Joe Gross
 W.O. #: 11785.004.006.5030 Contact Phone: (410)-612-5910
 Lab: Eberline Lab Contact: Sample Management
 TAT: Standard Lab Phone: 865-481-0683

Lab Use Only

Temperature of cooler when received (°C) Y N

COC Tape was present and unbroken on outer package? Y N

Samples received in good condition? Y N

Labels indicate properly preserved? Y N

Received within holding times? Y N

Discrepancies between sample labels and COC record? Y N

Lab ID	Sample ID	Matrix	MS	MSD	Date Collected		Time Collected	Number of Containers	Container Volume (ml)	Container Type (Plastic/Glass)	Filtered Sample	Preservative	Sample Weight (g)	Analyses Requested	Special Instructions/Comments	Matrix Codes
					Date Collected	Time Collected										
11	SU2-010-01	S			11/19/07	1445										S - Soil
12	SU2-011-01	S			11/19/07	1507										SE - Sediment
13	SU2-012-01	S			11/19/07	1450										SO - Solid
14	SU2-013-01	S			12/6/07	1150										SL - Sludge
15	SU2-014-01	S			12/6/07	1200										W - Water
16	SU4-001-01	S			11/14/07	1420										O - Oil
17	SU4-002-01	S			11/14/07	1430										A - Air
18	SU4-003-01	S			11/14/07	1438										DS - Drum Solids
19	SU4-004-01	S			11/14/07	1445										DL - Drum Liquids
20	SU4-005-01	S			11/14/07	1450										L - EPTCLP Leachate
	SU4-006-01	S			11/14/07	1435										W1 - Wipe
	SU4-007-01	S			11/14/07	1455										X - Other
																F - Fish

Alpha Spec

Relinquished By	Date	Time	Received By	Date	Time	Additional Comments
[Signature]	12/10/07	1200	[Signature]	12/11/07	0900	RECEIVED DEC 11 2007 KF
						BY:



Internal Chain of Custody

Work Order #	07-12047
Lab Deadline	1/3/2008
Analysis	Gamma - Level 4
Sample Matrix	Soil/Solid

Comments	Sample Fraction	HP 210 / 270 Detector Activity	Storage Location
Report Co60, Cs137	04	37	K1.1
	05	44	K1.1
	06	58	K1.1
	07	41	K1.1
	08	40	K1.1
	09	40	K1.1
	10	36	K1.1
	11	43	K1.1
	12	50	K1.1
	13	61	K1.1
	14	39	K1.1
	15	56	K1.1
	16	41	K1.1
	17	51	K1.1
	18	40	K1.1
	19	36	K1.1
	20	45	K1.1

	Location (circle one)					Initials	Date
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room 1300	Kenny Solis	12-11-07
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room 1455	Kenny Solis	12-12-07
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room	Manly	12-12-07
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room	Manly	12-14-07 1500 0958
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		



EBS-OR-26844

January 8, 2008

Mr. Nels Johnson
Weston Solutions
3840 Commons Avenue NE
Albuquerque, NM 87109

Oak Ridge Laboratory
601 Scarboro Road
Oak Ridge, TN 37830
Phone (865) 481-0683
Fax (865) 483-4621

CASE NARRATIVE
Work Order #07-12048-OR

SAMPLE RECEIPT

This work order contains seventeen soil samples received 12/11/2007. All samples were analyzed by Gamma Spectroscopy.

<u>CLIENT ID</u>	<u>LAB ID</u>	<u>CLIENT ID</u>	<u>LAB ID</u>
SU4-006-01	07-12048-04	SU5-001-01	07-12048-13
SU4-007-01	07-12048-05	SU5-002-01	07-12048-14
SU4-008-01	07-12048-06	SU5-003-01	07-12048-15
SU4-009-01	07-12048-07	SU5-004-01	07-12048-16
SU4-010-01	07-12048-08	SU5-005-01	07-12048-17
SU4-011-01	07-12048-09	SU5-007-01	07-12048-18
SU4-012-01	07-12048-10	SU5-008-01	07-12048-19
SU4-013-01	07-12048-11	SU5-010-01	07-12048-20
SU4-014-01	07-12048-12		

ANALYTICAL METHODS

Gamma Spectroscopy was performed using Method LANL ER-130 Modified.

ANALYTICAL RESULTS

Combined Standard Uncertainty is reported at 2-sigma value.

GAMMA SPECTROSCOPY

Samples for Gamma Spectroscopy analysis were prepared by transferring a known mass/aliquot of each prepared and homogenized sample to a standard geometry container. Samples were counted on High Purity Germanium (HPGe) gamma ray detectors.

Samples demonstrated non-detect equivalent results for Cobalt-60 activity and non-detect equivalent to slightly positive results for Cesium-137 activity. Results for the Cobalt-60 and Cesium-137 method blank demonstrated non-detect equivalent activity. Results for the Cobalt-60 replicate demonstrated a high relative percent difference and normalized difference. In this case, due to the non-positive nature of this sample, Cobalt-60 replicate results are within reason. Results for the Cesium-137 replicate demonstrated an acceptable relative percent difference and normalized difference. Results for the Cobalt-60 and Cesium-137 laboratory control sample demonstrated an acceptable percent recovery.

CERTIFICATION OF ACCURACY

I certify that this data report is in compliance with the terms and conditions of the Purchase Order, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data has been authorized by the cognizant project manager or his/her designee to be accurate as verified by the following signature.



M. R. McDougall
Laboratory Manager

Date: 1/8/2008

Eberline Services Final Report of Analysis				Report To:				Work Order Details:					
Nels Johnson				Nels Johnson				07-12048					
Weston Solutions				Weston Solutions				0060846					
3840 Commons Avenue NE				3840 Commons Avenue NE				ENVIRONMENTAL					
Albuquerque, NM 87109				Albuquerque, NM 87109				SO					
Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	Report Units
07-12048-01	LCS	KNOWN	12/11/07 00:00	12/11/2007	12/14/2007	07-12048	Cobalt-60	LANL ER-130 Modified	1.27E+02	3.36E+00			pCi/g
07-12048-01	LCS	KNOWN	12/11/07 00:00	12/11/2007	12/14/2007	07-12048	Cesium-137	LANL ER-130 Modified	7.82E+01	2.35E+00			pCi/g
07-12048-01	LCS	SPIKE	12/11/07 00:00	12/11/2007	12/14/2007	07-12048	Cobalt-60	LANL ER-130 Modified	1.28E+02	6.15E+00	6.15E+00	5.38E-01	pCi/g
07-12048-01	LCS	SPIKE	12/11/07 00:00	12/11/2007	12/14/2007	07-12048	Cesium-137	LANL ER-130 Modified	7.92E+01	7.17E+00	7.17E+00	4.51E-01	pCi/g
07-12048-02	MBL	BLANK	12/11/07 00:00	12/11/2007	12/14/2007	07-12048	Cobalt-60	LANL ER-130 Modified	1.02E-03	1.61E-02	1.61E-02	3.03E-02	pCi/g
07-12048-02	MBL	BLANK	12/11/07 00:00	12/11/2007	12/14/2007	07-12048	Cesium-137	LANL ER-130 Modified	-1.63E-02	1.75E-02	1.75E-02	2.53E-02	pCi/g
07-12048-03	DUP	SU4-006-01	11/14/07 14:35	12/11/2007	12/14/2007	07-12048	Cobalt-60	LANL ER-130 Modified	-1.46E-02	3.96E-02	3.96E-02	6.91E-02	pCi/g
07-12048-03	DUP	SU4-006-01	11/14/07 14:35	12/11/2007	12/14/2007	07-12048	Cesium-137	LANL ER-130 Modified	3.10E-01	8.23E-02	8.23E-02	7.10E-02	pCi/g
07-12048-04	DO	SU4-006-01	11/14/07 14:35	12/11/2007	12/14/2007	07-12048	Cobalt-60	LANL ER-130 Modified	9.75E-02	5.02E-02	5.02E-02	8.95E-02	pCi/g
07-12048-04	DO	SU4-006-01	11/14/07 14:35	12/11/2007	12/14/2007	07-12048	Cesium-137	LANL ER-130 Modified	3.12E-01	9.97E-02	9.97E-02	7.46E-02	pCi/g
07-12048-05	TRG	SU4-007-01	11/14/07 14:55	12/11/2007	12/14/2007	07-12048	Cobalt-60	LANL ER-130 Modified	-1.41E-02	8.30E-02	8.30E-02	1.52E-01	pCi/g
07-12048-05	TRG	SU4-007-01	11/14/07 14:55	12/11/2007	12/14/2007	07-12048	Cesium-137	LANL ER-130 Modified	1.43E-01	1.51E-01	1.51E-01	1.37E-01	pCi/g
07-12048-06	TRG	SU4-008-01	11/14/07 14:25	12/11/2007	12/14/2007	07-12048	Cobalt-60	LANL ER-130 Modified	2.88E-02	3.54E-02	3.54E-02	6.94E-02	pCi/g
07-12048-06	TRG	SU4-008-01	11/14/07 14:25	12/11/2007	12/14/2007	07-12048	Cesium-137	LANL ER-130 Modified	3.34E-01	7.88E-02	7.88E-02	6.12E-02	pCi/g
07-12048-07	TRG	SU4-009-01	11/14/07 15:00	12/11/2007	12/14/2007	07-12048	Cobalt-60	LANL ER-130 Modified	2.46E-02	2.88E-02	2.88E-02	5.65E-02	pCi/g
07-12048-07	TRG	SU4-009-01	11/14/07 15:00	12/11/2007	12/14/2007	07-12048	Cesium-137	LANL ER-130 Modified	1.25E+00	1.20E-01	1.20E-01	5.44E-02	pCi/g
07-12048-08	TRG	SU4-010-01	11/14/07 15:10	12/11/2007	12/14/2007	07-12048	Cobalt-60	LANL ER-130 Modified	5.23E-03	6.29E-02	6.29E-02	1.20E-01	pCi/g
07-12048-08	TRG	SU4-010-01	11/14/07 15:10	12/11/2007	12/14/2007	07-12048	Cesium-137	LANL ER-130 Modified	1.27E-01	8.12E-02	8.12E-02	1.62E-01	pCi/g
07-12048-09	TRG	SU4-011-01	11/14/07 15:15	12/11/2007	12/14/2007	07-12048	Cobalt-60	LANL ER-130 Modified	2.14E-02	3.49E-02	3.49E-02	6.86E-02	pCi/g
07-12048-09	TRG	SU4-011-01	11/14/07 15:15	12/11/2007	12/14/2007	07-12048	Cesium-137	LANL ER-130 Modified	6.82E-01	1.18E-01	1.18E-01	6.00E-02	pCi/g
07-12048-10	TRG	SU4-012-01	11/14/07 15:05	12/11/2007	12/14/2007	07-12048	Cobalt-60	LANL ER-130 Modified	-7.74E-03	3.54E-02	3.54E-02	6.15E-02	pCi/g
07-12048-10	TRG	SU4-012-01	11/14/07 15:05	12/11/2007	12/14/2007	07-12048	Cesium-137	LANL ER-130 Modified	1.68E-01	6.95E-02	6.95E-02	6.25E-02	pCi/g
07-12048-11	TRG	SU4-013-01	11/14/07 14:32	12/11/2007	12/14/2007	07-12048	Cobalt-60	LANL ER-130 Modified	5.47E-03	7.41E-02	7.41E-02	1.40E-01	pCi/g
07-12048-11	TRG	SU4-013-01	11/14/07 14:32	12/11/2007	12/14/2007	07-12048	Cesium-137	LANL ER-130 Modified	4.57E-01	1.53E-01	1.53E-01	1.08E-01	pCi/g

CU=Counting Uncertainty; CSU=Combined Standard Uncertainty (2-sigma); MDA=Minimal Detected Activity; LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original



EBERLINE
SERVICES

Oak Ridge Laboratory

601 Scarboro Road, Oak Ridge, TN 37830 865/481-0683 FAX 865/483-4621

Eberline Services Final Report of Analysis				Report To: Nels Johnson Weston Solutions 3840 Commons Avenue NE Albuquerque, NM 87109										Work Order Details: 07-12048 0060846 ENVIRONMENTAL SO				
Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	Report Units					
07-12048-12	TRG	SU4-014-01	11/14/07 14:47	12/11/2007	12/14/2007	07-12048	Cobalt-60	LANL ER-130 Modified	1.00E-02	2.96E-02	2.96E-02	5.63E-02	pCi/g					
07-12048-12	TRG	SU4-014-01	11/14/07 14:47	12/11/2007	12/14/2007	07-12048	Cesium-137	LANL ER-130 Modified	1.28E+00	1.48E-01	1.48E-01	5.49E-02	pCi/g					
07-12048-13	TRG	SU5-001-01	12/05/07 08:45	12/11/2007	12/14/2007	07-12048	Cobalt-60	LANL ER-130 Modified	3.48E-02	4.36E-02	4.36E-02	8.45E-02	pCi/g					
07-12048-13	TRG	SU5-001-01	12/05/07 08:45	12/11/2007	12/14/2007	07-12048	Cesium-137	LANL ER-130 Modified	2.37E-01	6.09E-02	6.09E-02	7.28E-02	pCi/g					
07-12048-14	TRG	SU5-002-01	12/05/07 08:30	12/11/2007	12/14/2007	07-12048	Cobalt-60	LANL ER-130 Modified	7.56E-02	8.20E-02	8.20E-02	1.78E-01	pCi/g					
07-12048-14	TRG	SU5-002-01	12/05/07 08:30	12/11/2007	12/14/2007	07-12048	Cesium-137	LANL ER-130 Modified	8.63E-01	1.72E-01	1.72E-01	1.37E-01	pCi/g					
07-12048-15	TRG	SU5-003-01	12/05/07 08:35	12/11/2007	12/14/2007	07-12048	Cobalt-60	LANL ER-130 Modified	7.78E-03	2.60E-02	2.60E-02	4.58E-02	pCi/g					
07-12048-15	TRG	SU5-003-01	12/05/07 08:35	12/11/2007	12/14/2007	07-12048	Cesium-137	LANL ER-130 Modified	1.83E+00	2.00E-01	2.00E-01	4.74E-02	pCi/g					
07-12048-16	TRG	SU5-004-01	12/05/07 08:40	12/11/2007	12/14/2007	07-12048	Cobalt-60	LANL ER-130 Modified	1.25E-02	4.50E-02	4.50E-02	7.56E-02	pCi/g					
07-12048-16	TRG	SU5-004-01	12/05/07 08:40	12/11/2007	12/14/2007	07-12048	Cesium-137	LANL ER-130 Modified	2.59E-01	6.31E-02	6.31E-02	6.56E-02	pCi/g					
07-12048-17	TRG	SU5-005-01	12/06/07 12:45	12/11/2007	12/14/2007	07-12048	Cobalt-60	LANL ER-130 Modified	1.78E-02	3.99E-02	3.99E-02	8.81E-02	pCi/g					
07-12048-17	TRG	SU5-005-01	12/06/07 12:45	12/11/2007	12/14/2007	07-12048	Cesium-137	LANL ER-130 Modified	3.08E-01	9.73E-02	9.73E-02	8.11E-02	pCi/g					
07-12048-18	TRG	SU5-007-01	12/05/07 08:52	12/11/2007	12/14/2007	07-12048	Cobalt-60	LANL ER-130 Modified	6.69E-02	5.09E-02	5.09E-02	1.03E-01	pCi/g					
07-12048-18	TRG	SU5-007-01	12/05/07 08:52	12/11/2007	12/14/2007	07-12048	Cesium-137	LANL ER-130 Modified	9.90E-01	1.53E-01	1.53E-01	7.23E-02	pCi/g					
07-12048-19	TRG	SU5-008-01	12/05/07 08:50	12/11/2007	12/14/2007	07-12048	Cobalt-60	LANL ER-130 Modified	2.88E-03	4.78E-02	4.78E-02	8.55E-02	pCi/g					
07-12048-19	TRG	SU5-008-01	12/05/07 08:50	12/11/2007	12/14/2007	07-12048	Cesium-137	LANL ER-130 Modified	2.44E-01	7.39E-02	7.39E-02	8.23E-02	pCi/g					
07-12048-20	TRG	SU5-010-01	12/05/07 08:55	12/11/2007	12/14/2007	07-12048	Cobalt-60	LANL ER-130 Modified	9.39E-03	7.25E-02	7.25E-02	1.43E-01	pCi/g					
07-12048-20	TRG	SU5-010-01	12/05/07 08:55	12/11/2007	12/14/2007	07-12048	Cesium-137	LANL ER-130 Modified	3.92E-01	1.09E-01	1.09E-01	1.19E-01	pCi/g					

CU=Counting Uncertainty;CSU=Combined Standard Uncertainty (2-sigma);MDA=Minimal Detected Activity;LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original



EBERLINE
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Oak Ridge Laboratory

601 Scarboro Road, Oak Ridge, TN 37830 865/481-0683 FAX 865/483-4621



Chain of Custody Record/Lab Work Request

COC ID
EBL-1207-01

Client: Weston Solutions, Inc.
 Site Name: Rad Yard Contact Name: Joe Gross
 W.O. #: 11785.004.006.5030 Contact Phone: (410)-612-5910
 Lab: Eberline Lab Contact: Sample Management
 TAT: Standard Lab Phone: 865-481-0683

Lab Use Only

Temperature of cooler when received (°C) Y N
 COC Tape was present and unbroken on outer package? Y N
 Samples received in good condition? Y N
 Labels indicate properly preserved? Y N
 Received within holding times? Y N
 Discrepancies between sample labels and COC record? Y N

Matrix Codes	Number of Containers		Sample Weight (g)	Special Instructions/Comments
	Container Volume (ml)	Time Collected		
S - Soil				
SE - Sediment				
SO - Solid				
SL - Sludge				
W - Water				
O - Oil				
A - Air				
DS - Drum Solids				
DL - Drum Liquids				
L - EP/TCLP Leachate				
WI - Wipe				
X - Other				
F - Fish				

Lab ID	Sample ID	Matrix	MS	MSD	Date Collected	Time Collected	Analyses Requested	Number of Containers	Container Volume (ml)	Time	Date	Time
	SU2-010-01	S			11/19/07	1445				x		
	SU2-011-01	S			11/19/07	1507				x		
	SU2-012-01	S			11/19/07	1450				x		
	SU2-013-01	S			12/6/07	1150				x		
	SU2-014-01	S			12/6/07	1200				x		
	SU4-001-01	S			11/14/07	1420				x		
	SU4-002-01	S			11/14/07	1430				x		
	SU4-003-01	S			11/14/07	1438				x		
	SU4-004-01	S			11/14/07	1445				x		
	SU4-005-01	S			11/14/07	1450				x		
4	SU4-006-01	S			11/14/07	1435				x		
5	SU4-007-01	S			11/14/07	1455				x		

Alpha Corp

Relinquished By	Date	Time	Received By	Date	Time
[Signature]	12/10/07	1200	[Signature]	12/11/07	0900

Additional Comments

RECEIVED
DEC 11 2007
KF
BY:



Chain of Custody Record/Lab Work Request

COC ID
EBL-1207-01

Client: Weston Solutions, Inc.
 Site Name: Rad Yard Contact Name: Joe Gross
 W.O. #: 11785.004.006.5030 Contact Phone: (410)-612-5910
 Lab: Eberline Lab Contact: Sample Management
 TAT: Standard Lab Phone: 865-481-0683

Lab Use Only

Temperature of cooler when received (°C) _____

COC Tape was present and unbroken on outer package? Y N

Samples received in good condition? Y N

Labels indicate properly preserved? Y N

Received within holding times? Y N

Discrepancies between sample labels and COC record? Y N

Matrix Codes	Number of Containers		Special Instructions/Comments
	Container Volume (ml)	Time Collected	
S - Soil			
SE - Sediment			
SO - Solid			
SL - Sludge			
W - Water			
O - Oil			
A - Air			
DS - Drum Solids			
DL - Drum Liquids			
L - EP/TCLP Leachate			
WI - Wipe			
X - Other			
F - Fish			

Alpha Open

Analyses Requested

Lab ID	Sample ID	Matrix	MS	MSD	Date Collected	Time Collected	Number of Containers	Container Volume (ml)	Container Type (Plastic/Glass)	Filtered Sample	Preservative	Analyses Requested	Date	Time
6	SU4-008-01	S			11/14/07	1425								
7	SU4-009-01	S			11/14/07	1500								
8	SU4-010-01	S			11/14/07	1510								
9	SU4-011-01	S			11/14/07	1513								
10	SU4-012-01	S			11/14/07	1503								
11	SU4-013-01	S			11/14/07	1452								
12	SU4-014-01	S			11/14/07	1447								
13	SU5-001-01	S			12/15/07	0845								
14	SU5-002-01	S			12/15/07	0830								
15	SU5-003-01	S			12/15/07	0835								
16	SU5-004-01	S			12/15/07	840								
17	SU5-005-01	S			12/16/07	1245								

Relinquished By: *F-N-A-W* Date: 12/10/07 Time: 1200

Received By: *[Signature]* Date: 12/11/07 Time: 0900

Additional Comments: RECEIVED DEC 11 2007 BY: *KE*



Chain of Custody Record/Lab Work Request

COC ID
EBL-1207-01

Client: Weston Solutions, Inc.
 Site Name: Rad Yard Contact Name: Joe Gross
 V.O. #: 11785.004.006.5030 Contact Phone: (410)-612-5910
 Lab Contact: Sample Management
 Lab Phone: 865-481-0683

Lab Use Only

Temperature of cooler when received (°C) Y N

COC Tape was present and unbroken on outer package? Y N

Samples received in good condition? Y N

Labels indicate properly preserved? Y N

Received within holding times? Y N

Discrepancies between sample labels and COC record? Y N

Lab ID	Sample ID	Matrix	MSD	Date Collected	Time Collected	Number of Containers		Container Type (Plastic/Glass)	Filtered Sample	Preservative	Analyses Requested	Special Instructions/Comments
						Container Volume (ml)	Liquid/Solid					
18	SU5-005-01	S		12/15/07	852						Alpha Corp	
19	SU5-007-01	S		12/15/07	850							
20	SU5-008-01	S		12/15/07	855							
	SU5-010-01	S		12/16/07	1142							
	SU5-011-01	S		11/16/07	1125							
	SU6-001-01	S		11/16/07	1140							
	SU6-002-01	S		12/16/07	1145							
	SU5-009-01	S		12/16/07	1230							
	SU5-014-01	S		12/16/07	900							
	SU5-012-01	S		12/15/07	900							
	SU5-013-01	S		12/15/07	905							

	Relinquished By	Date	Time	Received By	Date	Time
1.)	[Signature]	12/10/07	1200	[Signature]	12/11/07	0900
2.)						
3.)						

Additional Comments

RECEIVED

DEC 11 2007

BY: KF



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SERVICES
Oak Ridge Laboratory

Internal Chain of Custody

Work Order #

07-12048

Lab Deadline

1/3/2008

Analysis

Gamma - Level 4

Sample Matrix

Soil/Solid

Comments	Sample Fraction	HP 210 / 270 Detector Activity	Storage Location
Report Co60,Cs137	04	48	K1.1
	05	45	K1.1
	06	36	K1.1
	07	40	K1.1
	08	33	K1.1
	09	44	K1.1
	10	38	K1.1
	11	37	K1.1
	12	47	K1.1
	13	47	K1.1
	14	27	K1.1
	15	41	K1.1
	16	34	K1.1
	17	27	K1.1
	18	54	K1.1
	19	43	K1.1
	20	33	K1.1

	Location (circle one)					Initials	Date
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room 1300	Kenny Sallig	12-11-07
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room 1145	Kenny Sallig	12-13-07
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room	Murphy	12-13-07 1220
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room	Murphy	12-14-07 1630
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		



EBS-OR-26830

January 3, 2008

Mr. Nels Johnson
Weston Solutions
3840 Commons Avenue NE
Albuquerque, NM 87109

Oak Ridge Laboratory
601 Scarboro Road
Oak Ridge, TN 37830
Phone (865) 481-0683
Fax (865) 483-4621

CASE NARRATIVE
Work Order #07-12050-OR

SAMPLE RECEIPT

This work order contains seventeen soil samples received 12/11/2007. All samples were analyzed by Gamma Spectroscopy.

<u>CLIENT ID</u>	<u>LAB ID</u>	<u>CLIENT ID</u>	<u>LAB ID</u>
SU5-011-01	07-12050-04	SU6-005-01	07-12050-13
SU6-001-01	07-12050-05	SU6-006-01	07-12050-14
SU6-002-01	07-12050-06	SU6-007-01	07-12050-15
SU5-009-01	07-12050-07	SU6-008-01	07-12050-16
SU5-014-01	07-12050-08	SU6-009-01	07-12050-17
SU5-012-01	07-12050-09	SU6-010-01	07-12050-18
SU5-013-01	07-12050-10	SU6-011-01	07-12050-19
SU6-003-01	07-12050-11	SU6-012-01	07-12050-20
SU6-004-01	07-12050-12		

ANALYTICAL METHODS

Gamma Spectroscopy was performed using Method LANL ER-130 Modified.

ANALYTICAL RESULTS

Combined Standard Uncertainty is reported at 2-sigma value.

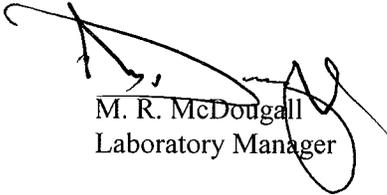
GAMMA SPECTROSCOPY

Samples for Gamma Spectroscopy analysis were prepared by transferring a known mass/aliquot of each prepared and homogenized sample to a standard geometry container. Samples were counted on High Purity Germanium (HPGe) gamma ray detectors.

Samples demonstrated non-detect equivalent results for Cobalt-60 activity and non-detect equivalent to slightly positive results for Cesium-137 activity. Results for the Cobalt-60 and Cesium-137 method blank demonstrated non-detect equivalent activity. Results for the Cobalt-60 and Cesium-137 replicate demonstrated a high relative percent difference; however, normalized difference is within acceptable limits for the analytical technique. Results for the Cobalt-60 and Cesium-137 laboratory control sample demonstrated an acceptable percent recovery.

CERTIFICATION OF ACCURACY

I certify that this data report is in compliance with the terms and conditions of the Purchase Order, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data has been authorized by the cognizant project manager or his/her designee to be accurate as verified by the following signature.



M. R. McDougall
Laboratory Manager

Date: 1/3/2008

Eberline Services Final Report of Analysis				Report To:				Work Order Details:					
Nels Johnson				SDG: 07-12050				Purchase Order: 0060846					
Weston Solutions				Analysis Category: ENVIRONMENTAL				Sample Matrix: SO					
3840 Commons Avenue NE				Batch ID				Result					
Albuquerque, NM 87109				Analysis Date				CU					
Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	Report Units
07-12050-01	LCS	KNOWN	12/12/07 00:00	12/11/2007	12/17/2007	07-12050	Cobalt-60	LANL ER-130 Modified	1.27E+02	3.36E+00			pCi/g
07-12050-01	LCS	KNOWN	12/12/07 00:00	12/11/2007	12/17/2007	07-12050	Cesium-137	LANL ER-130 Modified	7.82E+01	2.35E+00			pCi/g
07-12050-01	LCS	SPIKE	12/12/07 00:00	12/11/2007	12/17/2007	07-12050	Cobalt-60	LANL ER-130 Modified	1.32E+02	7.08E+00	7.08E+00	1.09E+00	pCi/g
07-12050-01	LCS	SPIKE	12/12/07 00:00	12/11/2007	12/17/2007	07-12050	Cesium-137	LANL ER-130 Modified	7.78E+01	5.59E+00	5.59E+00	8.97E-01	pCi/g
07-12050-02	MBL	BLANK	12/12/07 00:00	12/11/2007	12/17/2007	07-12050	Cobalt-60	LANL ER-130 Modified	-3.75E-03	1.53E-02	1.53E-02	2.96E-02	pCi/g
07-12050-02	MBL	BLANK	12/12/07 00:00	12/11/2007	12/17/2007	07-12050	Cesium-137	LANL ER-130 Modified	6.22E-03	1.42E-02	1.42E-02	2.98E-02	pCi/g
07-12050-03	DUP	SU5-011-01	12/06/07 11:42	12/11/2007	12/17/2007	07-12050	Cobalt-60	LANL ER-130 Modified	-1.24E-02	4.77E-02	4.77E-02	8.49E-02	pCi/g
07-12050-03	DUP	SU5-011-01	12/06/07 11:42	12/11/2007	12/17/2007	07-12050	Cesium-137	LANL ER-130 Modified	-1.79E-02	4.57E-02	4.57E-02	8.09E-02	pCi/g
07-12050-04	DO	SU5-011-01	12/06/07 11:42	12/11/2007	12/17/2007	07-12050	Cobalt-60	LANL ER-130 Modified	1.05E-02	4.90E-02	4.90E-02	9.21E-02	pCi/g
07-12050-04	DO	SU5-011-01	12/06/07 11:42	12/11/2007	12/17/2007	07-12050	Cesium-137	LANL ER-130 Modified	-1.31E-02	4.28E-02	4.28E-02	7.66E-02	pCi/g
07-12050-05	TRG	SU6-001-01	11/16/07 11:25	12/11/2007	12/17/2007	07-12050	Cobalt-60	LANL ER-130 Modified	1.10E-02	2.71E-02	2.71E-02	5.31E-02	pCi/g
07-12050-05	TRG	SU6-001-01	11/16/07 11:25	12/11/2007	12/17/2007	07-12050	Cesium-137	LANL ER-130 Modified	3.71E-01	6.41E-02	6.41E-02	5.05E-02	pCi/g
07-12050-06	TRG	SU6-002-01	11/16/07 11:40	12/11/2007	12/17/2007	07-12050	Cobalt-60	LANL ER-130 Modified	2.85E-02	7.10E-02	7.10E-02	1.43E-01	pCi/g
07-12050-06	TRG	SU6-002-01	11/16/07 11:40	12/11/2007	12/17/2007	07-12050	Cesium-137	LANL ER-130 Modified	3.27E-01	1.52E-01	1.52E-01	1.20E-01	pCi/g
07-12050-07	TRG	SU5-009-01	12/06/07 11:45	12/11/2007	12/17/2007	07-12050	Cobalt-60	LANL ER-130 Modified	1.43E-01	1.17E-01	1.17E-01	8.80E-02	pCi/g
07-12050-07	TRG	SU5-009-01	12/06/07 11:45	12/11/2007	12/17/2007	07-12050	Cesium-137	LANL ER-130 Modified	-3.96E-02	4.31E-02	4.31E-02	7.29E-02	pCi/g
07-12050-08	TRG	SU5-014-01	12/06/07 12:30	12/11/2007	12/17/2007	07-12050	Cobalt-60	LANL ER-130 Modified	3.18E-02	4.85E-02	4.85E-02	9.28E-02	pCi/g
07-12050-08	TRG	SU5-014-01	12/06/07 12:30	12/11/2007	12/17/2007	07-12050	Cesium-137	LANL ER-130 Modified	-2.35E-03	5.00E-02	5.00E-02	8.24E-02	pCi/g
07-12050-09	TRG	SU5-012-01	12/05/07 09:00	12/11/2007	12/17/2007	07-12050	Cobalt-60	LANL ER-130 Modified	2.30E-02	4.72E-02	4.72E-02	8.84E-02	pCi/g
07-12050-09	TRG	SU5-012-01	12/05/07 09:00	12/11/2007	12/17/2007	07-12050	Cesium-137	LANL ER-130 Modified	1.27E+00	1.91E-01	1.91E-01	9.71E-02	pCi/g
07-12050-10	TRG	SU5-013-01	12/05/07 09:05	12/11/2007	12/17/2007	07-12050	Cobalt-60	LANL ER-130 Modified	1.63E-02	4.59E-02	4.59E-02	7.76E-02	pCi/g
07-12050-10	TRG	SU5-013-01	12/05/07 09:05	12/11/2007	12/17/2007	07-12050	Cesium-137	LANL ER-130 Modified	7.42E-02	5.29E-02	5.29E-02	7.07E-02	pCi/g
07-12050-11	TRG	SU6-003-01	12/06/07 11:38	12/11/2007	12/17/2007	07-12050	Cobalt-60	LANL ER-130 Modified	1.86E-02	2.62E-02	2.62E-02	5.35E-02	pCi/g
07-12050-11	TRG	SU6-003-01	12/06/07 11:38	12/11/2007	12/17/2007	07-12050	Cesium-137	LANL ER-130 Modified	2.57E-01	5.11E-02	5.11E-02	4.06E-02	pCi/g

CU=Counting Uncertainty;CSU=Combined Standard Uncertainty (2-sigma);MDA=Minimal Detected Activity;LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original



EBERLINE
SERVICES

Oak Ridge Laboratory

601 Scarboro Road, Oak Ridge, TN 37830 865/481-0683 FAX 865/483-4621

Eberline Services Final Report of Analysis		Report To:				Work Order Details:							
Nels Johnson		SDC: 07-12050				Purchase Order: 0060846							
Weston Solutions		Analysis Category: ENVIRONMENTAL				Sample Matrix: SO							
3840 Commons Avenue NE		Albuquerque, NM 87109											
Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	Report Units
07-12050-12	TRG	SU6-004-01	12/06/07 11:40	12/11/2007	12/17/2007	07-12050	Cobalt-60	LANL ER-130 Modified	-2.10E-02	3.96E-02	3.96E-02	6.88E-02	pCi/g
07-12050-12	TRG	SU6-004-01	12/06/07 11:40	12/11/2007	12/17/2007	07-12050	Cesium-137	LANL ER-130 Modified	2.40E-01	8.85E-02	8.85E-02	7.09E-02	pCi/g
07-12050-13	TRG	SU6-005-01	11/16/07 12:20	12/11/2007	12/17/2007	07-12050	Cobalt-60	LANL ER-130 Modified	6.69E-02	5.60E-02	5.60E-02	1.28E-01	pCi/g
07-12050-13	TRG	SU6-005-01	11/16/07 12:20	12/11/2007	12/17/2007	07-12050	Cesium-137	LANL ER-130 Modified	3.32E-01	1.35E-01	1.35E-01	9.16E-02	pCi/g
07-12050-14	TRG	SU6-006-01	11/16/07 12:00	12/11/2007	12/17/2007	07-12050	Cobalt-60	LANL ER-130 Modified	-4.49E-03	1.90E-02	1.90E-02	3.67E-02	pCi/g
07-12050-14	TRG	SU6-006-01	11/16/07 12:00	12/11/2007	12/17/2007	07-12050	Cesium-137	LANL ER-130 Modified	9.68E-01	1.18E-01	1.18E-01	4.11E-02	pCi/g
07-12050-15	TRG	SU6-007-01	11/16/07 12:30	12/11/2007	12/17/2007	07-12050	Cobalt-60	LANL ER-130 Modified	5.13E-02	4.13E-02	4.13E-02	6.51E-02	pCi/g
07-12050-15	TRG	SU6-007-01	11/16/07 12:30	12/11/2007	12/17/2007	07-12050	Cesium-137	LANL ER-130 Modified	1.05E+00	1.37E-01	1.37E-01	5.77E-02	pCi/g
07-12050-16	TRG	SU6-008-01	11/16/07 11:30	12/11/2007	12/17/2007	07-12050	Cobalt-60	LANL ER-130 Modified	3.00E-03	2.09E-02	2.09E-02	3.93E-02	pCi/g
07-12050-16	TRG	SU6-008-01	11/16/07 11:30	12/11/2007	12/17/2007	07-12050	Cesium-137	LANL ER-130 Modified	1.21E+00	1.12E-01	1.12E-01	3.57E-02	pCi/g
07-12050-17	TRG	SU6-009-01	11/16/07 12:45	12/11/2007	12/17/2007	07-12050	Cobalt-60	LANL ER-130 Modified	-2.04E-02	4.31E-02	4.31E-02	7.44E-02	pCi/g
07-12050-17	TRG	SU6-009-01	11/16/07 12:45	12/11/2007	12/17/2007	07-12050	Cesium-137	LANL ER-130 Modified	1.21E-01	6.98E-02	6.98E-02	5.86E-02	pCi/g
07-12050-18	TRG	SU6-010-01	11/16/07 11:45	12/11/2007	12/17/2007	07-12050	Cobalt-60	LANL ER-130 Modified	-4.33E-03	4.41E-02	4.41E-02	8.41E-02	pCi/g
07-12050-18	TRG	SU6-010-01	11/16/07 11:45	12/11/2007	12/17/2007	07-12050	Cesium-137	LANL ER-130 Modified	9.31E-02	6.90E-02	6.90E-02	6.90E-02	pCi/g
07-12050-19	TRG	SU6-011-01	11/16/07 11:35	12/11/2007	12/17/2007	07-12050	Cobalt-60	LANL ER-130 Modified	2.42E-03	2.22E-02	2.22E-02	4.20E-02	pCi/g
07-12050-19	TRG	SU6-011-01	11/16/07 11:35	12/11/2007	12/17/2007	07-12050	Cesium-137	LANL ER-130 Modified	1.41E+00	1.54E-01	1.54E-01	3.93E-02	pCi/g
07-12050-20	TRG	SU6-012-01	11/16/07 14:25	12/11/2007	12/17/2007	07-12050	Cobalt-60	LANL ER-130 Modified	1.95E-02	3.56E-02	3.56E-02	5.88E-02	pCi/g
07-12050-20	TRG	SU6-012-01	11/16/07 14:25	12/11/2007	12/17/2007	07-12050	Cesium-137	LANL ER-130 Modified	8.99E-01	1.15E-01	1.15E-01	5.65E-02	pCi/g

CU=Counting Uncertainty; CSU=Combined Standard Uncertainty (2-sigma); MDA=Minimal Detected Activity; LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original



EBERLINE
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Oak Ridge Laboratory

601 Scarboro Road, Oak Ridge, TN 37830 865/481-0683 FAX 865/483-4621



Chain of Custody Record/Lab Work Request

COC ID
EBL-1207-01

Client: Weston Solutions, Inc.
 Site Name: Rad Yard Contact Name: Joe Gross
 W.O. #: 11785.004.006.5030 Contact Phone: (410)-612-5910
 Lab: Eberline Lab Contact: Sample Management
 TAT: Standard Lab Phone: 865-481-0683

Lab Use Only

Temperature of cooler when received (°C) _____

COC Tape was present and unbroken on outer package? Y N

Samples received in good condition? Y N

Labels indicate properly preserved? Y N

Received within holding times? Y N

Discrepancies between sample labels and COC record? Y N

Lab ID	Sample ID	Matrix	MS	MSD	Number of Containers		Special Instructions/Comments
					Container Volume (ml)	Time Collected	
11	SU6-003-01	S			1138	x	
12	SU6-004-01	S			1140	x	
13	SU6-005-01	S			1220	x	
14	SU6-006-01	S			1200	x	
15	SU6-007-01	S			1230	x	
16	SU6-008-01	S			1130	x	
17	SU6-009-01	S			1245	x	
18	SU6-010-01	S			1145	x	
19	SU6-011-01	S			1135	x	
20	SU6-012-01	S			1425	x	
	SU6-013-01	S			1420	x	
	SU6-014-01	S			1250	x	

Alpha Spec

Analyses Requested

Matrix Codes
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Relinquished By	Date	Time	Received By	Date	Time
K. N. N.	12/10/07	1200	[Signature]	12/11/07	0900

Additional Comments

RECEIVED
DEC 11 2007
BY: KF



Internal Chain of Custody

Work Order #

07-12050

Lab Deadline

1/3/2008

Analysis

Gamma - Level 4

Sample Matrix

Soil/Solid

Comments	Sample Fraction	HP 210 / 270 Detector Activity	Storage Location
Report Co60 & Cs137	04	48	C1.2
	05	34	C1.2
	06	35	C1.2
	07	46	C1.2
	08	45	C1.2
	09	37	C1.2
	10	50	C1.2
	11	38	C1.2
	12	51	C1.2
		13	34
14		48	C1.2
15		39	C1.2
16		32	C1.2
17		43	C1.2
18		37	C1.2
19		39	C1.2
20		50	C1.2

	Location (circle one)					Initials	Date
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room 1330	Kenny Sallie	12-12-07
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room 1145	Kenny Sallie	12-13-07
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room	Mary Lundy	12-13-07 1230
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room	KCS	12/14/07 1239
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		



EBS-OR-26845

January 8, 2008

Mr. Nels Johnson
Weston Solutions
3840 Commons Avenue NE
Albuquerque, NM 87109

Oak Ridge Laboratory
601 Scarboro Road
Oak Ridge, TN 37830
Phone (865) 481-0683
Fax (865) 483-4621

CASE NARRATIVE
Work Order #07-12051-OR

SAMPLE RECEIPT

This work order contains seventeen soil samples received 12/11/2007. All samples were analyzed by Gamma Spectroscopy.

<u>CLIENT ID</u>	<u>LAB ID</u>	<u>CLIENT ID</u>	<u>LAB ID</u>
SU6-013-01	07-12051-04	SU7-007-01	07-12051-13
SU6-014-01	07-12051-05	SU7-008-01	07-12051-14
SU6-015-01	07-12051-06	SU7-009-01	07-12051-15
SU7-001-01	07-12051-07	SU7-010-01	07-12051-16
SU7-002-01	07-12051-08	SU7-011-01	07-12051-17
SU7-003-01	07-12051-09	SU7-012-01	07-12051-18
SU7-004-01	07-12051-10	SU7-013-01	07-12051-19
SU7-005-01	07-12051-11	SU8-001-01	07-12051-20
SU7-006-01	07-12051-12		

ANALYTICAL METHODS

Gamma Spectroscopy was performed using Method LANL ER-130 Modified.

ANALYTICAL RESULTS

Combined Standard Uncertainty is reported at 2-sigma value.

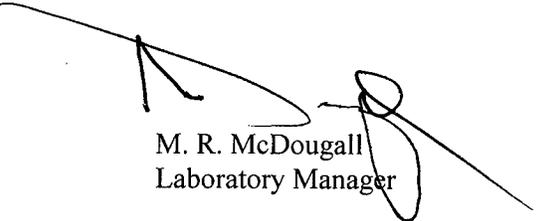
GAMMA SPECTROSCOPY

Samples for Gamma Spectroscopy analysis were prepared by transferring a known mass/aliquot of each prepared and homogenized sample to a standard geometry container. Samples were counted on High Purity Germanium (HPGe) gamma ray detectors.

Samples demonstrated non-detect equivalent results for Cobalt-60 activity and non-detect equivalent to slightly positive results for Cesium-137 activity. Results for the Cobalt-60 and Cesium-137 method blank demonstrated non-detect equivalent activity. Results for the Cobalt-60 and Cesium-137 replicate demonstrated a high relative percent difference; however, normalized difference is within acceptable limits for the analytical technique. Results for the Cobalt-60 and Cesium-137 laboratory control sample demonstrated an acceptable percent recovery.

CERTIFICATION OF ACCURACY

I certify that this data report is in compliance with the terms and conditions of the Purchase Order, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data has been authorized by the cognizant project manager or his/her designee to be accurate as verified by the following signature.



M. R. McDougall
Laboratory Manager

Date: 1/8/2008

Eberline Services Final Report of Analysis		Report To:				Work Order Details:							
Nels Johnson Weston Solutions 3840 Commons Avenue NE Albuquerque, NM 87109		SDG: 07-12051		Purchase Order: 0060846		CU		Result		MDA		Report Units	
		Analysis Date		Batch ID		Analyte		Method		CSU		Units	
Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	Report Units
07-12051-01	LCS	KNOWN	12/12/07 00:00	12/11/2007	12/17/2007	07-12051	Cobalt-60	LANL ER-130 Modified	1.27E+02	3.36E+00	1.48E-02	3.28E-02	pCi/g
07-12051-01	LCS	KNOWN	12/12/07 00:00	12/11/2007	12/17/2007	07-12051	Cesium-137	LANL ER-130 Modified	7.82E+01	2.35E+00	1.47E-02	2.91E-02	pCi/g
07-12051-01	LCS	SPIKE	12/12/07 00:00	12/11/2007	12/17/2007	07-12051	Cobalt-60	LANL ER-130 Modified	1.34E+02	7.15E+00	7.15E+00	1.09E+00	pCi/g
07-12051-01	LCS	SPIKE	12/12/07 00:00	12/11/2007	12/17/2007	07-12051	Cesium-137	LANL ER-130 Modified	7.99E+01	5.73E+00	5.73E+00	9.07E-01	pCi/g
07-12051-02	MBL	BLANK	12/12/07 00:00	12/11/2007	12/17/2007	07-12051	Cobalt-60	LANL ER-130 Modified	6.16E-03	1.48E-02	1.48E-02	3.28E-02	pCi/g
07-12051-02	MBL	BLANK	12/12/07 00:00	12/11/2007	12/17/2007	07-12051	Cesium-137	LANL ER-130 Modified	1.18E-03	1.47E-02	1.47E-02	2.91E-02	pCi/g
07-12051-03	DUP	SU6-013-01	11/16/07 14:20	12/11/2007	12/17/2007	07-12051	Cobalt-60	LANL ER-130 Modified	2.30E-02	4.99E-02	4.99E-02	9.98E-02	pCi/g
07-12051-03	DUP	SU6-013-01	11/16/07 14:20	12/11/2007	12/17/2007	07-12051	Cesium-137	LANL ER-130 Modified	4.11E-01	1.48E-01	1.48E-01	1.12E-01	pCi/g
07-12051-04	DO	SU6-013-01	11/16/07 14:20	12/11/2007	12/17/2007	07-12051	Cobalt-60	LANL ER-130 Modified	1.52E-02	6.53E-02	6.53E-02	1.17E-01	pCi/g
07-12051-04	DO	SU6-013-01	11/16/07 14:20	12/11/2007	12/17/2007	07-12051	Cesium-137	LANL ER-130 Modified	5.61E-01	1.50E-01	1.50E-01	9.50E-02	pCi/g
07-12051-05	TRG	SU6-014-01	11/16/07 12:50	12/11/2007	12/17/2007	07-12051	Cobalt-60	LANL ER-130 Modified	4.57E-03	3.34E-02	3.34E-02	6.32E-02	pCi/g
07-12051-05	TRG	SU6-014-01	11/16/07 12:50	12/11/2007	12/17/2007	07-12051	Cesium-137	LANL ER-130 Modified	3.93E-01	8.13E-02	8.13E-02	4.50E-02	pCi/g
07-12051-06	TRG	SU6-015-01	12/06/07 11:35	12/11/2007	12/17/2007	07-12051	Cobalt-60	LANL ER-130 Modified	3.54E-04	5.86E-02	5.86E-02	1.07E-01	pCi/g
07-12051-06	TRG	SU6-015-01	12/06/07 11:35	12/11/2007	12/17/2007	07-12051	Cesium-137	LANL ER-130 Modified	9.56E-02	8.44E-02	8.44E-02	9.55E-02	pCi/g
07-12051-07	TRG	SU7-001-01	11/19/07 12:55	12/11/2007	12/17/2007	07-12051	Cobalt-60	LANL ER-130 Modified	-4.24E-02	8.05E-02	8.05E-02	1.20E-01	pCi/g
07-12051-07	TRG	SU7-001-01	11/19/07 12:55	12/11/2007	12/17/2007	07-12051	Cesium-137	LANL ER-130 Modified	4.71E-01	1.51E-01	1.51E-01	1.43E-01	pCi/g
07-12051-08	TRG	SU7-002-01	11/19/07 13:00	12/11/2007	12/17/2007	07-12051	Cobalt-60	LANL ER-130 Modified	-6.76E-02	5.00E-02	5.00E-02	7.49E-02	pCi/g
07-12051-08	TRG	SU7-002-01	11/19/07 13:00	12/11/2007	12/17/2007	07-12051	Cesium-137	LANL ER-130 Modified	1.15E+00	1.61E-01	1.61E-01	8.14E-02	pCi/g
07-12051-09	TRG	SU7-003-01	11/19/07 13:10	12/11/2007	12/17/2007	07-12051	Cobalt-60	LANL ER-130 Modified	7.14E-02	7.58E-02	7.58E-02	1.68E-01	pCi/g
07-12051-09	TRG	SU7-003-01	11/19/07 13:10	12/11/2007	12/17/2007	07-12051	Cesium-137	LANL ER-130 Modified	3.77E+00	4.25E-01	4.25E-01	1.64E-01	pCi/g
07-12051-10	TRG	SU7-004-01	11/19/07 13:05	12/11/2007	12/17/2007	07-12051	Cobalt-60	LANL ER-130 Modified	-1.77E-03	4.10E-02	4.10E-02	7.65E-02	pCi/g
07-12051-10	TRG	SU7-004-01	11/19/07 13:05	12/11/2007	12/17/2007	07-12051	Cesium-137	LANL ER-130 Modified	2.11E+00	2.30E-01	2.30E-01	6.92E-02	pCi/g
07-12051-11	TRG	SU7-005-01	11/19/07 13:12	12/11/2007	12/17/2007	07-12051	Cobalt-60	LANL ER-130 Modified	-6.16E-02	6.46E-02	6.46E-02	1.01E-01	pCi/g
07-12051-11	TRG	SU7-005-01	11/19/07 13:12	12/11/2007	12/17/2007	07-12051	Cesium-137	LANL ER-130 Modified	3.88E-01	1.26E-01	1.26E-01	1.16E-01	pCi/g

CU=Counting Uncertainty;CSU=Combined Standard Uncertainty (2-sigma);MDA=Minimal Detected Activity;LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original



Oak Ridge Laboratory

601 Scarboro Road, Oak Ridge, TN 37830 865/481-0683 FAX 865/483-4621

Eberline Services Final Report of Analysis				Report To:				Work Order Details:					
Nels Johnson				07-12051				SDG:					
Weston Solutions				0060846				Purchase Order:					
3840 Commons Avenue NE				ENVIRONMENTAL				Analysis Category:					
Albuquerque, NM 87109				SO				Sample Matrix:					
Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	Report Units
07-12051-12	TRG	SU7-006-01	11/19/07 13:20	12/11/2007	12/18/2007	07-12051	Cobalt-60	LANL ER-130 Modified	-2.17E-03	4.03E-02	4.03E-02	7.39E-02	pCi/g
07-12051-12	TRG	SU7-006-01	11/19/07 13:20	12/11/2007	12/18/2007	07-12051	Cesium-137	LANL ER-130 Modified	1.72E-01	7.17E-02	7.17E-02	6.45E-02	pCi/g
07-12051-13	TRG	SU7-007-01	11/19/07 13:15	12/11/2007	12/18/2007	07-12051	Cobalt-60	LANL ER-130 Modified	-1.04E-02	3.24E-02	3.24E-02	5.05E-02	pCi/g
07-12051-13	TRG	SU7-007-01	11/19/07 13:15	12/11/2007	12/18/2007	07-12051	Cesium-137	LANL ER-130 Modified	1.05E+00	1.37E-01	1.37E-01	5.17E-02	pCi/g
07-12051-14	TRG	SU7-008-01	11/19/07 13:25	12/11/2007	12/18/2007	07-12051	Cobalt-60	LANL ER-130 Modified	-1.55E-02	3.77E-02	3.77E-02	6.49E-02	pCi/g
07-12051-14	TRG	SU7-008-01	11/19/07 13:25	12/11/2007	12/18/2007	07-12051	Cesium-137	LANL ER-130 Modified	5.30E-01	9.73E-02	9.73E-02	6.69E-02	pCi/g
07-12051-15	TRG	SU7-009-01	11/19/07 13:30	12/11/2007	12/18/2007	07-12051	Cobalt-60	LANL ER-130 Modified	3.64E-02	5.15E-02	5.15E-02	1.11E-01	pCi/g
07-12051-15	TRG	SU7-009-01	11/19/07 13:30	12/11/2007	12/18/2007	07-12051	Cesium-137	LANL ER-130 Modified	1.25E+00	1.83E-01	1.83E-01	7.94E-02	pCi/g
07-12051-16	TRG	SU7-010-01	11/19/07 13:35	12/11/2007	12/18/2007	07-12051	Cobalt-60	LANL ER-130 Modified	1.12E-03	2.77E-02	2.77E-02	5.30E-02	pCi/g
07-12051-16	TRG	SU7-010-01	11/19/07 13:35	12/11/2007	12/18/2007	07-12051	Cesium-137	LANL ER-130 Modified	9.94E-01	1.17E-01	1.17E-01	4.22E-02	pCi/g
07-12051-17	TRG	SU7-011-01	11/19/07 13:42	12/11/2007	12/18/2007	07-12051	Cobalt-60	LANL ER-130 Modified	7.78E-03	1.88E-02	1.88E-02	3.79E-02	pCi/g
07-12051-17	TRG	SU7-011-01	11/19/07 13:42	12/11/2007	12/18/2007	07-12051	Cesium-137	LANL ER-130 Modified	3.32E-01	6.31E-02	6.31E-02	3.42E-02	pCi/g
07-12051-18	TRG	SU7-012-01	11/19/07 13:40	12/11/2007	12/18/2007	07-12051	Cobalt-60	LANL ER-130 Modified	1.10E-02	2.49E-02	2.49E-02	4.51E-02	pCi/g
07-12051-18	TRG	SU7-012-01	11/19/07 13:40	12/11/2007	12/18/2007	07-12051	Cesium-137	LANL ER-130 Modified	9.82E-01	1.06E-01	1.06E-01	4.99E-02	pCi/g
07-12051-19	TRG	SU7-013-01	12/06/07 13:00	12/11/2007	12/18/2007	07-12051	Cobalt-60	LANL ER-130 Modified	3.86E-02	6.50E-02	6.50E-02	1.37E-01	pCi/g
07-12051-19	TRG	SU7-013-01	12/06/07 13:00	12/11/2007	12/18/2007	07-12051	Cesium-137	LANL ER-130 Modified	3.11E-01	1.16E-01	1.16E-01	1.19E-01	pCi/g
07-12051-20	TRG	SU8-001-01	12/05/07 10:40	12/11/2007	12/18/2007	07-12051	Cobalt-60	LANL ER-130 Modified	9.65E-03	5.34E-02	5.34E-02	9.97E-02	pCi/g
07-12051-20	TRG	SU8-001-01	12/05/07 10:40	12/11/2007	12/18/2007	07-12051	Cesium-137	LANL ER-130 Modified	5.20E-01	1.05E-01	1.05E-01	8.95E-02	pCi/g

CU=Counting Uncertainty;CSU=Combined Standard Uncertainty (2-sigma);MDA=Minimal Detected Activity;LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original



EBERLINE
SERVICES

Oak Ridge Laboratory

601 Scarboro Road, Oak Ridge, TN 37830 865/481-0683 FAX 865/483-4621



Chain of Custody Record/Lab Work Request

COC ID
EBL-1207-01

Client: Weston Solutions, Inc.
 Site Name: Rad Yard Contact Name: Joe Gross
 W.O. #: 11785.004.006.5030 Contact Phone: (410)-612-6910
 Lab: Eberline Lab Contact: Sample Management
 TAT: Standard Lab Phone: 865-481-0683

Lab Use Only
 Temperature of cooler when received (°C)
 COC Tape was present and unbroken on outer package? Y N
 Samples received in good condition? Y N
 Labels indicate property preserved? Y N
 Received within holding times? Y N
 Discrepancies between sample labels and COC record? Y N

Lab ID	Sample ID	Matrix	MS	MSD	Number of Containers		Analyses Requested	Special Instructions/Comments
					Container Volume (ml)	Time Collected		
	SU6-003-01	S			1138	x		
	SU6-004-01	S			1140	x		
	SU6-005-01	S			1220	x		
	SU6-006-01	S			1200	x		
	SU6-007-01	S			1230	x		
	SU6-008-01	S			1130	x		
	SU6-009-01	S			1245	x		
	SU6-010-01	S			1145	x		
	SU6-011-01	S			1135	x		
	SU6-012-01	S			1425	x		
4	SU6-013-01	S			1420	x		
5	SU6-014-01	S			1250	x		

Alphas Spec

Relinquished By	Date	Time	Received By	Date	Time	Additional Comments
[Signature]	12/10/07	1200	[Signature]	12/11/07	0900	

RECEIVED
 DEC 11 2007
 BY: KF



Chain of Custody Record/Lab Work Request

COC ID
EBL-1207-01

Client: Weston Solutions, Inc.
 Site Name: Rad Yard
 W.O. #: 11785.004.006.5030
 Lab: Eberline
 TAT: Standard

Contact Name: Joe Gross
 Contact Phone: (410)-612-5910
 Lab Contact: Sample Management
 Lab Phone: 865-481-0683

Lab Use Only

Temperature of cooler when received (°C)

COC Tape was present and unbroken on outer package? Y N

Samples received in good condition? Y N

Labels indicate properly preserved? Y N

Received within holding times? Y N

Discrepancies between sample labels and COC record? Y N

Container Volume (ml)	Number of Containers		Date Collected	Time Collected	MSD	MS	Matrix	Analyses Requested	Additional Comments
	Liquid	Solid							
			12/6/07	1135			S	Alpha Spec	
			11/19/07	1255			S		
			11/19/07	1300			S		
			11/19/07	1310			S		
			11/19/07	1305			S		
			11/19/07	1312			S		
			11/19/07	1320			S		
			11/19/07	1315			S		
			11/19/07	1325			S		
			11/19/07	1320			S		
			11/19/07	1335			S		
			11/19/07	1342			S		

Matrix Codes	Special Instructions/Comments
S - Soil	
SE - Sediment	
SO - Solid	
SL - Sludge	
W - Water	
O - Oil	
A - Air	
DS - Drum Solids	
DL - Drum Liquids	
L - EPTCLP Leachate	
WI - Wipe	
X - Other	
F - Fish	

Relinquished By	Date	Time	Received By	Date	Time
EMAN	12/10/07	1200	[Signature]	12/11/07	0900

Additional Comments

RECEIVED

DEC 11 2007

BY: KF



Chain of Custody Record/Lab Work Request

COC ID
EBL-1207-01

Client: Weston Solutions, Inc.
 Site Name: Rad Yard Contact Name: Joe Gross
 W.O. #: 11785.004.006.5030 Contact Phone: (410)-612-5910
 Lab: Eberline Lab Contact: Sample Management
 TAT: Standard Lab Phone: 865-481-0683

Lab Use Only
 Temperature of cooler when received (°C)
 COC Tape was present and unbroken on outer package?
 Samples received in good condition?
 Labels indicate property preserved?
 Received within holding times?
 Discrepancies between sample labels and COC record?

Lab ID	Sample ID	Matrix	MS	MSD	Number of Containers		Date Collected	Time Collected	Analyses Requested	Matrix Codes
					Container Volume (ml)	Liquid / Solid				
18	SU7-012-01	S			11/19/07	1340		x	Alpha Spec	S - Soil
19	SU7-013-01	S			12/06/07	1300		x		SE - Sediment
20	SU8-001-01	S			12/15/07	1040		x		SO - Solid
	SU8-002-01	S			12/15/07	1045		x		SL - Sludge
	SU8-003-01	S			12/06/07	1230		x		W - Water
	SU8-004-01	S			12/15/07	1025		x		O - Oil
	SU8-005-01	S			12/15/07	1010		x		A - Air
	SU8-006-01	S			12/15/07	1020		x		DS - Drum Solids
	SU8-007-01	S			12/15/07	1030		x		DL - Drum Liquids
	SU8-008-01	S			12/15/07	1035		x		L - EP/TCLP Leachate
	SU8-009-01	S			12/15/07	1000		x		WI - Wipe
	SU8-010-01	S			12/15/07	1015		x		X - Other
										F - Fish

Relinquished By: *[Signature]* Date: 12/10/07 Time: 1200
 Received By: *[Signature]* Date: 12/11/07 Time: 0900
 Additional Comments: RECORDED
 DEC 11 2007
 BY: KF



Internal Chain of Custody

Work Order #	07-12051
Lab Deadline	1/3/2008
Analysis	Gamma - Level 4
Sample Matrix	Soil/Solid

Comments	Sample Fraction	HP 210 / 270 Detector Activity	Storage Location
Report Co60 & Cs137	04	44	K1.1
	05	42	K1.1
	06	44	K1.1
	07	51	K1.1
	08	35	K1.1
	09	46	K1.1
	10	48	K1.1
	11	40	K1.1
	12	37	K1.1
	13	43	K1.1
	14	49	K1.1
	15	32	K1.1
	16	42	K1.1
17	38	K1.1	
18	30	K1.1	
19	49	K1.1	
20	37	K1.1	

	Location (circle one)					Initials	Date
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room 1430	Kenny Solis	12-12-07
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room 1515	Kenny Solis	12-13-07
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room	M. Kelly	12-15-08 1602
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room	M. Kelly	12-18-07 1012
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		



EBS-OR-26845

January 8, 2008

Mr. Nels Johnson
Weston Solutions
3840 Commons Avenue NE
Albuquerque, NM 87109

Oak Ridge Laboratory
601 Scarboro Road
Oak Ridge, TN 37830
Phone (865) 481-0683
Fax (865) 483-4621

CASE NARRATIVE
Work Order #07-12053-OR

SAMPLE RECEIPT

This work order contains seventeen soil samples received 12/11/2007. All samples were analyzed by Gamma Spectroscopy.

<u>CLIENT ID</u>	<u>LAB ID</u>	<u>CLIENT ID</u>	<u>LAB ID</u>
SU8-002-01	07-12053-04	SU8-011-01	07-12053-13
SU8-003-01	07-12053-05	SU8-012-01	07-12053-14
SU8-004-01	07-12053-06	SU8-013-01	07-12053-15
SU8-005-01	07-12053-07	SU9-001-01	07-12053-16
SU8-006-01	07-12053-08	SU9-002-01	07-12053-17
SU8-007-01	07-12053-09	SU9-003-01	07-12053-18
SU8-008-01	07-12053-10	SU9-004-01	07-12053-19
SU8-009-01	07-12053-11	SU9-005-01	07-12053-20
SU8-010 -01	07-12053-12		

ANALYTICAL METHODS

Gamma Spectroscopy was performed using Method LANL ER-130 Modified.

ANALYTICAL RESULTS

Combined Standard Uncertainty is reported at 2-sigma value.

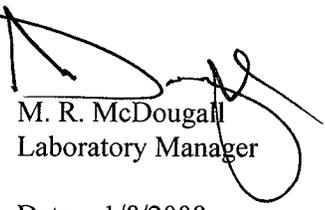
GAMMA SPECTROSCOPY

Samples for Gamma Spectroscopy analysis were prepared by transferring a known mass/aliquot of each prepared and homogenized sample to a standard geometry container. Samples were counted on High Purity Germanium (HPGe) gamma ray detectors.

Samples demonstrated non-detect equivalent results for Cobalt-60 activity and non-detect equivalent to slightly positive results for Cesium-137 activity. Results for the Cobalt-60 and Cesium-137 method blank demonstrated non-detect equivalent activity. Results for the Cobalt-60 replicate demonstrated a high relative percent difference; however, normalized difference is within acceptable limits for the analytical technique. Results for the Cesium-137 replicate demonstrated an acceptable relative percent difference and normalized difference. Results for the Cobalt-60 and Cesium-137 laboratory control sample demonstrated an acceptable percent recovery.

CERTIFICATION OF ACCURACY

I certify that this data report is in compliance with the terms and conditions of the Purchase Order, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data has been authorized by the cognizant project manager or his/her designee to be accurate as verified by the following signature.



M. R. McDougall
Laboratory Manager

Date: 1/8/2008

Eberline Services Final Report of Analysis		Report To: Nels Johnson Weston Solutions 3840 Commons Avenue NE Albuquerque, NM 87109										Work Order Details: 07-12053			
												SDG: 0060846			
												Purchase Order: ENVIRONMENTAL			
												Analysis Category: SO			
												Sample Matrix: SO			
Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	Report Units		
07-12053-01	LCS	KNOWN	12/12/07 00:00	12/11/2007	12/18/2007	07-12053	Cobalt-60	LANL ER-130 Modified	1.27E+02	3.36E+00			pCi/g		
07-12053-01	LCS	KNOWN	12/12/07 00:00	12/11/2007	12/18/2007	07-12053	Cesium-137	LANL ER-130 Modified	7.82E+01	2.35E+00			pCi/g		
07-12053-01	LCS	SPIKE	12/12/07 00:00	12/11/2007	12/18/2007	07-12053	Cobalt-60	LANL ER-130 Modified	1.31E+02	7.02E+00	7.02E+00	1.10E+00	pCi/g		
07-12053-01	LCS	SPIKE	12/12/07 00:00	12/11/2007	12/18/2007	07-12053	Cesium-137	LANL ER-130 Modified	7.93E+01	5.70E+00	5.70E+00	9.13E-01	pCi/g		
07-12053-02	MBL	BLANK	12/12/07 00:00	12/11/2007	12/18/2007	07-12053	Cobalt-60	LANL ER-130 Modified	-4.20E-03	1.91E-02	1.91E-02	3.97E-02	pCi/g		
07-12053-02	MBL	BLANK	12/12/07 00:00	12/11/2007	12/18/2007	07-12053	Cesium-137	LANL ER-130 Modified	3.74E-02	3.47E-02	3.47E-02	5.37E-02	pCi/g		
07-12053-03	DUP	SUB-002-01	12/05/07 10:45	12/11/2007	12/18/2007	07-12053	Cobalt-60	LANL ER-130 Modified	1.55E-03	4.73E-02	4.73E-02	8.75E-02	pCi/g		
07-12053-03	DUP	SUB-002-01	12/05/07 10:45	12/11/2007	12/18/2007	07-12053	Cesium-137	LANL ER-130 Modified	8.86E-01	1.32E-01	1.32E-01	7.59E-02	pCi/g		
07-12053-04	DO	SUB-002-01	12/05/07 10:45	12/11/2007	12/18/2007	07-12053	Cobalt-60	LANL ER-130 Modified	2.61E-02	5.16E-02	5.16E-02	9.97E-02	pCi/g		
07-12053-04	DO	SUB-002-01	12/05/07 10:45	12/11/2007	12/18/2007	07-12053	Cesium-137	LANL ER-130 Modified	8.13E-01	1.25E-01	1.25E-01	8.01E-02	pCi/g		
07-12053-05	TRG	SUB-003-01	12/06/07 12:30	12/11/2007	12/18/2007	07-12053	Cobalt-60	LANL ER-130 Modified	9.92E-03	2.96E-02	2.96E-02	5.34E-02	pCi/g		
07-12053-05	TRG	SUB-003-01	12/06/07 12:30	12/11/2007	12/18/2007	07-12053	Cesium-137	LANL ER-130 Modified	1.07E+00	1.26E-01	1.26E-01	5.85E-02	pCi/g		
07-12053-06	TRG	SUB-004-01	12/05/07 10:25	12/11/2007	12/18/2007	07-12053	Cobalt-60	LANL ER-130 Modified	-4.13E-02	8.03E-02	8.03E-02	1.39E-01	pCi/g		
07-12053-06	TRG	SUB-004-01	12/05/07 10:25	12/11/2007	12/18/2007	07-12053	Cesium-137	LANL ER-130 Modified	6.38E-02	8.65E-02	8.65E-02	1.69E-01	pCi/g		
07-12053-07	TRG	SUB-005-01	12/05/07 10:10	12/11/2007	12/18/2007	07-12053	Cobalt-60	LANL ER-130 Modified	-1.53E-02	5.37E-02	5.37E-02	9.62E-02	pCi/g		
07-12053-07	TRG	SUB-005-01	12/05/07 10:10	12/11/2007	12/18/2007	07-12053	Cesium-137	LANL ER-130 Modified	5.34E-01	1.29E-01	1.29E-01	8.88E-02	pCi/g		
07-12053-08	TRG	SUB-006-01	12/05/07 10:20	12/11/2007	12/18/2007	07-12053	Cobalt-60	LANL ER-130 Modified	-6.78E-03	4.37E-02	4.37E-02	7.65E-02	pCi/g		
07-12053-08	TRG	SUB-006-01	12/05/07 10:20	12/11/2007	12/18/2007	07-12053	Cesium-137	LANL ER-130 Modified	-1.93E-02	4.11E-02	4.11E-02	7.19E-02	pCi/g		
07-12053-09	TRG	SUB-007-01	12/05/07 10:30	12/11/2007	12/18/2007	07-12053	Cobalt-60	LANL ER-130 Modified	4.32E-02	1.04E-01	1.04E-01	2.12E-01	pCi/g		
07-12053-09	TRG	SUB-007-01	12/05/07 10:30	12/11/2007	12/18/2007	07-12053	Cesium-137	LANL ER-130 Modified	1.11E-01	1.30E-01	1.30E-01	2.12E-01	pCi/g		
07-12053-10	TRG	SUB-008-01	12/05/07 10:35	12/11/2007	12/18/2007	07-12053	Cobalt-60	LANL ER-130 Modified	-7.25E-03	6.52E-02	6.52E-02	1.19E-01	pCi/g		
07-12053-10	TRG	SUB-008-01	12/05/07 10:35	12/11/2007	12/18/2007	07-12053	Cesium-137	LANL ER-130 Modified	4.44E-01	1.18E-01	1.18E-01	1.09E-01	pCi/g		
07-12053-11	TRG	SUB-009-01	12/05/07 10:00	12/11/2007	12/18/2007	07-12053	Cobalt-60	LANL ER-130 Modified	1.84E-02	4.33E-02	4.33E-02	8.41E-02	pCi/g		
07-12053-11	TRG	SUB-009-01	12/05/07 10:00	12/11/2007	12/18/2007	07-12053	Cesium-137	LANL ER-130 Modified	5.39E-01	9.67E-02	9.67E-02	6.83E-02	pCi/g		

CU=Counting Uncertainty;CSU=Combined Standard Uncertainty (2-sigma);MDA=Minimal Detected Activity;LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original



EBERLINE
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Oak Ridge Laboratory

601 Scarboro Road, Oak Ridge, TN 37830 865/481-0683 FAX 865/483-4621

Eberline Services Final Report of Analysis				Report To:				Work Order Details:					
Nels Johnson				Nels Johnson				SDG: 07-12053					
Weston Solutions				Weston Solutions				Purchase Order: 0060846					
3840 Commons Avenue NE				3840 Commons Avenue NE				Analysis Category: ENVIRONMENTAL					
Albuquerque, NM 87109				Albuquerque, NM 87109				Sample Matrix: SO					
Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	Report Units
07-12053-12	TRG	SUB-010-01	12/05/07 10:15	12/11/2007	12/18/2007	07-12053	Cobalt-60	LANL ER-130 Modified	-7.67E-03	4.05E-02	4.05E-02	7.10E-02	pCi/g
07-12053-12	TRG	SUB-010-01	12/05/07 10:15	12/11/2007	12/18/2007	07-12053	Cesium-137	LANL ER-130 Modified	5.95E-02	5.20E-02	5.20E-02	8.00E-02	pCi/g
07-12053-13	TRG	SUB-011-01	12/05/07 10:05	12/11/2007	12/18/2007	07-12053	Cobalt-60	LANL ER-130 Modified	1.89E-02	9.96E-02	9.96E-02	1.92E-01	pCi/g
07-12053-13	TRG	SUB-011-01	12/05/07 10:05	12/11/2007	12/18/2007	07-12053	Cesium-137	LANL ER-130 Modified	2.51E-01	1.47E-01	1.47E-01	1.93E-01	pCi/g
07-12053-14	TRG	SUB-012-01	12/05/07 10:30	12/11/2007	12/18/2007	07-12053	Cobalt-60	LANL ER-130 Modified	1.07E-02	4.04E-02	4.04E-02	7.65E-02	pCi/g
07-12053-14	TRG	SUB-012-01	12/05/07 10:30	12/11/2007	12/18/2007	07-12053	Cesium-137	LANL ER-130 Modified	4.42E-02	4.53E-02	4.53E-02	8.81E-02	pCi/g
07-12053-15	TRG	SUB-013-01	12/05/07 10:17	12/11/2007	12/18/2007	07-12053	Cobalt-60	LANL ER-130 Modified	-3.54E-02	5.06E-02	5.06E-02	6.38E-02	pCi/g
07-12053-15	TRG	SUB-013-01	12/05/07 10:17	12/11/2007	12/18/2007	07-12053	Cesium-137	LANL ER-130 Modified	2.74E-01	9.56E-02	9.56E-02	7.07E-02	pCi/g
07-12053-16	TRG	SUB-001-01	11/15/07 08:00	12/11/2007	12/18/2007	07-12053	Cobalt-60	LANL ER-130 Modified	3.66E-03	3.98E-02	3.98E-02	7.45E-02	pCi/g
07-12053-16	TRG	SUB-001-01	11/15/07 08:00	12/11/2007	12/18/2007	07-12053	Cesium-137	LANL ER-130 Modified	1.10E-02	4.00E-02	4.00E-02	7.51E-02	pCi/g
07-12053-17	TRG	SUB-002-01	11/15/07 08:05	12/11/2007	12/18/2007	07-12053	Cobalt-60	LANL ER-130 Modified	1.71E-02	5.24E-02	5.24E-02	1.06E-01	pCi/g
07-12053-17	TRG	SUB-002-01	11/15/07 08:05	12/11/2007	12/18/2007	07-12053	Cesium-137	LANL ER-130 Modified	2.64E-02	5.07E-02	5.07E-02	9.96E-02	pCi/g
07-12053-18	TRG	SUB-003-01	11/15/07 08:10	12/11/2007	12/18/2007	07-12053	Cobalt-60	LANL ER-130 Modified	1.12E-02	3.15E-02	3.15E-02	6.02E-02	pCi/g
07-12053-18	TRG	SUB-003-01	11/15/07 08:10	12/11/2007	12/18/2007	07-12053	Cesium-137	LANL ER-130 Modified	1.53E-01	6.43E-02	6.43E-02	4.90E-02	pCi/g
07-12053-19	TRG	SUB-004-01	11/15/07 08:15	12/11/2007	12/18/2007	07-12053	Cobalt-60	LANL ER-130 Modified	-1.17E-02	2.93E-02	2.93E-02	5.01E-02	pCi/g
07-12053-19	TRG	SUB-004-01	11/15/07 08:15	12/11/2007	12/18/2007	07-12053	Cesium-137	LANL ER-130 Modified	1.29E+00	1.31E-01	1.31E-01	4.82E-02	pCi/g
07-12053-20	TRG	SUB-005-01	11/15/07 08:20	12/11/2007	12/18/2007	07-12053	Cobalt-60	LANL ER-130 Modified	3.41E-02	3.60E-02	3.60E-02	7.52E-02	pCi/g
07-12053-20	TRG	SUB-005-01	11/15/07 08:20	12/11/2007	12/18/2007	07-12053	Cesium-137	LANL ER-130 Modified	6.92E-01	1.13E-01	1.13E-01	6.48E-02	pCi/g

CU=Counting Uncertainty;CSU=Combined Standard Uncertainty (2-sigma);MDA=Minimal Detected Activity;LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original



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Oak Ridge Laboratory

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Chain of Custody Record/Lab Work Request

COC ID	EBL-1207-01
--------	-------------

Client: Weston Solutions, Inc.
 Site Name: Rad Yard
 W.O. #: 11785.004.006.5030
 Lab: Eberline
 TAT: Standard

Contact Name: Joe Gross
 Contact Phone: (410)-612-5910
 Lab Contact: Sample Management
 Lab Phone: 865-481-0683

Lab Use Only

Temperature of cooler when received (°C) _____

COC Tape was present and unbroken on outer package? Y N

Samples received in good condition? Y N

Labels indicate properly preserved? Y N

Received within holding times? Y N

Discrepancies between sample labels and COC record? Y N

Container Volume (ml)	Number of Containers	
	Liquid	Solid
Container Type (Plastic/Glass)		
Filtered Sample		
Preservative		

Analyses Requested	Date Collected	Time Collected
Alpha Spec	11/19/07	1340
	12/6/07	1300
	12/5/07	1040
	12/5/07	1045
	12/6/07	1230
	12/5/07	1025
	12/5/07	1010
	12/5/07	1020
	12/5/07	1030
	12/5/07	1035
	12/5/07	1000
	12/5/07	1015

Lab ID	Sample ID	Matrix	MS	MSD
4	SU7-012-01	S		
5	SU7-013-01	S		
6	SU8-001-01	S		
7	SU8-002-01	S		
8	SU8-003-01	S		
9	SU8-004-01	S		
10	SU8-005-01	S		
11	SU8-006-01	S		
12	SU8-007-01	S		
	SU8-008-01	S		
	SU8-009-01	S		
	SU8-010-01	S		

Additional Comments

RECEIVED
 DEC 11 7007
 BY: KF

Relinquished By	Date	Time	Received By	Date	Time
K. Axin	12/10/07	1200	[Signature]	12/11/07	0900

12/11/07



Chain of Custody Record/Lab Work Request

COC ID
EBL-1207-01

Client: Weston Solutions, Inc.
 Site Name: Rad Yard Contact Name: Joe Gross
 W.O. #: 11795.004.006.5030 Contact Phone: (410)-612-5970
 Lab: Eberline Lab Contact: Sample Management
 TAT: Standard Lab Phone: 865-481-0683

Lab Use Only

Temperature of cooler when received (°C)

COC Tape was present and unbroken on outer package? Y N

Samples received in good condition? Y N

Labels indicate properly preserved? Y N

Received within holding times? Y N

Discrepancies between sample labels and COC record? Y N

Container Volume (ml)	Number of Containers		Date Collected	Time Collected	MSD	Matrix	MS	Sample ID	Date	Time	Special Instructions/Comments
	Liquid	Solid									
Container Type (Plastic/Glass)			12/5/07	1005		S		SU8-011-01	12/10/07	1200	
Filtered Sample			12/5/07	1030		S		SU8-012-01			
Preservative			12/5/07	1017		S		SU8-013-01			
Analyses Requested			11/15/07	0800		S		SU9-001-01			
			11/15/07	0805		S		SU9-002-01			
			11/15/07	0810		S		SU9-003-01			
			11/15/07	0815		S		SU9-004-01			
			11/15/07	0820		S		SU9-005-01			
			11/15/07	0825		S		SU9-006-01			
			11/15/07	0830		S		SU9-007-01			
			11/15/07	0835		S		SU9-008-01			
		11/15/07	0840		S		SU9-009-01				

Alpha Oper

Relinquished By: *[Signature]* Date: 12/10/07 Time: 1200

Received By: *[Signature]* Date: 12/11/07 Time: 0900

Additional Comments: RECORDED
DEC 11 2007
BY: KF



Internal Chain of Custody

Work Order #	07-12053
Lab Deadline	1/3/2008
Analysis	Gamma - Level 4
Sample Matrix	Soil/Solid

Comments	Sample Fraction	HP 210 / 270 Detector Activity	Storage Location
Report Co60, Cs137	04	43	K1.1
	05	41	K1.1
	06	46	K1.1
	07	43	K1.1
	08	49	K1.1
	09	45	K1.1
	10	53	K1.1
	11	44	K1.1
	12	48	K1.1
	13	40	K1.1
	14	40	K1.1
	15	46	K1.1
	16	41	K1.1
	17	53	K1.1
	18	42	K1.1
	19	47	K1.1
	20	43	K1.1

	Location (circle one)					Initials	Date
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room 1560	Kenny Sallig	12-12-07
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room 1040	Kenny Sallig	12-14-07
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room	Murphy	12-14-07 1040
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room	ICBS	12/14/07 1720
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		



EBS-OR-26847

January 8, 2008

Mr. Nels Johnson
Weston Solutions
3840 Commons Avenue NE
Albuquerque, NM 87109

Oak Ridge Laboratory
601 Scarboro Road
Oak Ridge, TN 37830
Phone (865) 481-0683
Fax (865) 483-4621

CASE NARRATIVE
Work Order #07-12054-OR

SAMPLE RECEIPT

This work order contains seventeen soil samples received 12/11/2007. All samples were analyzed by Gamma Spectroscopy.

<u>CLIENT ID</u>	<u>LAB ID</u>	<u>CLIENT ID</u>	<u>LAB ID</u>
SU9-006-01	07-12054-04	SU9-015-01	07-12054-13
SU9-007-01	07-12054-05	SU10-001-01	07-12054-14
SU9-008-01	07-12054-06	SU10-002-01	07-12054-15
SU9-009-01	07-12054-07	SU10-003-01	07-12054-16
SU9-010-01	07-12054-08	SU10-004-01	07-12054-17
SU9-011-01	07-12054-09	SU10-005-01	07-12054-18
SU9-012-01	07-12054-10	SU10-006-01	07-12054-19
SU9-013-01	07-12054-11	SU10-007-01	07-12054-20
SU9-014 -01	07-12054-12		

ANALYTICAL METHODS

Gamma Spectroscopy was performed using Method LANL ER-130 Modified.

ANALYTICAL RESULTS

Combined Standard Uncertainty is reported at 2-sigma value.

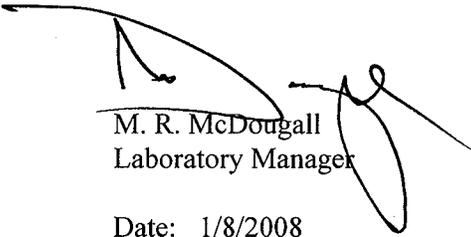
GAMMA SPECTROSCOPY

Samples for Gamma Spectroscopy analysis were prepared by transferring a known mass/aliquot of each prepared and homogenized sample to a standard geometry container. Samples were counted on High Purity Germanium (HPGe) gamma ray detectors.

Samples demonstrated non-detect equivalent results for Cobalt-60 activity and non-detect equivalent to slightly positive results for Cesium-137 activity. Results for the Cobalt-60 and Cesium-137 method blank demonstrated non-detect equivalent activity. Results for the Cobalt-60 and Cesium-137 replicate demonstrated a high relative percent difference; however, normalized difference is within acceptable limits for the analytical technique. Results for the Cobalt-60 and Cesium-137 laboratory control sample demonstrated an acceptable percent recovery.

CERTIFICATION OF ACCURACY

I certify that this data report is in compliance with the terms and conditions of the Purchase Order, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data has been authorized by the cognizant project manager or his/her designee to be accurate as verified by the following signature.



M. R. McDougall
Laboratory Manager

Date: 1/8/2008

Eberline Services

Final Report of Analysis

Lab ID		Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	Report Units
07-12054-01	LCS	KNOWN		12/12/07 00:00	12/11/2007	12/18/2007	07-12054	Cobalt-60	LANL ER-130 Modified	1.27E+02	3.36E+00			pCi/g
07-12054-01	LCS	KNOWN		12/12/07 00:00	12/11/2007	12/18/2007	07-12054	Cesium-137	LANL ER-130 Modified	7.82E+01	2.35E+00			pCi/g
07-12054-01	LCS	SPIKE		12/12/07 00:00	12/11/2007	12/18/2007	07-12054	Cobalt-60	LANL ER-130 Modified	1.29E+02	6.19E+00	6.19E+00	5.35E-01	pCi/g
07-12054-01	LCS	SPIKE		12/12/07 00:00	12/11/2007	12/18/2007	07-12054	Cesium-137	LANL ER-130 Modified	7.92E+01	7.17E+00	7.17E+00	4.49E-01	pCi/g
07-12054-02	MBL	BLANK		12/12/07 00:00	12/11/2007	12/19/2007	07-12054	Cobalt-60	LANL ER-130 Modified	-1.20E-03	1.04E-02	1.04E-02	2.07E-02	pCi/g
07-12054-02	MBL	BLANK		12/12/07 00:00	12/11/2007	12/19/2007	07-12054	Cesium-137	LANL ER-130 Modified	9.19E-03	1.46E-02	1.46E-02	3.00E-02	pCi/g
07-12054-03	DUP	SU9-006-01		11/15/07 08:25	12/11/2007	12/18/2007	07-12054	Cobalt-60	LANL ER-130 Modified	-4.75E-03	3.21E-02	3.21E-02	5.65E-02	pCi/g
07-12054-03	DUP	SU9-006-01		11/15/07 08:25	12/11/2007	12/18/2007	07-12054	Cesium-137	LANL ER-130 Modified	3.36E-02	3.47E-02	3.47E-02	5.78E-02	pCi/g
07-12054-04	DO	SU9-006-01		11/15/07 08:25	12/11/2007	12/19/2007	07-12054	Cobalt-60	LANL ER-130 Modified	5.74E-02	5.19E-02	5.19E-02	6.30E-02	pCi/g
07-12054-04	DO	SU9-006-01		11/15/07 08:25	12/11/2007	12/19/2007	07-12054	Cesium-137	LANL ER-130 Modified	8.16E-02	4.03E-02	4.03E-02	4.96E-02	pCi/g
07-12054-05	TRG	SU9-007-01		11/15/07 08:30	12/11/2007	12/18/2007	07-12054	Cobalt-60	LANL ER-130 Modified	-6.29E-03	3.64E-02	3.64E-02	5.93E-02	pCi/g
07-12054-05	TRG	SU9-007-01		11/15/07 08:30	12/11/2007	12/18/2007	07-12054	Cesium-137	LANL ER-130 Modified	9.79E-02	4.68E-02	4.68E-02	5.98E-02	pCi/g
07-12054-06	TRG	SU9-008-01		11/15/07 08:35	12/11/2007	12/18/2007	07-12054	Cobalt-60	LANL ER-130 Modified	8.46E-03	2.17E-02	2.17E-02	4.31E-02	pCi/g
07-12054-06	TRG	SU9-008-01		11/15/07 08:35	12/11/2007	12/18/2007	07-12054	Cesium-137	LANL ER-130 Modified	8.79E-01	1.13E-01	1.13E-01	3.96E-02	pCi/g
07-12054-07	TRG	SU9-009-01		11/15/07 08:40	12/11/2007	12/19/2007	07-12054	Cobalt-60	LANL ER-130 Modified	2.03E-04	2.09E-02	2.09E-02	4.11E-02	pCi/g
07-12054-07	TRG	SU9-009-01		11/15/07 08:40	12/11/2007	12/19/2007	07-12054	Cesium-137	LANL ER-130 Modified	1.35E+00	1.52E-01	1.52E-01	5.10E-02	pCi/g
07-12054-08	TRG	SU9-010-01		11/15/07 08:45	12/11/2007	12/19/2007	07-12054	Cobalt-60	LANL ER-130 Modified	5.11E-03	7.35E-02	7.35E-02	1.38E-01	pCi/g
07-12054-08	TRG	SU9-010-01		11/15/07 08:45	12/11/2007	12/19/2007	07-12054	Cesium-137	LANL ER-130 Modified	2.44E-01	1.36E-01	1.36E-01	1.09E-01	pCi/g
07-12054-09	TRG	SU9-011-01		11/15/07 08:50	12/11/2007	12/19/2007	07-12054	Cobalt-60	LANL ER-130 Modified	-8.85E-03	2.03E-02	2.03E-02	3.58E-02	pCi/g
07-12054-09	TRG	SU9-011-01		11/15/07 08:50	12/11/2007	12/19/2007	07-12054	Cesium-137	LANL ER-130 Modified	7.68E-03	1.98E-02	1.98E-02	3.89E-02	pCi/g
07-12054-10	TRG	SU9-012-01		11/15/07 09:00	12/11/2007	12/20/2007	07-12054	Cobalt-60	LANL ER-130 Modified	-1.65E-02	3.89E-02	3.89E-02	6.81E-02	pCi/g
07-12054-10	TRG	SU9-012-01		11/15/07 09:00	12/11/2007	12/20/2007	07-12054	Cesium-137	LANL ER-130 Modified	1.14E-01	7.58E-02	7.58E-02	7.14E-02	pCi/g
07-12054-11	TRG	SU9-013-01		11/15/07 09:05	12/11/2007	12/20/2007	07-12054	Cobalt-60	LANL ER-130 Modified	-5.73E-03	2.86E-02	2.86E-02	5.14E-02	pCi/g
07-12054-11	TRG	SU9-013-01		11/15/07 09:05	12/11/2007	12/20/2007	07-12054	Cesium-137	LANL ER-130 Modified	2.41E-01	5.17E-02	5.17E-02	5.27E-02	pCi/g

Work Order Details:

SDG: 07-12054

Purchase Order: 0060846

Analysis Category: ENVIRONMENTAL

Sample Matrix: SO

Report To:

Nels Johnson

Weston Solutions

3840 Commons Avenue NE

Albuquerque, NM 87109

CU=Counting Uncertainty;CSU=Combined Standard Uncertainty (2-sigma);MDA=Minimal Detected Activity;LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original



EBERLINE
SERVICES

Oak Ridge Laboratory

601 Scarboro Road, Oak Ridge, TN 37830 865/481-0683 FAX 865/483-4621

Eberline Services Final Report of Analysis				Report To:				Work Order Details:				
Nels Johnson				SDG: 07-12054				Purchase Order: 0060846				
Weston Solutions				Analysis Category: ENVIRONMENTAL				Sample Matrix: SO				
3840 Commons Avenue NE				Batch ID				Analyte				
Albuquerque, NM 87109				Analysis Date				Method				
Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Result	CU	CSU	MDA	Report Units
07-12054-12	TRG	SU9-014-01	11/15/07 09:10	12/11/2007	12/20/2007	07-12054	Cobalt-60	3.13E-03	3.62E-02	3.62E-02	5.95E-02	pCi/g
07-12054-12	TRG	SU9-014-01	11/15/07 09:10	12/11/2007	12/20/2007	07-12054	Cesium-137	3.70E-01	8.10E-02	8.10E-02	5.73E-02	pCi/g
07-12054-13	TRG	SU9-015-01	11/15/07 09:15	12/11/2007	12/20/2007	07-12054	Cobalt-60	-3.06E-02	7.47E-02	7.47E-02	1.31E-01	pCi/g
07-12054-13	TRG	SU9-015-01	11/15/07 09:15	12/11/2007	12/20/2007	07-12054	Cesium-137	2.08E-01	1.07E-01	1.07E-01	1.14E-01	pCi/g
07-12054-14	TRG	SU10-001-01	11/16/07 10:35	12/11/2007	12/20/2007	07-12054	Cobalt-60	-1.63E-02	3.91E-02	3.91E-02	6.85E-02	pCi/g
07-12054-14	TRG	SU10-001-01	11/16/07 10:35	12/11/2007	12/20/2007	07-12054	Cesium-137	4.58E-01	9.40E-02	9.40E-02	6.35E-02	pCi/g
07-12054-15	TRG	SU10-002-01	11/16/07 10:50	12/11/2007	12/20/2007	07-12054	Cobalt-60	-1.74E-02	3.08E-02	3.08E-02	5.23E-02	pCi/g
07-12054-15	TRG	SU10-002-01	11/16/07 10:50	12/11/2007	12/20/2007	07-12054	Cesium-137	2.51E-01	5.46E-02	5.46E-02	4.84E-02	pCi/g
07-12054-16	TRG	SU10-003-01	11/16/07 10:45	12/11/2007	12/20/2007	07-12054	Cobalt-60	1.49E-02	4.25E-02	4.25E-02	7.79E-02	pCi/g
07-12054-16	TRG	SU10-003-01	11/16/07 10:45	12/11/2007	12/20/2007	07-12054	Cesium-137	6.66E-01	9.67E-02	9.67E-02	6.80E-02	pCi/g
07-12054-17	TRG	SU10-004-01	11/16/07 10:15	12/11/2007	12/20/2007	07-12054	Cobalt-60	1.44E-02	5.02E-02	5.02E-02	1.01E-01	pCi/g
07-12054-17	TRG	SU10-004-01	11/16/07 10:15	12/11/2007	12/20/2007	07-12054	Cesium-137	8.09E-01	1.42E-01	1.42E-01	8.35E-02	pCi/g
07-12054-18	TRG	SU10-005-01	11/16/07 10:10	12/11/2007	12/20/2007	07-12054	Cobalt-60	1.33E-03	3.19E-02	3.19E-02	6.00E-02	pCi/g
07-12054-18	TRG	SU10-005-01	11/16/07 10:10	12/11/2007	12/20/2007	07-12054	Cesium-137	2.82E-02	3.55E-02	3.55E-02	6.91E-02	pCi/g
07-12054-19	TRG	SU10-006-01	11/16/07 10:20	12/11/2007	12/20/2007	07-12054	Cobalt-60	-1.53E-03	1.68E-02	1.68E-02	3.18E-02	pCi/g
07-12054-19	TRG	SU10-006-01	11/16/07 10:20	12/11/2007	12/20/2007	07-12054	Cesium-137	8.06E-02	3.32E-02	3.32E-02	3.86E-02	pCi/g
07-12054-20	TRG	SU10-007-01	11/16/07 10:05	12/11/2007	12/20/2007	07-12054	Cobalt-60	1.32E-02	3.15E-02	3.15E-02	5.87E-02	pCi/g
07-12054-20	TRG	SU10-007-01	11/16/07 10:05	12/11/2007	12/20/2007	07-12054	Cesium-137	2.30E-01	6.21E-02	6.21E-02	4.97E-02	pCi/g

CU=Counting Uncertainty;CSU=Combined Standard Uncertainty (2-sigma);MDA=Minimal Detected Activity;LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original



EBERLINE
SERVICES

Oak Ridge Laboratory

601 Scarboro Road, Oak Ridge, TN 37830 865/481-0683 FAX 865/483-4621



Chain of Custody Record/Lab Work Request

COC ID
EBL-1207-01

Client: Weston Solutions, Inc.
 Site Name: Rad Yard
 W.O. #: 11785.004.006.5030
 Lab: Eberline
 TAT: Standard

Contact Name: Joe Gross
 Contact Phone: (410)-612-5910
 Lab Contact: Sample Management
 Lab Phone: 865-481-0683

Lab Use Only

Temperature of cooler when received (°C) _____

COC Tape was present and unbroken on outer package? Y N

Samples received in good condition? Y N

Labels indicate properly preserved? Y N

Received within holding times? Y N

Discrepancies between sample labels and COC record? Y N

Matrix Codes	Number of Containers		Special Instructions/Comments
	Container Volume (ml)	Liquid / Solid	
S - Soil			
SE - Sediment			
SO - Solid			
SL - Sludge			
W - Water			
O - Oil			
A - Air			
DS - Drum Solids			
DL - Drum Liquids			
L - EP/TCLP Leachate			
WI - Wipe			
X - Other			
F - Fish			

Alpha Spec

Analyses Requested

Lab ID	Sample ID	Matrix	MS	MSD	Date Collected	Time Collected	Date	Time
	SU8-011-01	S			12/15/07	1005		
	SU8-012-01	S			12/15/07	1030		
	SU8-013-01	S			12/15/07	1017		
	SU9-001-01	S			11/15/07	0800		
	SU9-002-01	S			11/15/07	0805		
	SU9-003-01	S			11/15/07	0810		
	SU9-004-01	S			11/15/07	0815		
	SU9-005-01	S			11/15/07	0820		
4	SU9-006-01	S			11/15/07	0825		
5	SU9-007-01	S			11/15/07	0830		
4	SU9-008-01	S			11/15/07	0835		
7	SU9-009-01	S			11/15/07	0840		

Relinquished By: *[Signature]* Date: 12/10/07 Time: 1200

Received By: *[Signature]* Date: 12/11/07 Time: 0900

Additional Comments: RECEIVED DEC 11 2007 BY: KF



Chain of Custody Record/Lab Work Request

COC ID
EBL-1207-01

Client: Weston Solutions, Inc.
 Site Name: Rad Yard Contact Name: Joe Gross
 W.O. #: 11795.004.006.5030 Contact Phone: (410)-612-5910
 Lab: Eberline Lab Contact: Sample Management
 TAT: Standard Lab Phone: 865-481-0683

Lab Use Only

Temperature of cooler when received (°C) Y N
 COC Tape was present and unbroken on outer package? Y N
 Samples received in good condition? Y N
 Labels indicate properly preserved? Y N
 Received within holding times? Y N
 Discrepancies between sample labels and COC record? Y N

Container Volume (ml)	Liquid	Solid	Date Collected	Time Collected	Analyses Requested	Matrix Codes
					Alpha OP	S - Soil
						SE - Sediment
						SO - Solid
						SL - Sludge
						W - Water
						O - Oil
						A - Air
						DS - Drum Solids
						DL - Drum Liquids
						L - EPT/CLP Leachate
						WI - Wipe
						X - Other
						F - Fish

Lab ID	Sample ID	Matrix	MS	MSD	Date Collected	Time Collected	Time
8	SU9-010-01	S			11/15/07	0845	0900
9	SU9-011-01	S			11/15/07	0850	
10	SU9-012-01	S			11/15/07	0900	
11	SU9-013-01	S			11/15/07	0905	
12	SU9-014-01	S			11/15/07	0910	
13	SU9-015-01	S			11/15/07	0915	
14	SU10-001-01	S			11/16/07	1035	
15	SU10-002-01	S			11/16/07	1050	
16	SU10-003-01	S			11/16/07	1045	
17	SU10-004-01	S			11/16/07	1015	
18	SU10-005-01	S			11/16/07	1010	
19	SU10-006-01	S			11/16/07	1026	

Relinquished By	Date	Time	Received By	Date	Time
[Signature]	12/10/07	1200	[Signature]	12/11/07	0900
2.)					
3.)					

Additional Comments

RECEIVED
DEC 11 2007
BY: KF



Chain of Custody Record/Lab Work Request

COC ID
EBL-1207-01

Client: Weston Solutions, Inc.
 Site Name: Rad Yard Contact Name: Joe Gross
 W.O. #: 11785.004.006.5030 Contact Phone: (410)-612-5910
 Lab: Eberline Lab Contact: Sample Management
 TAT: Standard Lab Phone: 865-481-0883

Lab Use Only
 Temperature of cooler when received (°C) Y N
 COC Tape was present and unbroken on outer package? Y N
 Samples received in good condition? Y N
 Labels indicate property preserved? Y N
 Received within holding times? Y N
 Discrepancies between sample labels and COC record? Y N

Lab ID	Sample ID	Matrix	MS	MSD	Number of Containers		Date Collected	Time Collected	Analyses Requested	Matrix Codes
					Container Volume (ml)	Liquid / Solid				
20	SU10-007-01	S					11/16/07	1065	Alpha Spec	S - Soil
	SU10-008-01	S					11/16/07	1100		SE - Sediment
	SU10-009-01	S					11/14/07	1510		SO - Solid
	SU10-010-01	S					11/16/07	1435		SL - Sludge
	SU10-011-01	S					12/4/07	1135		W - Water
	SU10-012-01	S					12/6/07	1136		O - Oil
	SU10-013-01	S					12/6/07	1125		A - Air
	SU11-001-01	S					11/15/07	1300		DS - Drum Solids
	SU11-002-01	S					11/15/07	1305		DL - Drum Liquids
	SU11-003-01	S					11/15/07	1310		L - EP/TCLP Leachate
	SU11-004-01	S					11/15/07	1315		WI - Wipe
	SU11-005-01	S					11/15/07	1320		X - Other
										F - Fish

Relinquished By	Date	Time	Received By	Date	Time
<i>[Signature]</i>	12/16/07	1200	<i>[Signature]</i>	12/14/07	0900

Additional Comments
RECEIVED
 DEC 11 2007
 BY: KF

	<h1>Internal Chain of Custody</h1>	Work Order #	07-12054
		Lab Deadline	1/3/2008
		Analysis	Gamma - Level 4
		Sample Matrix	Soil/Solid

Comments	Sample Fraction	HP 210 / 270 Detector Activity	Storage Location
Report Co60, Cs137	04	32	K1.1
	05	35	K1.1
	06	40	K1.1
	07	35	K1.1
	08	36	K1.1
	09	50	K1.1
	10	48	K1.1
	11	48	K1.1
	12	46	K1.1
	13	44	K1.1
	14	37	K1.1
	15	39	K1.1
16	43	K1.1	
17	52	K1.1	
18	35	K1.1	
19	46	K1.1	
20	42	K1.1	

	Location (circle one)					Initials	Date
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room 1400	Kenny Salley	12-13-07
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room 1040	Kenny Salley	12-14-07
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room	Myrland	12-14-07
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room	Myrland	12-20-07 1045 0921
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		



EBS-OR-26831

January 3, 2008

Mr. Nels Johnson
Weston Solutions
3840 Commons Avenue NE
Albuquerque, NM 87109

Oak Ridge Laboratory
601 Scarboro Road
Oak Ridge, TN 37830
Phone (865) 481-0683
Fax (865) 483-4621

CASE NARRATIVE
Work Order #07-12055-OR

SAMPLE RECEIPT

This work order contains seventeen soil samples received 12/11/2007. All samples were analyzed by Gamma Spectroscopy.

<u>CLIENT ID</u>	<u>LAB ID</u>	<u>CLIENT ID</u>	<u>LAB ID</u>
SU10-008-01	07-12055-04	SU11-004-01	07-12055-13
SU10-009-01	07-12055-05	SU11-005-01	07-12055-14
SU10-010-01	07-12055-06	SU11-006-01	07-12055-15
SU10-011-01	07-12055-07	SU11-007-01	07-12055-16
SU10-012-01	07-12055-08	SU11-008-01	07-12055-17
SU10-013-01	07-12055-09	SU11-009-01	07-12055-18
SU11-001-01	07-12055-10	SU11-010-01	07-12055-19
SU11-002-01	07-12055-11	SU11-011-01	07-12055-20
SU11-003-01	07-12055-12		

ANALYTICAL METHODS

Gamma Spectroscopy was performed using Method LANL ER-130 Modified.

ANALYTICAL RESULTS

Combined Standard Uncertainty is reported at 2-sigma value.

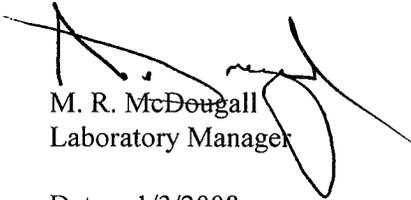
GAMMA SPECTROSCOPY

Samples for Gamma Spectroscopy analysis were prepared by transferring a known mass/aliquot of each prepared and homogenized sample to a standard geometry container. Samples were counted on High Purity Germanium (HPGe) gamma ray detectors.

Samples demonstrated non-detect equivalent results for Cobalt-60 activity and non-detect equivalent to slightly positive results for Cesium-137 activity. Results for the Cobalt-60 and Cesium-137 method blank demonstrated non-detect equivalent activity. Results for the Cobalt-60 and Cesium-137 replicate demonstrated a high relative percent difference; however, normalized difference is within acceptable limits for the analytical technique. Results for the Cobalt-60 and Cesium-137 laboratory control sample demonstrated an acceptable percent recovery.

CERTIFICATION OF ACCURACY

I certify that this data report is in compliance with the terms and conditions of the Purchase Order, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data has been authorized by the cognizant project manager or his/her designee to be accurate as verified by the following signature.



M. R. McDougall
Laboratory Manager

Date: 1/3/2008

Eberline Services

Final Report of Analysis

Report To:
 Nels Johnson
 Weston Solutions
 3840 Commons Avenue NE
 Albuquerque, NM 87109

Work Order Details:
 SDG: **07-12055**
 Purchase Order: 0060846
 Analysis Category: ENVIRONMENTAL
 Sample Matrix: SO

Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	Report Units
07-12055-01	LCS	KNOWN	12/12/07 00:00	12/11/2007	12/20/2007	07-12055	Cobalt-60	LANL ER-130 Modified	1.27E+02	3.38E+00			pCi/g
07-12055-01	LCS	KNOWN	12/12/07 00:00	12/11/2007	12/20/2007	07-12055	Cesium-137	LANL ER-130 Modified	7.82E+01	2.35E+00			pCi/g
07-12055-01	LCS	SPIKE	12/12/07 00:00	12/11/2007	12/20/2007	07-12055	Cobalt-60	LANL ER-130 Modified	1.27E+02	6.06E+00	6.06E+00	5.46E-01	pCi/g
07-12055-01	LCS	SPIKE	12/12/07 00:00	12/11/2007	12/20/2007	07-12055	Cesium-137	LANL ER-130 Modified	7.86E+01	7.12E+00	7.12E+00	4.45E-01	pCi/g
07-12055-02	MBL	BLANK	12/12/07 00:00	12/11/2007	12/20/2007	07-12055	Cobalt-60	LANL ER-130 Modified	-6.41E-03	1.56E-02	1.56E-02	2.73E-02	pCi/g
07-12055-02	MBL	BLANK	12/12/07 00:00	12/11/2007	12/20/2007	07-12055	Cesium-137	LANL ER-130 Modified	-1.09E-03	1.55E-02	1.55E-02	2.93E-02	pCi/g
07-12055-03	DUP	SU10-008-01	11/16/07 11:00	12/11/2007	12/20/2007	07-12055	Cobalt-60	LANL ER-130 Modified	2.61E-02	5.89E-02	5.89E-02	1.24E-01	pCi/g
07-12055-03	DUP	SU10-008-01	11/16/07 11:00	12/11/2007	12/20/2007	07-12055	Cesium-137	LANL ER-130 Modified	2.99E-01	1.63E-01	1.63E-01	1.13E-01	pCi/g
07-12055-04	DO	SU10-008-01	11/16/07 11:00	12/11/2007	12/20/2007	07-12055	Cobalt-60	LANL ER-130 Modified	-1.28E-02	7.68E-02	7.68E-02	1.41E-01	pCi/g
07-12055-04	DO	SU10-008-01	11/16/07 11:00	12/11/2007	12/20/2007	07-12055	Cesium-137	LANL ER-130 Modified	2.22E-01	1.70E-01	1.70E-01	1.30E-01	pCi/g
07-12055-05	TRG	SU10-009-01	11/16/07 15:10	12/11/2007	12/20/2007	07-12055	Cobalt-60	LANL ER-130 Modified	-2.49E-02	4.06E-02	4.06E-02	6.89E-02	pCi/g
07-12055-05	TRG	SU10-009-01	11/16/07 15:10	12/11/2007	12/20/2007	07-12055	Cesium-137	LANL ER-130 Modified	4.26E-01	7.88E-02	7.88E-02	6.47E-02	pCi/g
07-12055-06	TRG	SU10-010-01	11/16/07 14:35	12/11/2007	12/20/2007	07-12055	Cobalt-60	LANL ER-130 Modified	-4.77E-03	3.31E-02	3.31E-02	6.00E-02	pCi/g
07-12055-06	TRG	SU10-010-01	11/16/07 14:35	12/11/2007	12/20/2007	07-12055	Cesium-137	LANL ER-130 Modified	6.96E-01	1.04E-01	1.04E-01	6.05E-02	pCi/g
07-12055-07	TRG	SU10-011-01	12/06/07 11:35	12/11/2007	12/20/2007	07-12055	Cobalt-60	LANL ER-130 Modified	2.30E-02	3.19E-02	3.19E-02	6.17E-02	pCi/g
07-12055-07	TRG	SU10-011-01	12/06/07 11:35	12/11/2007	12/20/2007	07-12055	Cesium-137	LANL ER-130 Modified	3.38E-02	3.21E-02	3.21E-02	6.27E-02	pCi/g
07-12055-08	TRG	SU10-012-01	12/06/07 11:30	12/11/2007	12/20/2007	07-12055	Cobalt-60	LANL ER-130 Modified	-5.59E-02	5.62E-02	5.62E-02	8.96E-02	pCi/g
07-12055-08	TRG	SU10-012-01	12/06/07 11:30	12/11/2007	12/20/2007	07-12055	Cesium-137	LANL ER-130 Modified	1.65E-01	8.80E-02	8.80E-02	9.94E-02	pCi/g
07-12055-09	TRG	SU10-013-01	12/06/07 11:25	12/11/2007	12/20/2007	07-12055	Cobalt-60	LANL ER-130 Modified	-1.56E-02	3.29E-02	3.29E-02	5.73E-02	pCi/g
07-12055-09	TRG	SU10-013-01	12/06/07 11:25	12/11/2007	12/20/2007	07-12055	Cesium-137	LANL ER-130 Modified	5.29E-01	9.97E-02	9.97E-02	6.22E-02	pCi/g
07-12055-10	TRG	SU11-001-01	11/15/07 13:00	12/11/2007	12/20/2007	07-12055	Cobalt-60	LANL ER-130 Modified	6.95E-04	2.71E-02	2.71E-02	4.93E-02	pCi/g
07-12055-10	TRG	SU11-001-01	11/15/07 13:00	12/11/2007	12/20/2007	07-12055	Cesium-137	LANL ER-130 Modified	8.21E-02	3.21E-02	3.21E-02	6.72E-02	pCi/g
07-12055-11	TRG	SU11-002-01	11/15/07 13:05	12/11/2007	12/20/2007	07-12055	Cobalt-60	LANL ER-130 Modified	1.62E-02	6.53E-02	6.53E-02	1.27E-01	pCi/g
07-12055-11	TRG	SU11-002-01	11/15/07 13:05	12/11/2007	12/20/2007	07-12055	Cesium-137	LANL ER-130 Modified	-4.94E-02	5.65E-02	5.65E-02	9.39E-02	pCi/g

CU=Counting Uncertainty; CSU=Combined Standard Uncertainty (2-sigma); MDA=Minimal Detected Activity; LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original



EBERLINE
SERVICES

Oak Ridge Laboratory

601 Scarboro Road, Oak Ridge, TN 37830 865/481-0683 FAX 865/483-4621

Eberline Services Final Report of Analysis		Report To:				Work Order Details:							
Nels Johnson		SDG: 07-12055				0060846							
Weston Solutions		Purchase Order:				ENVIRONMENTAL							
3840 Commons Avenue NE		Analysis Category:				SO							
Albuquerque, NM 87109		Sample Matrix:											
Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	Report Units
07-12055-12	TRG	SU11-003-01	11/15/07 13:10	12/11/2007	12/20/2007	07-12055	Cobalt-60	LANL ER-130 Modified	2.18E-02	4.24E-02	4.24E-02	8.37E-02	pCi/g
07-12055-12	TRG	SU11-003-01	11/15/07 13:10	12/11/2007	12/20/2007	07-12055	Cesium-137	LANL ER-130 Modified	2.58E-01	6.41E-02	6.41E-02	6.85E-02	pCi/g
07-12055-13	TRG	SU11-004-01	11/15/07 13:15	12/11/2007	12/20/2007	07-12055	Cobalt-60	LANL ER-130 Modified	1.36E-02	3.62E-02	3.62E-02	6.86E-02	pCi/g
07-12055-13	TRG	SU11-004-01	11/15/07 13:15	12/11/2007	12/20/2007	07-12055	Cesium-137	LANL ER-130 Modified	2.90E-02	4.04E-02	4.04E-02	7.67E-02	pCi/g
07-12055-14	TRG	SU11-005-01	11/15/07 13:20	12/11/2007	12/20/2007	07-12055	Cobalt-60	LANL ER-130 Modified	5.01E-03	3.81E-02	3.81E-02	6.86E-02	pCi/g
07-12055-14	TRG	SU11-005-01	11/15/07 13:20	12/11/2007	12/20/2007	07-12055	Cesium-137	LANL ER-130 Modified	2.21E-01	5.09E-02	5.09E-02	5.24E-02	pCi/g
07-12055-15	TRG	SU11-006-01	11/15/07 11:25	12/11/2007	12/20/2007	07-12055	Cobalt-60	LANL ER-130 Modified	-9.71E-03	5.93E-02	5.93E-02	1.10E-01	pCi/g
07-12055-15	TRG	SU11-006-01	11/15/07 11:25	12/11/2007	12/20/2007	07-12055	Cesium-137	LANL ER-130 Modified	2.06E-01	1.03E-01	1.03E-01	1.12E-01	pCi/g
07-12055-16	TRG	SU11-007-01	11/15/07 13:20	12/11/2007	12/20/2007	07-12055	Cobalt-60	LANL ER-130 Modified	9.92E-03	4.38E-02	4.38E-02	7.61E-02	pCi/g
07-12055-16	TRG	SU11-007-01	11/15/07 13:20	12/11/2007	12/20/2007	07-12055	Cesium-137	LANL ER-130 Modified	3.76E-02	4.58E-02	4.58E-02	7.22E-02	pCi/g
07-12055-17	TRG	SU11-008-01	11/15/07 13:35	12/11/2007	12/20/2007	07-12055	Cobalt-60	LANL ER-130 Modified	-1.26E-03	2.73E-02	2.73E-02	5.04E-02	pCi/g
07-12055-17	TRG	SU11-008-01	11/15/07 13:35	12/11/2007	12/20/2007	07-12055	Cesium-137	LANL ER-130 Modified	-1.99E-02	2.58E-02	2.58E-02	4.44E-02	pCi/g
07-12055-18	TRG	SU11-009-01	11/15/07 13:40	12/11/2007	12/20/2007	07-12055	Cobalt-60	LANL ER-130 Modified	-2.00E-02	4.02E-02	4.02E-02	6.73E-02	pCi/g
07-12055-18	TRG	SU11-009-01	11/15/07 13:40	12/11/2007	12/20/2007	07-12055	Cesium-137	LANL ER-130 Modified	1.16E+00	1.36E-01	1.36E-01	7.11E-02	pCi/g
07-12055-19	TRG	SU11-010-01	11/15/07 13:45	12/11/2007	12/20/2007	07-12055	Cobalt-60	LANL ER-130 Modified	1.93E-02	8.40E-02	8.40E-02	1.62E-01	pCi/g
07-12055-19	TRG	SU11-010-01	11/15/07 13:45	12/11/2007	12/20/2007	07-12055	Cesium-137	LANL ER-130 Modified	3.31E-01	1.17E-01	1.17E-01	1.12E-01	pCi/g
07-12055-20	TRG	SU11-011-01	11/15/07 14:00	12/11/2007	12/20/2007	07-12055	Cobalt-60	LANL ER-130 Modified	-4.99E-03	4.27E-02	4.27E-02	7.75E-02	pCi/g
07-12055-20	TRG	SU11-011-01	11/15/07 14:00	12/11/2007	12/20/2007	07-12055	Cesium-137	LANL ER-130 Modified	1.69E-01	5.83E-02	5.83E-02	7.47E-02	pCi/g

CU=Counting Uncertainty;CSU=Combined Standard Uncertainty (2-sigma);MDA=Minimal Detected Activity;LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original



Oak Ridge Laboratory

601 Scarboro Road, Oak Ridge, TN 37830 865/481-0683 FAX 865/483-4621



Chain of Custody Record/Lab Work Request

COC ID
EBL-1207-01

Client: Weston Solutions, Inc.
 Site Name: Red Yard Contact Name: Joe Gross
 W.O. #: 11785.004.006.5030 Contact Phone: (410)-612-5910
 Lab: Eberline Lab Contact: Sample Management
 TAT: Standard Lab Phone: 865-481-0683

Lab Use Only

Temperature of cooler when received (°C) Y N

COC Tape was present and unbroken on outer package? Y N

Samples received in good condition? Y N

Labels indicate properly preserved? Y N

Received within holding times? Y N

Discrepancies between sample labels and COC record? Y N

Lab ID	Sample ID	Matrix	MS	MSD	Number of Containers		Date Collected	Time Collected	Special Instructions/Comments
					Container Volume (ml)	Liquid/Solid			
4	SU10-007-01	S					11/16/07	1065	x
5	SU10-008-01	S					11/16/07	1100	x
6	SU10-009-01	S					11/16/07	1510	x
7	SU10-010-01	S					11/16/07	1435	x
8	SU10-011-01	S					12/6/07	1135	x
9	SU10-012-01	S					12/6/07	1130	x
10	SU10-013-01	S					12/6/07	1125	x
11	SU11-001-01	S					11/15/07	1300	x
12	SU11-002-01	S					11/15/07	1305	x
13	SU11-003-01	S					11/15/07	1310	x
14	SU11-004-01	S					11/15/07	1315	x
	SU11-005-01	S					11/15/07	1320	x

Analyses Requested
Alpha Spec

Matrix Codes	S - Soil
	SE - Sediment
	SO - Solid
	SL - Sludge
	W - Water
	O - Oil
	A - Air
	DS - Drum Solids
	DL - Drum Liquids
	L - EP/TCLP Leachate
	WI - Wipe
	X - Other
	F - Fish

Relinquished By	Date	Time	Received By	Date	Time
[Signature]	12/10/07	1200	[Signature]	12/11/07	0900

Additional Comments

RECEIVED
DEC 11 2007
BY: KF



Chain of Custody Record/Lab Work Request

COC ID
EBL-1207-01

Client: Weston Solutions, Inc.
 Site Name: Rad Yard
 W.O. #: 11785.004.006.5030
 Lab: Eberline
 TAT: Standard
 Contact Name: Joe Gross
 Contact Phone: (410)-812-5910
 Lab Contact: Sample Management
 Lab Phone: 865-481-0683

Lab Use Only

Temperature of cooler when received (°C)

COC Tape was present and unbroken on outer package?

Samples received in good condition?

Labels indicate property preserved?

Received within holding times?

Discrepancies between sample labels and COC record?

Container Volume (ml)	Number of Containers	Container Type (Plastic/Glass)	Filtered Sample	Preservative	Analyses Requested	Time Collected		Date Collected	MSD	MS	Matrix	Date	Time	Additional Comments
						Time Collected	Date							
					Alpha Spec			11/15/07 1125		S	S	12/10/07 1200	0900	
								11/15/07 1320		S	S			
								11/15/07 1335		S	S			
								11/15/07 1340		S	S			
								11/15/07 1345		S	S			
								11/15/07 1400		S	S			
								12/6/07 1405		S	S			
								12/6/07 1122		S	S			
								12/6/07 1115		S	S			
								12/6/07 1126		S	S			
								11/16/07 1657		S	S			
								11/19/07 1635		S	S			

Lab ID	Sample ID	Matrix	MS	MSD	Date	Time
15	SU11-008-01	S			12/10/07	1200
16	SU11-007-01	S				
17	SU11-008-01	S				
18	SU11-009-01	S				
19	SU11-010-01	S				
20	SU11-011-01	S				
	SU11-012-01	S				
	SU11-013-01	S				
	SU11-014-01	S				
	SU11-015-01	S				
	SU3-001-01	S				
	SU3-002-01	S				

1.)	Relinquished By: <i>[Signature]</i>	Date: 12/10/07	Time: 1200	Received By: <i>[Signature]</i>	Date: 12/10/07	Time: 0900
2.)						
3.)						

Additional Comments

RECEIVED
DEC 11 2007
BY: KF



Internal Chain of Custody

Work Order #	07-12055
Lab Deadline	1/3/2008
Analysis	Gamma - Level 4
Sample Matrix	Soil/Solid

Comments	Sample Fraction	HP 210 / 270 Detector Activity	Storage Location
Report Co60, Cs137	04	34	K1.3
	05	49	K1.3
	06	24	K1.3
	07	48	K1.3
	08	42	K1.3
	09	53	K1.3
	10	39	K1.3
	11	50	K1.3
	12	52	K1.3
		13	35
14		42	K1.3
15		44	K1.3
16		48	K1.3
17		47	K1.3
18		37	K1.3
19		34	K1.3
20		41	K1.3

	Location (circle one)					Initials	Date
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room 1400	Kenny Sallig	12-13-07
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room 1230	Kenny Sallig	12-17-07
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room	ICB	12/17/07 1232
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room	ICB	12/20/07 1510
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		



EBS-OR-26832

January 3, 2008

Mr. Nels Johnson
Weston Solutions
3840 Commons Avenue NE
Albuquerque, NM 87109

Oak Ridge Laboratory
601 Scarboro Road
Oak Ridge, TN 37830
Phone (865) 481-0683
Fax (865) 483-4621

CASE NARRATIVE
Work Order #07-12056-OR

SAMPLE RECEIPT

This work order contains seventeen soil samples received 12/11/2007. All samples were analyzed by Gamma Spectroscopy.

<u>CLIENT ID</u>	<u>LAB ID</u>	<u>CLIENT ID</u>	<u>LAB ID</u>
SU11-012-01	07-12056-04	SU3-007-01	07-12056-13
SU11-013-01	07-12056-05	SU3-008-01	07-12056-14
SU11-014-01	07-12056-06	SU3-009-01	07-12056-15
SU11-015-01	07-12056-07	SU3-010-01	07-12056-16
SU3-001-01	07-12056-08	SU3-011-01	07-12056-17
SU3-002-01	07-12056-09	SU3-012-01	07-12056-18
SU3-004-01	07-12056-10	SU3-013-01	07-12056-19
SU3-005-01	07-12056-11	SU3-014-01	07-12056-20
SU3-006-01	07-12056-12		

ANALYTICAL METHODS

Gamma Spectroscopy was performed using Method LANL ER-130 Modified.

ANALYTICAL RESULTS

Combined Standard Uncertainty is reported at 2-sigma value.

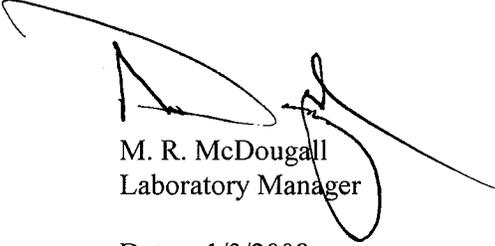
GAMMA SPECTROSCOPY

Samples for Gamma Spectroscopy analysis were prepared by transferring a known mass/aliquot of each prepared and homogenized sample to a standard geometry container. Samples were counted on High Purity Germanium (HPGe) gamma ray detectors.

Samples demonstrated non-detect equivalent results for Cobalt-60 activity and non-detect equivalent to slightly positive results for Cesium-137 activity. Results for the Cobalt-60 and Cesium-137 method blank demonstrated non-detect equivalent activity. Results for the Cobalt-60 and Cesium-137 replicate demonstrated a high relative percent difference; however, normalized difference is within acceptable limits for the analytical technique. Results for the Cobalt-60 and Cesium-137 laboratory control sample demonstrated an acceptable percent recovery.

CERTIFICATION OF ACCURACY

I certify that this data report is in compliance with the terms and conditions of the Purchase Order, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data has been authorized by the cognizant project manager or his/her designee to be accurate as verified by the following signature.

A handwritten signature in black ink, appearing to be 'M. R. McDougall', is written over the printed name and title. The signature is fluid and cursive, with a long horizontal stroke extending to the left.

M. R. McDougall
Laboratory Manager

Date: 1/3/2008

Eberline Services Final Report of Analysis		Report To:		Work Order Details:									
Nels Johnson		Weston Solutions		SDG: 07-12056									
3840 Commons Avenue NE		Albuquerque, NM 87109		Purchase Order: 0060846									
				Analysis Category: ENVIRONMENTAL									
				Sample Matrix: SO									
Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	Report Units
07-12056-01	LCS	KNOWN	12/12/07 00:00	12/11/2007	12/20/2007	07-12056	Cobalt-60	LANL ER-130 Modified	1.27E+02	3.38E+00			pCi/g
07-12056-01	LCS	KNOWN	12/12/07 00:00	12/11/2007	12/20/2007	07-12056	Cesium-137	LANL ER-130 Modified	7.82E+01	2.35E+00			pCi/g
07-12056-01	LCS	SPIKE	12/12/07 00:00	12/11/2007	12/20/2007	07-12056	Cobalt-60	LANL ER-130 Modified	1.27E+02	6.10E+00	6.10E+00	5.44E-01	pCi/g
07-12056-01	LCS	SPIKE	12/12/07 00:00	12/11/2007	12/20/2007	07-12056	Cesium-137	LANL ER-130 Modified	7.75E+01	7.01E+00	7.01E+00	4.44E-01	pCi/g
07-12056-02	MBL	BLANK	12/12/07 00:00	12/11/2007	12/20/2007	07-12056	Cobalt-60	LANL ER-130 Modified	4.48E-04	1.19E-02	1.19E-02	2.37E-02	pCi/g
07-12056-02	MBL	BLANK	12/12/07 00:00	12/11/2007	12/20/2007	07-12056	Cesium-137	LANL ER-130 Modified	-1.21E-03	1.61E-02	1.61E-02	2.80E-02	pCi/g
07-12056-03	DUP	SU11-012-01	12/06/07 14:05	12/11/2007	12/20/2007	07-12056	Cobalt-60	LANL ER-130 Modified	5.95E-02	7.40E-02	7.40E-02	1.56E-01	pCi/g
07-12056-03	DUP	SU11-012-01	12/06/07 14:05	12/11/2007	12/20/2007	07-12056	Cesium-137	LANL ER-130 Modified	8.97E-02	7.80E-02	7.80E-02	1.57E-01	pCi/g
07-12056-04	DO	SU11-012-01	12/06/07 14:05	12/11/2007	12/20/2007	07-12056	Cobalt-60	LANL ER-130 Modified	-2.42E-02	6.55E-02	6.55E-02	1.17E-01	pCi/g
07-12056-04	DO	SU11-012-01	12/06/07 14:05	12/11/2007	12/20/2007	07-12056	Cesium-137	LANL ER-130 Modified	1.73E-01	9.69E-02	9.69E-02	9.35E-02	pCi/g
07-12056-05	TRG	SU11-013-01	12/06/07 11:22	12/11/2007	12/20/2007	07-12056	Cobalt-60	LANL ER-130 Modified	1.09E-02	4.48E-02	4.48E-02	7.85E-02	pCi/g
07-12056-05	TRG	SU11-013-01	12/06/07 11:22	12/11/2007	12/20/2007	07-12056	Cesium-137	LANL ER-130 Modified	4.90E-01	9.45E-02	9.45E-02	5.47E-02	pCi/g
07-12056-06	TRG	SU11-014-01	12/06/07 11:15	12/11/2007	12/20/2007	07-12056	Cobalt-60	LANL ER-130 Modified	3.65E-03	3.98E-02	3.98E-02	7.47E-02	pCi/g
07-12056-06	TRG	SU11-014-01	12/06/07 11:15	12/11/2007	12/20/2007	07-12056	Cesium-137	LANL ER-130 Modified	3.68E-01	9.34E-02	9.34E-02	7.43E-02	pCi/g
07-12056-07	TRG	SU11-015-01	12/06/07 11:20	12/11/2007	12/20/2007	07-12056	Cobalt-60	LANL ER-130 Modified	6.00E-03	4.66E-02	4.66E-02	8.46E-02	pCi/g
07-12056-07	TRG	SU11-015-01	12/06/07 11:20	12/11/2007	12/20/2007	07-12056	Cesium-137	LANL ER-130 Modified	2.49E-01	6.79E-02	6.79E-02	7.41E-02	pCi/g
07-12056-08	TRG	SU3-001-01	11/16/07 16:57	12/11/2007	12/20/2007	07-12056	Cobalt-60	LANL ER-130 Modified	-1.28E-02	2.36E-02	2.36E-02	4.12E-02	pCi/g
07-12056-08	TRG	SU3-001-01	11/16/07 16:57	12/11/2007	12/20/2007	07-12056	Cesium-137	LANL ER-130 Modified	8.08E-01	1.08E-01	1.08E-01	4.01E-02	pCi/g
07-12056-09	TRG	SU3-002-01	11/19/07 16:35	12/11/2007	12/20/2007	07-12056	Cobalt-60	LANL ER-130 Modified	2.97E-02	7.80E-02	7.80E-02	1.52E-01	pCi/g
07-12056-09	TRG	SU3-002-01	11/19/07 16:35	12/11/2007	12/20/2007	07-12056	Cesium-137	LANL ER-130 Modified	1.57E-02	6.49E-02	6.49E-02	1.23E-01	pCi/g
07-12056-10	TRG	SU3-004-01	11/19/07 16:40	12/11/2007	12/20/2007	07-12056	Cobalt-60	LANL ER-130 Modified	1.03E-03	2.93E-02	2.93E-02	5.40E-02	pCi/g
07-12056-10	TRG	SU3-004-01	11/19/07 16:40	12/11/2007	12/20/2007	07-12056	Cesium-137	LANL ER-130 Modified	7.07E-01	9.41E-02	9.41E-02	4.59E-02	pCi/g
07-12056-11	TRG	SU3-005-01	11/19/07 16:45	12/11/2007	12/20/2007	07-12056	Cobalt-60	LANL ER-130 Modified	2.07E-02	3.57E-02	3.57E-02	6.78E-02	pCi/g
07-12056-11	TRG	SU3-005-01	11/19/07 16:45	12/11/2007	12/20/2007	07-12056	Cesium-137	LANL ER-130 Modified	4.83E-01	7.35E-02	7.35E-02	5.67E-02	pCi/g

CU=Counting Uncertainty; CSU=Combined Standard Uncertainty (2-sigma); MDA=Minimal Detected Activity; LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original



EBERLINE
SERVICES

Oak Ridge Laboratory

601 Scarboro Road, Oak Ridge, TN 37830 865/481-0683 FAX 865/483-4621

Eberline Services Final Report of Analysis		Report To:		Work Order Details:									
Nels Johnson		SDG:		07-12056									
Weston Solutions		Purchase Order:		0060846									
3840 Commons Avenue NE		Analysis Category:		ENVIRONMENTAL									
Albuquerque, NM 87109		Sample Matrix:		SO									
Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	Report Units
07-12056-12	TRG	SU3-006-01	11/19/07 16:50	12/11/2007	12/20/2007	07-12056	Cobalt-60	LANL ER-130 Modified	2.74E-02	3.47E-02	3.47E-02	7.28E-02	pCi/g
07-12056-12	TRG	SU3-006-01	11/19/07 16:50	12/11/2007	12/20/2007	07-12056	Cesium-137	LANL ER-130 Modified	2.82E+00	2.82E-01	2.82E-01	6.35E-02	pCi/g
07-12056-13	TRG	SU3-007-01	12/05/07 11:10	12/11/2007	12/20/2007	07-12056	Cobalt-60	LANL ER-130 Modified	-7.97E-03	3.32E-02	3.32E-02	5.99E-02	pCi/g
07-12056-13	TRG	SU3-007-01	12/05/07 11:10	12/11/2007	12/20/2007	07-12056	Cesium-137	LANL ER-130 Modified	1.19E+00	1.48E-01	1.48E-01	5.52E-02	pCi/g
07-12056-14	TRG	SU3-008-01	12/05/07 11:20	12/11/2007	12/20/2007	07-12056	Cobalt-60	LANL ER-130 Modified	6.97E-03	6.69E-02	6.69E-02	1.29E-01	pCi/g
07-12056-14	TRG	SU3-008-01	12/05/07 11:20	12/11/2007	12/20/2007	07-12056	Cesium-137	LANL ER-130 Modified	7.84E-01	1.55E-01	1.55E-01	9.78E-02	pCi/g
07-12056-15	TRG	SU3-009-01	12/05/07 11:25	12/11/2007	12/20/2007	07-12056	Cobalt-60	LANL ER-130 Modified	-8.54E-02	5.80E-02	5.80E-02	7.64E-02	pCi/g
07-12056-15	TRG	SU3-009-01	12/05/07 11:25	12/11/2007	12/20/2007	07-12056	Cesium-137	LANL ER-130 Modified	3.22E-01	1.03E-01	1.03E-01	9.07E-02	pCi/g
07-12056-16	TRG	SU3-010-01	12/05/07 11:17	12/11/2007	12/20/2007	07-12056	Cobalt-60	LANL ER-130 Modified	-9.75E-03	2.46E-02	2.46E-02	4.36E-02	pCi/g
07-12056-16	TRG	SU3-010-01	12/05/07 11:17	12/11/2007	12/20/2007	07-12056	Cesium-137	LANL ER-130 Modified	1.71E-01	5.71E-02	5.71E-02	4.43E-02	pCi/g
07-12056-17	TRG	SU3-011-01	12/06/07 12:15	12/11/2007	12/21/2007	07-12056	Cobalt-60	LANL ER-130 Modified	3.28E-02	3.44E-02	3.44E-02	6.96E-02	pCi/g
07-12056-17	TRG	SU3-011-01	12/06/07 12:15	12/11/2007	12/21/2007	07-12056	Cesium-137	LANL ER-130 Modified	3.54E-01	8.97E-02	8.97E-02	5.76E-02	pCi/g
07-12056-18	TRG	SU3-012-01	12/05/07 11:00	12/11/2007	12/21/2007	07-12056	Cobalt-60	LANL ER-130 Modified	5.26E-03	4.28E-02	4.28E-02	7.78E-02	pCi/g
07-12056-18	TRG	SU3-012-01	12/05/07 11:00	12/11/2007	12/21/2007	07-12056	Cesium-137	LANL ER-130 Modified	7.16E-02	5.70E-02	5.70E-02	7.07E-02	pCi/g
07-12056-19	TRG	SU3-013-01	12/06/07 12:05	12/11/2007	12/21/2007	07-12056	Cobalt-60	LANL ER-130 Modified	2.53E-02	4.38E-02	4.38E-02	7.85E-02	pCi/g
07-12056-19	TRG	SU3-013-01	12/06/07 12:05	12/11/2007	12/21/2007	07-12056	Cesium-137	LANL ER-130 Modified	1.44E-01	9.40E-02	9.40E-02	7.22E-02	pCi/g
07-12056-20	TRG	SU3-014-01	12/05/07 11:15	12/11/2007	12/21/2007	07-12056	Cobalt-60	LANL ER-130 Modified	2.06E-02	3.57E-02	3.57E-02	6.94E-02	pCi/g
07-12056-20	TRG	SU3-014-01	12/05/07 11:15	12/11/2007	12/21/2007	07-12056	Cesium-137	LANL ER-130 Modified	6.90E-01	1.02E-01	1.02E-01	5.59E-02	pCi/g

CU=Counting Uncertainty;CSU=Combined Standard Uncertainty (2-sigma);MDA=Minimal Detected Activity;LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original



Oak Ridge Laboratory

601 Scarboro Road, Oak Ridge, TN 37830 865/481-0683 FAX 865/483-4621



Chain of Custody Record/Lab Work Request

COC ID
EBL-1207-01

Client: Weston Solutions, Inc.
 Site Name: Rad Yard Contact Name: Joe Gross
 W.O. #: 11785.004.006.5030 Contact Phone: (410)-812-5910
 Lab: Eberline Lab Contact: Sample Management
 TAT: Standard Lab Phone: 865-481-0683

Lab Use Only

Temperature of cooler when received (°C) Y N
 COC Tape was present and unbroken on outer package? Y N
 Samples received in good condition? Y N
 Labels indicate properly preserved? Y N
 Received within holding times? Y N
 Discrepancies between sample labels and COC record? Y N

Container Volume (ml)	Number of Containers		Container Type (Plastic/Glass)	Filtered Sample	Preservative	Analyses Requested	Date Collected	Time Collected	MSD	Matrix	MS	Sample ID	Lab ID	Special Instructions/Comments
	Liquid	Solid												
							11/15/07	1125		S		SU11-006-01		
							11/15/07	1320		S		SU11-007-01		
							11/15/07	1335		S		SU11-008-01		
							11/15/07	1340		S		SU11-009-01		
							11/15/07	1345		S		SU11-010-01		
							11/15/07	1400		S		SU11-011-01		
							12/6/07	1405		S		SU11-012-01		
							12/6/07	1122		S		SU11-013-01		
							12/6/07	1115		S		SU11-014-01		
							12/6/07	1126		S		SU11-015-01		
							11/16/07	1657		S		SU3-001-01		
							11/19/07	1635		S		SU3-002-01		

Alpha Spec

Relinquished By	Date	Time	Received By	Date	Time
KAY	12/10/07	1200	[Signature]	12/11/07	0900

Additional Comments

RECEIVED
DEC 11 2007
BY: KF

 EBERLINE SERVICES Oak Ridge Laboratory	<h1>Internal Chain of Custody</h1>	Work Order #	07-12056
		Lab Deadline	1/3/2008
		Analysis	Gamma - Level 4
		Sample Matrix	Soil/Solid

Comments	Sample Fraction	HP 210 / 270 Detector Activity	Storage Location
Report Co60, Cs137	04	38	K1.3
	05	41	K1.3
	06	37	K1.3
	07	46	K1.3
	08	33	K1.3
	09	32	K1.3
	10	41	K1.3
	11	35	K1.3
	12	46	K1.3
		13	49
14		49	K1.3
15		36	K1.3
16		42	K1.3
17		41	K1.3
18		46	K1.3
19		45	K1.3
20		41	K1.3

	Location (circle one)					Initials	Date
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room (235)	Kenny Sellings	12-17-07
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room 0930	Kenny Sellings	12-18-07
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room	M. J. Kelly	12-18-07
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room	M. J. Kelly	12-24-07
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		



EBS-OR-26892

January 16, 2008

Nels Johnson
Weston Solutions, Inc.
3840 Commons Avenue NE
Albuquerque, NM 87109

Oak Ridge Laboratory
601 Scarboro Road
Oak Ridge, TN 37830
Phone (865) 481-0683
Fax (865) 483-4621

CASE NARRATIVE
Work Order # 07-12103-OR

SAMPLE RECEIPT

This work order contains eleven soil samples received 12/24/07. These samples were analyzed by Gamma Spectroscopy.

<u>CLIENT ID</u>	<u>LAB ID</u>	<u>CLIENT ID</u>	<u>LAB ID</u>
SU1-012-02	07-12103-04	SU7-005-02	07-12103-10
SU2-003-02	07-12103-05	SU8-013-02	07-12103-11
SU3-002-02	07-12103-06	SU9-015-02	07-12103-12
SU4-014-02	07-12103-07	SU10-010-02	07-12103-13
EC-N3-015-W-1-2-0	07-12103-08	SU11-015-02	07-12103-14
SU6-007-02	07-12103-09		

ANALYTICAL METHODS

Gamma Spectroscopy was performed using Method LANL ER-130 Modified.

ANALYTICAL RESULTS

Combined Standard Uncertainty is reported at 2-sigma value.

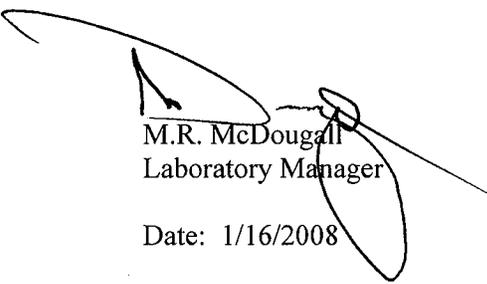
GAMMA SPECTROSCOPY

Samples for Gamma Spectroscopy analysis were prepared by transferring a known mass/aliquot of each prepared and homogenized sample to a standard geometry container. Samples were counted on High Purity Germanium (HPGe) gamma ray detectors.

Samples demonstrated non-detect equivalent results for Cobalt-60 activity. Samples demonstrated non-detect equivalent to only slightly positive results for Cesium-137 activity. Results for the Cobalt-60 and Cesium-137 method blank demonstrated non-detect equivalent activity. Results for the Cobalt-60 replicate demonstrated a high relative percent difference; however, normalized difference is within acceptable limits for the analytical technique. Results for the Cesium-137 replicate demonstrated an acceptable relative percent difference and normalized difference. Results for the Cobalt-60 and Cesium-137 laboratory control sample demonstrated an acceptable percent recovery.

CERTIFICATION OF ACCURACY

I certify that this data report is in compliance with the terms and conditions of the Purchase Order, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the cognizant project manager or his/her designee to be accurate as verified by the following signature.

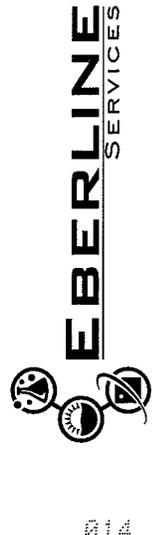


M.R. McDougall
Laboratory Manager

Date: 1/16/2008

Eberline Services		Client ID		Report To:		Work Order Details:						
Final Report of Analysis		Nels Johnson		Weston Solutions		SDG: 07-12103						
		3840 Commons Avenue NE		Albuquerque, NM 87109		Purchase Order: 0060846						
						Analysis Category: ENVIRONMENTAL						
						Sample Matrix: SO						
Lab ID	Sample Type	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	Report Units
07-12103-01	LCS	12/24/07 00:00	12/24/2007	1/7/2008	07-12103	Cobalt-60	LANL ER-130 Modified	1.25E+02	3.94E+00			pCi/g
07-12103-01	LCS	12/24/07 00:00	12/24/2007	1/7/2008	07-12103	Cesium-137	LANL ER-130 Modified	7.69E+01	2.14E+00			pCi/g
07-12103-01	LCS	12/24/07 00:00	12/24/2007	1/7/2008	07-12103	Cobalt-60	LANL ER-130 Modified	1.30E+02	5.99E+00	5.99E+00	5.45E-01	pCi/g
07-12103-01	LCS	12/24/07 00:00	12/24/2007	1/7/2008	07-12103	Cesium-137	LANL ER-130 Modified	8.05E+01	7.54E+00	7.54E+00	5.36E-01	pCi/g
07-12103-02	MBL	12/24/07 00:00	12/24/2007	1/7/2008	07-12103	Cobalt-60	LANL ER-130 Modified	7.64E-03	1.35E-02	1.35E-02	3.11E-02	pCi/g
07-12103-02	MBL	12/24/07 00:00	12/24/2007	1/7/2008	07-12103	Cesium-137	LANL ER-130 Modified	-9.81E-03	1.65E-02	1.65E-02	2.92E-02	pCi/g
07-12103-03	DUP	12/18/07 11:40	12/24/2007	1/7/2008	07-12103	Cobalt-60	LANL ER-130 Modified	3.89E-02	8.49E-02	8.49E-02	1.59E-01	pCi/g
07-12103-03	DUP	12/18/07 11:40	12/24/2007	1/7/2008	07-12103	Cesium-137	LANL ER-130 Modified	9.63E-01	2.03E-01	2.03E-01	1.73E-01	pCi/g
07-12103-04	DO	12/18/07 11:40	12/24/2007	1/7/2008	07-12103	Cobalt-60	LANL ER-130 Modified	-3.41E-02	7.52E-02	7.52E-02	1.37E-01	pCi/g
07-12103-04	DO	12/18/07 11:40	12/24/2007	1/7/2008	07-12103	Cesium-137	LANL ER-130 Modified	1.18E+00	2.31E-01	2.31E-01	1.48E-01	pCi/g
07-12103-05	TRG	12/18/07 11:55	12/24/2007	1/7/2008	07-12103	Cobalt-60	LANL ER-130 Modified	1.53E-02	4.04E-02	4.04E-02	7.44E-02	pCi/g
07-12103-05	TRG	12/18/07 11:55	12/24/2007	1/7/2008	07-12103	Cesium-137	LANL ER-130 Modified	8.34E-03	4.01E-02	4.01E-02	6.84E-02	pCi/g
07-12103-06	TRG	12/18/07 12:00	12/24/2007	1/7/2008	07-12103	Cobalt-60	LANL ER-130 Modified	1.16E-02	4.62E-02	4.62E-02	8.68E-02	pCi/g
07-12103-06	TRG	12/18/07 12:00	12/24/2007	1/7/2008	07-12103	Cesium-137	LANL ER-130 Modified	7.01E-03	4.65E-02	4.65E-02	8.57E-02	pCi/g
07-12103-07	TRG	12/18/07 12:18	12/24/2007	1/7/2008	07-12103	Cobalt-60	LANL ER-130 Modified	-6.24E-02	7.40E-02	7.40E-02	1.25E-01	pCi/g
07-12103-07	TRG	12/18/07 12:18	12/24/2007	1/7/2008	07-12103	Cesium-137	LANL ER-130 Modified	1.16E-01	9.90E-02	9.90E-02	1.87E-01	pCi/g
07-12103-08	TRG	12/18/07 12:25	12/24/2007	1/7/2008	07-12103	Cobalt-60	LANL ER-130 Modified	1.01E-02	3.61E-02	3.61E-02	6.52E-02	pCi/g
07-12103-08	TRG	12/18/07 12:25	12/24/2007	1/7/2008	07-12103	Cesium-137	LANL ER-130 Modified	2.97E+00	2.95E-01	2.95E-01	5.96E-02	pCi/g
07-12103-09	TRG	12/18/07 12:05	12/24/2007	1/7/2008	07-12103	Cobalt-60	LANL ER-130 Modified	2.95E-02	5.49E-02	5.49E-02	8.85E-02	pCi/g
07-12103-09	TRG	12/18/07 12:05	12/24/2007	1/7/2008	07-12103	Cesium-137	LANL ER-130 Modified	1.82E+00	2.45E-01	2.45E-01	8.57E-02	pCi/g
07-12103-10	TRG	12/18/07 12:10	12/24/2007	1/7/2008	07-12103	Cobalt-60	LANL ER-130 Modified	3.47E-02	9.89E-02	9.89E-02	2.01E-01	pCi/g
07-12103-10	TRG	12/18/07 12:10	12/24/2007	1/7/2008	07-12103	Cesium-137	LANL ER-130 Modified	2.55E-01	1.55E-01	1.55E-01	1.77E-01	pCi/g
07-12103-11	TRG	12/18/07 12:30	12/24/2007	1/7/2008	07-12103	Cobalt-60	LANL ER-130 Modified	8.55E-02	7.85E-02	7.85E-02	1.18E-01	pCi/g
07-12103-11	TRG	12/18/07 12:30	12/24/2007	1/7/2008	07-12103	Cesium-137	LANL ER-130 Modified	-2.61E-02	5.61E-02	5.61E-02	8.76E-02	pCi/g
07-12103-12	TRG	12/18/07 12:37	12/24/2007	1/7/2008	07-12103	Cobalt-60	LANL ER-130 Modified	1.74E-02	3.27E-02	3.27E-02	6.36E-02	pCi/g
07-12103-12	TRG	12/18/07 12:37	12/24/2007	1/7/2008	07-12103	Cesium-137	LANL ER-130 Modified	1.39E-01	5.31E-02	5.31E-02	7.00E-02	pCi/g
07-12103-13	TRG	12/18/07 12:42	12/24/2007	1/7/2008	07-12103	Cobalt-60	LANL ER-130 Modified	1.24E-02	5.47E-02	5.47E-02	1.03E-01	pCi/g
07-12103-13	TRG	12/18/07 12:42	12/24/2007	1/7/2008	07-12103	Cesium-137	LANL ER-130 Modified	3.59E-01	1.44E-01	1.44E-01	1.21E-01	pCi/g
07-12103-14	TRG	12/18/07 12:50	12/24/2007	1/7/2008	07-12103	Cobalt-60	LANL ER-130 Modified	-1.46E-02	5.40E-02	5.40E-02	9.59E-02	pCi/g
07-12103-14	TRG	12/18/07 12:50	12/24/2007	1/7/2008	07-12103	Cesium-137	LANL ER-130 Modified	-1.56E-02	4.84E-02	4.84E-02	8.65E-02	pCi/g

CU=Counting Uncertainty; CSU=Combined Standard Uncertainty (2-sigma); MDA=Minimal Detected Activity; LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original



Oak Ridge Laboratory

601 Scarboro Road, Oak Ridge, TN 37830 865/481-0683 FAX 865/483-4621

07.12105



Chain of Custody Record/Lab Work Request

COC ID
EBL-1207-01

Client: Weston Solutions, Inc.
 Site Name: Rad Yard Contact Name: Joe Gross
 W.O. #: 11785.004.006.5030 Contact Phone: (410)-612-5910
 Lab: Eberline Lab Contact: Sample Management
 TAT: Standard Lab Phone: 865-481-0683

Lab Use Only

Temperature of cooler when received (°C) Y N

COC Tape was present and unbroken on outer package? Y N

Samples received in good condition? Y N

Labels indicate properly preserved? Y N

Received within holding times? Y N

Discrepancies between sample labels and COC record? Y N

Lab ID	Sample ID	Matrix	MSD	Number of Containers		Date Collected	Time Collected	Analyses Requested	Special Instructions/Comments
				Liquid	Solid				
4	SU01-012-02	S		1	0	12/18/07	1140	Gamma Spec	
5	SU02-003-02	S		1	0		1155		
6	SU03-002-02	S		1	0		1200		
7	SU04-014-02	S		1	0		1218		
8	EC-N3-015-W-1-2-0	S		1	0		1225		
9	SU06-007-02	S		1	0		1205		
10	SU07-005-02	S		1	0		1210		
11	SU08-013-02	S		1	0		1230		
12	SU09-015-02	S		1	0		1237		
13	SU10-010-02	S		1	0		1242		
14	SU11-015-02	S		1	0		1250		
15		S		1	0				

Relinquished By: *[Signature]* Date: 12/19/07 Time: 1050

Received By: *[Signature]* Date: 12/24/07 Time: 0830

Additional Comments: All samples analyzed per Gamma spec

BY: KF

DEC 24 2007



Internal Chain of Custody

Work Order #

07-12103

Lab Deadline

1/16/2008

Analysis

Gamma - Level 4

Sample Matrix

Soil/Solid

Comments	Sample Fraction	HP 210 / 270 Detector Activity	Storage Location	
Report Co60,Cs137	04	34	M1.3	
	05	48	M1.3	
	06	47	M1.3	
	07	54	M1.3	
	08	49	M1.3	
	09	36	M1.3	
	10	46	M1.3	
	11	38	M1.3	
	12	35	M1.3	
	13	44	M1.3	
	14	41	M1.3	

	Location (circle one)					Initials	Date
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room	<i>Kenny Salling</i>	12-26-07
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room	<i>Kenny Salling</i>	12-27-07
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room	<i>Murphy</i>	12-27-07 1.00
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room	<i>KBS</i>	1/7/08 1810
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		



EBS-OR-26893

January 16, 2008

Nels Johnson
Weston Solutions, Inc.
3840 Commons Avenue NE
Albuquerque, NM 87109

Oak Ridge Laboratory
601 Scarboro Road
Oak Ridge, TN 37830
Phone (865) 481-0683
Fax (865) 483-4621

CASE NARRATIVE
Work Order # 07-12104-OR

SAMPLE RECEIPT

This work order contains eleven soil samples received 12/24/07. These samples were analyzed by Gamma Spectroscopy.

<u>CLIENT ID</u>	<u>LAB ID</u>	<u>CLIENT ID</u>	<u>LAB ID</u>
SU1-012-03	07-12104-04	SU7-005-03	07-12104-10
SU2-003-03	07-12104-05	SU8-013-03	07-12104-11
SU3-002-03	07-12104-06	SU9-015-03	07-12104-12
SU4-014-03	07-12104-07	SU10-010-03	07-12104-13
EC-N3-015-W-1-3-0	07-12104-08	SU11-015-03	07-12104-14
SU6-007-03	07-12104-09		

ANALYTICAL METHODS

Gamma Spectroscopy was performed using Method LANL ER-130 Modified.

ANALYTICAL RESULTS

Combined Standard Uncertainty is reported at 2-sigma value.

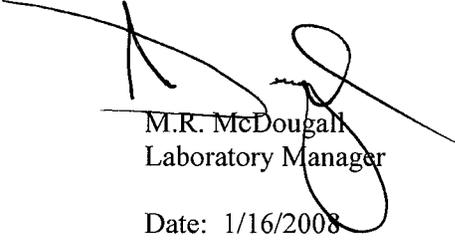
GAMMA SPECTROSCOPY

Samples for Gamma Spectroscopy analysis were prepared by transferring a known mass/aliquot of each prepared and homogenized sample to a standard geometry container. Samples were counted on High Purity Germanium (HPGe) gamma ray detectors.

Samples demonstrated non-detect equivalent results for Cobalt-60 activity. Samples demonstrated non-detect equivalent to only slightly positive results for Cesium-137 activity. Results for the Cobalt-60 and Cesium-137 method blank demonstrated non-detect equivalent activity. Results for the Cobalt-60 replicate demonstrated a high relative percent difference; however, normalized difference is within acceptable limits for the analytical technique. Results for the Cesium-137 replicate demonstrated an acceptable relative percent difference and normalized difference. Results for the Cobalt-60 and Cesium-137 laboratory control sample demonstrated an acceptable percent recovery.

CERTIFICATION OF ACCURACY

I certify that this data report is in compliance with the terms and conditions of the Purchase Order, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the cognizant project manager or his/her designee to be accurate as verified by the following signature.



M.R. McDougall
Laboratory Manager

Date: 1/16/2008

Lab ID		Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	Report Units
07-12104-01	LCS	KNOWN		12/24/07 00:00	12/24/2007	1/1/2008	07-12104	Cobalt-60	LANL ER-130 Modified	1.25E+02	3.34E+00			pCi/g
07-12104-01	LCS	KNOWN		12/24/07 00:00	12/24/2007	1/1/2008	07-12104	Cesium-137	LANL ER-130 Modified	7.69E+01	2.14E+00			pCi/g
07-12104-01	LCS	SPIKE		12/24/07 00:00	12/24/2007	1/1/2008	07-12104	Cobalt-60	LANL ER-130 Modified	1.29E+02	6.64E+00	6.64E+00	1.18E+00	pCi/g
07-12104-01	LCS	SPIKE		12/24/07 00:00	12/24/2007	1/1/2008	07-12104	Cesium-137	LANL ER-130 Modified	8.24E+01	8.31E+00	8.31E+00	1.13E+00	pCi/g
07-12104-02	MBL	BLANK		12/24/07 00:00	12/24/2007	1/1/2008	07-12104	Cobalt-60	LANL ER-130 Modified	-1.76E-02	2.31E-02	2.31E-02	3.92E-02	pCi/g
07-12104-02	MBL	BLANK		12/24/07 00:00	12/24/2007	1/1/2008	07-12104	Cesium-137	LANL ER-130 Modified	-1.25E-02	4.09E-02	4.09E-02	6.20E-02	pCi/g
07-12104-03	DUP	SU1-012-03		12/18/07 11:45	12/24/2007	1/1/2008	07-12104	Cobalt-60	LANL ER-130 Modified	7.15E-02	8.56E-02	8.56E-02	1.83E-01	pCi/g
07-12104-03	DUP	SU1-012-03		12/18/07 11:45	12/24/2007	1/1/2008	07-12104	Cesium-137	LANL ER-130 Modified	1.54E+00	2.50E-01	2.50E-01	1.52E-01	pCi/g
07-12104-04	DO	SU1-012-03		12/18/07 11:45	12/24/2007	1/1/2008	07-12104	Cobalt-60	LANL ER-130 Modified	-3.65E-02	8.17E-02	8.17E-02	1.48E-01	pCi/g
07-12104-04	DO	SU1-012-03		12/18/07 11:45	12/24/2007	1/1/2008	07-12104	Cesium-137	LANL ER-130 Modified	1.66E+00	2.85E-01	2.85E-01	1.61E-01	pCi/g
07-12104-05	TRG	SU2-003-03		12/18/07 11:57	12/24/2007	1/1/2008	07-12104	Cobalt-60	LANL ER-130 Modified	-2.10E-02	4.21E-02	4.21E-02	7.16E-02	pCi/g
07-12104-05	TRG	SU2-003-03		12/18/07 11:57	12/24/2007	1/1/2008	07-12104	Cesium-137	LANL ER-130 Modified	1.28E-02	4.51E-02	4.51E-02	7.66E-02	pCi/g
07-12104-06	TRG	SU3-002-03		12/18/07 12:03	12/24/2007	1/1/2008	07-12104	Cobalt-60	LANL ER-130 Modified	-8.76E-02	9.08E-02	9.08E-02	1.50E-01	pCi/g
07-12104-06	TRG	SU3-002-03		12/18/07 12:03	12/24/2007	1/1/2008	07-12104	Cesium-137	LANL ER-130 Modified	1.28E-01	9.42E-02	9.42E-02	1.89E-01	pCi/g
07-12104-07	TRG	SU4-014-03		12/18/07 12:20	12/24/2007	1/1/2008	07-12104	Cobalt-60	LANL ER-130 Modified	8.00E-03	3.92E-02	3.92E-02	7.52E-02	pCi/g
07-12104-07	TRG	SU4-014-03		12/18/07 12:20	12/24/2007	1/1/2008	07-12104	Cesium-137	LANL ER-130 Modified	1.02E-01	5.02E-02	5.02E-02	6.48E-02	pCi/g
07-12104-08	TRG	EC-N3-015-W-1-3-0		12/18/07 12:30	12/24/2007	1/1/2008	07-12104	Cobalt-60	LANL ER-130 Modified	-2.96E-02	5.02E-02	5.02E-02	8.40E-02	pCi/g
07-12104-08	TRG	EC-N3-015-W-1-3-0		12/18/07 12:30	12/24/2007	1/1/2008	07-12104	Cesium-137	LANL ER-130 Modified	3.14E-01	9.40E-02	9.40E-02	7.33E-02	pCi/g
07-12104-09	TRG	SU6-007-03		12/18/07 12:10	12/24/2007	1/1/2008	07-12104	Cobalt-60	LANL ER-130 Modified	8.57E-03	5.68E-02	5.68E-02	1.08E-01	pCi/g
07-12104-09	TRG	SU6-007-03		12/18/07 12:10	12/24/2007	1/1/2008	07-12104	Cesium-137	LANL ER-130 Modified	9.11E-01	1.61E-01	1.61E-01	9.75E-02	pCi/g
07-12104-10	TRG	SU7-005-03		12/18/07 12:15	12/24/2007	1/1/2008	07-12104	Cobalt-60	LANL ER-130 Modified	5.54E-02	1.00E-01	1.00E-01	1.90E-01	pCi/g
07-12104-10	TRG	SU7-005-03		12/18/07 12:15	12/24/2007	1/1/2008	07-12104	Cesium-137	LANL ER-130 Modified	2.91E-02	1.01E-01	1.01E-01	1.83E-01	pCi/g
07-12104-11	TRG	SU8-013-03		12/18/07 12:35	12/24/2007	1/1/2008	07-12104	Cobalt-60	LANL ER-130 Modified	2.00E-02	5.46E-02	5.46E-02	9.71E-02	pCi/g
07-12104-11	TRG	SU8-013-03		12/18/07 12:35	12/24/2007	1/1/2008	07-12104	Cesium-137	LANL ER-130 Modified	-4.56E-02	4.87E-02	4.87E-02	8.17E-02	pCi/g
07-12104-12	TRG	SU9-015-03		12/18/07 12:40	12/24/2007	1/1/2008	07-12104	Cobalt-60	LANL ER-130 Modified	1.27E-02	3.71E-02	3.71E-02	6.94E-02	pCi/g
07-12104-12	TRG	SU9-015-03		12/18/07 12:40	12/24/2007	1/1/2008	07-12104	Cesium-137	LANL ER-130 Modified	5.90E-02	5.58E-02	5.58E-02	6.11E-02	pCi/g
07-12104-13	TRG	SU10-010-03		12/18/07 12:45	12/24/2007	1/1/2008	07-12104	Cobalt-60	LANL ER-130 Modified	1.04E-03	3.11E-02	3.11E-02	5.80E-02	pCi/g
07-12104-13	TRG	SU10-010-03		12/18/07 12:45	12/24/2007	1/1/2008	07-12104	Cesium-137	LANL ER-130 Modified	9.13E-02	5.06E-02	5.06E-02	4.59E-02	pCi/g
07-12104-14	TRG	SU11-015-03		12/18/07 12:55	12/24/2007	1/1/2008	07-12104	Cobalt-60	LANL ER-130 Modified	6.98E-02	1.07E-01	1.07E-01	2.16E-01	pCi/g
07-12104-14	TRG	SU11-015-03		12/18/07 12:55	12/24/2007	1/1/2008	07-12104	Cesium-137	LANL ER-130 Modified	3.03E-04	1.13E-01	1.13E-01	1.96E-01	pCi/g

Report To:

Work Order Details:

Nels Johnson

07-12104

Weston Solutions

0060846

3840 Commons Avenue NE

ENVIRONMENTAL

Albuquerque, NM 87109

SO

Sample Matrix:

Method

Result

CU

CSU

MDA

Report Units

CU=Counting Uncertainty;CSU=Combined Standard Uncertainty (2-sigma);MDA=Minimal Detected Activity;LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original



EBERLINE
SERVICES

Oak Ridge Laboratory

601 Scarboro Road, Oak Ridge, TN 37830 865/481-0683 FAX 865/483-4621



Chain of Custody Record/Lab Work Request

COC ID
EBL-1207-01

Client: Weston Solutions, Inc.
 Site Name: Rad Yard
 W.O. #: 11785.004.006.5030
 Lab: Eberline
 TAT: Standard
 Contact Name: Joe Gross
 Contact Phone: (410)-612-5910
 Lab Contact: Sample Management
 Lab Phone: 865-481-0683

Lab Use Only

Temperature of cooler when received (°C) Y N

COC Tape was present and unbroken on outer package? Y N

Samples received in good condition? Y N

Labels indicate properly preserved? Y N

Received within holding times? Y N

Discrepancies between sample labels and COC record? Y N

Container Volume (ml)	Number of Containers		Container Type (Plastic/Glass)	Filtered Sample	Preservative	Analyses Requested	Date Collected	Time Collected	MSD	MS	Matrix	Special Instructions/Comments
	Liquid	Solid										
		1					12/18/07	1145			S	
								1157			S	
								1203			S	
								1220			S	
								1230			S	
								1210			S	
								1215			S	
								1235			S	
								1240			S	
								1245			S	
								1255			S	
											S	

Gamma Spec

Relinquished By	Date	Time	Received By	Date	Time
K. Azin	12/14/07	1050	[Signature]	12/24/07	0830

Additional Comments
 All Samples to be analyzed Gamma Spec
 RECEIVED
 DEC 24 2007
 BY: KF



Internal Chain of Custody

Work Order #	07-12104
Lab Deadline	1/16/2008
Analysis	Gamma - Level 4
Sample Matrix	Soil/Solid

Comments	Sample Fraction	HP 210 / 270 Detector Activity	Storage Location	
Report Co60,Cs137	04	46	M1.3	
	05	39	M1.3	
	06	42	M1.3	
	07	48	M1.3	
	08	50	M1.3	
	09	43	M1.3	
	10	32	M1.3	
	11	52	M1.3	
	12	43	M1.3	
	13	29	M1.3	
	14	53	M1.3	

	Location (circle one)					Initials	Date
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room 0800	Kenny Sullivan	12-26-07
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room 0940	Kenny Sullivan	12-27-07
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room	Murphy	12-27-07 100
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room	Alan Joseph	1/14/08 1045
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		



EBS-OR-27009

February 20, 2008

Nels Johnson
Weston Solutions, Inc.
3840 Commons Avenue NE
Albuquerque, NM 87109

Oak Ridge Laboratory
601 Scarboro Road
Oak Ridge, TN 37830
Phone (865) 481-0683
Fax (865) 483-4621

CASE NARRATIVE
Work Order # 08-02061-OR

SAMPLE RECEIPT

This work order contains three soil samples received 02/18/08. These samples were analyzed by Gamma Spectroscopy.

<u>CLIENT ID</u>	<u>LAB ID</u>
SS-N7-004-W	08-02061-04
SS-N2-006-F	08-02061-05
SS-N12-001-F	08-02061-06

ANALYTICAL METHODS

Gamma Spectroscopy was performed using Method LANL ER-130 Modified.

ANALYTICAL RESULTS

Combined Standard Uncertainty is reported at 2-sigma value.

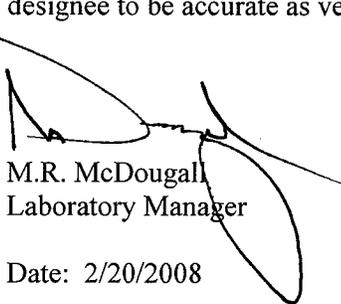
GAMMA SPECTROSCOPY

Samples for Gamma Spectroscopy analysis were prepared by transferring a known mass/aliquot of each prepared and homogenized sample to a standard geometry container. Samples were counted on High Purity Germanium (HPGe) gamma ray detectors.

Samples demonstrated non-detect equivalent results for Cobalt-60 activity. Samples demonstrated only slightly positive results for Cesium-137 activity. Results for the Cobalt-60 and Cesium-137 method blank demonstrated non-detect equivalent activity. Results for the Cobalt-60 replicate demonstrated a high relative percent difference; however, normalized difference is within acceptable limits for the analytical technique. Results for the Cesium-137 replicate demonstrated an acceptable relative percent difference and normalized difference. Results for the Cobalt-60 and Cesium-137 laboratory control sample demonstrated an acceptable percent recovery.

CERTIFICATION OF ACCURACY

I certify that this data report is in compliance with the terms and conditions of the Purchase Order, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the cognizant project manager or his/her designee to be accurate as verified by the following signature.



M.R. McDougall
Laboratory Manager

Date: 2/20/2008

Eberline Services		Client ID		Report To:		Work Order Details:						
Final Report of Analysis				Nels Johnson		SDG: 08-02061						
				Weston Solutions		Purchase Order: 0060846						
				3840 Commons Avenue NE		Analysis Category: ENVIRONMENTAL						
				Albuquerque, NM 87109		Sample Matrix: SO						
Lab ID	Sample Type	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	Report Units
08-02061-01	LCS	02/18/08 00:00	2/18/2008	2/19/2008	08-02061	Cobalt-60	LANL ER-130 Modified	1.25E+02	3.34E+00			pCi/g
08-02061-01	LCS	02/18/08 00:00	2/18/2008	2/19/2008	08-02061	Cesium-137	LANL ER-130 Modified	7.69E+01	2.14E+00			pCi/g
08-02061-01	LCS	02/18/08 00:00	2/18/2008	2/19/2008	08-02061	Cobalt-60	LANL ER-130 Modified	1.28E+02	6.70E+00	6.70E+00	6.59E-01	pCi/g
08-02061-01	LCS	02/18/08 00:00	2/18/2008	2/19/2008	08-02061	Cesium-137	LANL ER-130 Modified	7.93E+01	6.65E+00	6.65E+00	5.97E-01	pCi/g
08-02061-02	MBL	02/18/08 00:00	2/18/2008	2/19/2008	08-02061	Cobalt-60	LANL ER-130 Modified	1.09E-02	2.30E-02	2.30E-02	5.47E-02	pCi/g
08-02061-02	MBL	02/18/08 00:00	2/18/2008	2/19/2008	08-02061	Cesium-137	LANL ER-130 Modified	2.96E-02	3.73E-02	3.73E-02	7.55E-02	pCi/g
08-02061-03	DUP	02/14/08 13:32	2/18/2008	2/19/2008	08-02061	Cobalt-60	LANL ER-130 Modified	2.81E-02	9.44E-02	9.44E-02	1.66E-01	pCi/g
08-02061-03	DUP	02/14/08 13:32	2/18/2008	2/19/2008	08-02061	Cesium-137	LANL ER-130 Modified	1.32E+00	2.30E-01	2.30E-01	1.57E-01	pCi/g
08-02061-04	DO	02/14/08 13:32	2/18/2008	2/19/2008	08-02061	Cobalt-60	LANL ER-130 Modified	-8.94E-03	8.69E-02	8.69E-02	1.57E-01	pCi/g
08-02061-04	DO	02/14/08 13:32	2/18/2008	2/19/2008	08-02061	Cesium-137	LANL ER-130 Modified	1.17E+00	2.55E-01	2.55E-01	1.67E-01	pCi/g
08-02061-05	TRG	02/14/08 13:40	2/18/2008	2/19/2008	08-02061	Cobalt-60	LANL ER-130 Modified	3.10E-02	3.90E-02	3.90E-02	7.90E-02	pCi/g
08-02061-05	TRG	02/14/08 13:40	2/18/2008	2/19/2008	08-02061	Cesium-137	LANL ER-130 Modified	2.26E-01	6.09E-02	6.09E-02	6.11E-02	pCi/g
08-02061-06	TRG	02/14/08 13:45	2/18/2008	2/19/2008	08-02061	Cobalt-60	LANL ER-130 Modified	-1.54E-02	2.64E-02	2.64E-02	4.50E-02	pCi/g
08-02061-06	TRG	02/14/08 13:45	2/18/2008	2/19/2008	08-02061	Cesium-137	LANL ER-130 Modified	8.72E-01	1.25E-01	1.25E-01	6.03E-02	pCi/g

CU=Counting Uncertainty; CSU=Combined Standard Uncertainty (2-sigma); MDA=Minimal Detected Activity; LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original



Oak Ridge Laboratory

601 Scarboro Road, Oak Ridge, TN 37830 865/481-0683 FAX 865/483-4621



Internal Chain of Custody

Work Order #	08-02061
Lab Deadline	3/12/2008
Analysis	Gamma - Level 4
Sample Matrix	Soil/Solid

Comments	Sample Fraction	HP 210 / 270 Detector Activity	Storage Location
Report Co60,Cs137	04	57	L1.1
	05	56	L1.1
	06	36	L1.1

	Location (circle one)					Initials	Date
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room 1030	Kenny Sallig	2-18-08
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room 0930	Kenny Sallig	2-19-08
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room	KCS	2/19/08 0933
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room	KCS	2/19/08 1338
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		



EBERLINE ANALYTICAL CORPORATION
601 SCARBORO ROAD
OAK RIDGE, TENNESSEE 37830
PHONE (865) 481-0683
FAX (865) 483-4621

EBS-OR-27495

June 26, 2008

Nels Johnson
Weston Solutions, Inc.
3840 Commons Avenue NE
Albuquerque, NM 87109

CASE NARRATIVE
Work Order # 08-05109-OR

SAMPLE RECEIPT

This work order contains seven soil samples received 05/28/08. These samples were analyzed by Gamma Spectroscopy.

<u>CLIENT ID</u>	<u>LAB ID</u>	<u>CLIENT ID</u>	<u>LAB ID</u>
SU1-012-04	08-05109-04	SU3-014-01	08-05109-08
SU1-012-05	08-05109-05	SU3-013-01	08-05109-09
SU1-012-06	08-05109-06	SU7-014-01	08-05109-10
SU3-015-01	08-05109-07		

ANALYTICAL METHODS

Gamma Spectroscopy was performed using Method LANL ER-130 Modified.

ANALYTICAL RESULTS

Combined Standard Uncertainty is reported at 2-sigma value.

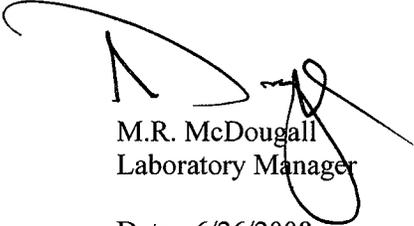
GAMMA SPECTROSCOPY

Samples for Gamma Spectroscopy analysis were prepared by transferring a known mass/aliquot of each prepared and homogenized sample to a standard geometry container. Samples were counted on High Purity Germanium (HPGe) gamma ray detectors.

Samples demonstrated non-detect equivalent results for Cobalt-60 activity. Samples demonstrated non-detect equivalent to only slightly positive results for Cesium-137 activity. Results for the Cobalt-60 and Cesium-137 method blank demonstrated non-detect equivalent activity. Results for the Cobalt-60 replicate demonstrated a high relative percent difference; however, normalized difference is within acceptable limits for the analytical technique. Results for the Cesium-137 replicate demonstrated an acceptable relative percent difference and normalized difference. Results for the Cobalt-60 and Cesium-137 laboratory control sample demonstrated an acceptable percent recovery.

CERTIFICATION OF ACCURACY

I certify that this data report is in compliance with the terms and conditions of the Purchase Order, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the cognizant project manager or his/her designee to be accurate as verified by the following signature.



M.R. McDougall
Laboratory Manager

Date: 6/26/2008

Eberline Analytical Final Report of Analysis

Nels Johnson
Weston Solutions
3840 Commons Avenue NE
Albuquerque, NM 87109

SDG: **08-05109**
Purchase Order: 0060846
Analysis Category: ENVIRONMENTAL
Sample Matrix: SO

Report To:

Work Order Details:

Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	Report Units
08-05109-01	LCS	KNOWN	05/28/08 00:00	5/28/2008	5/30/2008	08-05109	Cobalt-60	LANL ER-130 Modified	1.25E+02	3.34E+00			pCi/g
08-05109-01	LCS	KNOWN	05/28/08 00:00	5/28/2008	5/30/2008	08-05109	Cesium-137	LANL ER-130 Modified	7.69E+01	2.14E+00			pCi/g
08-05109-01	LCS	SPIKE	05/28/08 00:00	5/28/2008	5/30/2008	08-05109	Cobalt-60	LANL ER-130 Modified	1.31E+02	6.04E+00	6.04E+00	5.53E-01	pCi/g
08-05109-01	LCS	SPIKE	05/28/08 00:00	5/28/2008	5/30/2008	08-05109	Cesium-137	LANL ER-130 Modified	8.14E+01	7.63E+00	7.63E+00	4.88E-01	pCi/g
08-05109-02	MBL	BLANK	05/28/08 00:00	5/28/2008	5/30/2008	08-05109	Cobalt-60	LANL ER-130 Modified	-6.96E-03	1.21E-02	1.21E-02	2.13E-02	pCi/g
08-05109-02	MBL	BLANK	05/28/08 00:00	5/28/2008	5/30/2008	08-05109	Cesium-137	LANL ER-130 Modified	7.97E-04	1.49E-02	1.49E-02	2.87E-02	pCi/g
08-05109-03	DUP	SU1-012-04	05/22/08 09:32	5/28/2008	5/30/2008	08-05109	Cobalt-60	LANL ER-130 Modified	8.73E-03	2.90E-02	2.90E-02	5.61E-02	pCi/g
08-05109-03	DUP	SU1-012-04	05/22/08 09:32	5/28/2008	5/30/2008	08-05109	Cesium-137	LANL ER-130 Modified	3.61E-01	7.76E-02	7.76E-02	5.36E-02	pCi/g
08-05109-04	DO	SU1-012-04	05/22/08 09:32	5/28/2008	5/30/2008	08-05109	Cobalt-60	LANL ER-130 Modified	-5.82E-04	3.08E-02	3.08E-02	5.43E-02	pCi/g
08-05109-04	DO	SU1-012-04	05/22/08 09:32	5/28/2008	5/30/2008	08-05109	Cesium-137	LANL ER-130 Modified	4.11E-01	8.51E-02	8.51E-02	5.07E-02	pCi/g
08-05109-05	TRG	SU1-012-05	05/22/08 09:40	5/28/2008	5/30/2008	08-05109	Cobalt-60	LANL ER-130 Modified	-1.18E-02	3.22E-02	3.22E-02	5.56E-02	pCi/g
08-05109-05	TRG	SU1-012-05	05/22/08 09:40	5/28/2008	5/30/2008	08-05109	Cesium-137	LANL ER-130 Modified	1.06E-01	4.30E-02	4.30E-02	5.55E-02	pCi/g
08-05109-06	TRG	SU1-012-06	05/22/08 09:45	5/28/2008	5/30/2008	08-05109	Cobalt-60	LANL ER-130 Modified	6.39E-02	6.42E-02	6.42E-02	7.59E-02	pCi/g
08-05109-06	TRG	SU1-012-06	05/22/08 09:45	5/28/2008	5/30/2008	08-05109	Cesium-137	LANL ER-130 Modified	4.94E-02	4.58E-02	4.58E-02	5.42E-02	pCi/g
08-05109-07	TRG	SU3-015-01	05/22/08 10:19	5/28/2008	5/30/2008	08-05109	Cobalt-60	LANL ER-130 Modified	-4.08E-02	7.34E-02	7.34E-02	1.23E-01	pCi/g
08-05109-07	TRG	SU3-015-01	05/22/08 10:19	5/28/2008	5/30/2008	08-05109	Cesium-137	LANL ER-130 Modified	7.91E-02	8.37E-02	8.37E-02	1.61E-01	pCi/g
08-05109-08	TRG	SU3-014-01	05/22/08 11:09	5/28/2008	5/30/2008	08-05109	Cobalt-60	LANL ER-130 Modified	-2.37E-02	4.06E-02	4.06E-02	6.85E-02	pCi/g
08-05109-08	TRG	SU3-014-01	05/22/08 11:09	5/28/2008	5/30/2008	08-05109	Cesium-137	LANL ER-130 Modified	2.34E-01	8.20E-02	8.20E-02	6.29E-02	pCi/g
08-05109-09	TRG	SU3-013-01	05/22/08 10:32	5/28/2008	5/30/2008	08-05109	Cobalt-60	LANL ER-130 Modified	-3.09E-03	3.38E-02	3.38E-02	5.62E-02	pCi/g
08-05109-09	TRG	SU3-013-01	05/22/08 10:32	5/28/2008	5/30/2008	08-05109	Cesium-137	LANL ER-130 Modified	5.71E-02	3.51E-02	3.51E-02	7.28E-02	pCi/g
08-05109-10	TRG	SU7-014-01	05/22/08 10:54	5/28/2008	5/30/2008	08-05109	Cobalt-60	LANL ER-130 Modified	-9.05E-02	8.12E-02	8.12E-02	1.19E-01	pCi/g
08-05109-10	TRG	SU7-014-01	05/22/08 10:54	5/28/2008	5/30/2008	08-05109	Cesium-137	LANL ER-130 Modified	7.77E-01	1.89E-01	1.89E-01	1.44E-01	pCi/g

CU=Counting Uncertainty; CSU=Combined Standard Uncertainty (2-sigma); MDA=Minimal Detected Activity; LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original



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601 SCARBORO ROAD OAK RIDGE, TN 37830 865/481-0683 FAX 865/483-4621



Internal Chain of Custody

Work Order #

08-05109

Lab Deadline

6/20/2008

Analysis

Gamma - Level 4

Sample Matrix

Soil/Solid

Comments	Sample Fraction	HP 210 / 270 Detector Activity	Storage Location
Report Co60,Cs137	04	40	I1.3
	05	43	I1.3
	06	44	I1.3
	07	38	I1.3
	08	40	I1.3
	09	28	I1.3
	10	43	I1.3

	Location (circle one)					Initials	Date
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room 1245	Kenny Sells	5-28-08
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room 1330	Kenny Sells	5-29-08
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room	Alan Drey	5/29/08
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room	Alan Drey	5/29/08
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		