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April 7, 2008

Mr. Mike Pecullan
Defense Logistics Agency
Defense National Stockpile Center
8725 John J. Kingman Road, Suite 3229
Ft. Belvoir, VA 22060

SUBJECT: FINAL REPORT—RADIOLOGICAL FINAL STATUS SURVEY OF THE HAMMOND DEPOT, HAMMOND, INDIANA
DCN: 0432-SR-01-0

Dear Mr. Pecullan:

The Oak Ridge Institute for Science and Education (ORISE) is providing the enclosed final status survey report for the Defense Logistics Agency's Defense National Stockpile Center's Hammond Depot in Hammond, Indiana. This report provides the complete documentation of the site's radiological status and support for release of the site without radiological restrictions. Comments provided on the draft report have been incorporated.

Please contact me at 865.576.5073 or Sarah Roberts at 865.241.8893 should you have any questions.

Sincerely,

Timothy J. Vitkus
Senior Project Leader
IEAV/Survey Projects

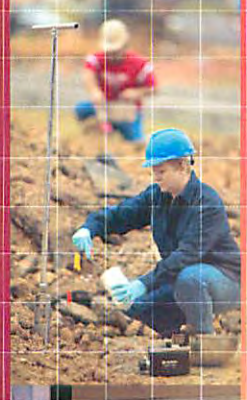
TJV:bf

Enclosure

c: B. Hermes, ORNL
E. Abelquist, ORISE
S. Roberts, ORISE
File/0432

P. O. Box 117
Oak Ridge, TN 37831

Voice: 865.576.5073 Fax: 865.241.3497 E-mail: tim.vitkus@orau.org



RADIOLOGICAL FINAL STATUS SURVEY OF THE HAMMOND DEPOT HAMMOND, INDIANA

T. J. VITKUS

Prepared for the
Defense National Stockpile Center
of the
Defense Logistics Agency

ORISE
Oak Ridge Institute for Science and Education

RADIOLOGICAL FINAL STATUS SURVEY OF THE HAMMOND DEPOT HAMMOND, INDIANA

Prepared by

T. J. Vitkus

Oak Ridge Institute for Science and Education
Oak Ridge, Tennessee 37831-0117

Prepared for the

Defense National Stockpile Center
Defense Logistics Agency

FINAL REPORT

APRIL 2008

RADIOLOGICAL FINAL STATUS SURVEY
OF THE
HAMMOND DEPOT
HAMMOND, INDIANA

Prepared by: _____ Date: 4/1/2008
T. J. Vitkus, Senior Project Leader

Reviewed by: _____ Date: 4/1/08
S. J. Roberts, Survey Projects Manager

Reviewed by: _____ Date: 4/2/08
R. D. Condra, Laboratory Manager

Reviewed by: _____ Date: 4/2/08
A. T. Payne, Quality Manager

Approved by: _____ Date: 4/3/08
E. W. Abelquist, Vice President and Director
Independent Environmental Assessment and Verification

ACKNOWLEDGMENTS

The author would like to acknowledge the significant contributions of the following staff members:

FIELD AND SUPPORT STAFF

E.N. Bailey
T.D. Herrera
E. Montalvo

LABORATORY STAFF

R.D. Condra
W.P. Ivey
J.S. Cox
W.F. Smith

CLERICAL STAFF

R.M. Fink
K.M. Moore
A. Ramsey

ILLUSTRATORS

T.L. Brown
J.A.Viars

ABBREVIATIONS AND ACRONYMS

ε_i	instrument efficiency
ε_s	surface efficiency
ε_{total}	total efficiency
b_i	number of background counts in the interval
AEC	Atomic Energy Commission
ALARA	as low as reasonable achievable
AOC	area of concern
BKG	background
COMPASS	Computerization of MARSSIM for Planning and Assessing Site Surveys
cm	centimeter
cm^2	square centimeter
cpm	counts per minute
d'	index of sensitivity
DCGL	derived concentration guideline level
DLA	Defense Logistics Agency
DNSC	Defense National Stockpile Center
DOE	U.S. Department of Energy
dpm/100 cm^2	disintegrations per minute per 100 square centimeters
DQA	data quality assessment
DQO	data quality objective
EMC	elevated measurement comparison
FRS	final remediation survey
FSS	final status survey
GPS	global positioning system
GSA	General Services Administration
H_0	null hypothesis
H_A	alternative hypothesis
HD	Hammond Depot
HSA	historical site assessment
IEAV	Independent Environmental Assessment and Verification
ITP	Intercomparison Testing Program
JHA	job hazard analysis
MAPEP	Mixed Analyte Performance Evaluation Program
MARSSIM	Multi-Agency Radiation Survey and Site Investigation Manual
MDC	minimum detectable concentration
MDCR	minimum detectable count rate
MeV	million electron volts
m	meters
m^2	square meter
mg/cm^2	milligram per square centimeter
min	minute
mm	millimeter
mrem/y	millirem per year

ABBREVIATIONS AND ACRONYMS (Continued)

NaI	sodium iodide
NIST	National Institute of Standards and Technology
NORM	naturally occurring radioactive material
NRC	U.S. Nuclear Regulatory Commission
NRIP	NIST Radiochemistry Intercomparison Program
ORISE	Oak Ridge Institute for Science and Education
ORNL	Oak Ridge National Laboratory
pCi/g	picocuries per gram
RESRAD	RESidual RADioactive material software
s	second
SOR	sum of ratios
TAP	total absorption peak
ThN	thorium nitrate
VSP	Visual Sampling Plan
WEI	World Environmental, Inc.
WRS	Wilcoxon Ranked Sum

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1.0 INTRODUCTION

This report provides a detailed discussion of the radiological survey planning, survey implementation, remediation, and the results for these activities supporting the conclusion that radioactive contamination previously identified at the Hammond Depot (HD) has been reduced to levels such that the site may be released without radiological restrictions.

1.1 OBJECTIVES

The objective of the radiological final status survey (FSS) was to obtain the data necessary to demonstrate compliance with the U.S. Nuclear Regulatory Commission (NRC)-approved site-specific derived concentration guideline levels (DCGLs) for both structural surfaces and outdoor areas (ORISE 2006a and NRC 2007). The DCGLs were modeled such that any residual licensed material would not exceed the NRC's basic dose limit for license termination of 25 millirem per year (mrem/y). Specifically, when the DCGLs are applied to the FSS and the final survey results show that the DCGLs have been satisfied, the following 10 CFR 20.1402 requirements are met:

> "**Title 10 CFR 20.1402:** *Radiological criteria for unrestricted use.* A site will be considered acceptable for unrestricted use if the residual radioactivity that is distinguishable from background radiation results in a total effective dose equivalent to an average member of the critical group that does not exceed 25 mrem (0.25 millisieverts) per year, including that from groundwater sources of drinking water, and that the residual radioactivity has been reduced to levels that are as low as reasonably achievable (ALARA). Determination of the levels which are ALARA must take into account consideration of any detriments, such as deaths from transportation accidents, expected to potentially result from decontamination and waste disposal."

The FSS was conducted in accordance with the design inputs provided in the FSS plan (ORISE 2007a). These design inputs were obtained through the performance of a historical site assessment (HSA), scoping surveys, and a detailed characterization survey (ORISE 2005a, 2005b, and 2006b). Furthermore, the survey plans implemented for the scoping and characterization surveys were designed following the process detailed in the plan in order to satisfy the FSS data quality objectives (DQOs) for data quantity and quality, such that some or all of the data generated for those areas of the site with little potential for residual contamination could be used as FSS data (ORISE 2005c and 2006c).

1.2 SITE HISTORY

In 1946, the National Stockpile program began with the goal of mitigating dependence on foreign sources of vital materials during times of national emergencies. The Hammond Depot in Hammond, Indiana was established as part of this program in 1948. The land area for the Hammond Depot originally consisted of approximately 52.8 hectares (130.5 acres) of land leased on June 24, 1948 from the Indiana Harbor Belt Railroad Company. On June 27, 1969 the General Services Administration (GSA) purchased the entire site. The original site had eight warehouses and 80 above ground storage tanks. GSA sold portions of the property, including three warehouses, during the 1970s. The current site consists of 27.2 hectares.

The Defense National Stockpile Center (DNSC) used the Hammond Depot to store strategic materials (bulk ores, minerals, and metals). The materials stored in outdoor piles either on the ground or on pads were chrome, ferrochrome, ferromanganese, lead, tin, and others.

Beginning in approximately 1958, additional stored materials included monazite sand comprised of 2.4 to 3.4% thorium dioxide (ThO_2) and bastnesite with 0.01 to 0.11% of ThO_2. Storage of thorium nitrate (reactor grade consisting of 46.0 to 47.15% by weight of ThO_2) began in 1962, followed by sodium sulfate, tantalum pentoxide, and columbium tantalum minerals in the 1980s. These latter materials contained from <0.001 to 0.053% by weight ThO_2 and 0.012 to 0.156% by weight uranium oxide. All of these materials were contained in fiber and steel drums and stored in warehouses. Some materials contained radioactive material at concentrations that required a U.S. Atomic Energy Commission (AEC)—predecessor to the NRC—source material license (License STC-133).

The DNSC of the Defense Logistics Agency (DLA) is now in the process of closing out many of its depots across the country and seeking to terminate its NRC license for those facilities. In the early 1970s, warehouses (Warehouses 1, 2, and 3) where source or other materials were stored, were emptied and remediated and surveyed, if contaminated. These warehouses were then sold as excess property. All current site clean-up work at the HD is sponsored by the DNSC Thorium Nitrate Stewardship and Disposition Program – Phase 4 – Decontamination & Decommissioning and is being supported under the Department of Energy (DOE)-Oak Ridge Operations Work for Others Program. The project is supported and coordinated by the Oak Ridge National Laboratory (ORNL), per DOE Proposal Number # 1872-M171-A1. Removal of the thorium nitrate (ThN) source material from the site, Phase 3 of the project, was completed in fiscal year 2005, which completed the initial phase of the current cleanup activities by removing the remaining source material that had been stored within two of the current site warehouses. In conjunction with site cleanup, at the request of ORNL, the Oak Ridge Institute for Science and Education (ORISE) performed an HSA of the Hammond Depot in order to plan for future site investigations and eventual remediation activities (ORISE 2005a). Additionally, ORISE was tasked to conduct scoping and characterization surveys of the site to validate the results of the HSA and to provide radiological information for the development of a decontamination scope of work for areas of the site identified with excess residual radioactivity levels (ORISE 2005b and 2006b, ORNL 2006). These surveys were designed in an integrated, graded approach following the radiological survey guidance and DQO process provided in the *Multi-Agency Radiation Survey and Site Investigation Manual* (MARSSIM) (NRC 2000).

1.3 SITE DESCRIPTION

The Hammond Depot site is located on the west side of Hammond, Indiana on Sheffield Avenue—about 150 meters (500 feet) east of the Indiana-Illinois state line. The property currently consists of ten structures, mostly in good condition, including the three current warehouses used to store raw materials, and outdoor storage areas (Figure A-1). The depot is bounded on the east and southeast by the Indiana Harbor Belt railway, the Wolf Lake Industrial Center access road on the east, the Wolf Lake industrial/commercial complex on the north, Wolf Lake on the northern one-third of the western property boundary, and a drainage ditch on the west and southwest property boundary. A security fence encloses the facility. A number of

road and railroad tracks provide access on the site. On site drainage ditches direct surface water runoff to Wolf Lake.

The three current warehouses are located in the central area of the site and are designated as Buildings 100W, 100E, and 200E. The dimensions of the three warehouses are each 38 meters by 122 meters (126 feet by 401 feet) and construction is cinder block walls on a concrete slab floor with steel beams, columns, and roof joists. Building 200E is divided by a cinder block wall into a northern and southern half. The southern half had been used for radioactive material storage and also had an asphalt overlayment covering the floor. The asphalt was laid down over the original floor surface to level it after extensive remediation in the 1980s. When the leaking drums of ThN were repackaged, they were moved into Building 100W for interim storage. There was no history of any previous remedial activities or contamination events in Building 100W. Building 100E had no history of radioactive material storage. The interior of each warehouse was subdivided into 20 bay areas which correspond to the support column lines.

The warehouses continue to be used for storage of materials. These materials include tannin as well as tungsten and aluminum oxide. Both the tungsten and aluminum oxide contain radioactive materials, but at concentrations below licensable requirements. Although these materials do not require licensing, gamma radiation emitted from the natural thorium present in the material caused the local ambient background radiation levels to increase.

A unique site feature was the presence of both monolithic and unconsolidated slag throughout the site. The slag, originating from area steel mills, had historically been used as a backfill material over an approximately 20 square mile area, as much as seven meters or more in thickness. The physical-chemical slag properties were noted to vary somewhat based on general hardness and the concentration of naturally occurring radioactive material. The monolithic slag was typically beneath a surface soil layer of 0.15 to 0.30 meters in depth, although the slag could be encountered anywhere from the immediate surface to more than one meter below the overlying soil.

1.4 SUMMARY OF PRIOR SURVEY RESULTS

The contaminant of concern for the Hammond Depot is primarily thorium with the potential for lesser quantities of uranium. All scoping and characterization survey results for the northern half of Building 200E, Building 100W, and the majority of the exterior areas satisfied the $DCGL_W$ of 400 dpm/100 cm^2 for Th-232 surface activity or the soil $DCGL_W$s of 2.9 pCi/g and 2.5 pCi/g for Th-232 and U-238, respectively, and supported the initial survey classifications. However, the scoping and characterization surveys identified residual contamination within the southern half and a closet area in the northwest corner of Building 200E, and a localized area within Building 100E. Several site soil areas of concern (AOCs) were determined to be present over a broad area near the former Burn Cage area and Ferrochrome Pile #6 as well as several smaller AOCs; all of which were located on the western portion of the site. The locations of each of these AOCs, together with the previously discussed contaminated buildings, are shown on Figure A-2.

1.5 PLANNED DECONTAMINATION ACTIVITIES

A detailed decontamination/remediation plan was prepared and submitted to NRC for review and approval (ORISE 2006d). The information provided in this plan was used to develop the scope of work requirements that were followed by the decontamination and remediation contractor. The requirements of the scope of work were the removal of contamination from structures using proven remedial technologies and the excavation of contaminated soils to levels below the $DCGL_W$s (ORNL 2006).

The U.S. Army Joint Munitions Command contractor for the site remediation was World Environmental, Inc (WEI). WEI began remediation of contaminated soils and structures in August 2007 and completed remedial actions and final remediation support surveys in December 2007. There were two buildings and six soil AOCs that were identified as contaminated. Contaminated structural surfaces within Buildings 200E and 100E were remediated using a variety of techniques that involved scabbling, grinding, washing or complete structural removal and disposal. The contaminated soils were excavated and contaminated slag surfaces were scraped or broken out. Site remediation resulted in the removal and off-site shipment and disposal of over 4,000 tons of soil, concrete, slag, and debris. These activities are further discussed in Sections 8.1.2 and 8.4.2. WEI performed extensive post-remedial action

scans, measurements, and sampling of each AOC, to ensure contamination levels were below the DCGLs prior to releasing an area for FSS. These activities were documented in certificates of completion and in the daily ORNL project reports.

2.0 FINAL STATUS SURVEY QUALITY ASSURANCE

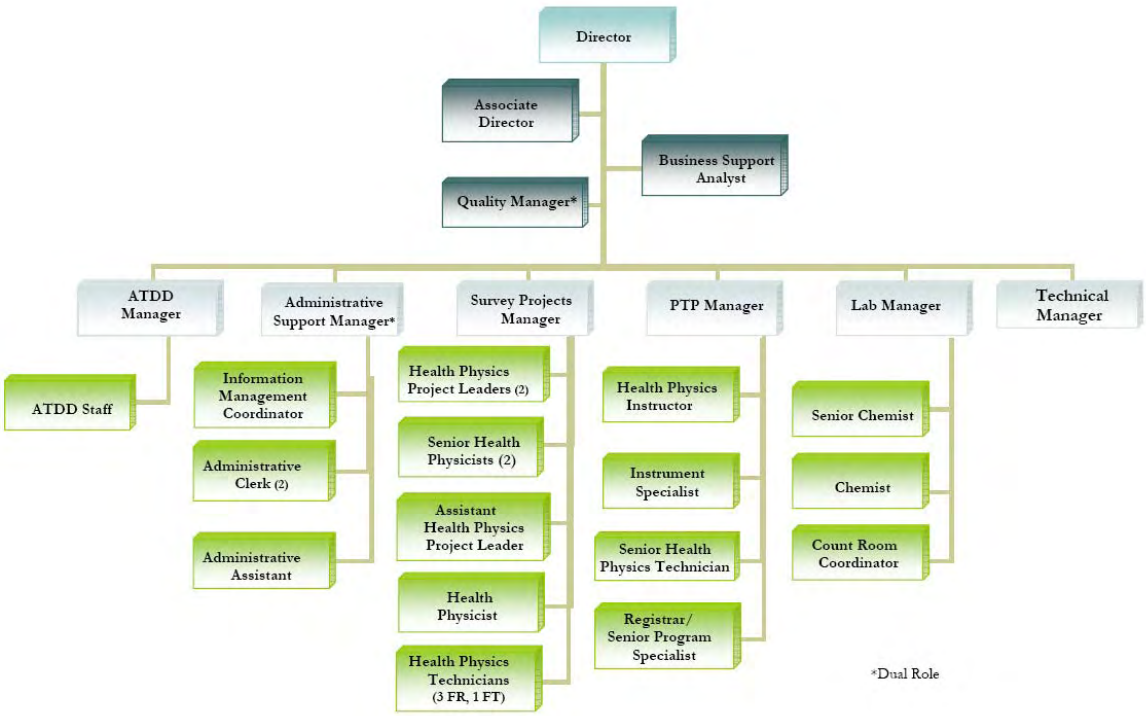
The FSS project responsibilities, training requirements, and quality assurance are described below.

2.1 ORGANIZATION AND RESPONSIBILITY

ORISE conducts radiological survey activities as one of its core competencies through the Independent Environmental Assessment and Verification Program (IEAV**)**. Figure 2-1 represents the generic organizational structure of the IEAV survey staff.

Detailed responsibilities for various staff positions are documented in Position Questionnaires, which have been developed for all employees. Additional detailed information regarding various staff position responsibilities is included in the IEAV Quality Program Manual (ORAU 2007).

Figure 2- 1: IEAV Organization Chart



2.2 QUALITY ASSURANCE

ORISE conducted all field surveys in a manner that assured the quality and accuracy of resulting data and provided auditable documentation of activities. Details of the field quality assurance and quality control procedures are documented in the IEAV Quality Program Manual (ORAU 2007).

Quality control procedures included:

- Twice daily instrument background and check-source measurements to confirm that equipment operation was within acceptable response limits.
- Laboratory participation in the Mixed Analyte Performance Evaluation Program (MAPEP), National Institute of Standards and Technology (NIST) Radiochemistry Intercomparison Program (NRIP), and Intercomparison Testing Program (ITP) Laboratory Quality Assurance Programs.

- Training and certification of all individuals performing procedures.
- Periodic internal and external audits.

2.3 CERTIFICATION TRAINING

New employee indoctrination and orientation training is conducted to provide new survey staff with basic information about IEAV survey procedures. This initial training is followed by survey and quality assurance procedure training. The training consists of studying all applicable manual procedures, oral instruction, hands-on training, written testing, and demonstration of proficiency. The veteran staff members participate in annual procedure refresher training, and additional training when a procedure is revised or new procedure introduced.

In addition to survey and quality assurance procedure training, field personnel participate in training to satisfy regulatory requirements such as Occupational Safety and Health Administration HAZWOPER and DOE radiological worker, site-specific and generic safety, first aid and CPR, transportation, and other related requirements.

2.4 CONTROL OF MEASUREMENT EQUIPMENT

Radiological survey instruments were calibrated in accordance with IEAV Survey Procedures Manual requirements (ORISE 2007b). Procedures included electronic and NIST-traceable source calibration as well as twice daily operational check outs. Additional information on calibration and survey instrumentation is provided in Section 5.1.

2.5 HEALTH AND SAFETY

The proposed survey and sampling procedures were evaluated to ensure that any hazards inherent to the procedures themselves were addressed in current job hazard analyses (JHAs). The procedures entailed minimal potential hazards, all of which were addressed in current IEAV JHAs.

The project area was evaluated for potential health and safety issues. FSS survey activities were performed in accordance with the ORISE Radiation Protection Plan and radiation work permits as required (ORISE 2005d). Personnel also adhered to health and safety requirements discussed

during the daily plan-of-the-day meetings which were held with all site personnel to address specific health and safety topics. Site remediation activities did result in the creation of additional hazards such as the excavations, protruding rebar, and other construction hazards. Identification of previously unaddressed hazards was consistently discussed during the daily meetings prior to performing work.

3.0 FINAL STATUS SURVEY REQUIREMENTS

A specific FSS was planned and conducted for each survey unit or group of similar survey units associated with each of the building and outdoor soil areas. The FSS plans were prepared in accordance with the guidance presented in MARSSIM. The plans followed the DQO process and ensured that all building and land areas were surveyed with the necessary rigor that corresponded with a given building or land area contamination potential. The DQO process included the following seven steps:

Step 1: State the problem
Step 2: Identify the decisions
Step 3: Identify inputs to the decisions
Step 4: Define the study boundaries
Step 5: Develop a decision rule
Step 6: Specify the decision errors
Step 7: Optimize the survey design

The following sections describe the requirements for the planning phase of the FSS including DCGLs, site classification and survey unit designations, survey planning parameters, instrumentation, measurement and sampling procedures, and the data quality assessments that were implemented.

3.1 DERIVED CONCENTRATION GUIDELINE LEVELS

Th-232 and its associated decay products and U-238 and its associated decay products were identified through process knowledge and characterization survey results as the contaminants of concern. Site-specific $DCGL_W$s for both Th-232 and U-238 on building surfaces and within soils were developed using the RESRAD and RESRAD-BUILD computer codes and were approved

by the NRC (ORISE 2006a and NRC 2007). These $DCGL_W$s accounted for all decay products found in secular equilibrium, including, the slight natural contribution from U-235 and its decay products. The above background $DCGL_W$s for structural surfaces were 400 dpm/100 cm^2 for Th-232 and its decay products and 800 dpm/100 cm^2 for U-238 and decay products. These same DCGLs were also considered applicable to the monolithic slag underlying the site. It was expected that the slag surface would be the final surface encountered for the Building 200E south floor and for AOCs 1 and 2.

The structural/slag surface FSS planning and data quality assessment considered only the surface activity $DCGL_W$ for Th-232. Use of only the more restrictive Th-232 surface activity $DCGL_W$, rather than modifying the $DCGL_W$ to also account for any small percentage of natural uranium activity that may have been present, allowed for simplification of the survey process yet provided an overall more conservative approach for determining compliance with remediation criteria. For soil area FSS planning, confirmation that U-238 was present in insignificant concentrations, relative to the Th-232, was achieved by evaluating the Th-232 to U-238 ratios in scoping and characterization survey soil samples. Only those samples containing greater than 5 pCi/g of Th-232 were selected for calculating the average net ratio which was approximately 11 to 1. The above background $DCGL_W$s of 2.9 pCi/g for Th-232 and 2.5 pCi/g for U-238 were used for soil survey unit FSS planning and for the data quality assessments. Because of multiple contaminants, FSS planning and DQA for soils included an appropriate application of the unity rule in accordance with the equation:

$$\frac{Conc._{Th-232}}{DCGL_{Th-232}} + \frac{Conc._{U-238}}{DCGL_{U-238}} < 1$$

Lastly, the potential for the concentration of Th-230 from the raw materials into the ThN product was evaluated and the determination made that there was no impact on the Th-232 or U-238 DCGLs, nor a need to develop a separate DCGL.

3.2 CLASSIFICATION OF AREAS BY CONTAMINATION POTENTIAL

The HD site was subdivided into three classes, based on contamination potential, as either Class 1, 2, or 3 in accordance with MARSSIM. A description of each is as follows:

Class 1: Buildings or land areas that have a significant potential for radioactive contamination (based on site operating history) or known contamination (based on previous radiological surveys) that exceeds the expected $DCGL_W$.

Class 2: Buildings or land areas, often contiguous to Class 1 areas, that have a potential for radioactive contamination but at levels less than the expected $DCGL_W$.

Class 3: Remaining buildings and land areas that are expected to contain little or no residual contamination based on site operating history or previous radiological surveys.

Non-impacted: Areas that have no reasonable potential for residual contamination.

Furthermore, buildings and land areas were subdivided into survey units, which provided the fundamental unit for demonstrating compliance with the DCGLs. Survey unit size restrictions generally followed the recommended size limitations provided in MARSSIM.

3.3 IDENTIFICATION OF SURVEY UNITS

All impacted buildings and land areas were subdivided into Class 1, 2, or 3 survey units. Each survey unit represented a portion of the site with similar contamination potential. Table 3-1 provides the MARSSIM-recommended survey unit areas. The interiors of the Administration Building, Guard House, and Pump House were considered to be non-impacted.

Table 3-1: MARSSIM-Recommended Survey Unit Sizes

Class	Structures	Land Areas
1	Up to 100 m^2	Up to 2,000 m^2
2	100 to 1,000 m^2	2,000 to 10,000 m^2
3	No limit	No limit

3.3.1 Land Area Survey Unit Identification

Land area survey units for FSS are identified and illustrated on Figure A-3. There were five Class 3 soil area survey units, twelve Class 2 soil area survey units, and seven Class 1 soil/slag area survey units. In addition to the seven Class 1 soil survey units, once soil excavations were completed twenty-two slag surface Class 1 survey units were established within the original

boundaries of AOCs 1, 2, and 3. The depot land area represented by each classification was 57.8% Class 3, 35.7% Class 2, and 6.5% Class 1.

The DQOs implemented are provided in Sections 3.6 and 4.0. The scoping, characterization, and/or remedial support data collected were used for the DQO inputs, as appropriate, for each Class 1, 2, or 3 survey unit. In general, survey unit sizes followed the MARSSIM guidance. Table B-1 provides land area survey unit designations, classifications, and areas.

3.3.2 Building Survey Unit Identification

Building survey units for FSS are listed in Table B-1. Building areas originally classified as Class 2 or 3 where contamination was identified were reclassified as Class 1. For the FSS phase, there were two buildings that contained Class 1 survey units. Among the remaining buildings, six survey units were surveyed during scoping/characterization as Class 2 and two as Class 3. The scoping surveys were designed and conducted in such a manner that the results for Class 2 and 3 building areas would meet FSS requirements. The FSS phase included forty Class 1, seven Class 2, and six Class 3 survey units. The DQOs implemented are provided in Sections 3.6 and 4.0. The characterization and remedial action support data collected from within building areas with Class 1 areas requiring remediation were used for the DQO inputs to design the FSS for remediated survey units.

3.4 BACKGROUND REFERENCE AREA AND MATERIALS

A background soil reference area was selected and sampled/measured for comparing site soil sample data to and in evaluation of the FSS data in accordance with the planned non-parametric Wilcoxon Rank Sum (WRS) statistical test for land area survey units. The original background reference area selected, and discussed in the characterization survey report, did not appropriately represent the geo-physical properties of the site as the ubiquitous surface slag backfill deposits were not evident (ORISE 2006b). Following the characterization survey, a new background reference area was identified and sampled during the FSS (Figures A-3 and A-4). Random sampling locations were generated, and the soil sampled and analyzed. The analytical data were used for comparison with the site soil sample data and for the evaluation of the FSS data in accordance with the WRS test.

Structural and monolithic slag survey units were evaluated using the non-parametric Sign test. Construction material-specific backgrounds were determined during scoping surveys and repeated during the FSS activities in areas of similar construction but without a history of radioactive material use (the Pump House and off-site slag surfaces). These construction material-specific measurements were used to correct direct measurements for background contributions, prior to converting data to the DCGL compliance unit of dpm/100 cm^2. Survey background count rates were as follows in Table 3-2:

Table 3-2: Construction Material Backgrounds

Material	Scoping/Characterization (counts per minute)	Final Status Survey (counts per minute)
Concrete	335	337
Cinder Block	406	406 to 448 (painted/unpainted)
Brick	535	577
Slag	NA	473 (average of two slag types)
Metal	216	178

3.5 REFERENCE SYSTEM

FSS measurement and sampling locations were referenced as follows: direct measurements on structural surfaces were referenced to the X, Y metric distance from either the southwest corner of a floor/overhead structure or the lower left corner of a specific wall. Soil sampling locations were referenced to global positioning system (GPS) north/east coordinates obtained using hand-held GPS units. The GPS reference coordinate system used during scoping/characterization survey phases was WGS 84 latitude/longitude and WGS 84 UTM Zone 16 was used for referencing the exterior FSS sampling/measurement locations.

3.6 SURVEY DESIGN

Structural surfaces were assessed by collecting the required number of gross beta surface activity measurements within each survey unit. The basis for assessing Th-232 surface activity levels via gross beta measurements is provided in Section 5.1.2. The Sign test was applied as the non-parametric statistical test for demonstrating compliance with the $DCGL_W$. Land area

compliance with the $DCGL_W$s was demonstrated through the application of the WRS test to soil sample results collected from each survey unit. Both Th-232 and U-238 activity concentrations in soil samples were measured by gamma spectroscopy. The Sign test was used to evaluate the surface activity measurements made for land area slag surface survey units as the slag shares the characteristics of a structural surface.

The applicable statistical test was performed if a survey unit measurement/sample exceeded the applicable $DCGL_W$ to evaluate the survey unit mean concentration relative to the null hypothesis (H_0). Simply stated, H_0 is that the residual contamination in the survey unit exceeds the release criterion. Provided that the statistical test is satisfied at the desired confidence level, then H_0 is rejected and the alternate hypothesis (H_A), that residual contamination meets the release criterion, is accepted. The data needs for the statistical tests were determined in accordance with the following steps.

3.6.1 Calculation of Required Number of Measurements

The relative shift (Δ/σ) was calculated for each survey unit or group of similar units where:

$$\Delta = DCGL_W - LBGR$$

$DCGL_W$ = the gross or radionuclide specific guideline

LBGR = Lower Bound of the Gray Region; should be established as the estimated mean activity within the survey unit, but may be adjusted to maximize survey design

σ = variability in concentration where:

1) The larger variability between the survey unit, σ_s, and the background reference area, σ_r, is selected for the WRS test and;

2) The survey unit and construction material-specific background count rate errors are propagated for the Sign test.

The DQOs were evaluated for each survey unit or survey area and the decision errors selected. The Type I decision error—the probability of incorrectly rejecting H_0 when it is true—was 0.05 and the Type II error—the probability of incorrectly accepting H_0 when it is false—was either 0.05 or 0.10. Once the above parameters were established, the number of data points required

by the statistical test were obtained either from Tables 5.3 (WRS test) or 5.5 (Sign test) in MARSSIM or otherwise generated using either COMPASS or Visual Sampling Plan (VSP) software. The FSS plan provided the tabulated estimated mean and standard deviation for Class 2 and 3 land area survey units (ORISE 2007a). These data were determined from scoping and characterization survey data. Remedial action support data supplemented by characterization data were required for determining the FSS data needs for Class 1 survey units. Appendix D contains the FSS planning DQO output for each group or individual land area survey unit.

For building structural survey units, the mean activity and variability was estimated for Class 2 and 3 structures prior to the implementation of the scoping survey. These tabulated estimates were also provided in the FSS plan and were used to determine the number of direct measurements required to satisfy FSS requirements (ORISE 2007a). Collection of remedial action support data, in conjunction with already acquired scoping/characterization survey data, was required for determining the data needs for Class 1 structural survey units. These data were also used to plan the FSS for those Class 2/3 survey units that were co-located with Class 1 remediated areas. Appendix E provides the FSS planning DQO output for each individual structural survey unit or survey unit group.

3.6.2 Determining Measurement/Sampling Locations

Measurement/sampling locations were established in either a random-start/systematic fashion for Class 1 and Class 2 survey units or at randomly generated locations for Class 3 survey units. Random start/systematic determinations followed the MARSSIM recommended guidance using a triangular measurement or sampling pattern to increase the probability of identifying small areas of residual activity. The spacing (L) between data points on a triangular pattern was determined by:

$$L = [(\text{Survey Unit Area})/(0.866 \times \text{number of data points})]^{1/2}$$

The spacing between rows was calculated as: $0.866 \times L$

For soil and exterior slag survey units, a unique GPS northing/easting coordinate location was generated for each sample location. For structural survey units a unique X, Y coordinate

location was generated for each direct measurement location. The VSP software application, v.4.6, was used in plotting sampling coordinates for both structures and soil areas. When sample/measurement locations were either inaccessible or on a surface that had been removed during remediation, the sample was either not collected or replaced by a new randomly generated location. As the statistical sample size was already increased by 20%, the decision as to whether to generate new locations was based upon the number of samples/measurements already collected and the anticipated resulting power of the statistical test. The anticipated power was based on data already collected and analyzed from similar survey units as the FSS progressed. In other words, in almost all cases the prospective survey unit mean concentration used for FSS planning was significantly greater than retrospective mean concentration which results in similar statistical power with fewer samples.

4.0 INTEGRATED SURVEY STRATEGY

FSS data collected for structural surfaces consisted of gamma and alpha plus beta or beta scans to identify locations of residual contamination as well as direct measurements of beta surface activity. Smear samples, although not used in the final data quality assessment, were collected during the scoping and characterization surveys from both judgmental and random-start/systematic locations to measure removable alpha and beta surface activity.

FSS of open land areas consisted of gamma scans to identify locations of residual contamination and samples of soil that were analyzed for Th-232 and U-238, or direct beta surface activity measurements on slag. Table B-1 provides survey unit nomenclature and information for land areas and buildings. Figure A-3 shows the FSS land area survey unit configuration. Figures A-6 through A-21 shows the structural survey units.

4.1 SURFACE SCANS

Land area gamma radiation surface scans were performed using NaI scintillation detectors. Structures were scanned for gamma radiation using NaI scintillation detectors and also for direct alpha plus beta or beta radiation using gas proportional detectors. Detectors were coupled to ratemeters or ratemeter-scalers with audible indicators. Characterization gamma surface scan data of land areas that did not require remediation were also used as FSS data, but were further augmented with additional scans during the FSS phase. The FSS gamma scan data were

collected using a GPS system that enabled real time gamma count rate and position data capture. Table 4-1 shows the recommended surface scan coverage discussed in MARSSIM. Sections 4.1.1 and 4.1.2 discuss the actual scan coverage which met or exceeded the recommended coverages.

Table 4-1: MARSSIM-Recommended FSS Survey Scan Coverage		
Class	**Structures**	**Land Areas**
1	100%	100%
2	10 to 100% floors and lower walls 10 to 50% upper walls and ceilings	10 to 100%
3	Judgmental	Judgmental

4.1.1 Class 1 Land Area Survey Units

All Class 1 land survey areas were gamma scanned 100% during characterization using NaI detectors coupled to ratemeters with audible indicators. These areas were subdivided into survey units and scanned 100% following the completion of the remediation. A large debris pile, consisting of soil and structural debris, that overlaid the northwest corner of AOC 1 was removed to allow complete access to AOC 1, moved to the north and laid out in wind-rows for survey as a consolidated Class 2 survey unit, independent of the underlying land areas. The FSS gamma scans of the Class 1 survey units were performed using NaI detectors coupled to ratemeter-scalers with audible indicators. In addition, the gamma scanning of most survey units included the use of a GPS system coupled to the ratemeter-scalers enabling the resultant gamma count rate data to be logged and geo-referenced.

A special evaluation was required for the FSS assessment of the monolithic slag to address a deviation to the original survey plan for the exterior slag surfaces. The original plan required alpha plus beta or beta scans of the exposed slag surfaces (ORISE 2007a). However, once the slag layer was completely exposed, it was apparent that the surface undulations were too severe to permit scanning with a large area gas proportional detector. Therefore, an empirical evaluation was performed to determine the detection capability of the NaI scintillation detector for small areas (100 cm^2) of residual contamination on the slag surface and establish the scan

MDC capability relative to the 400 dpm/100 cm^2 $DCGL_W$. A large area of AOC 2 was gamma scanned using detectors with a crystal size of either 3.2 cm × 3.8 cm or 5.1 cm × 5.1 cm. All locations considered distinguishable from background gamma radiation levels were marked for follow-up direct measurements with a hand-held gas proportional detector to quantify the beta activity. This evaluation determined that small areas of residual activity comparable to the $DCGL_W$ were readily detectable, therefore satisfying the required scan MDC, with the 5.1 cm × 5.1 cm NaI detector. Also, the approximate volumetric activity concentration equivalent to 400 dpm/100 cm^2 within a thin layer of slag was calculated to be 3.8 pCi/g. The scan MDC for the SPA-3 was approximately 1.8 pCi/g, thereby confirming the field study result.

4.1.2 Class 2 and 3 Land Area Survey Units

As a result of the identification of AOC 2, both Class 2 and 3 land areas received high density gamma surface scans during the characterization survey. Characterization scans were performed using NaI detectors coupled to ratemeters with audible indicators. Class 2 and 3 scan coverage density began as 100% coverage near roadways, railroads, and around buildings and then was gradually decreased to 50 to 75% coverage in outlying areas. These gamma scans identified three additional AOCs: AOCs 4, 5, and 6 on Figure 2.

FSS gamma surface scans were performed in all Class 2 and 3 survey units that met the minimum requirements in Table 4-1. The FSS scans were performed using NaI detectors coupled to the GPS-enabled ratemeter-scalers with audible indicators. Surface scan coverage was low to medium density (10 to 20%) for Class 2 survey units and low density (1 to 5%) for Class 3 survey units. Figure A-3 shows the Class 2 and 3 FSS survey units.

The Class 2 debris pile wind-rows survey unit (survey unit 12), discussed above in Section 4.1.1, was evaluated as two sub-units. The wind-rows, consisting of large quantities of soil intermixed with pieces of concrete, brick, re-bar, etc. were FSS gamma scanned using a NaI detector coupled to a ratemeter with audible indicator. The accessible solid debris surfaces were then scanned for beta activity using a hand-held gas proportional detector coupled to a ratemeter-scaler with audible indicator.

4.1.3 Class 1 Building Survey Units

All Class 1 building surfaces received medium density (25 to 50%) scans during the scoping survey and were then scanned 100% during characterization. These areas were subdivided into survey units for the FSS and scanned 100% for alpha plus beta or beta radiation following the completion of the remediation. Because of a similar slag surface condition to that discussed in Section 4.1.1, the slag surface in portions of Building 200E south (northeast corner, center, and southwest corner) required FSS gamma scans rather than the originally planned alpha plus beta scans. Figure A-1 highlights the Class 1 areas of the site buildings. The Class 1 FSS survey units included the floor, portions of the lower walls and overhead surfaces of Bays 1 through 10 of Building 200E south, the floor and lower wall of the northwest closet area of Building 200E, and three areas of the floor of Bays 13 through 20 of Building 100E.

4.1.4 Class 2 and 3 Building Survey Units

Twenty-five to 50% of accessible surfaces were systematically scanned during scoping surveys. Results of these scans as the survey progressed also resulted in the identification of additional areas for judgmental scanning. Upper walls, ceilings, and overhead structures were scanned with emphasis on horizontal surfaces where residual contamination may have settled and accumulated. Detailed discussions of the scanning processes are provided later in this section.

Characterization surface scans were performed over 100% of floor surfaces where anomalies were identified during the scoping surveys. Class 2 areas subject to expanded scan coverage included the eastern-most section of Bays 7 through 17 of Building 100W and Bays 15 through 20 of Building 100E. The remaining Class 2 survey units addressed during the FSS included wall and overhead surfaces in Building 200E south, Bays 1 through 10.

Class 3 floors and lower walls were judgmentally scanned for alpha plus beta and gamma radiation during the scoping survey. Up to 25% of the accessible floor surfaces were scanned for direct gamma and alpha plus beta radiation. The remaining Class 3 areas assessed during the FSS were the lower walls of Building 200E north—Bays 11 through 20—the Workshop Building, Garage Building, and the collective building exteriors. Figure A-1 shows the locations of these other site buildings.

The floors, lower walls, and upper surfaces of the northern section of Building 200E and all of Building 100W were scanned for alpha plus beta, beta, and/or gamma radiation during the scoping survey. Additionally, the central floor of Building 100W was rescanned during the characterization survey. The rescanning was necessary due to identified ambient gamma radiation background interference that resulted from the drums of tungsten that were present during the scoping survey but removed during the characterization phase. These scoping/characterization scans were conducted such that FSS scanning requirements were satisfied in all cases. No additional scans of the survey units in these building areas were necessary during the FSS phase.

The surfaces of Building 100E—originally a Class 3 structure— were similarly scanned during the scoping survey. However, contamination was identified on numerous empty pallets that were stored in the northwest corner of the building. The floor of the northern-most five bays of Building 100E were therefore reclassified as Class 2 and scanned accordingly during the characterization survey. Additional contamination was identified in two expansion joints, and subsequently two Class 1 floor survey units were established for the FSS. An additional Class 1 and two Class 2 floor survey units were established during the FSS as a result of the identification of a small group of tannin pallets contaminated with radioactive material. The investigation determined that the material was likely residue from an old spill of monazite sand that may have occurred while moving a drum through the aisle way that these pallets abutted. To ensure this was an isolated incident, approximately 300 pallets of the stored tannin were individually moved and gamma scanned. Also, all accessible pallets of tannin within the entire warehouse were gamma scanned with no further anomalies identified.

Class 2 and 3 building survey units that were co-located with remediated Class 1 survey units were rescanned during the FSS using a graded approach. That is, 100% high density scans were performed of the survey unit surface adjacent to any Class 1 survey unit. For example, a Class 2 wall was scanned 100% over the lower two meters while the upper wall was scanned 10 to 20%.

4.2 SOIL SAMPLING AND SURFACE ACTIVITY MEASUREMENTS

FSS surface soil samples (0 to 0.15 m) were collected from random-start/systematic or random locations, dependent upon the survey unit classification. Additional judgmental samples were

obtained, as necessary, from locations where scans indicated potential residual contamination or from within remediated areas in those cases where systematic sampling locations did not fall within the remediated portion of a given survey unit. Soil samples were maintained under formal chain-of-custody procedures then analyzed in the IEAV laboratory by gamma spectroscopy and results reported in units of pCi/g. A number of the planned FSS soil samples could not be collected due to inaccessibility beneath concrete pads or similar overlying structures. In the event an excessive number of samples from a specific survey unit were inaccessible, additional random sample locations were generated and samples collected.

FSS direct measurements to quantify total beta activity levels were performed at pre-determined random start/systematic or random locations as applicable on building surfaces and interior and exterior slag surfaces. In cases where a measurement location was inaccessible or the structure had been physically removed, replacement locations were randomly generated as needed. Additional judgmental samples were obtained, as necessary, from locations where scans indicated potential residual contamination or from within remediated areas if a systematic measurement location did not fall within the remediated potion of a given survey unit. Measurements were made using gas proportional detectors coupled to ratemeter-scalers. Surface activity data were converted to units of dpm/100 cm^2.

The procedures used for calculating the number of and location for samples/measurements that are discussed below were determined in accordance with Sections 3.6.1 and 3.6.2.

4.2.1 Class 1 Land Area Survey Units

The specific DQO inputs for calculating the required FSS soil sample quantity in Class 1 land area survey units were derived from characterization samples and remedial action support survey results. The Class 1 survey units are shown on Figure A-3. There were three scenarios encountered during the FSS of Class 1 land area survey units. Each scenario required implementing a variation in the sampling/measurement FSS approach. Most of the Class 1 land area survey units in AOCs 1 and 2 were comprised of the monolithic slag surface as the overlying contaminated soil had been completely removed. For these survey units, direct measurements of residual beta surface activity were planned for and collected from random-start/systematic locations. Other survey units consisted of primarily soil, as either

excavation was not required over large areas and/or the excavation did not expose the monolithic slag. Soil samples were collected for the FSS of these survey units. The final scenario encountered was a survey unit consisting of primarily soil, but where remediation exposed the slag surfaces over small areas of the survey unit. For this survey unit, the basis of the FSS was the collection of soil samples. However, additional judgmental direct measurements of the beta surface activity levels were made on the surface of the exposed slag. Appendix D provides the specific, detailed DQO reports for each Class 1 survey unit.

4.2.2 Class 2 Land Area Survey Units

The scoping survey sample results were used for generating the DQO inputs for calculating the required number of FSS soil samples for each Class 2 survey unit. The number of samples required and locations were generated in accordance with Sections 3.6.1 and 3.6.2. Survey units are shown on Figure A-3. Appendix D provides the detailed DQO report for Class 2 survey units.

4.2.3 Class 3 Land Area Survey Units

The number of FSS soil samples for each of the five Class 3 survey units was also calculated using the DQO inputs used for the Class 2s. Survey units are shown on Figure A-3 with the DQO report provided in Appendix D.

4.2.4 Class 1 Building Survey Units

There were forty Class 1 structural survey units established within Buildings 200E and 100E. The DQO inputs were derived from the remedial action support survey measurement results for Building 200E and characterization results (excluding data from the contaminated expansion joints) for the Class 1 areas of Building 100E.

4.2.5 Class 2 Building Survey Units

FSS direct measurements of six of the 15 Class 2 structural survey units associated with Buildings 100W and 200E (north end) were completed during the scoping survey phase. The DQO mean concentration and variability inputs for determining the number of direct

measurements to satisfy FSS requirements were prospectively estimated. The actual data results were retrospectively reviewed to determine the adequacy of the estimated surface activity concentration. This planning followed the procedure described in Sections 3.6.1 and 3.6.2. For those Class 2 survey units that were co-located with Class 1 areas requiring remediation in Building 200E (south) and 100E, the characterization data provided most of the mean concentration and variability inputs for the FSS design or the original prospective parameters were used in the event that their use resulted in a more robust FSS.

4.2.6 Class 3 Building Survey Units

FSS direct measurements for three of the eight Class 3 structural survey units were completed during the scoping survey phase as no, or very limited, decontamination was required within the building. These Class 3 survey units were located in Buildings 100W, 100E, and 200E (north). The DQO mean concentration and variability inputs for determining the number of direct measurements to satisfy FSS requirements were prospectively estimated. These same parameters were also used in the DQO process for the remaining Class 3 units addressed during the FSS phase of the project. The actual data results for the completed Class 3 survey units were retrospectively reviewed to determine the adequacy of the estimated surface activity concentration. This planning followed the procedure described in Sections 3.6.1 and 3.6.2.

5.0 INSTRUMENTATION AND CALIBRATION

Calibration of all field and laboratory instrumentation was based on standards/sources, traceable to NIST. Specific field and laboratory instrumentation parameters are discussed below.

5.1 FIELD INSTRUMENTATION

The following, or similar, survey instrumentation were used during the FSS or for the collection of FSS data during the scoping survey.

5.1.1 Scanning Instrument/Detector Combinations

Alpha plus Beta

Ludlum Floor Monitor Model 239-1 combined with Ludlum Ratemeter-Scaler Model 2221 coupled to Ludlum Gas Proportional Detector Model 43-37, Physical Area: 550 cm^2 (Ludlum Measurements, Inc., Sweetwater, TX), Minimum Detectable Concentration (MDC) = 300 dpm/100 cm^2 Th-232, based on a scanning total efficiency for the Th-232 decay series of approximately 1.50.

Beta

Ludlum Ratemeter-Scaler Model 2221 coupled to Ludlum Gas Proportional Detector Model 43-68, Physical Area: 126 cm^2 equipped with a 3.8 mg/cm^2 Mylar window (Ludlum Measurements, Inc., Sweetwater, TX) MDC = 800 dpm/100 cm^2 Th-232, based on a scanning total efficiency for the beta-only component of the Th-232 decay series of approximately 0.40.

The actual scanning MDC for the instrumentation was compared with the required scanning MDC determined at the time of the Class 1 final status survey DQO development. Sample spacing adjustment was not necessary as the actual scan MDC was less than the required scan MDC for each Class 1 survey unit. A review of the area factors presented in Table B-2 demonstrates that a sample spacing of less than 100 m^2 ensured that the required scan MDC was satisfied.

Gamma

Ludlum Pulse Ratemeter Model 12 or Ratemeter-Scaler Model 2221 enabled with RS-232 data collection capabilities (Ludlum Measurements, Inc., Sweetwater, TX) coupled to: Victoreen sodium iodide (NaI) Scintillation Detector Model 489-55, Crystal: 3.2 cm x 3.8 cm (Victoreen, Cleveland, OH).

Th-232 MDC_{Scan} = 2.8 pCi/g (assumes secular equilibrium with the decay series)
U-238 MDC = 4.5 pCi/g (assumes secular equilibrium with the decay series)

or a:

Ludlum SPA-3 NaI Scintillation Detector Model 44-10, Crystal: 5.1 cm x 5.1 cm (Ludlum Measurements, Inc., Sweetwater, TX).

Th-232 MDC_{Scan} = 1.8 pCi/g (assumes secular equilibrium with the decay series)
U-238 MDC = 2.8 pCi/g (assumes secular equilibrium with the decay series)

Detector/ratemeter or ratemeter-scaler combinations were also coupled to a Trimble GeoXH Receiver and Data Logger (Trimble Navigation Limited, Sunnyvale, CA) when collecting scan data during the FSS. Gamma count rates (in cpm) and position were captured each second. Positional accuracy was typically within one to five meters.

Based on characterization data demonstrating that U-238 concentrations from licensed material contamination existed as a mixture dominated by Th-232, a combined scan MDC for the mixture was calculated from the observed fractional amounts. The observed Th-232:U-238 ratio averaged 11:1 in characterization samples. The calculated scan MDC for the 11:1 activity ratio was calculated to be 2.89 pCi/g total activity and can be compared with the similarly calculated total activity DCGL of 2.77 pCi/g. The actual scanning MDC for the instrumentation was compared with the required scanning MDC for Class 1 survey units. Sample spacing adjustment was not necessary as the actual scan MDC was less than the required scan MDC for each Class 1 survey unit without the application of the area factors provided in Table B-3. Notes have been included in the DQO reports for Class 1 survey units indicating that although the scan MDC for U-238 in equilibrium with the decay series is approximately 4 pCi/g, the U-238 scan MDC for the elevated measurement comparison was established as 2.9 pCi/g to reflect the gross activity scan MDC.

5.1.2 Direct Measurement Instrument/Detector Combinations

Beta

Ludlum Ratemeter-Scaler Model 2221 coupled to Ludlum Gas Proportional Detector Model 43-68, Physical Area: 126 cm^2 (Ludlum Measurements, Inc., Sweetwater, TX).

MDC = 200 dpm/100 cm^2 Th-232, based on the beta-only total efficiency of 0.40 to 0.42.

Use of only the more restrictive Th-232 surface activity $DCGL_W$, rather than modifying the $DCGL_W$ to also account for any small percentage of natural uranium activity that could have been present, allowed for simplification of the survey process yet provided an overall more conservative approach for assessing surface activity levels. Therefore, the detectors used for assessing surface activity were calibrated only for the Th-232 decay series beta emissions by using 3.8 mg/cm^2 Mylar windows to block alpha contributions. The calibration procedure was in accordance with ISO-7503[1] recommendations. Total beta efficiencies (ε_{total}) were determined for each instrument/detector combination and consisted of the product of the 2π instrument efficiency (ε_i) and surface efficiency (ε_s): $\varepsilon_{total} = \varepsilon_i \times \varepsilon_s$. Beta total efficiencies were determined based on a beta energy multi-point calibration, development of instrument efficiency to beta energy calibration curves, and the calculation of the weighted efficiency representing the Th-232 decay series. Included in the weighted efficiency was an empirically determined correction for disequilibrium in the decay series that results from Rn-220 loss. A 3.8 mg/cm^2 density thickness Mylar window was used on the beta detectors to block detector response contributions from alpha radiation.

ISO-7503 recommends an ε_s of 0.25 for beta emitters with a maximum energy of less than 0.4 MeV and an ε_s of 0.5 for maximum beta energies greater than 0.4 MeV. Figure A-5 illustrates an example multi-point calibration efficiency determination.

Direct measurement count rates were corrected for an appropriate construction material-specific background. The net count rates were then converted and reported in units of dpm/100 cm^2 by dividing by the detector total efficiency and geometry.

5.2 LABORATORY INSTRUMENTATION

Scoping/characterization and FSS samples were analyzed in accordance with the ORISE Laboratory Procedures Manual (ORISE 2007c).

[1]International Standard. ISO 7503-1, Evaluation of Surface Contamination - Part 1: Beta-emitters (maximum beta energy greater than 0.15 MeV) and alpha-emitters. August 1, 1988.

5.2.1 Gross Alpha/Beta (Removable Activity)

Smear samples were analyzed using the following equipment and results were reported in units of dpm/100 cm^2.

Low Background Gas Proportional Counter Model LB-5100-W (Tennelec/Canberra, Meriden, CT). MDCs = 9 dpm/100 cm^2 for alpha and 15 dpm/100 cm^2 for beta with a two-minute count time.

5.2.2 Gamma Spectroscopy

Soil samples were analyzed by gamma spectroscopy using the following equipment and results reported in units of picocuries per gram (pCi/g):

- High Purity Extended Range Intrinsic Detector CANBERRA/Tennelec Model No: ERVDS30-25195 (Canberra, Meriden, CT) used in conjunction with Lead Shield Model G-11 (Nuclear Lead, Oak Ridge, TN) and Multichannel Analyzer DEC ALPHA Workstation (Canberra, Meriden, CT).

- High Purity Extended Range Intrinsic Detector Model No. GMX-45200-5 (AMETEK/ORTEC, Oak Ridge, TN) used in conjunction with Lead Shield Model SPG-16-K8 (Nuclear Data) Multichannel Analyzer DEC ALPHA Workstation (Canberra, Meriden, CT).

- High-Purity Germanium Detector Model GMX-30-P4, 30% Eff. (AMETEK/ORTEC, Oak Ridge, TN) used in conjunction with Lead Shield Model G-16 (Gamma Products, Palos Hills, IL) and Multichannel Analyzer DEC ALPHA Workstation (Canberra, Meriden, CT).

- Gamma Spectroscopy MDC = 0.11 pCi/g for Th-232 (based on the 0.911 MeV photopeak from Ac-228) and 0.70 pCi/g for U-238 (based on the 0.063 MeV photopeak from Th-234) based on a 60-minute count time.

6.0 DATA REVIEW AND INVESTIGATION THRESHOLDS

Data were reviewed to assure that the type, quantity, and quality were consistent with the survey plan and design assumptions. Data standard deviations were compared with the assumptions made in establishing the statistically-based number of direct measurement/sampling points. Individual and average data values were compared with guideline values and proper survey area classifications were confirmed. Individual measurements in excess of the guideline level for Class 1 and 2 areas were investigated. For Class 3 survey units, although less conservative than the recommendation provided in MARSSIM, measurements in excess of 75% of the guideline for Class 3 areas were investigated. The requirement for increasing the investigation threshold was due to the low DCGLs relative to background. For survey unit investigations, reclassifications, remediations, and/or resurveys, a determination of the cause was initiated and the data conversion and assessment process repeated. Additional information regarding the evaluation of measurement results in excess of the DCGLs is provided in Section 7.3 and specific occurrences are listed in Table B-4 and discussed in the appropriate sub-section of Section 8 of this report.

7.0 DETERMINING COMPLIANCE WITH DCGLs

As discussed in Section 3.1, both soil concentration and surface activity DCGLs were developed with which FSS data were compared. These DCGLs included both the mean concentrations ($DCGL_W$) and also provided for small areas of elevated contamination in excess of the $DCGL_W$, the $DCGL_{EMC}$. Compliance demonstration with both requirements for each survey unit is discussed below.

7.1 LAND AREA SURVEY UNITS

Land area survey units were evaluated using the WRS test. Survey unit and background reference area soil sample results collected from the random or random-start/systematic locations were converted to unity in accordance with the equation in Section 3.1. The DCGL in this case is also established as 1. The reference area results were adjusted by adding the DCGL to the unity concentration value. The results for both data sets were then ranked as follows:

- Rank all (survey unit and reference area) measurements in order of increasing size from 1 to N, where N is the total number of pooled measurements.

- If several measurements have the same value, assign them the average ranking of the group of tied measurements.
- Sum the ranks of the adjusted reference area measurements; this value is the test statistic, W_R.
- Compare the value of W_R to the critical value in MARSSIM Table I.4 for the appropriate sample size and decision level.

Prior to applying the test, if the difference between the largest survey unit result and the smallest reference area result was less than the $DCGL_W$, the survey unit would always pass a complete application of the WRS test. In this situation, no further evaluation was necessary and the null hypothesis was rejected. Otherwise, W_R was calculated. If W_R was greater than the critical value, H_0 was rejected, and the survey unit met the established criteria. If W_R was less than or equal to the critical value, H_0 was not rejected, and the survey unit did not meet the established criteria; investigation, remediation, reclassification, and/or resurvey would have been performed as appropriate. However, application of the WRS resulted in the rejection of the null hypothesis for all survey units.

7.2 BUILDING SURVEY UNITS

Structural survey units were evaluated using the Sign test. Individual activity values and the average activity value were calculated.

If all values from the random or random-start/systematic locations for a survey unit were less than the guideline level, the survey unit satisfied the criterion and no further evaluation was necessary.

If the average activity value was greater than the guideline, the survey unit would not satisfy the criterion, and further investigation, possible reclassification, remediation, and/or resurvey would have been required. However, the average activity never exceeded the criterion.

If the average activity value was less than the guideline level, but some individual values were greater than the guideline, data evaluation by the Sign test proceeded, as follows:

- List each of the survey unit measurements.
- Subtract each measurement from the guideline level.
- Discard all differences which are "0"; determine a revised sample size.
- Count the number of positive differences; this value is the test statistic (S+).
- Compare the value of S+ to the critical value in MARSSIM Table I.3 for the appropriate sample size and decision level.

When S+ was greater than the critical value, H_0 was rejected, and the survey unit met the established criteria. If S+ had been less than or equal to the critical value, H_0 would not have been rejected, and the survey unit would not have met the established criteria; investigation, remediation, reclassification, and/or resurvey would have been performed, as appropriate.

7.3 ELEVATED MEASUREMENT COMPARISON

Soil sample or direct measurement results that exceeded the $DCGL_W$ were also evaluated for compliance with a $DCGL_{EMC}$. The remediation scope of work required that contamination be reduced to levels below the $DCGL_W$ and WEI performed remedial action support surveys as assurance that this requirement was met (ORNL 2006). However because contamination was present prior to remediation in Class 1 survey units, the potential existed that isolated locations of residual soil concentrations or surface activity could have been identified during the FSS that exceeded the $DCGL_W$. The statistical tests for demonstrating compliance are such that some samples/measurements may exceed the $DCGL_W$, yet still reject the null hypothesis. Therefore, both the statistically-based and judgmental samples exceeding the $DCGL_W$ by a predetermined threshold were compared with a $DCGL_{EMC}$ that corresponded with the size of a given area of elevated activity—defined as the $DCGL_W \times$ Area Factor. The concentration threshold for soil samples from Class 1 survey units that required an EMC comparison was defined as either the Th-232 or U-238 $DCGL_W$ plus the sum of the respective mean background concentration and two standard deviations. For Class 1 surfaces, the corresponding threshold would be the surface activity $DCGL_W$, in terms of counts per minute, plus the sum of the mean construction material-specific background count rate and two standard deviations. Tables B-2 and B-3 provide the area factors for both soil concentrations and surface activity. Area factors were developed using the identical inputs used in generating the site-specific $DCGL_W$s with only the size of the area of contamination changed and for soil, the length parallel to the aquifer flow also

must be changed to match the hot spot size. When individual samples/measurements with elevated concentrations were less than the respective $DCGL_{EMC}$ the impact of multiple hot spots on the mean concentration in a survey unit would have been evaluated. This would have been performed using equation 8-2 in MARSSIM, but was not necessary for any survey unit. Any measurement that exceeded the $DCGL_W$ within a Class 2 or 3 survey unit was investigated as discussed in Section 6.0 and in some cases required reclassification of portions of the survey unit.

8.0 PRE-REMEDIATION AND FSS RESULTS

The results of the FSS are provided in the following sections. The information below and in accompanying appendices provides all applicable data and documentation necessary to support the request for removal of the Hammond Depot from the DNSC's NRC license.

8.1 BUILDING SURVEYS: CLASS 1

The results for the surveys of Buildings 200E and 100E are provided below.

8.1.1 Class 1 Scoping/Characterization Surface Scans and Surface Activity Levels

Buildings 200E South, 200E NW Closet, and 100E

The scoping and characterization surveys found extensive contamination on the floors of the south half of Building 200E where containers of ThN were stored and known to have leaked. The contamination was on the original concrete floor of the building, beneath the asphalt overlayment. Multiple small area and distributed locations of elevated gamma radiation were detected—indicating contamination beneath the asphalt—that ranged from 5,000 to 200,000 counts per minute (cpm). Investigations beneath the asphalt overlayment found that much of the contamination was associated with expansion joints and cracks in the original concrete floor slab. The contamination was also found to have migrated through these openings and spread to the monolithic slag layer that was immediately beneath the floor. Surveys confirmed the presence of contamination in excess of the $DCGL_W$ on overhead structural steel and pipes, support columns and bases, and isolated lower wall areas.

One area of contamination was identified in the closet area at the northwest end of Building 200E. Investigations identified jars of source material stored in the closet and one jar was noted to be leaking, causing localized floor and wall surface contamination.

Contaminated pallets were identified in Building 100E during the scoping survey within Bays 19 and 20. Once the pallets were surveyed and removed, the characterization survey identified three expansion joint locations with activity levels in excess of the $DCGL_W$. Also, the pallets of tannin contaminated with monazite sand were present at this time but were not found until the FSS, after other materials had been moved out of the way. It is believed that the monazite sand was also the source of the contamination found within the expansion joints.

Table 8-1 summarizes the removable and total beta surface activity levels present within Class 1 areas following the characterization.

Table 8-1: Class 1 Building Characterization Surface Activity Levels		
Buildings		**Removable/Total Beta Activity Range (dpm/100 cm^2)**
200E South		-6 to 25/ -370 to 100,000
200E NW Closet		-2 to 5/-200 to 270,000
100E Pallets and tannin	 	-6 to 10/-310 to 1,400[a]

[a]Excludes the measurement results for the contaminated pallets.

8.1.2 Class 1 Building Remediation

The remedial actions that WEI conducted within the contaminated structures are summarized below.

Building 200E South

Aggressive decontamination efforts were necessary in Building 200E. The asphalt overlayment was removed to permit access to 100% of the original concrete floor. Surveys confirmed

extensive contamination in the area referred to as the "spillway". The spillway began in southwest corner of the structure, continued through the central area, and extended up to the northeast corner. Surveys of the southeast and northwest corners of the floor did identify a number of isolated areas of contamination. Based on this, the decision was made to remove the entire floor slab for disposal and to expose the underlying monolithic slag layer to allow for thorough investigation of the slag contamination profile. The southeast and northwest corners did not require decontamination, with the exception of a few spots. The spillway observed on the floor was essentially mirrored on the slag and required extensive remediation by breaking, chipping, and scraping the contaminated slag. Contaminated lower walls and columns were spot remediated by scabbling, chipping, and grinding. The overhead structures were decontaminated by hydro-washing, wiping, and vacuuming.

Building 200E Northwest Closet

Remediation of this area included removal of the jars of ThN solution during an earlier interim cleanup action. Structural remediation involved scabbling a small area of the closet floor and the adjoining east lower wall.

Building 100E

Building 100E was remediated by first removing the contaminated pallets during the interim cleanup action. The contaminated expansion joints were chipped out. The pallets of tannin that were found contaminated with monazite sand during the FSS were wrapped and disposed of as waste. The surrounding floor was vacuumed and an associated expansion joint required removal of the mastic and concrete.

8.1.3 Class 1 Building FSS Results

As previously discussed, the FSS surveys of these Class 1 structures included 100% alpha plus beta/beta and/or gamma surface scans of the Class 1 survey units associated with each structure. Class 2 survey units associated with these structures received FSS scan coverage generally ranging from 10 to 50%, several Class 2 survey units, such as the Building 200E (south) lower walls, were scanned 100%. These scans identified several additional areas of

contamination requiring further remediation on the floor, columns, and overheads of Building 200E as well as the pallets of contaminated tannin in Building 100E. Most of the Building 200E locations would have readily met the $DCGL_{EMC}$. The additional remediation was performed as an ALARA practice. Of the approximately 600 FSS direct measurements made on these structural survey units, none exceeded the Th-232 surface activity $DCGL_W$ of 400 dpm/100 cm^2. Table 8-2 summarizes the FSS surface activity results for these Class 1 survey units. Complete data are provided in Table B-5.

Table 8-2: Class 1 Building FSS Summary

Building	Number of Survey Units/ Measurements	Total Beta Activity Range/Average (dpm/100 cm^2)
200E (south)	34/534	-430 to 390/67
200E NW closet	1/19	-200 to 150/-90
100E	3/51	-130 to 230/22

The DQA report for each survey unit for these structures is provided in Appendix F. The DQA reports include individual direct measurement results, both summary and graphical prospective and retrospective FSS planning information, summary statistics, and the Sign test results when applicable. Figures A-6 through A-11, and A-14 show the VSP-generated drawings for these structures with survey units shown and the location of direct measurements. H_0 was rejected for all survey units and H_A accepted, thus demonstrating that the release criteria have been met.

8.2 BUILDING SURVEYS: CLASS 2

The results for the surveys of Class 2 survey units within Buildings 200E, 100E, and 100W are provided below.

8.2.1 Class 2 Scoping/Characterization/FSS Surface Scans & Surface Activity Levels

Surface scans of Bays 11 through 20 in Building 200E (north) identified elevated gamma radiation associated with the northwest corner wall. Further investigation identified the presence of the three small jars of ThN within the locker room/closet area, previously discussed, that were located on the opposite side of the wall. Surface scans did not identify any additional areas

of elevated direct radiation distinguishable from background in the remainder of the building. Surface scans of Building 100W Bays 1 through 7, those portions of Bays 8 through 18 outside of the former ThN storage area, and Bays 19 and 20 did not identify any elevated direct gamma or alpha plus beta radiation with the exception of two locations where the stored tungsten contributed to the background radiation. Therefore, DNSC moved the materials and the characterization surface scans of these suspect locations determined that the anomalies were false positives resulting from the increased ambient gamma radiation background levels. These scoping/characterization scan data were of sufficient quantity and quality to satisfy the FSS requirements.

The FSS beta surface scans of the Class 2 survey units in Buildings 200E (south) and 100E did not identify the any residual contamination discernable above the scan MDC.

The summary of the beta surface activity FSS results is provided below in Table 8-3. Complete data are provided in Table B-5.

Table 8-3: Class 2 Building FSS Summary

Building	Number of Survey Units/ Measurements	Total Beta Activity Range/Average (dpm/100 cm^2)
200E (north)	3/67	-200 to 200/-7
200E (south)	5/79	-380 to 520/61
100E	4/59	-310 to 230/37
100W	3/50	-290 to 370/59

The beta surface activity level at one direct measurement location in Building 200E (south) survey unit C2 SU57 exceeded the Th-232 $DCGL_W$ of 400 dpm/100 cm^2. The activity at this location was 520 dpm/100 cm^2. This was a systematic measurement location on the lower west wall concrete footer at coordinates 35.6, 0.2. Identification of this single outlier occurred after site personnel had demobilized from the site. Therefore, a follow-up investigation was not possible to either confirm the anomaly as contamination or to otherwise disposition the anomaly if the cause was found to be unrelated to contamination such as a differing construction material background. Because this was a Class 2 survey unit, contamination above the $DCGL_W$ was not expected. The observed beta count rate at this location was typical of the cinder block

background count rates measured on the majority of the wall, but exceeded the background of the concrete footer by approximately 200 cpm. The overall opinion is that the anomaly is a false positive in view of the results of all other surface scans and direct measurements within Building 200E (south). However, the following sequence may have occurred had the anomaly been confirmed.

1.) A portion of the survey unit may have been reclassified. The measurement in question, was the first lower wall measurement location adjacent to Class 1 survey unit C1 SU23. The activity level was less than the scan MDC. Because of the proximity of the lower walls to the previously heavily contaminated floor and the adjoining Class 1 wall survey unit, this and all other lower walls had been scanned 100%. No other contamination was noted or identified on any of the remaining lower walls.

2.) Therefore, had this area been either established as a new Class 1 survey unit or been included with existing Class 1 unit C1 SU23, Class 1 scanning requirements were met.

3.) The location would have either been remediated as an ALARA action or compared to the applicable $DCGL_{EMC}$. The actual size of the area with elevated beta activity would have been determined for the comparison. Without this information, the assumption can be made that the size corresponds to the sample spacing of the survey unit. The survey unit C2 SU57 sample spacing was 12.5 m^2. As a conservative comparison, the area factor for 100 m^2 is 1.96 and the corresponding $DCGL_{EMC}$ is 784 dpm/100 cm^2. The activity level of 520 dpm/100 cm^2 is below this threshold.

The complete DQA report for each survey unit for these structures is provided in Appendix F. The DQA reports include individual direct measurement results, both summary and graphical prospective and retrospective FSS planning information, and summary statistics. Figures A-7, A-10, A-12 through A-15, and A-18 contain maps for these structures with direct measurement locations, some of which were previously presented in the characterization survey report (ORISE 2006b). H_0 was rejected for all survey units and the H_A accepted, thus demonstrating that the release criteria have been met.

8.3 BUILDING SURVEYS: CLASS 3

The results for the surveys of the Class 3 survey units associated with Buildings 100E, 200E (north), 100W, the Garage, the Workshop, and combined building exteriors are provided below.

8.3.1 Class 3 Scoping/Characterization/FSS Surface Scans & Surface Activity Levels

Surface scans of Building 100E Bays 1 through 14 floors, walls, and overhead surfaces conducted at the time of the scoping survey did not identify any indications of elevated direct gamma or alpha plus beta radiation on surfaces other than an open drum noted to have elevated gamma radiation. The drum was stored near the central part of the building. The elevated radiation levels were the result of the presence of tungsten material within the drum. Additional gamma scans at the time of the FSS also did not identify any elevated direct gamma radiation other than that which was associated with stored drums of tungsten and previously discussed monazite sand-contaminated tannin.

Class 3 surface scans of Buildings 200E (north), 100E (overheads of Bays 14 through 20), 100W, the Garage, the Workshop, and building exteriors did not identify any gamma or beta radiation levels distinguishable from background.

The summary of the beta surface activity FSS results is provided below in Table 8-4. Complete data are provided in Tables B-5.

Table 8-4: Class 3 Building FSS Summary

Building	Number of Survey Units/ Measurements	Total Beta Activity Range/Average (dpm/100 cm^2)
200E (north)	2/25	-440 to 150/-21
100E	2/21	-65 to 100/2
100W	1/21	-110 to 230/44
Garage	1/15	-120 to 110/19
Workshop	1/14	-210 to 140/7
Building exteriors	1/15	-150 to 68/-8

The complete DQA report for each survey unit for these structures is provided in Appendix F. The DQA reports include individual direct measurement results, both summary and graphical prospective and retrospective FSS planning information, and summary statistics. Figures A-12 and A-16 through A-21 contain maps for these structures with direct measurement locations, some of which were previously presented in the characterization survey report (ORISE 2006b). H_0 was rejected for all survey units and the H_A accepted, thus demonstrating that the release criteria have been met.

8.4 LAND AREA SURVEYS: CLASS 1

The survey results for the Class 1 land areas are described below. The FSS survey unit designations are shown on Figure A-3. Soil sample results, including the background reference area samples are provided in Table B-6.

8.4.1 Class 1 Land Area Scoping/Characterization Surface Scans & Sample Results

There was one Class 1 designated land area at the time of the scoping survey, the Burn Cage area. Gamma radiation surface scans which covered 100% of the Burn Cage area identified an approximately 50 m^2 area of elevated direct radiation to the immediate east of a large debris pile and a small area with lower gamma radiation levels next to the actual Burn Cage. Scoping survey gamma scans of the remaining site land areas were low density overall as they focused on roadways, railroads, and building vicinities.

The characterization survey high density gamma scans and investigation soil sampling began in the Burn Cage area and considerably expanded due to the identification of seven new AOCs in the western sector of the site. Additional high density characterization gamma scans were performed over these new Class 1 areas to better delineate the gamma radiation isopleths.

The concentration ranges for Th-232 and U-238 for Class 1 area scoping and characterization survey investigation soil samples are summarized in Table 8-5. The Th-232 analytical results from samples collected from slag layer underlying the contaminated soil are also summarized.

Table 8-5: Characterization Survey Radionuclide Concentrations		
Area	Radionuclide Concentration (pCi/g)	
	Th-232	U-238
Class 1	1.12 to 1630	1.44 to 57
Slag	0.57 to 1.06	---[a]

[a]Analysis not performed.

The complete scoping/characterization survey results for Class 1 land areas were provided in the characterization survey report (ORISE 2006c).

8.4.2 Class 1 Land Area Remediation

The remedial actions that WEI conducted within the contaminated areas are summarized below. Table 8-6 provides a general pictorial representation of each land area AOC.

Table 8-6: Pictorial of Land Area AOCs	
 **AOC 1 (looking north)**	 **AOC 1 post-RA (looking southeast)**
 **AOC 2 (looking south)**	 **AOC 2 post-RA (looking east)**
 **AOC 3 (looking northwest)**	 **AOC 3 post-RA (looking west)**

Table 8-6: Pictorial of Land Area AOCs

AOC 4 (looking west)

AOC 4 post-RA (looking north)

AOC 5 (looking northeast)

AOC 5 post-RA (looking northeast)

AOC 6 post-RA

AOC 1

AOC 1 was associated with the former Burn Cage area in depot Area "V". The excavation bounds covered approximately 1,050 m^2 with the excavation depth to approximately 0.5 meters. The monolithic slag layer was completely exposed. Isolated hotspots identified on the slag surface required chipping followed by scraping of the entire surface.

AOC 2

AOC 2 was contiguous with AOC 1 to the southwest. The 2,800 m^2 area was completely excavated of soil to the slag layer which varied in depth from a few centimeters to approximately one meter. As with AOC 1, a number of slag areas required chipping to remove surficial hot spots. The entire surface of the exposed slag was then scraped to remove residual contaminated soil. Contamination was also found to extend beneath the southern edge of the Ferrochrome #6 pile. This finding required that the ore be moved to allow for remediation of the contamination that had migrated beneath the pad.

AOC 3

This AOC consisted of intermittent areas of contamination between the road edge and the western fence line totaling approximately 10 m^2 and was directly across the perimeter road from AOC 2. Due to the proximity to the depot boundary, investigative gamma scans were performed outside the western property fence, between the fence line and Wolf Lake. There were no anomalies found. Also, a trench was excavated beneath the roadway separating AOCs 2 and 3. The trench provided the means to investigate whether AOCs 2 and 3 were connected. There was no contamination identified between the two AOCs. The localized soil contamination was excavated to the slag.

AOC 4

This 250 m^2 area of contamination was identified near the Scale House in depot Area "V". Soils were excavated to approximately 0.30 meters in depth. Soils did not require complete removal to the slag layer in this AOC.

AOC 5

AOC 5 was located beyond Area "K" at the southern end of the site and was adjacent to where the railroad spur entered the site. Soils were excavated from an area of approximately 10 m^2 to depths of 0.15 to 0.30 meters.

AOC 6

AOC 6 was located at the southwest edge of Area "D" where a contaminated pallet was identified. Shallow excavation was performed to remediate the small soil contaminated area of 1 to 2 m^2.

AOC 7

AOC 7 was located adjacent to the railroad track that bounds the Burn Cage area and Ferrochrome Pile #6 AOCs. The area measured approximately 2 m^2 in size and was successfully remediated. The remediation included investigation to ensure that contamination had not migrated beneath the railroad track.

8.4.3 Class 1 Land Area FSS Surface Scans & Sample Results

The final remediation support survey (FRS) and/or FSS high density gamma surface scans addressed each of the 29 Class 1 land area survey units. These survey units consisted of both soil and slag land area units. Where large areas of a proposed soil survey unit had been excavated to slag, sub-survey units were established. These sub-survey units consisted of the monolithic slag and were addressed for the FSS as a structural survey unit.

FRS and FSS scans identified several small areas of soil or surficial slag residual contamination that were investigated. Each location that exceeded the DCGLs was noted and additional remediation performed. The gamma radiation levels for most of the final FSS gamma surface scans are included within Figures A-22 through A-37 and are provided for informational purposes. Although 100% of the Class 1 units were scanned, the position correlated data were not captured for all areas due to signal loss between the GPS unit and the ratemeter-scaler.

FSS scanning MDCs and decisions were based on the audible output from the detector/ratemeter-scaler combinations and documented accordingly.

The FSS systematic and judgmental sample results are provided in Table B-6. Summary data are provided below in Table 8-7a and 8-7b. The results presented in this table represent 123 soil and 308 beta activity FSS systematic and judgmental samples/measurements. Judgmental sample results from locations that required additional remediation are not included in the summary.

Table 8-7a: FSS Class 1 Radionuclide Concentrations in Soil Samples Summary Results			
Area	**Th-232 (pCi/g)**	**U-238 (pCi/g)**	**Net SOR/Average**
C1 SU1 – 7	0.32 to 3.02	0.48 to 4.09	-0.93 to 1.13/-0.14
Table 8-7b: FSS Class 1 Slag Beta Surface Activity Summary Results			
Area	**Total Beta Activity Range/Average (dpm/100 cm^2)**		
C1 SU2.1 – 5.8	-300 to 350/-27		

The DQA reports for individual Class 1 land area survey units are provided in Appendix G. The DQA reports include individual analytical results, both summary and graphical prospective and retrospective FSS planning information, and summary statistics. Figures A-22 through A-37 included the maps for these survey units with soil sampling locations. H_0 was rejected for all survey units and the H_A accepted, thus demonstrating that the release criteria have been met. One sample from C1 SU4 contained residual soil concentrations exceeding an SOR of 1. The survey unit readily passed the WRS test. An EMC evaluation was not required as the primary cause for the sample exceeding unity was the result of the increased U-238 concentrations from the sample matrix. Samples within this excavation contained a large quantity of unconsolidated slag relative to soil. The Th-232 concentration in this sample was 2.47 pCi/g.

8.5 LAND AREA SURVEYS: CLASS 2

Surface scan and soil sampling results for the 13 Class 2 land area survey units (including the debris pile solid debris survey unit) are described below. The FSS Class 2 survey units are illustrated on Figure A-3. The debris pile maps are provided in Figures A-60 and A-61.

8.5.1 Class 2 Land Area Scoping/Characterization/FSS Surface Scans & Sample Results

The scoping/characterization gamma surface scans of the Class 2 land areas did identify locations of residual contamination discussed in Sections 4.1.1 and 4.1.2 (AOCs 2, 5, and 7). Judgmental samples collected during the scoping survey of other investigated locations were provided in the characterization report (ORISE 2006b).

Surface scans of the land areas that were within the Class 2 configuration in place at the time of the FSS did not identify any locations of elevated direct radiation. Figures A-38 through A-59 include maps showing the FSS gamma radiation levels for the Class 2 survey units.

The FSS random-start/systematic sample results are provided in Table B-6. Summary data are provided below in Table 8-8a and 8-8b. The results presented in this table represent 175 FSS samples.

Table 8-8a: FSS Class 2 Radionuclide Concentrations in Soil Samples Summary Results

Area	Th-232 (pCi/g)	U-238 (pCi/g)	Net SOR/Average
C2 SU1 – 12	0.28 to 2.31	0.43 to 3.45	-1.0 to 0.61/-0.29

Table 8-8b: FSS Class 2 Beta Surface Activity Summary Results

Area	Total Beta Activity Range/Average ($dpm/100\ cm^2$)
C2 SU12 Debris	-200 to 410[a]/-57

[a]See Table B-4 for the investigation of this activity level.

The DQA reports for the individual Class 2 land area survey units are provided in Appendix G. The DQA reports include individual analytical results, both summary and graphical prospective

and retrospective FSS planning information, and summary statistics. Figures A-38 through A-58 contain the maps for these survey units with soil sampling/measurement locations. H_0 was rejected for all survey units and the H_A accepted, thus demonstrating that the release criteria have been met. The total beta activity of one direct measurement on the solid debris of survey unit C2 SU12 exceeded the $DCGL_W$ of 400 dpm/100 cm^2. Further investigation determined the debris was a firebrick which naturally exhibits a higher background radiation level due to the thorium and uranium content. An EMC evaluation was not required nor was reclassification of the survey unit.

8.6 LAND AREA SURVEYS: CLASS 3

Surface scan and soil sampling results for the five Class 3 land area survey units are described below. The Class 3 survey units are shown collectively on Figure A-3.

8.6.1 Class 3 Land Area Scoping/Characterization/FSS Surface Scans & Sample Results

The scoping survey gamma radiation surface scans of the site's Class 3 areas identified several locations distinguishable from background that were investigated by sampling in depot Areas "C", "D", and "M" and near the Pump House. The sample results showed that the Class 3 designation was appropriate for most of the areas. The high density characterization gamma scans identified two eventual AOCs; the contaminated pallet and soil in Area "D" (AOC 6) and the contaminated soil near the Scale House in Area "V" (AOC 4).

The FSS gamma scan illustrations and soil sampling location maps are included within Figures A-62 through A-71. All scan results were representative of area background levels. The results for the 81 FSS random samples collected from the five survey units are summarized below in Table 8-9 and individually in Table B-6.

Table 8-9: FSS Class 3 Radionuclide Concentrations in Soil Samples Summary Results

Area	Th-232 (pCi/g)	U-238 (pCi/g)	Net SOR/Average
C3 SU1 – 5	0.29 to 3.02	0.60 to 4.09	-0.93 to 0.68/-0.29

9.0 SUMMARY AND CONCLUSIONS

ORISE conducted extensive scoping, characterization, and final status surveys of land areas and structures at the DNSC's Hammond Depot located in Hammond, Indiana in multiple phases during 2005, 2006 and 2007. Surveys were designed and implemented in accordance with the guidance provided in MARSSIM for 108 land area and structural survey units.

World Environmental, Inc. successfully remediated contaminated soils from seven land areas of concern. Two of the depot's warehouses required remediation ranging from spot decontamination to removal of large volumes of contaminated structural materials and underlying slag.

The results of the FSS showed that all surface activity levels on structural survey units and residual Th-232 and U-238 concentrations, including the sum-of-ratios, were well below the NRC's basic dose limit of 25 mrem/y plus ALARA. The collective mean for the net Th-232 concentration was 0.05 pCi/g or approximately 2% of the dose limit, or 0.5 mrem, and the mean sum-of-ratio concentrations for all FSS soil samples was -0.24. This slight negative bias was the result of the U-238 background variability. These results demonstrate that any residual licensable material would contribute a small fraction of the basic dose limit and is essentially indistinguishable from background. The average beta surface activity in Building 200E (south) was 67 dpm/100 cm^2, or equates to 4 mrem/y above background based on the $DCGL_W$. These results demonstrate that the Hammond Depot in Hammond, Indiana satisfies the requirements for unrestricted release from the DNSC's NRC license.

APPENDIX A: FIGURES

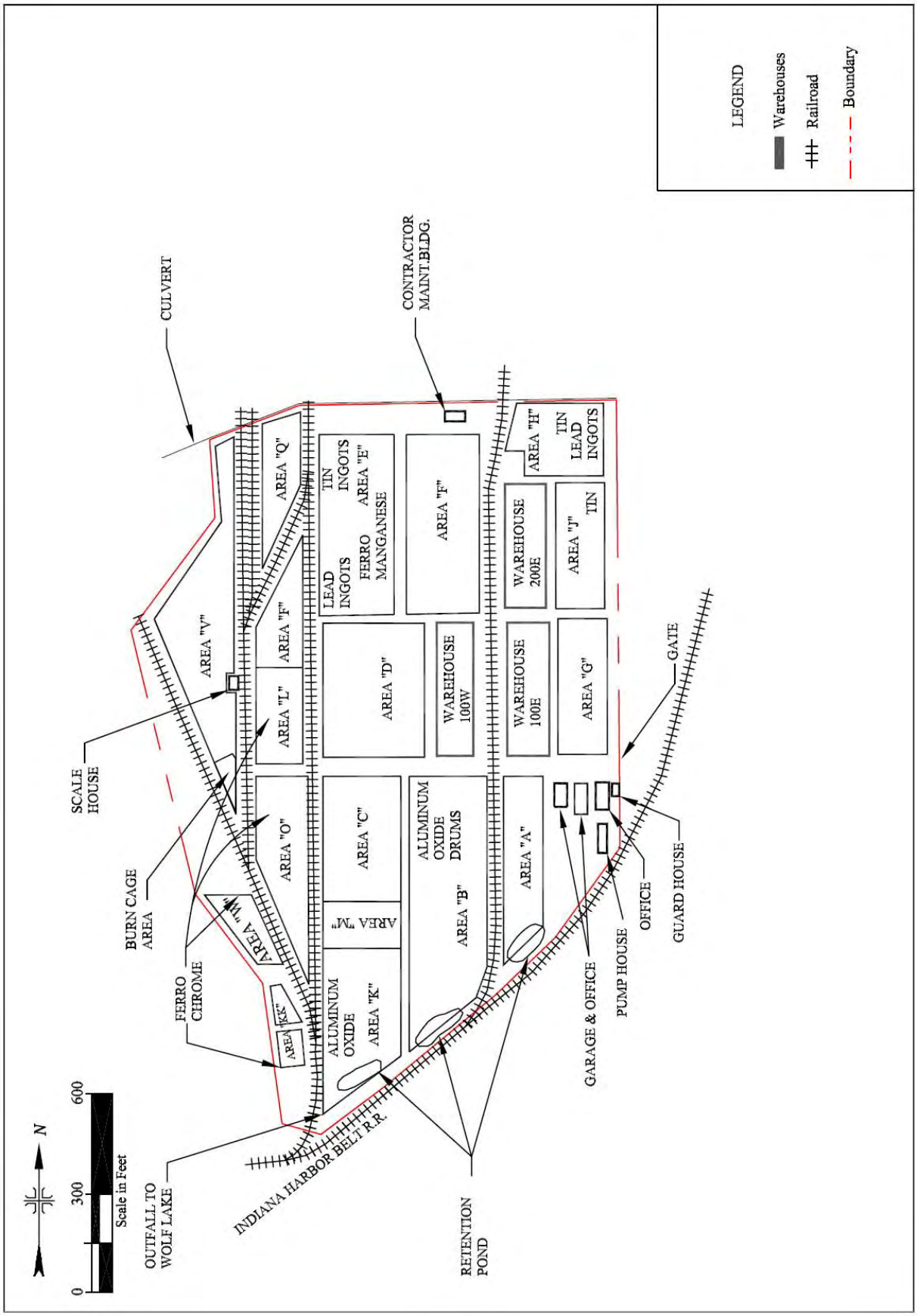


Figure A-1: Hammond Depot, Hammond, Indiana—Plot Plan

Figure A-2: Hammond Depot—Contaminated Buildings and Soil AOCs

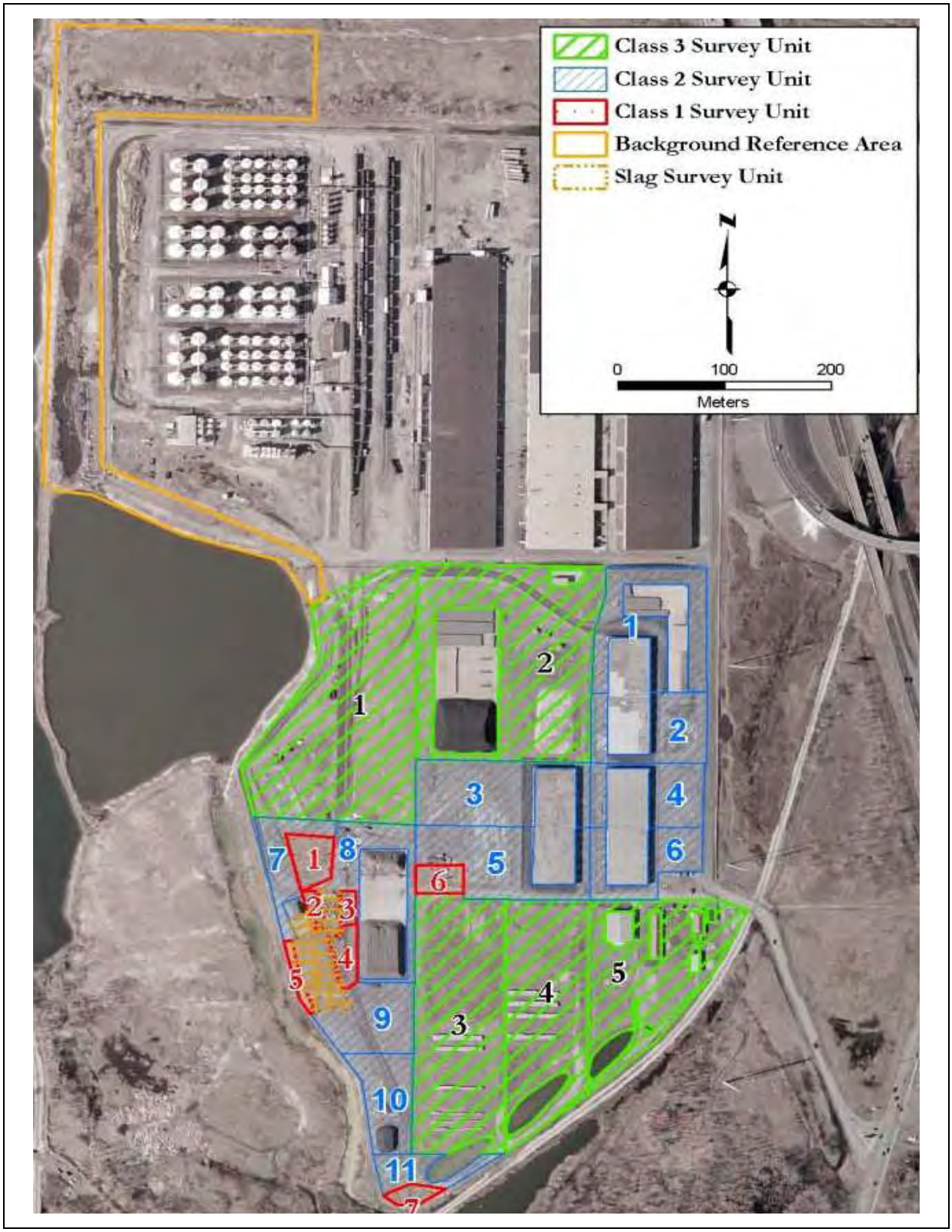


Figure A-3: Hammond Depot—Background Reference Area and FSS Survey Units (# ID)

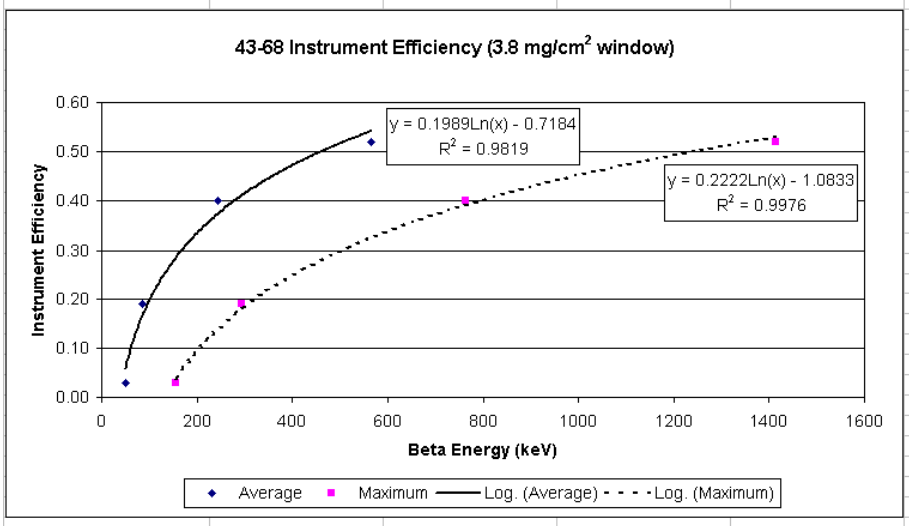
Figure A-4: Background Reference Area—FSS Soil Sampling Locations

Th-232 Decay Series Gas Proportional Detector Calibration Worksheet

Task Number:	0432	Hammond Depot	Characterization	Data Entry
Instrument:	2221 #30			
Detector:	43-68 #30	(3.8 mg/cm^2 window)		
Cal. BKG Avg (cpm):	374			

Calibration Data

Radionuclide	Average Beta Energy (keV)[1]	Maximum Beta Energy (keV)[1]	Instrument Efficiency
C-14	49.74	156.5	0.03
Tc-99	84.6	293.5	0.19
Tl-204	244.03	763.4	0.40
Sr/Y-90	564.75	1413.05	0.52



Th-232 Decay Series Calculation[2]

Radionuclide	Average Beta Energy (keV)[1]	Fraction	Instrument Efficiency[3]	Surface Efficiency	Weighted Efficiency
Th-232	alpha	1	0.00	0.25	0.00
Ra-228	7.2	1	0.00	0.00	0.00
Ac-228	377	0.93	0.46	0.50	0.21
Th-228	alpha	1	0.00	0.25	0.00
Ra-224	alpha	1	0.00	0.25	0.00
Rn-220	alpha	0.75	0.00	0.25	0.00
Po-216	alpha	0.75	0.00	0.25	0.00
Pb-212	102	0.751	0.20	0.25	0.04
Bi-212	770	0.307	0.60	0.50	0.09
Bi-212	alpha	0.27	0.00	0.25	0.00
Po-212	alpha	0.48	0.00	0.25	0.00
Tl-208	557	0.268	0.54	0.50	0.07
				Total Efficiency:	0.42
				Static MDC (dpm/100 cm^2):	177

Figure A-5: Example Instrument Calibration Efficiency Determination

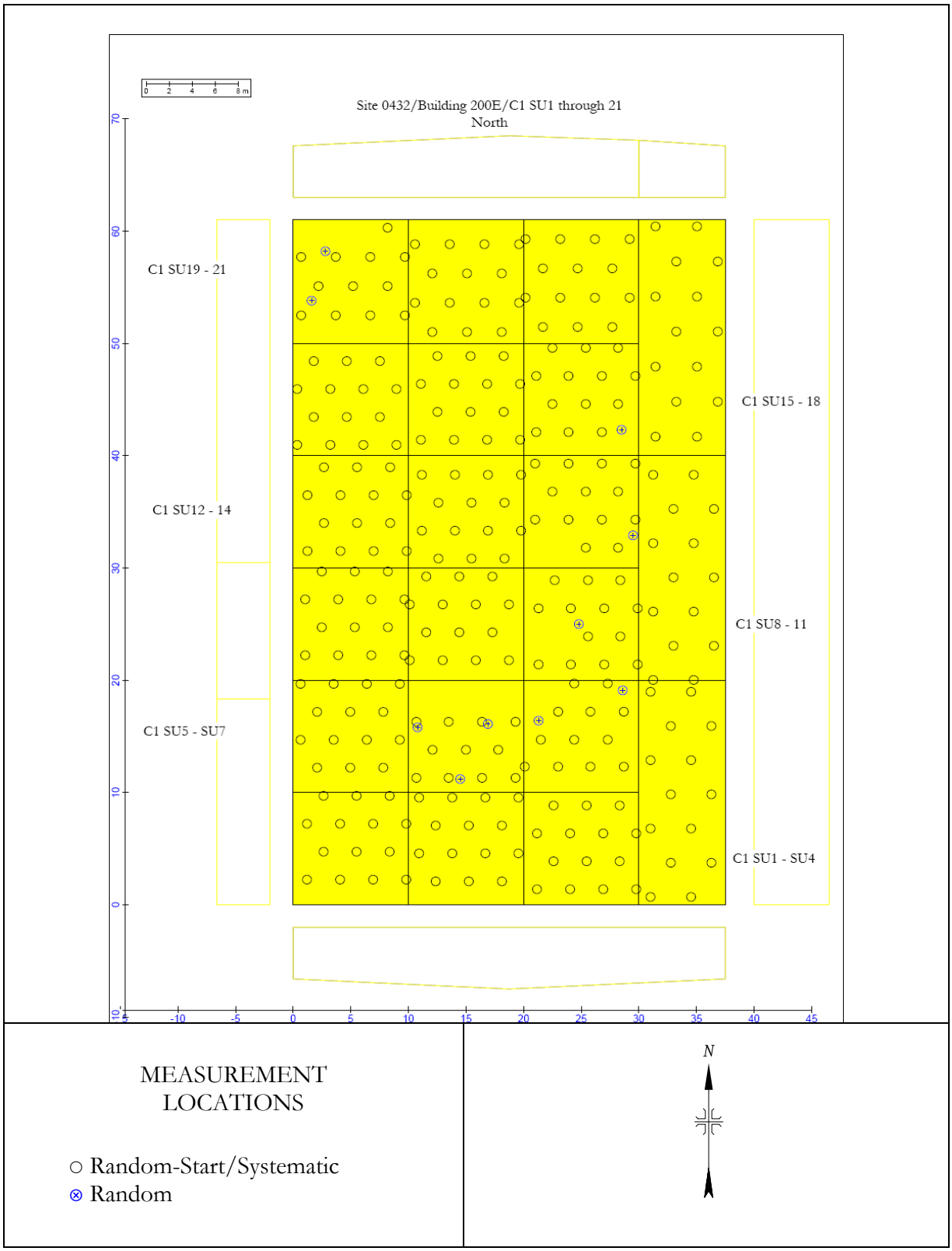


Figure A-6: Building 200E South, Floor—FSS Survey Units and Direct Measurement Locations

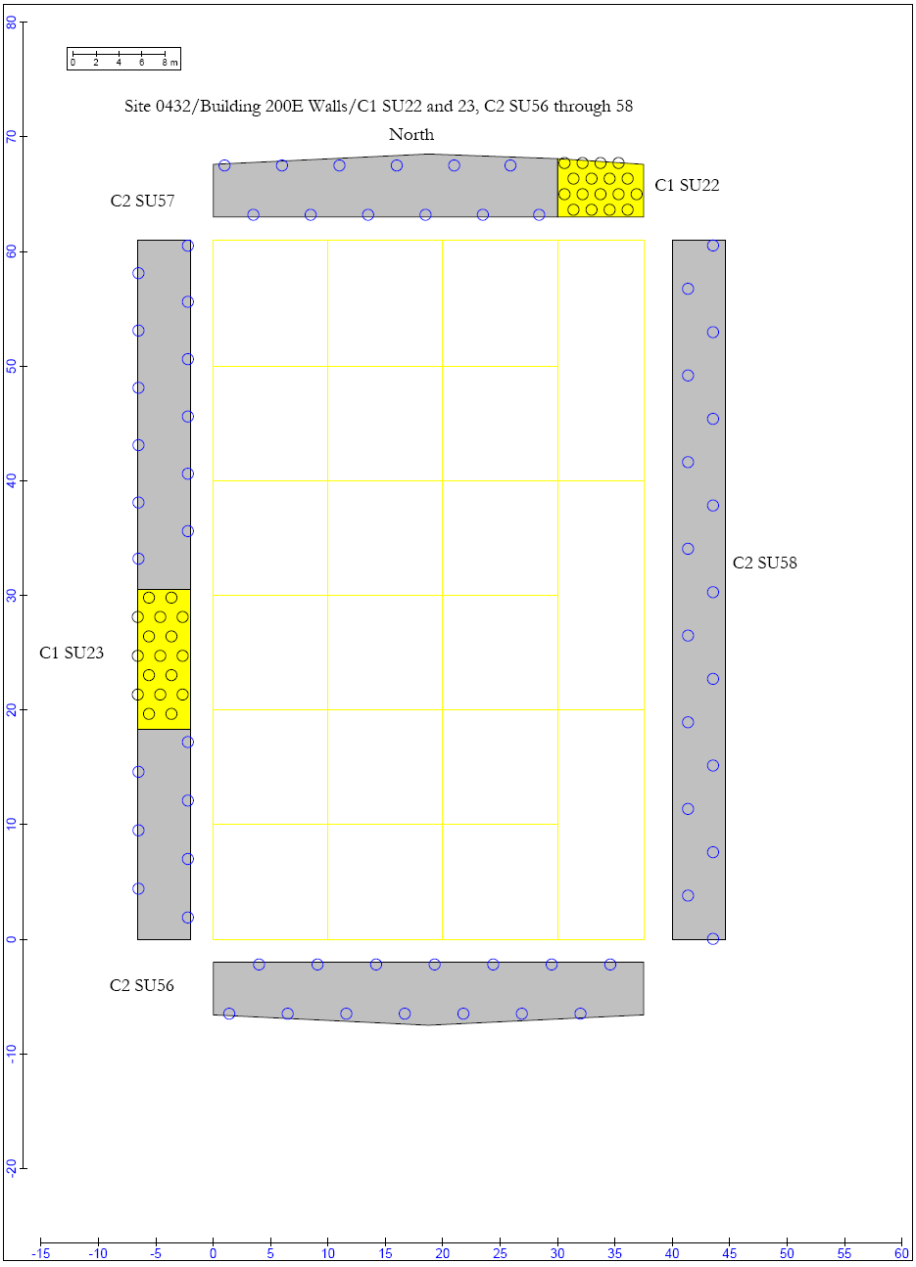


Figure A-7: Building 200E South, Walls (C1 SU22, 23, and C2 SU56 through 58)—FSS Survey Units and Direct Measurement Locations

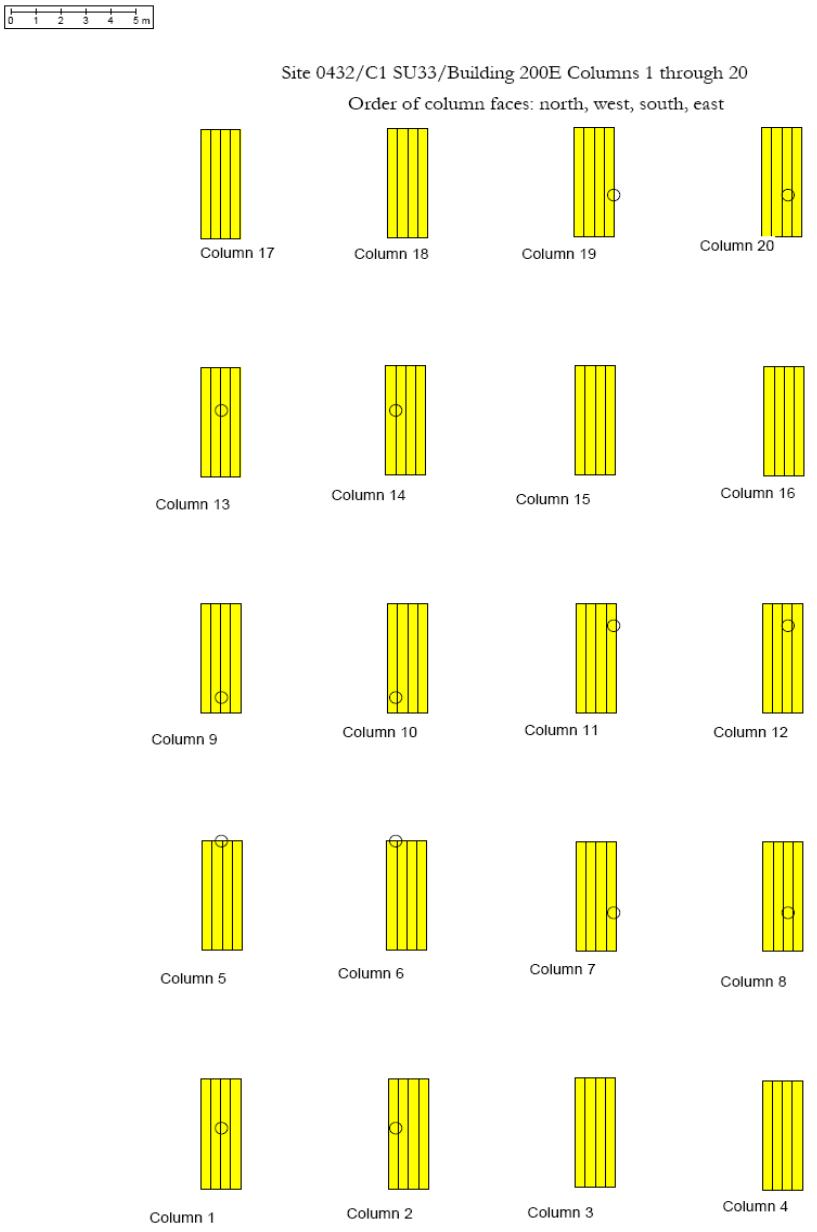


Figure A-8: Building 200E South, Columns 1 through 20 (C1 SU33)—
FSS Survey Unit and Direct Measurement Locations

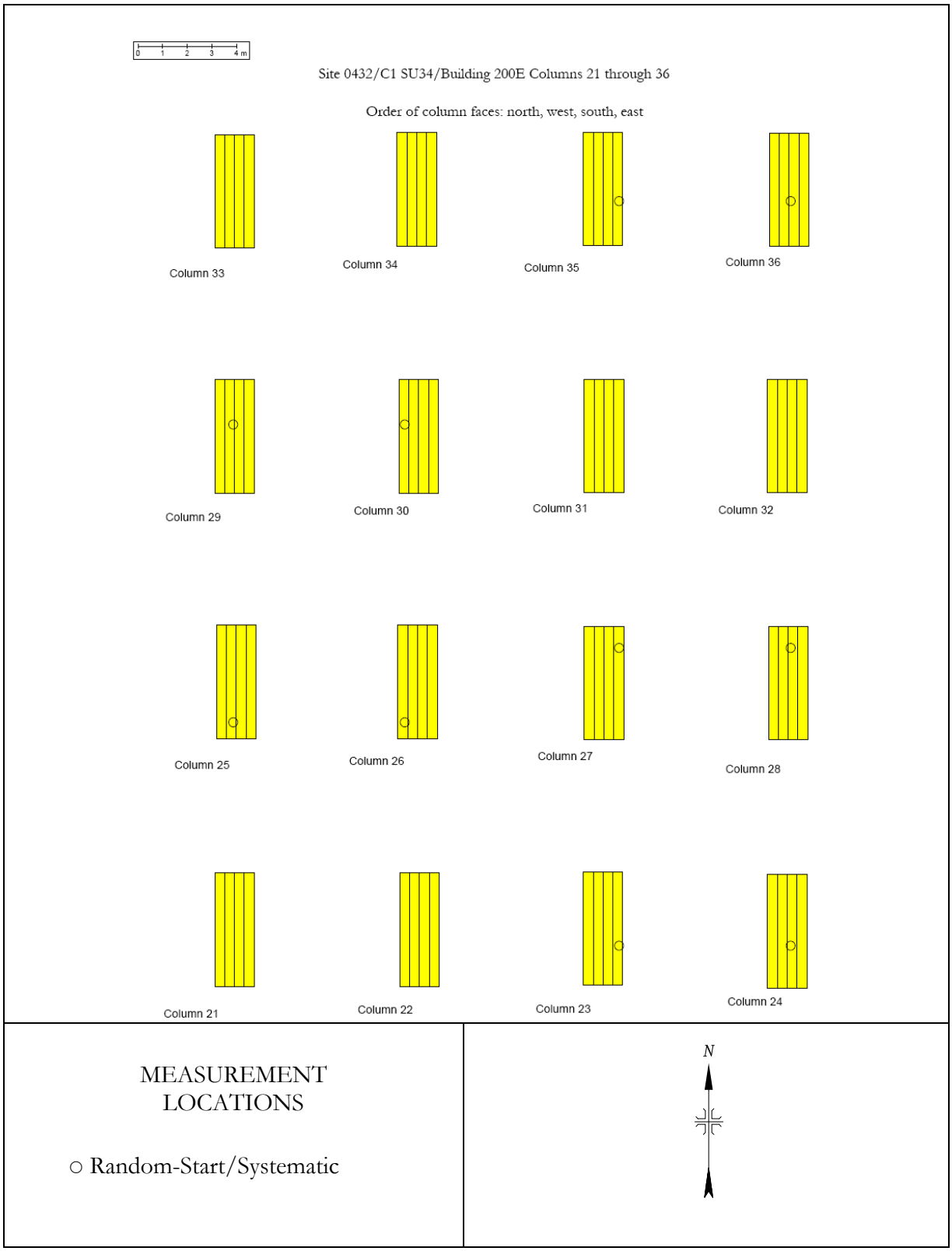


Figure A-9: Building 200E South, Columns 21 through 36 (C1 SU34)—
FSS Survey Unit and Direct Measurement Locations

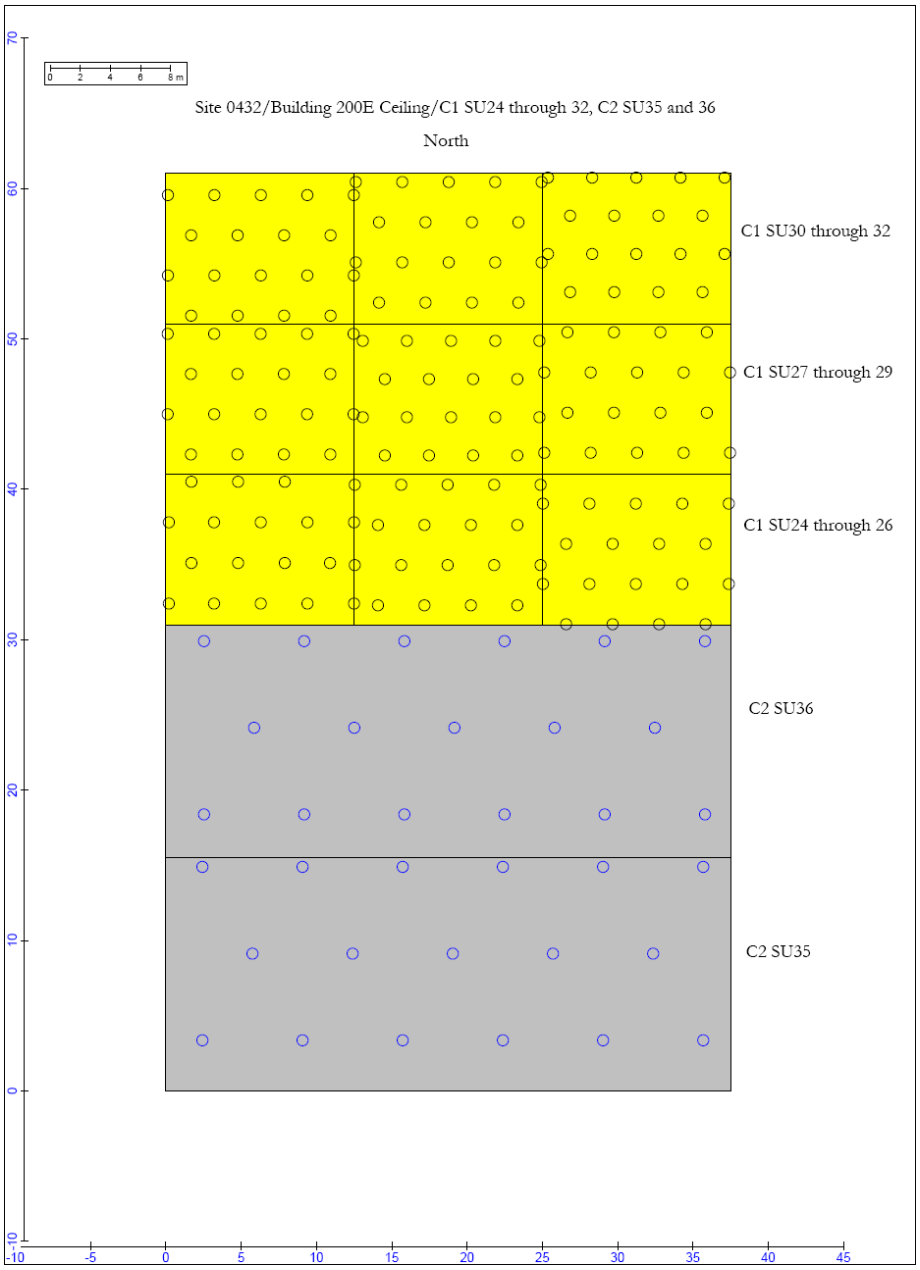


Figure A-10: Building 200E South, Ceiling (C1 SU24 through 31 and C2 SU35 and 36)—FSS Survey Units and Direct Measurement Locations

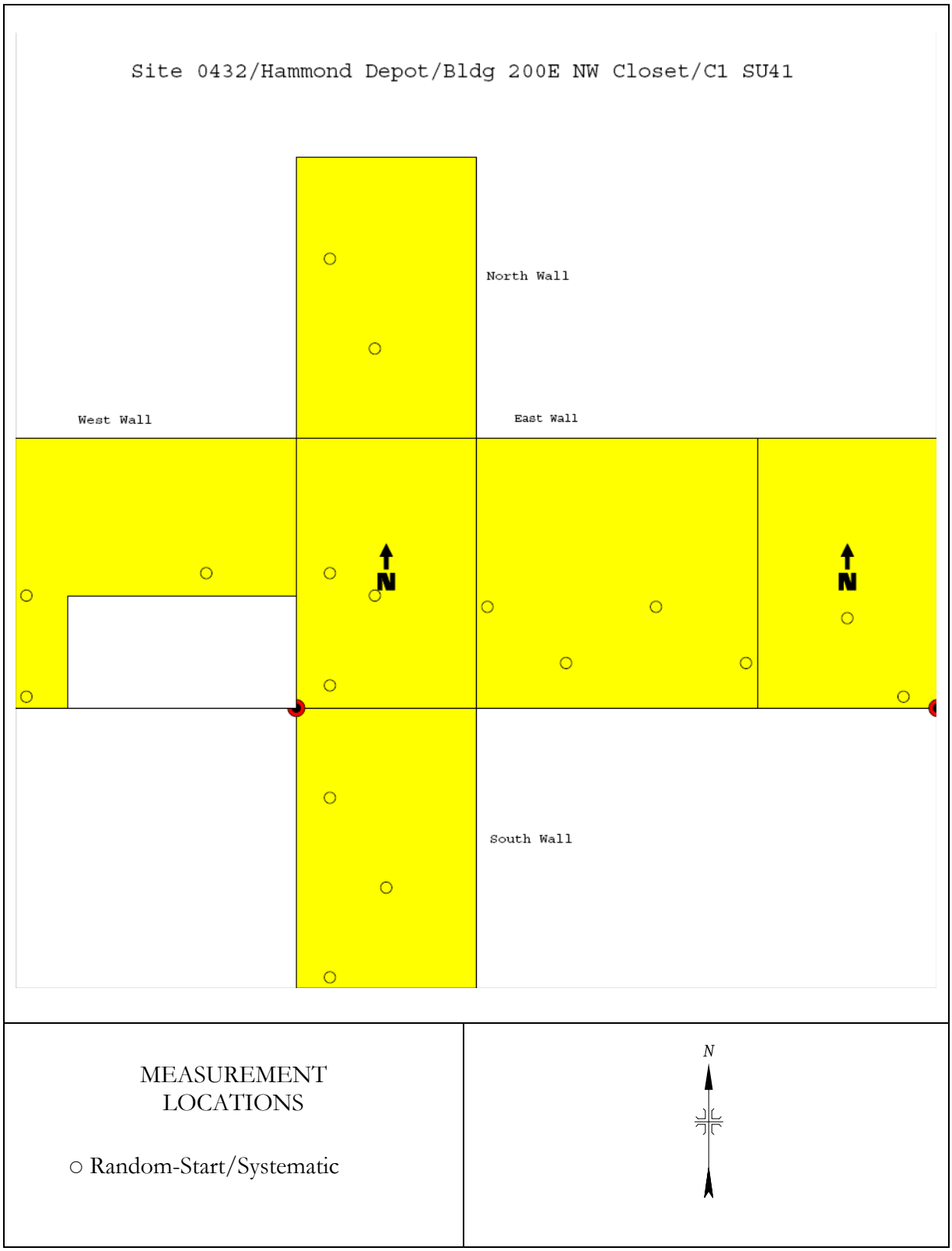


Figure A-11: Building 200E, NW Closet (C1 SU41)—FSS Survey Unit and Direct Measurement Locations

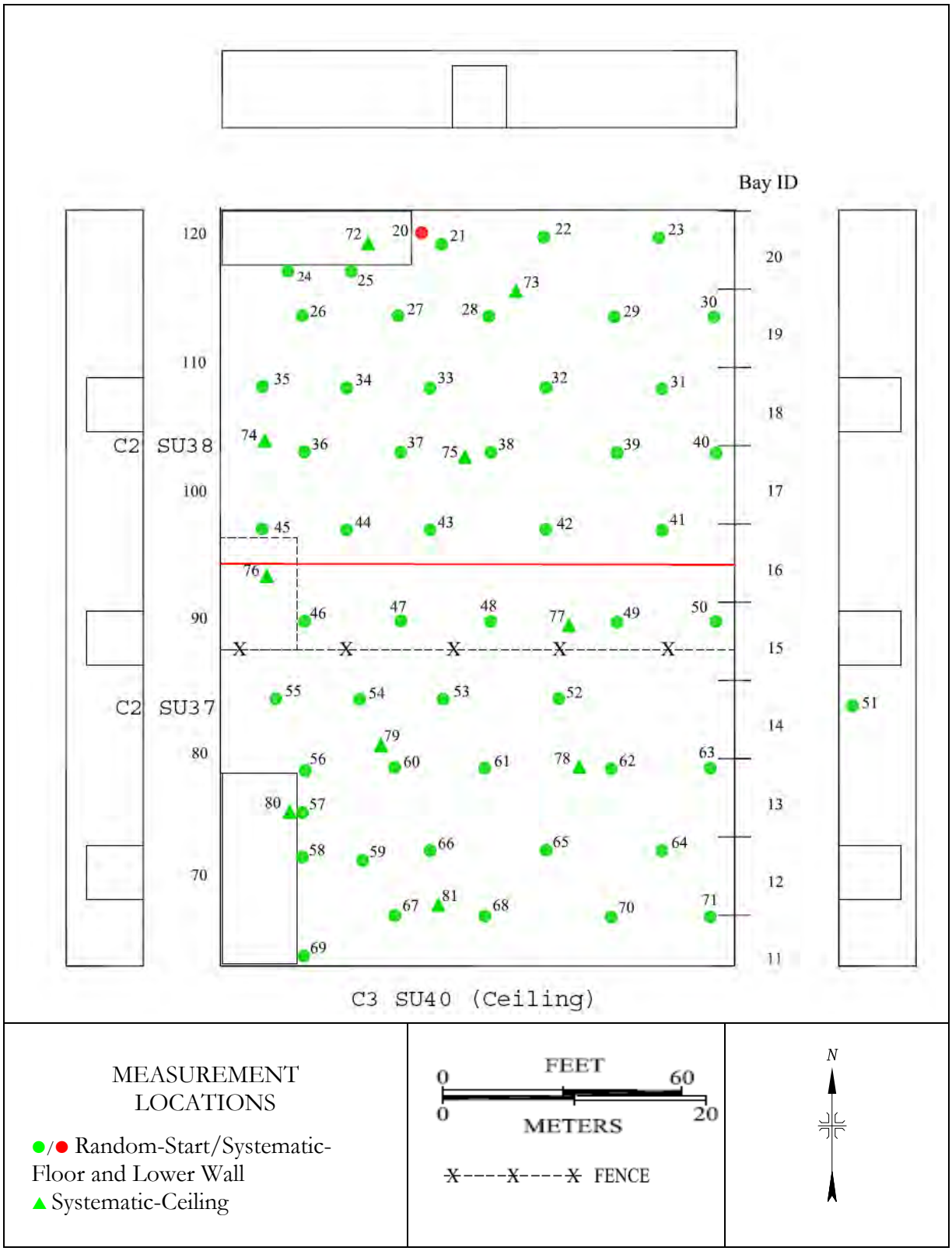


Figure A-12: Building 200E, North (C2 SU37 and 38 and C3 SU40)—
FSS Survey Units and Direct Measurement Locations

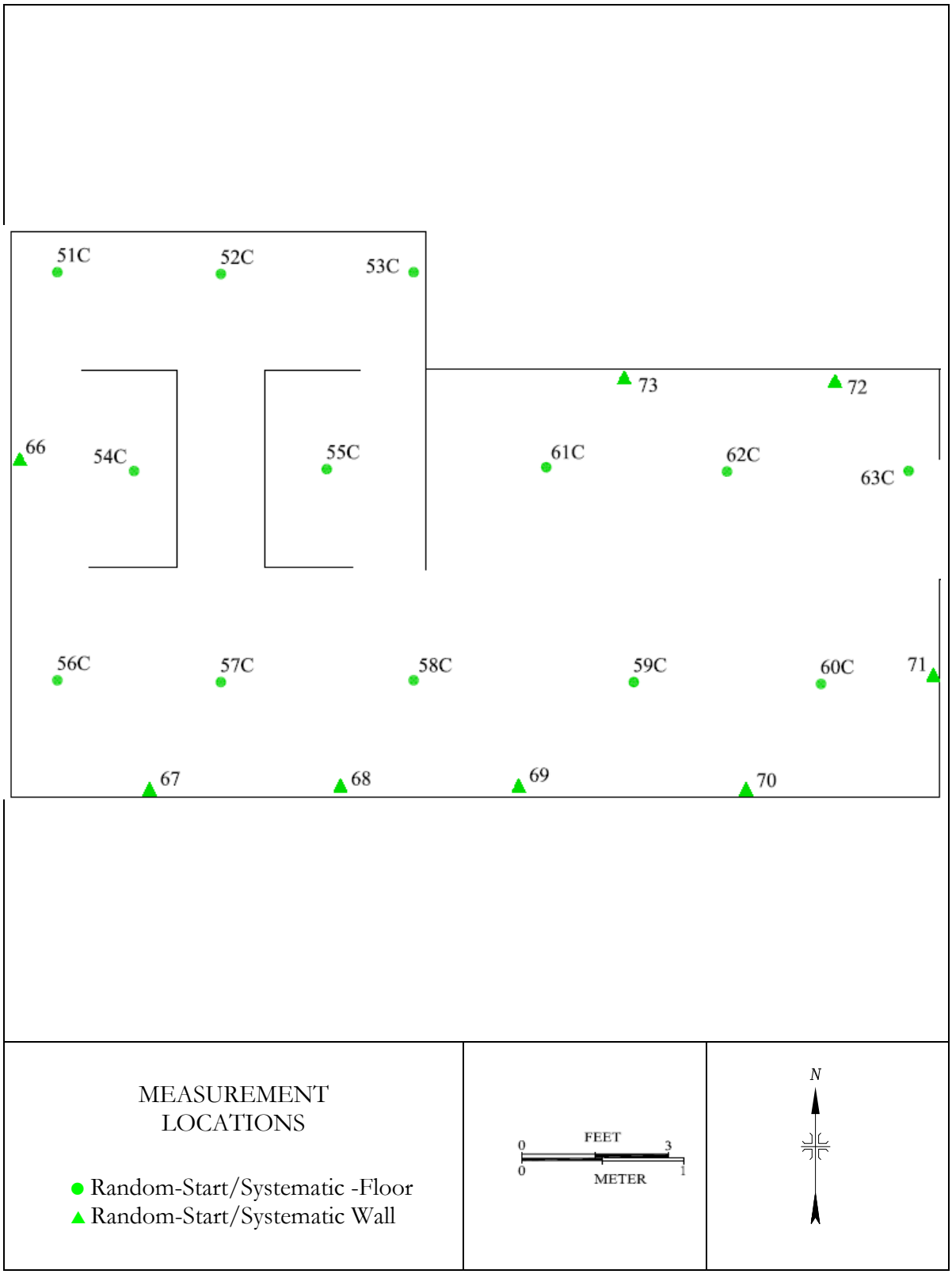
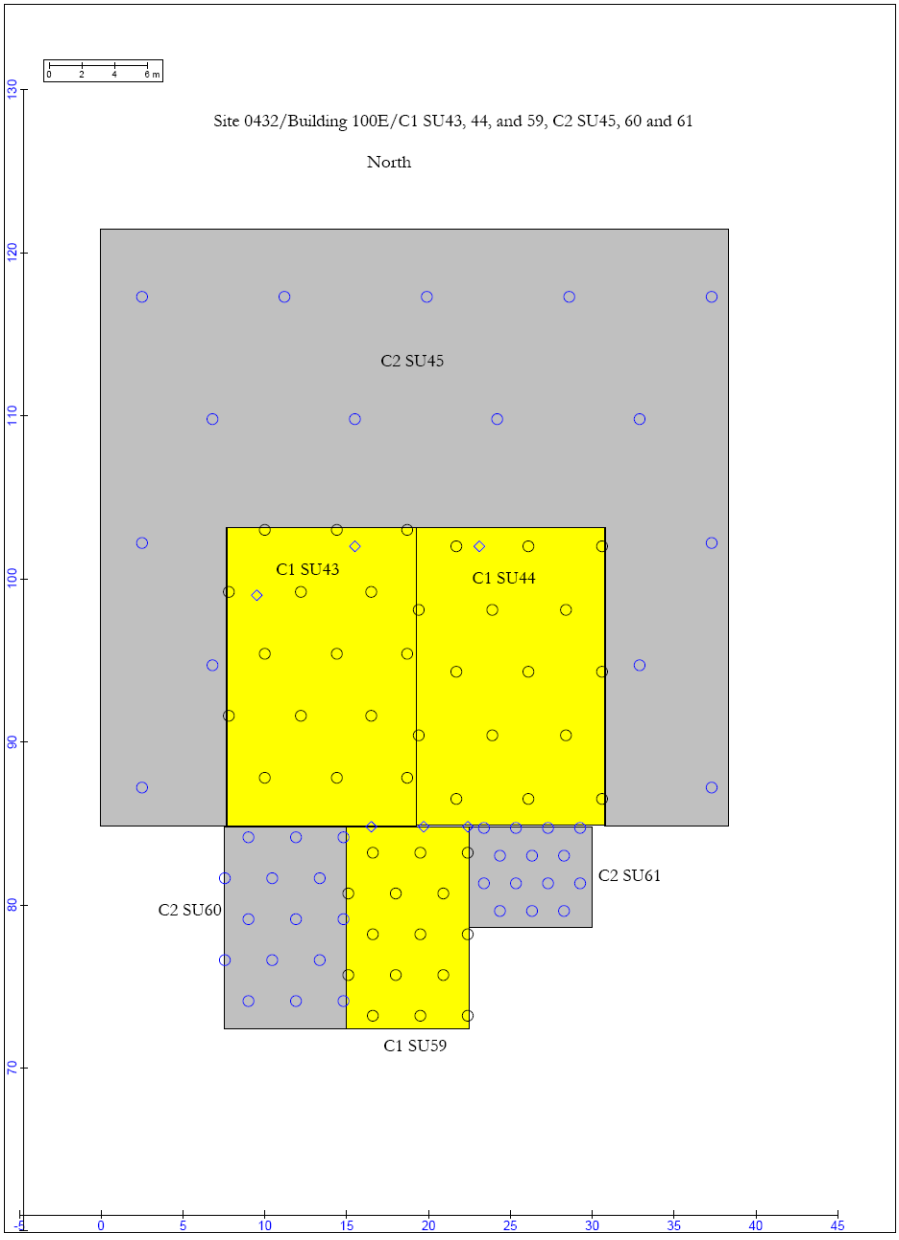


Figure A-13: Building 200E, North, Locker Room (C2 SU42)—FSS Survey Unit and Direct Measurement Locations



MEASUREMENT LOCATIONS

o Random-Start/Systematic
◇ Judgmental

N

Figure A-14: Building 100E, North-end Floor (C1 SU43, 44, and 59; C2 SU45, 60, and 61)—FSS Survey Units and Direct Measurement Locations

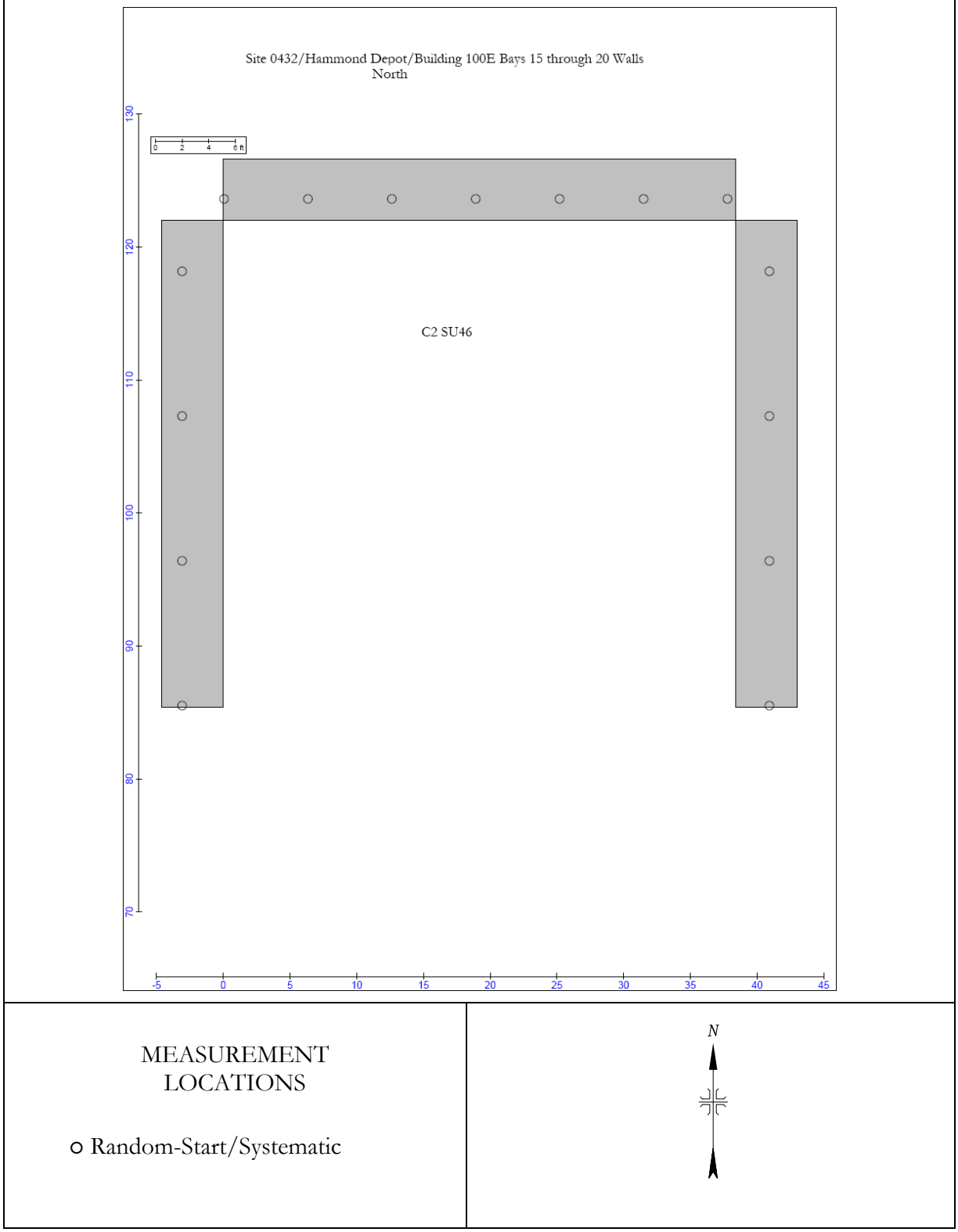
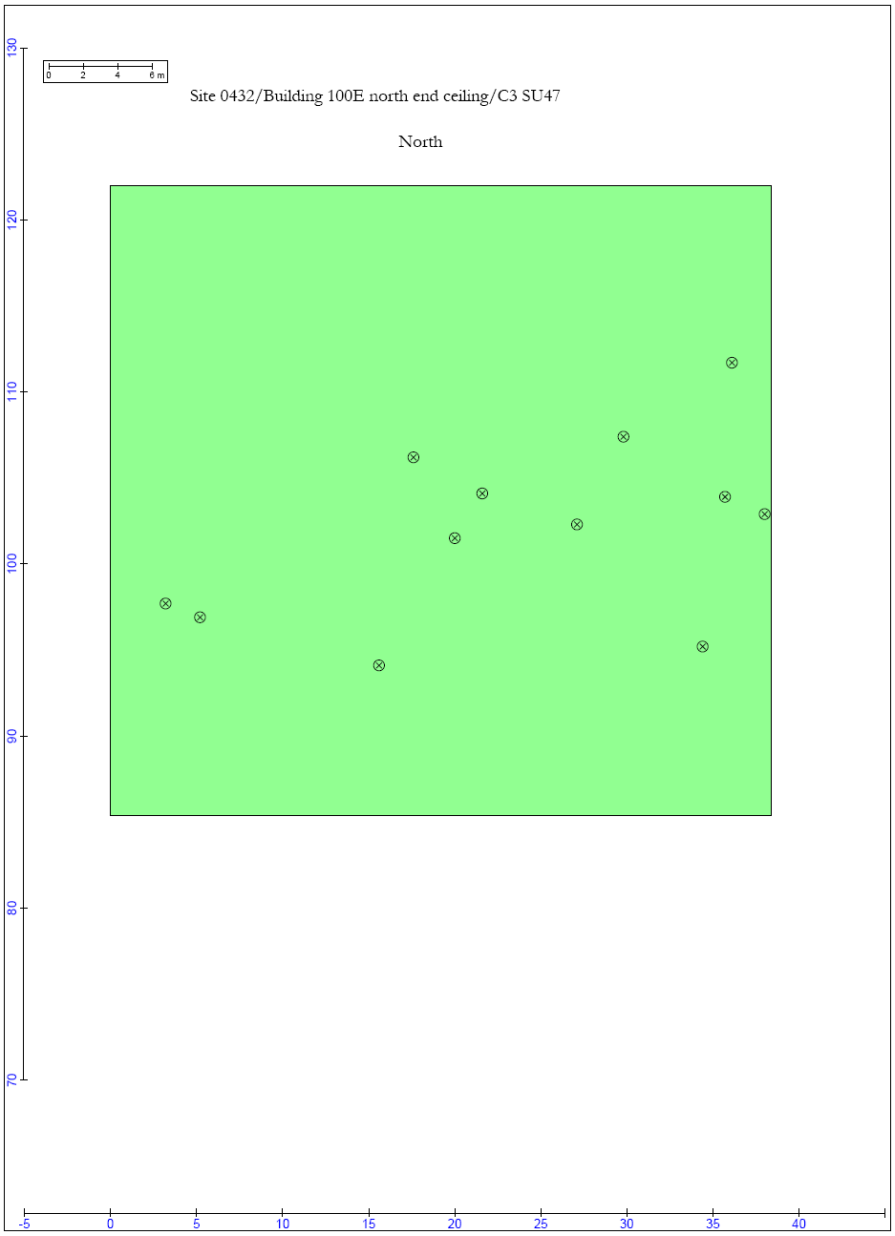


Figure A-15: Building 100E, North-end Walls (C2 SU46)—FSS Survey Units and Direct Measurement Locations



MEASUREMENT LOCATIONS

⊗ Random

N

Figure A-16: Building 100E, North-end Ceiling (C3 SU47)—FSS Survey Units and Direct Measurement Locations

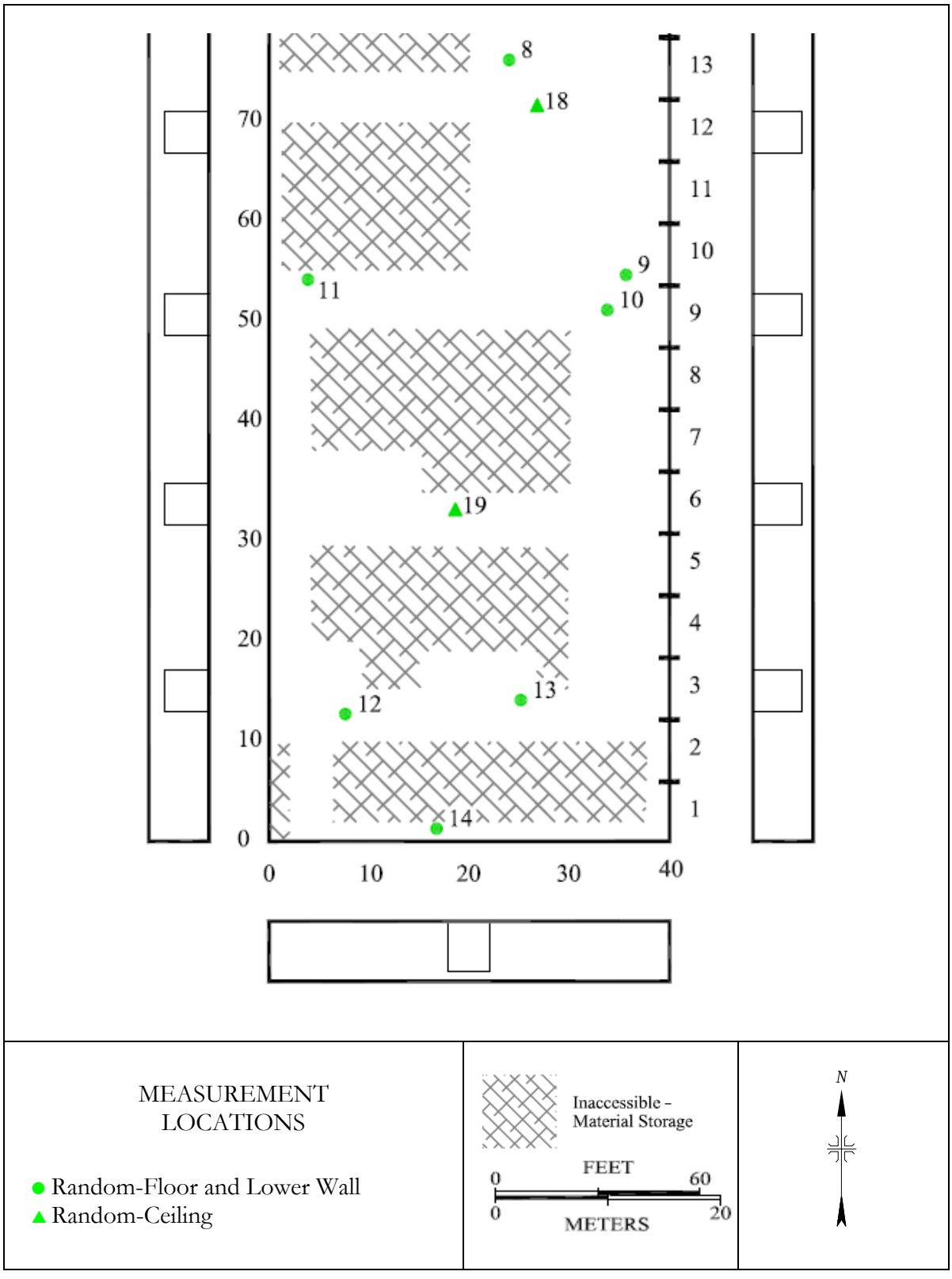


Figure A-17: Building 100E, North-end Ceiling (C3 SU47)—FSS Survey Units and Direct Measurement Locations

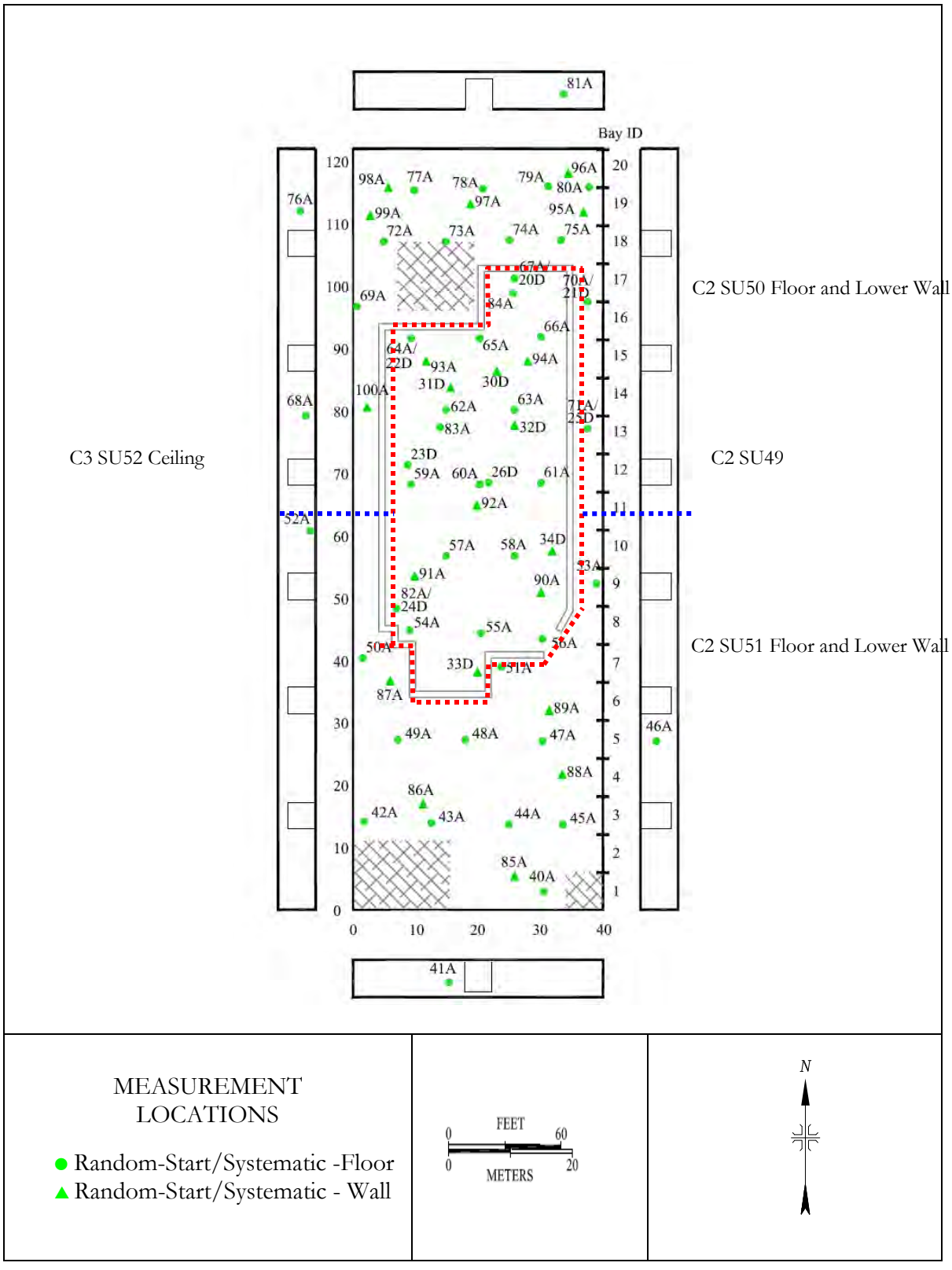
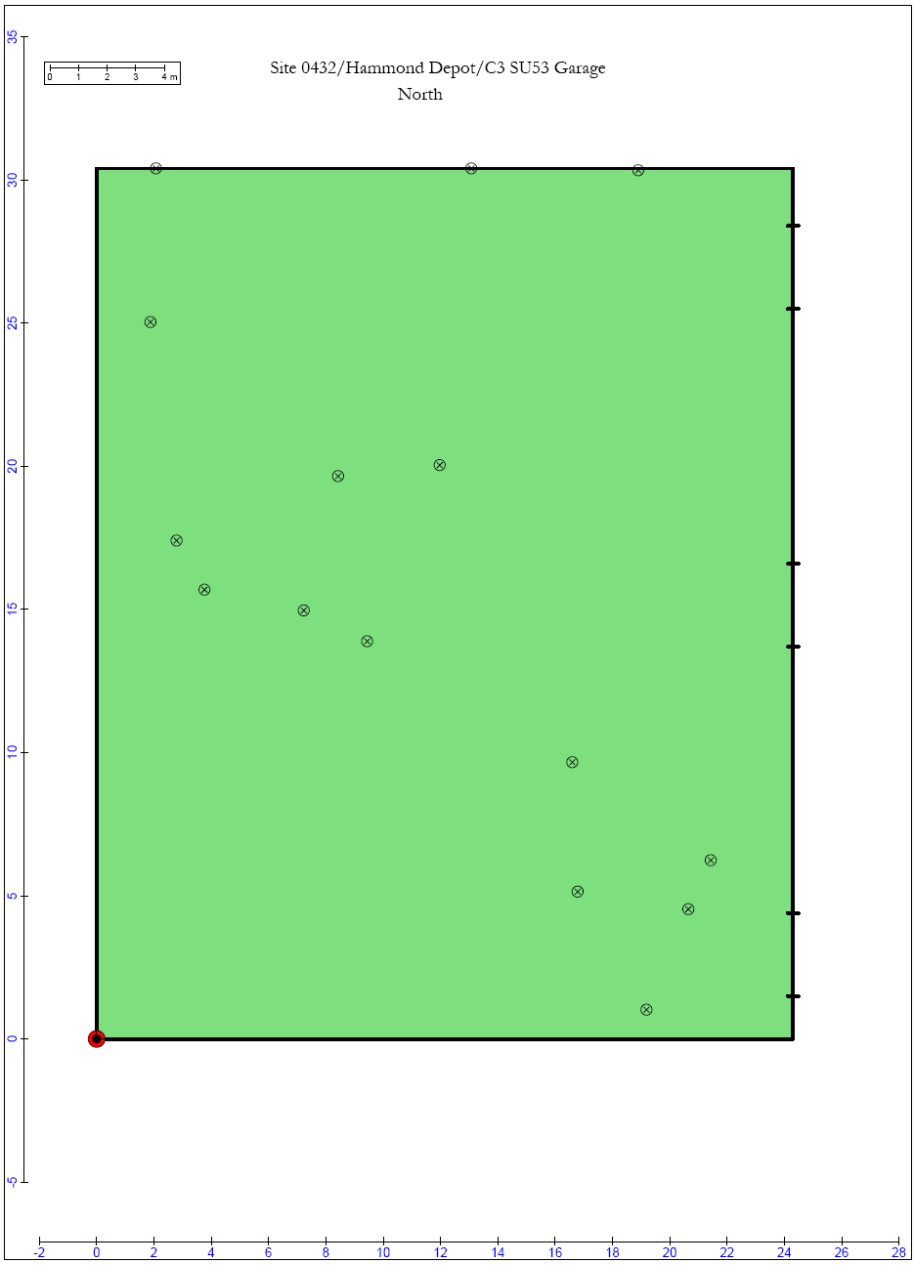


Figure A-18: Building 100W (C2 SU49 through 51 and C3 SU52)—FSS Survey Units and Direct Measurement Locations

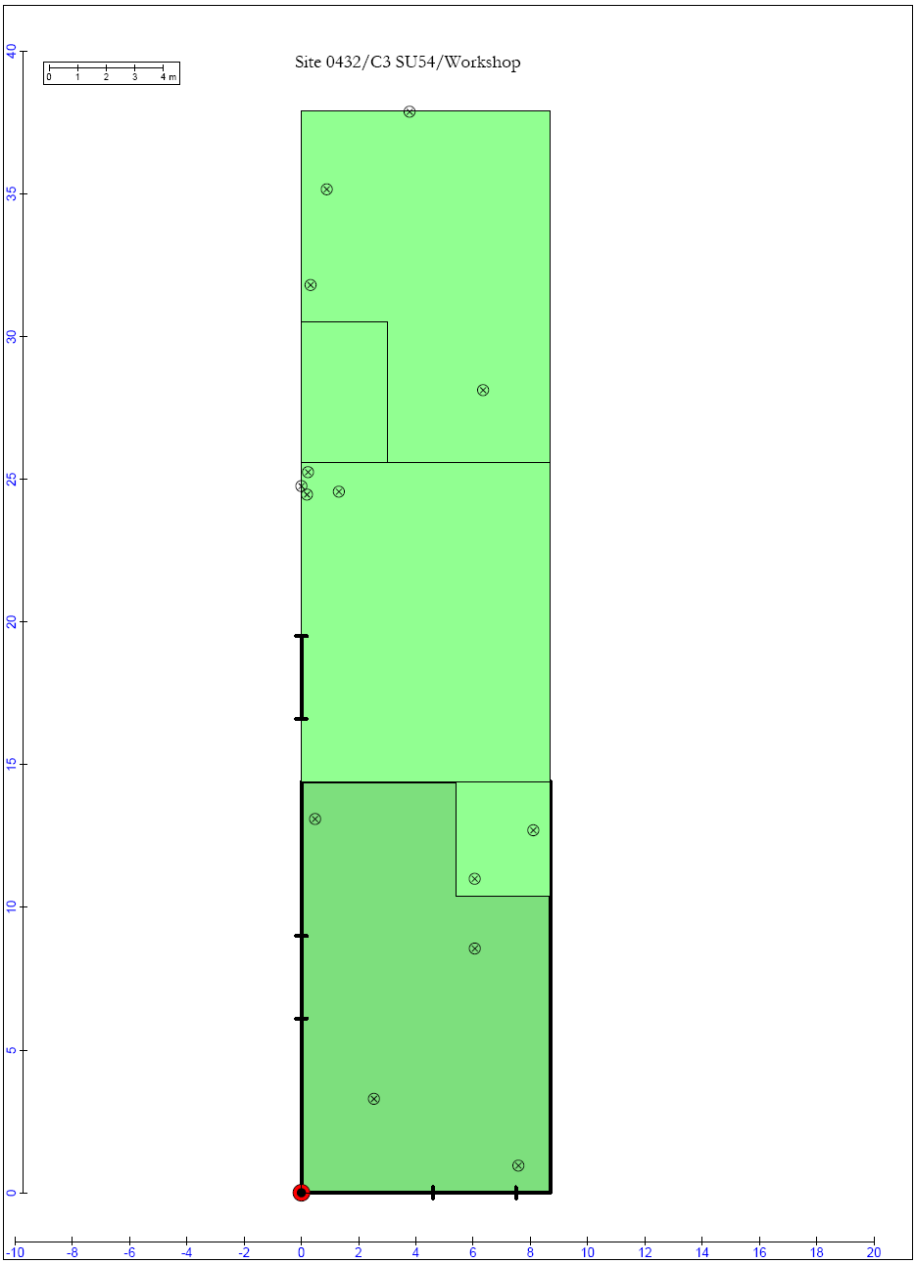


MEASUREMENT LOCATIONS

⊗ Random

N

Figure A-19: Garage Building (C3 SU53)—FSS Survey Unit and Direct Measurement Locations



MEASUREMENT LOCATIONS

⊗ Random

N

Figure A-20: Workshop Building (C3 SU54)—FSS Survey Unit and Direct Measurement Locations

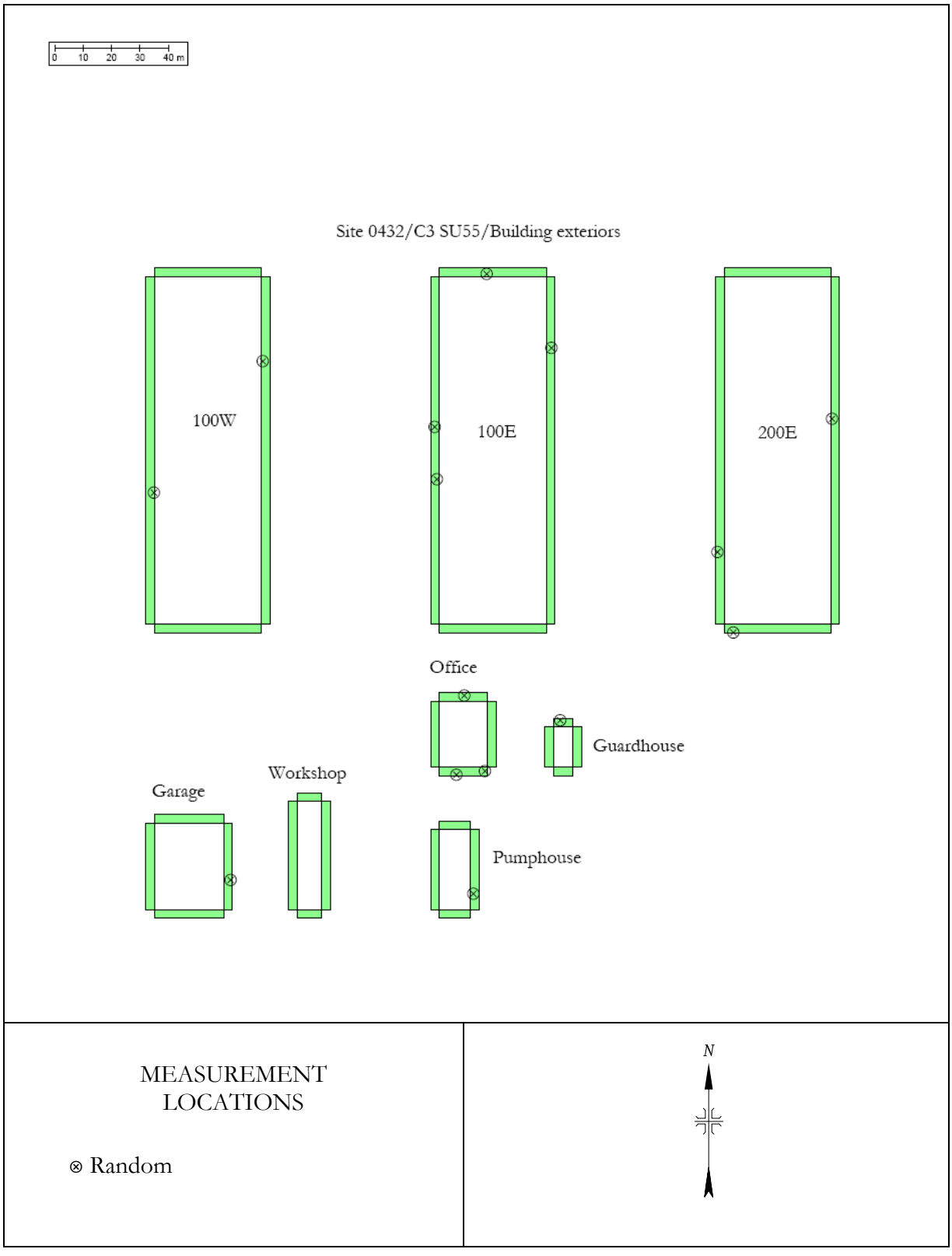


Figure A-21: Building Exteriors (C3 SU55)—FSS Survey Unit and Direct Measurement Locations

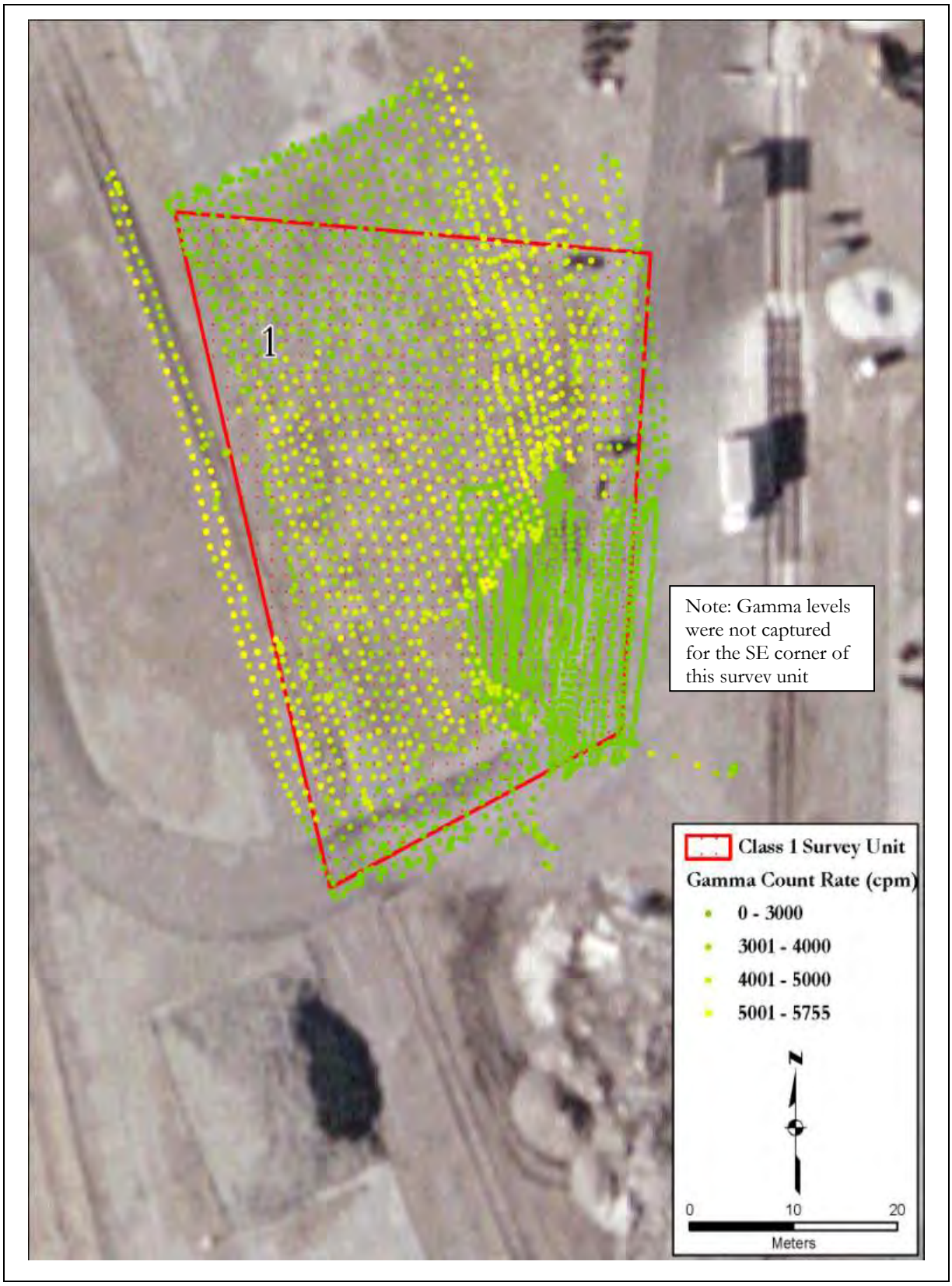


Figure A-22: Survey Unit C1 SU1—FSS Gamma Scan Results

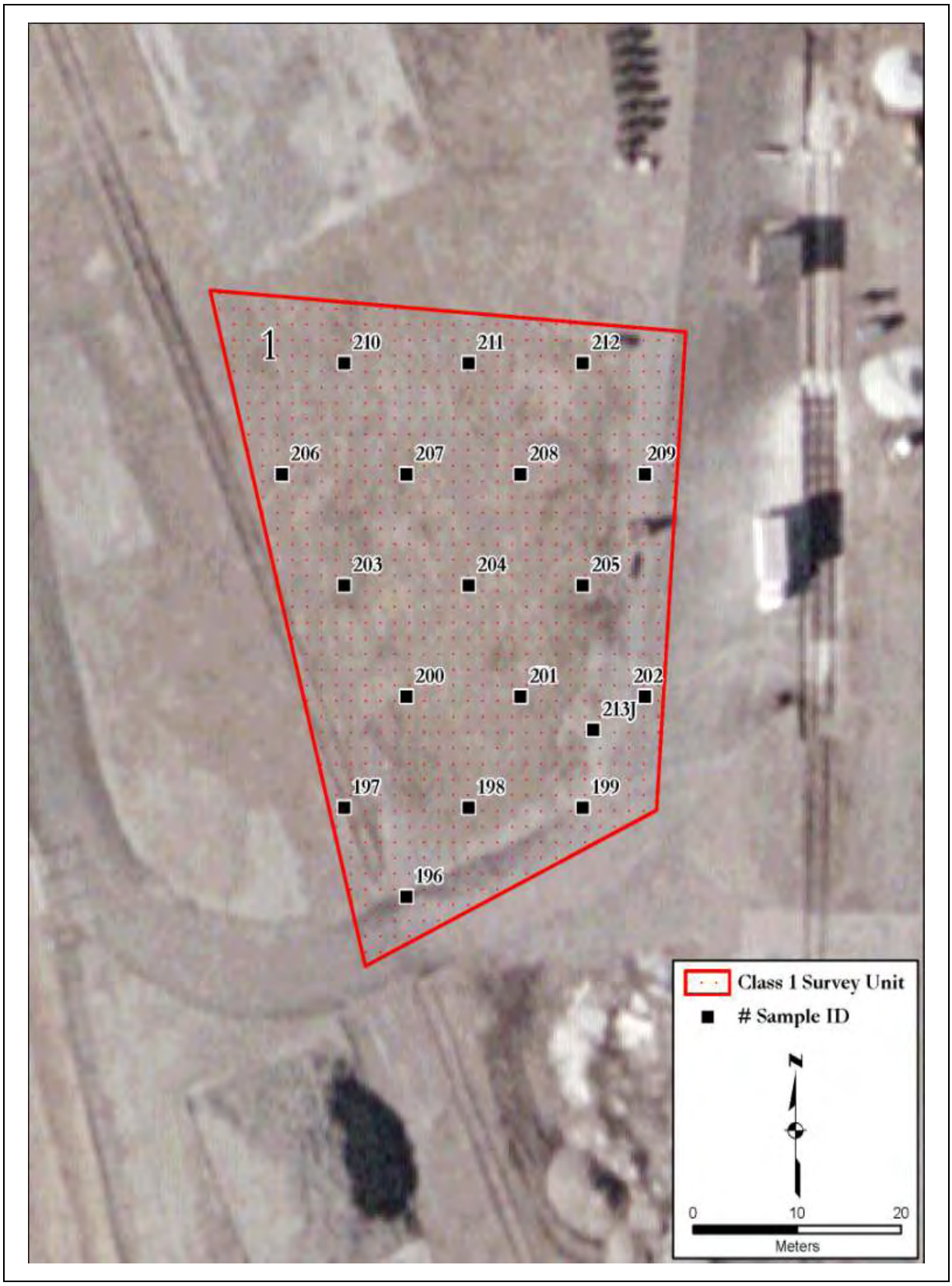


Figure A-23: Survey Unit C1 SU1—FSS Soil Sampling Locations

Figure A-24: Survey Unit Survey Unit C1 SU2—FSS Gamma Scan Results

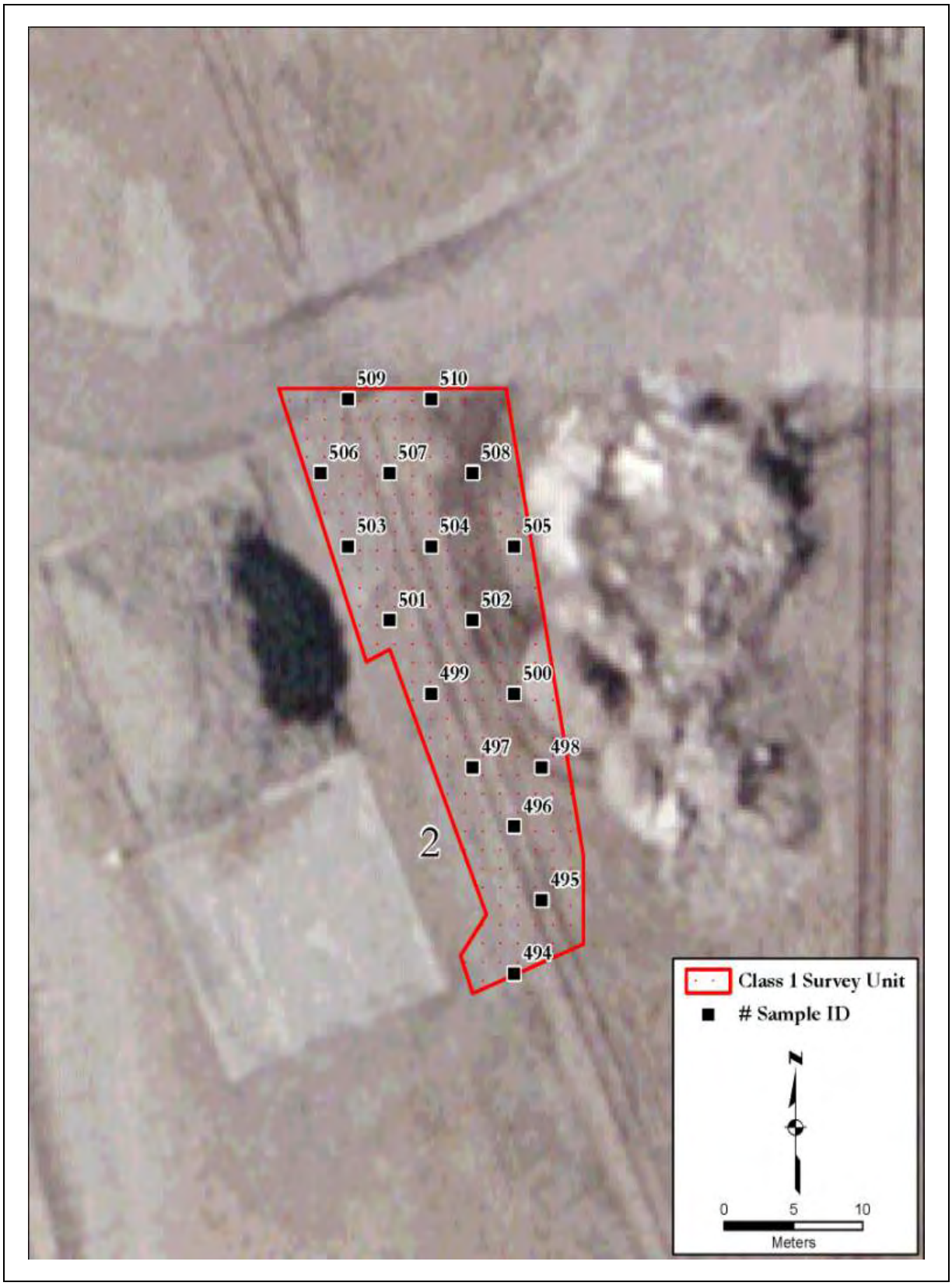


Figure A-25: Survey Unit C1 SU2—FSS Soil Sampling Locations

Figure A-26: Survey Unit C1 SU3—FSS Gamma Scan Results

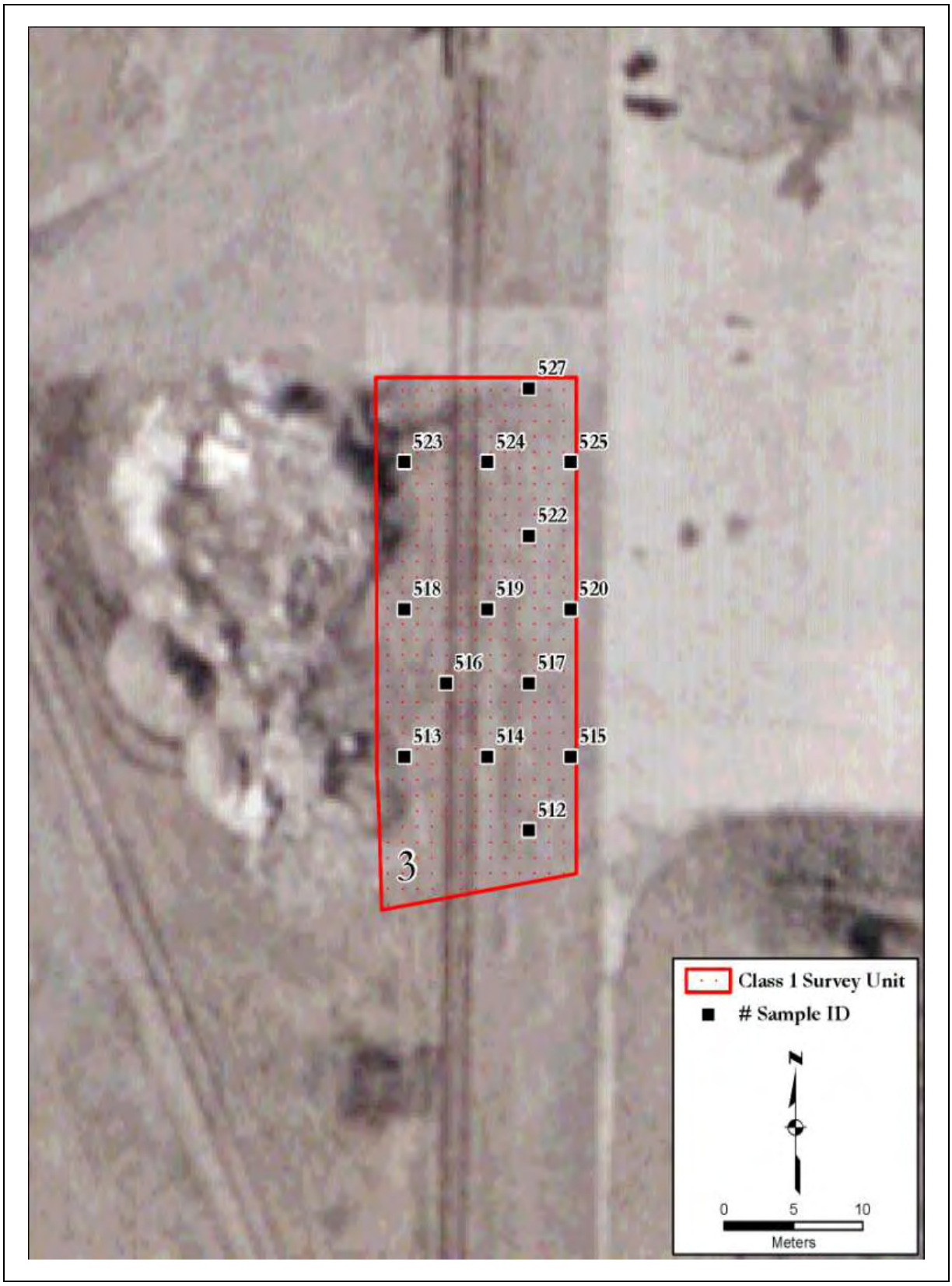


Figure A-27: Survey Unit C1 SU3—FSS Soil Sampling Locations

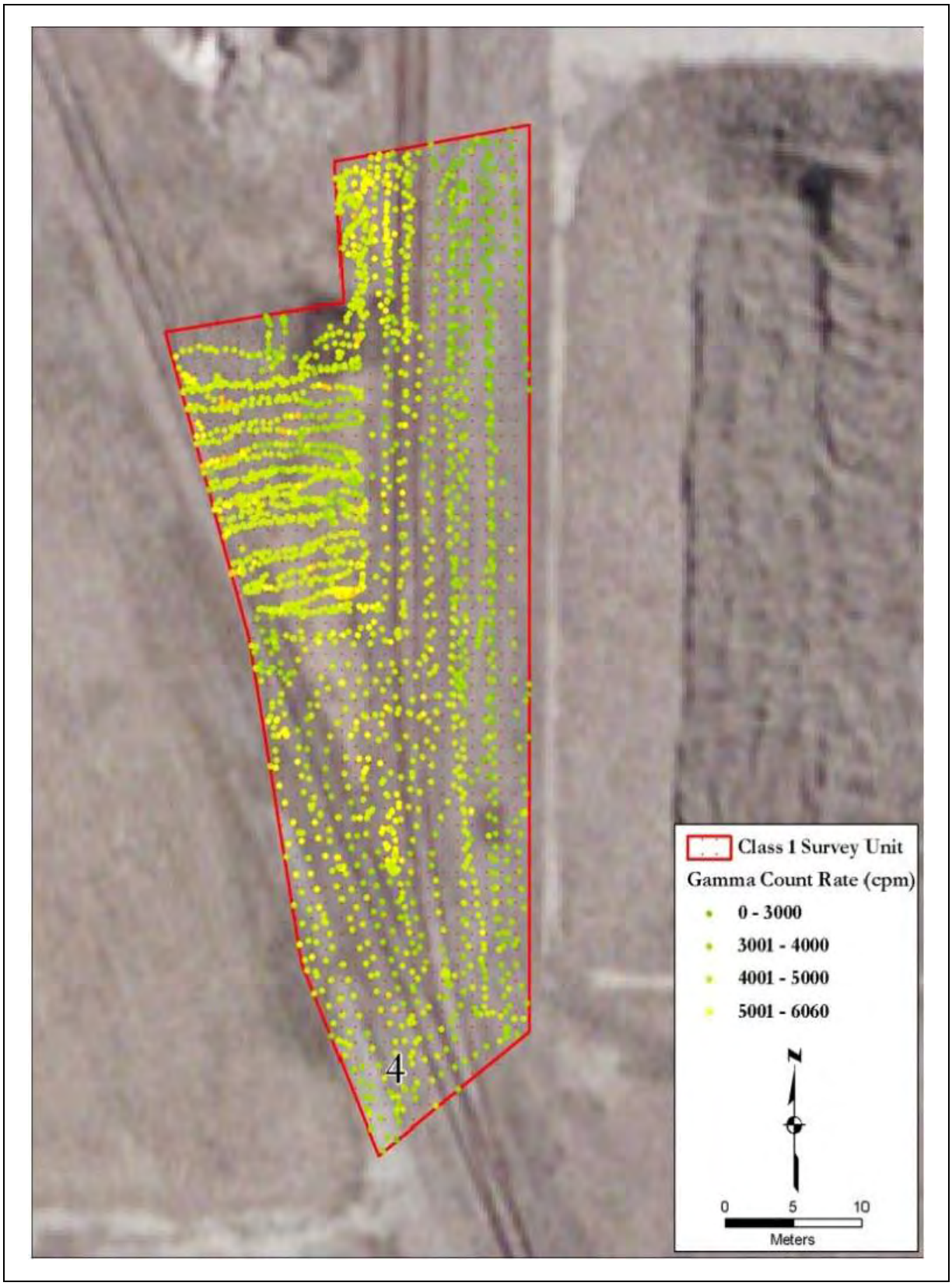


Figure A-28: Survey Unit C1 SU4—FSS Gamma Scan Results

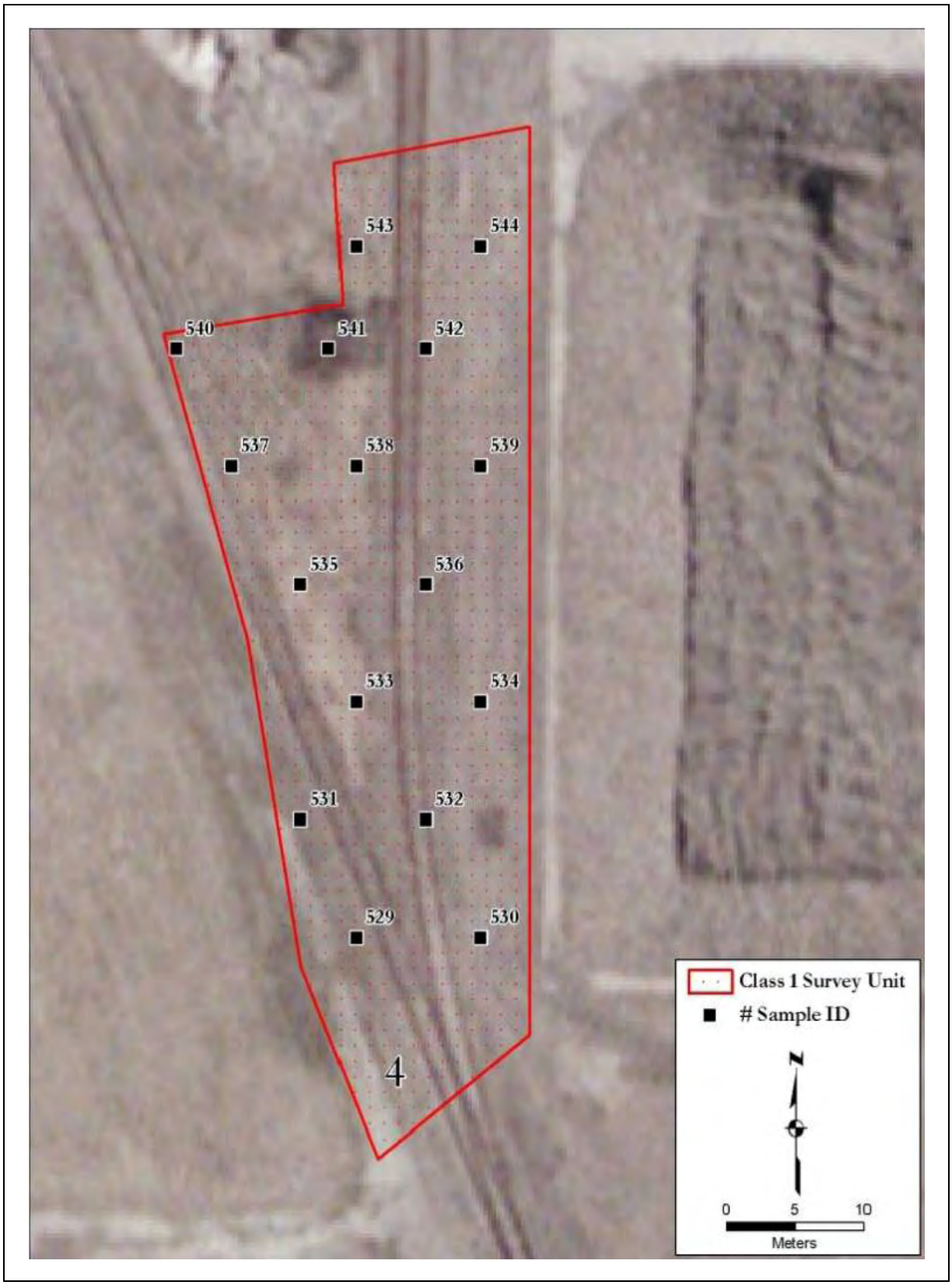


Figure A-29: Survey Unit C1 SU4—FSS Soil Sampling Locations

Figure A-30: Survey Unit C1 SU5—FSS Gamma Scan Results

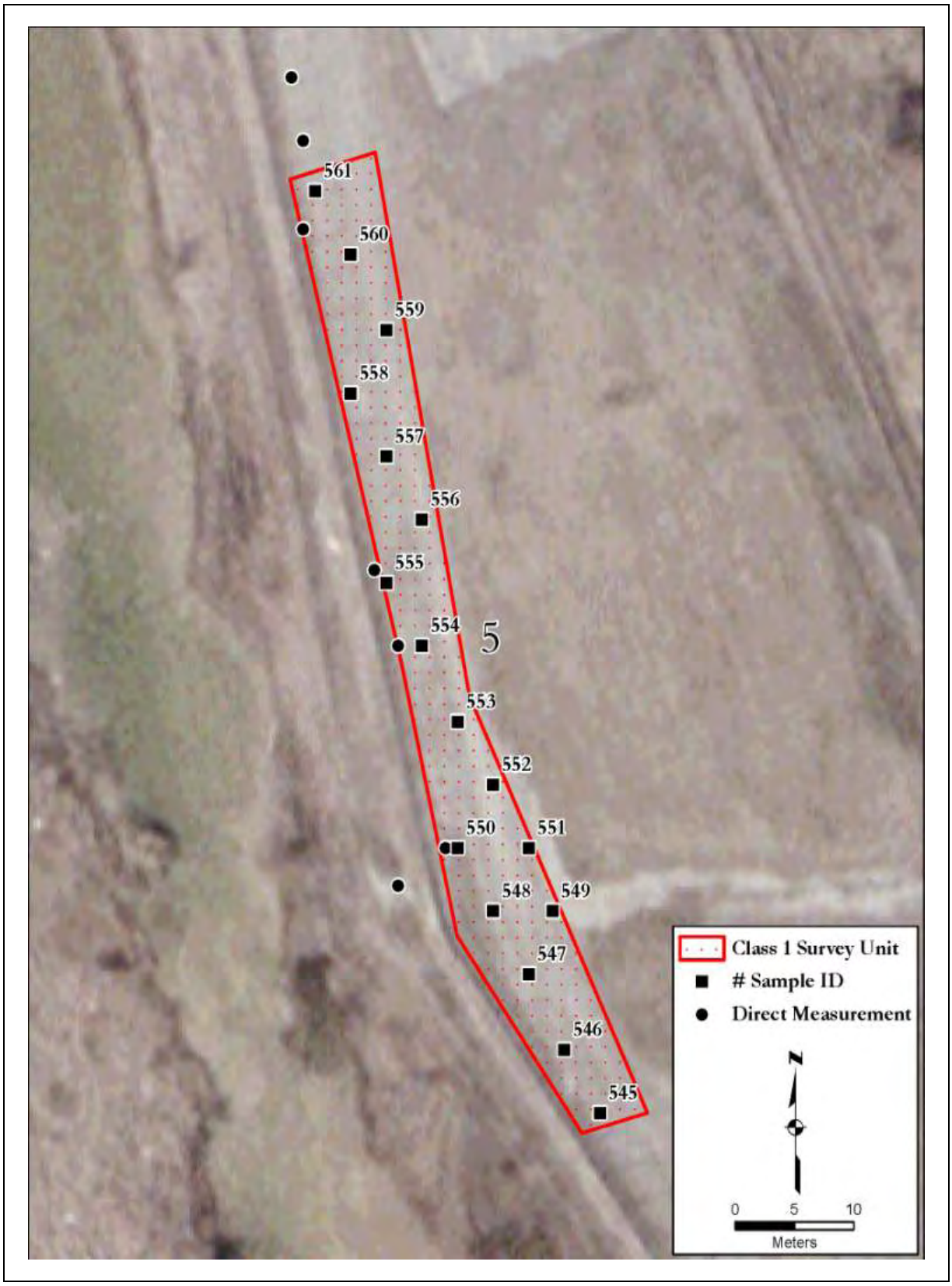


Figure A-31: Survey Unit C1 SU5—FSS Soil Sampling Locations

Figure A-32: Survey Unit C1 SU6—FSS Gamma Scan Results

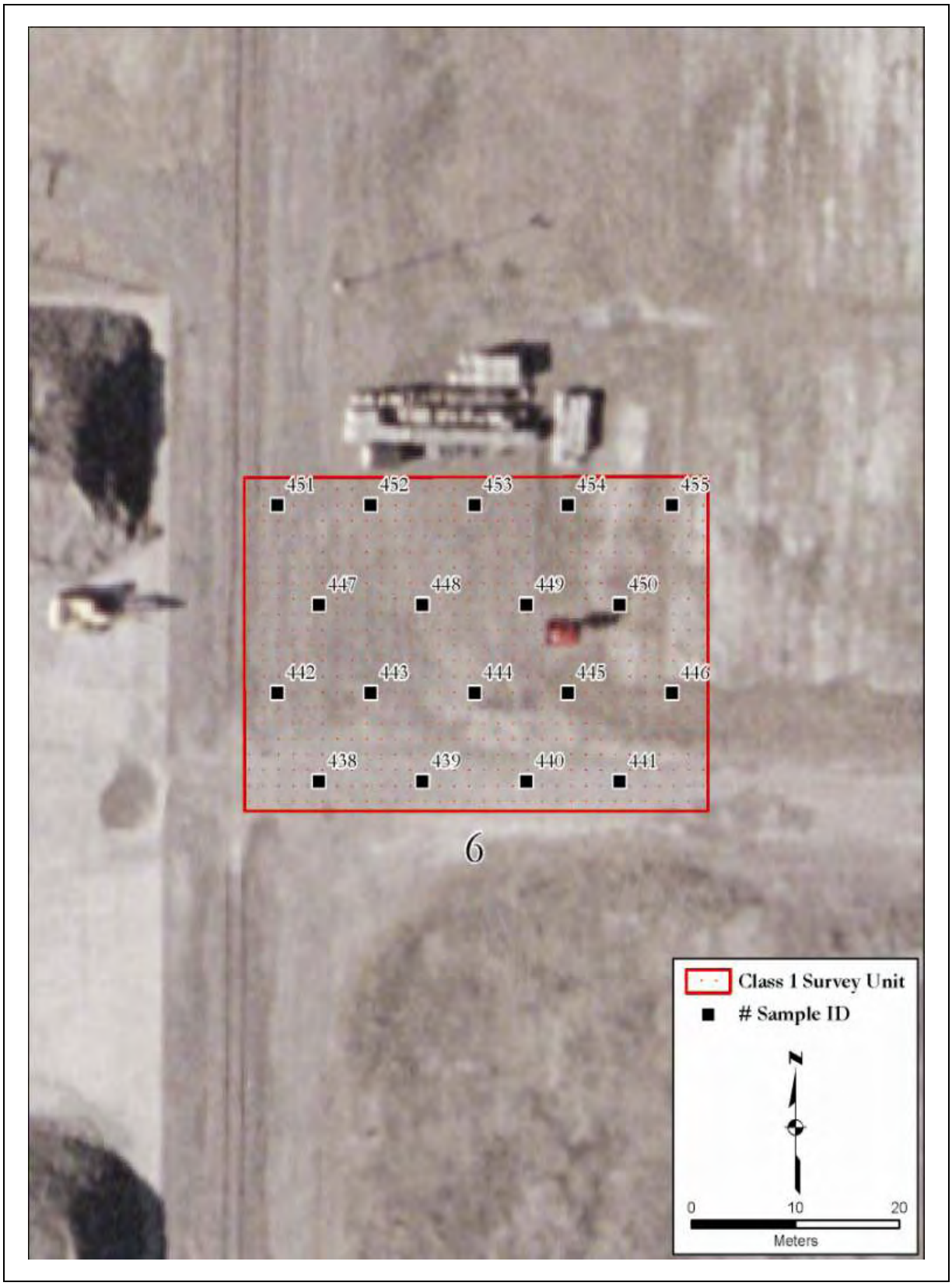


Figure A-33: Survey Unit C1 SU6—FSS Soil Sampling Locations

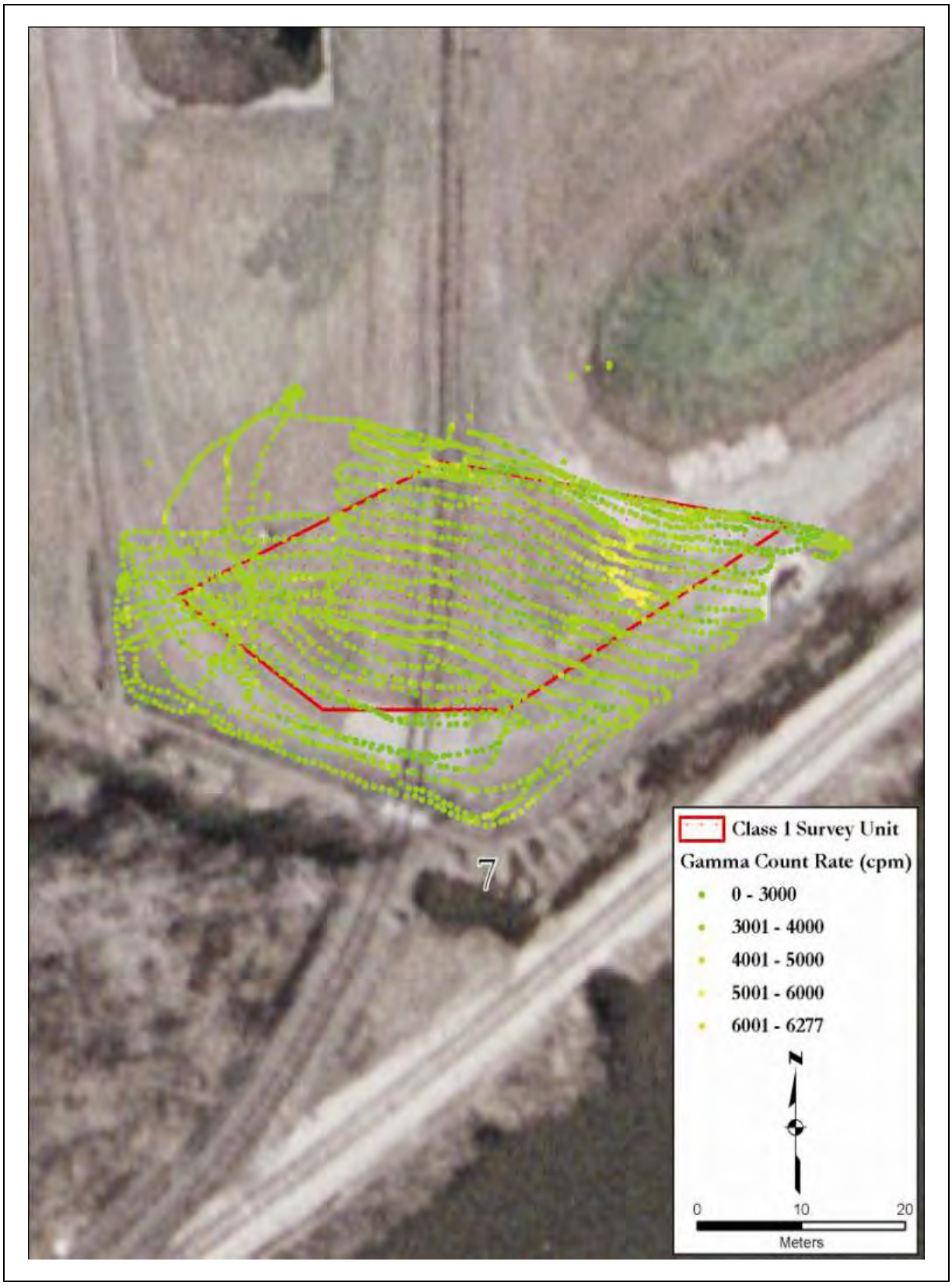


Figure A-34: Survey Unit C1 SU7—FSS Gamma Scan Results

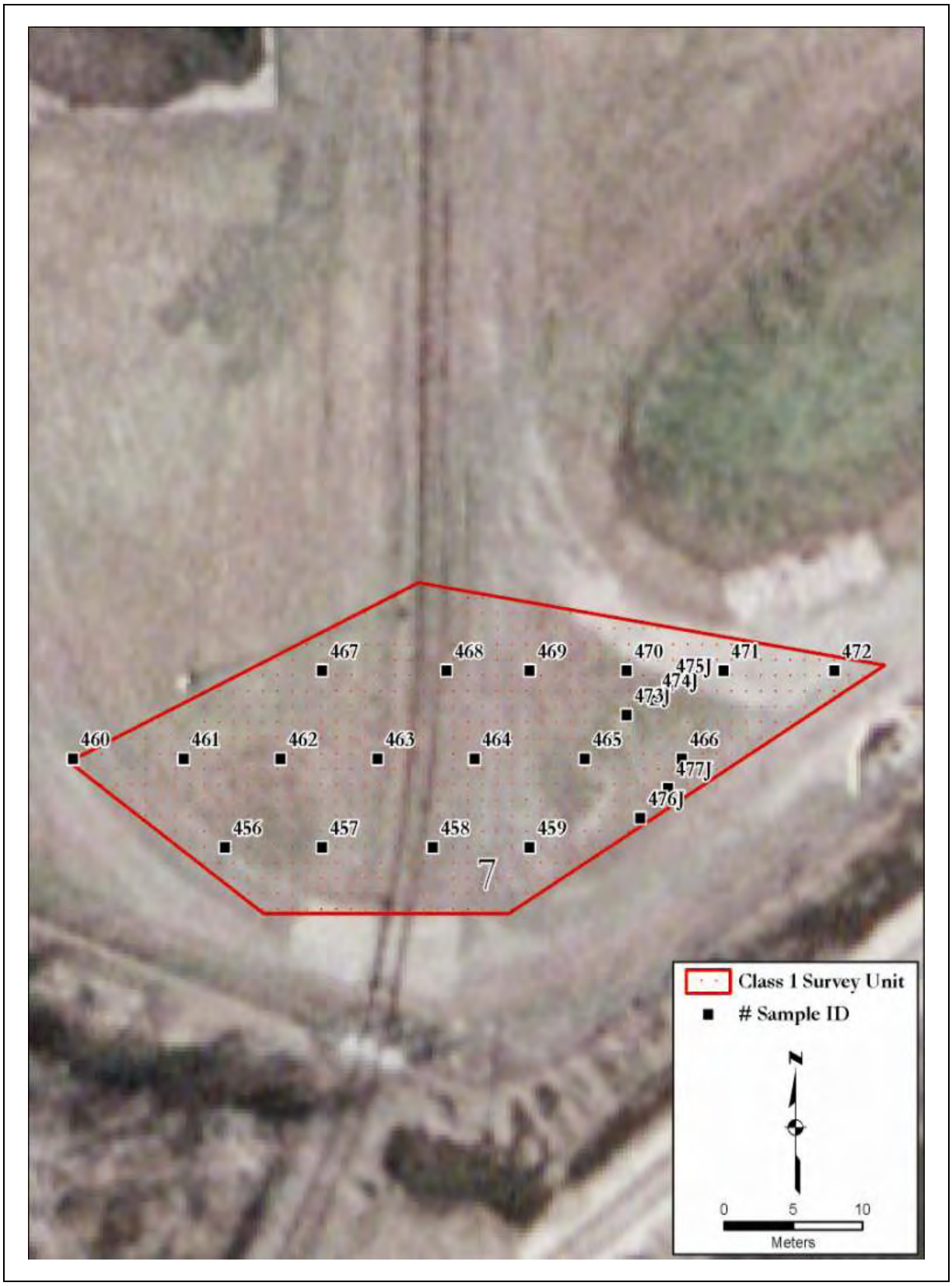


Figure A-35: Survey Unit C1 SU7—FSS Soil Sampling Locations

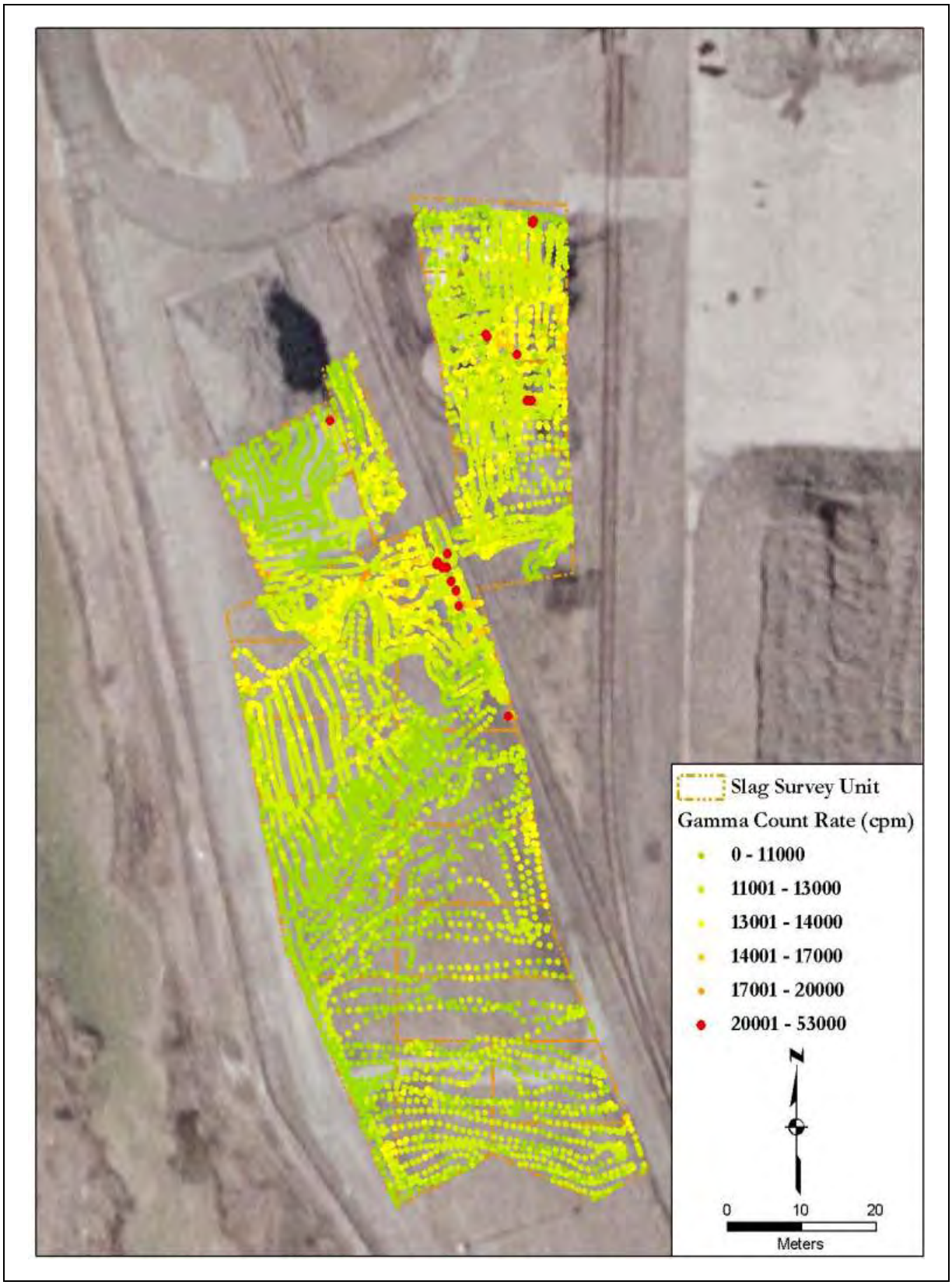


Figure A-36: Survey Units C1 SU2.1 through 5.8—FSS Gamma Scan Results

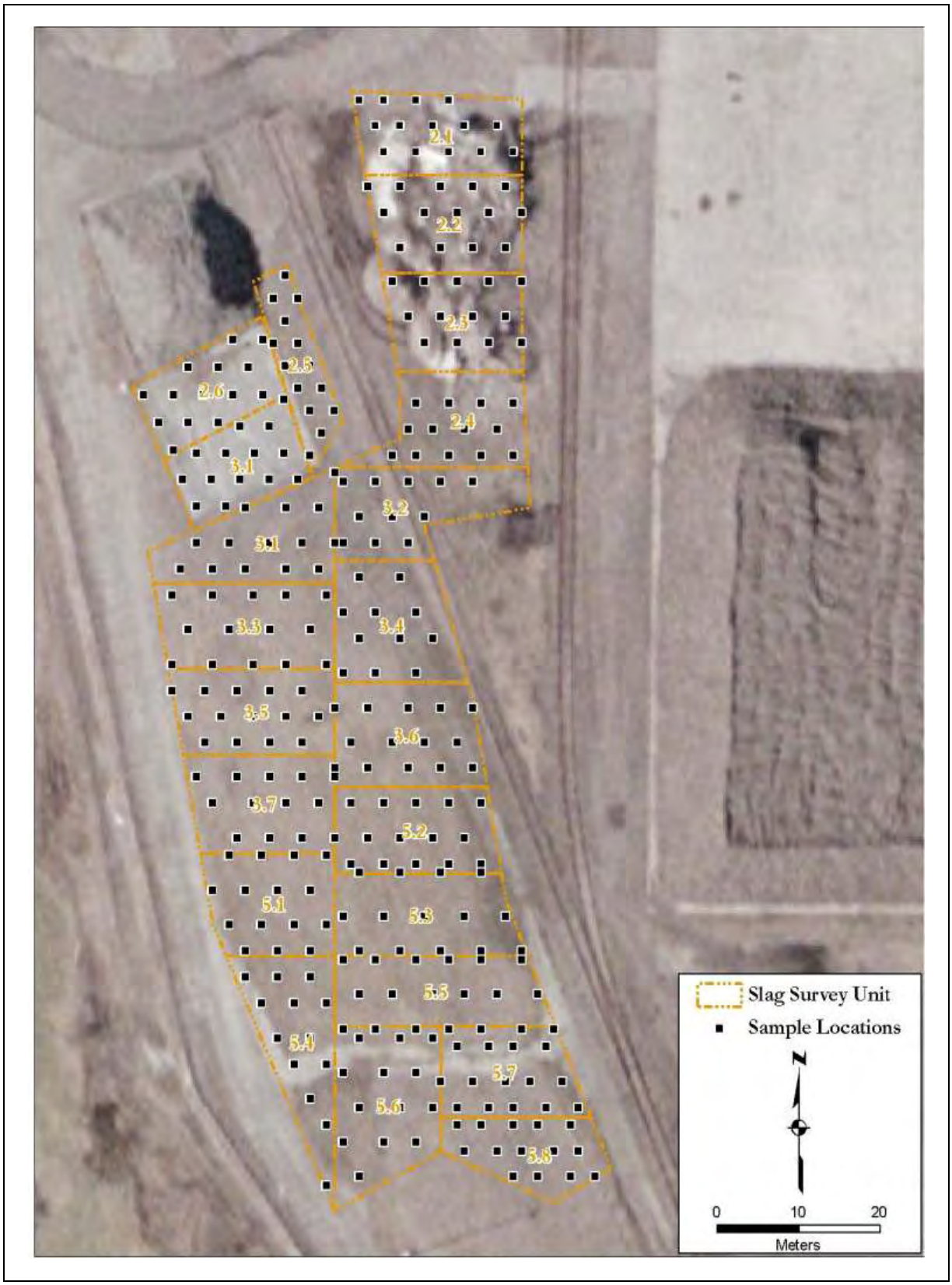


Figure A-37: Survey Unit C1 SU2.1 through 5.8—FSS Direct Measurement Locations

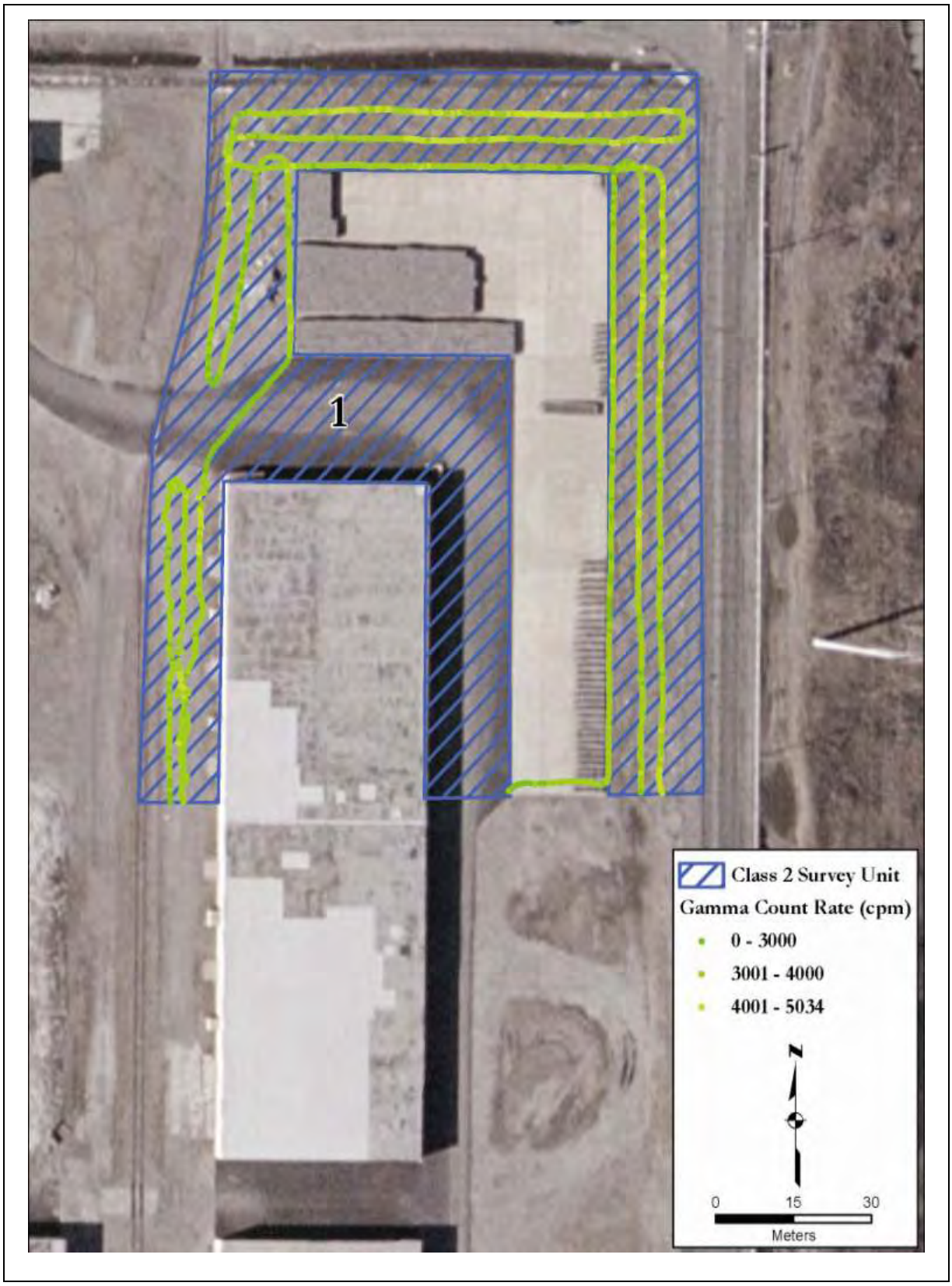


Figure A-38: Survey Unit C2 SU1—FSS Gamma Scan Results

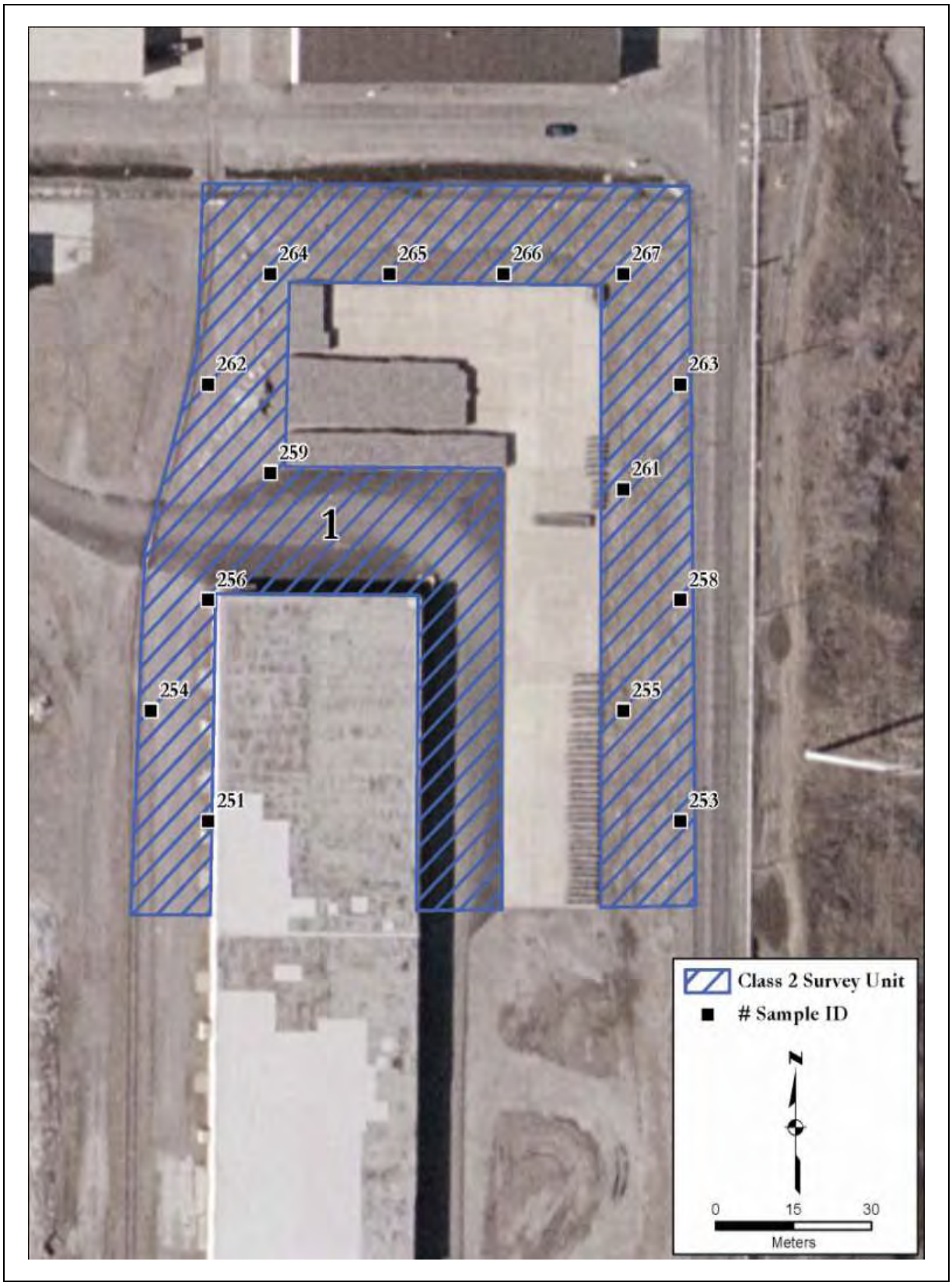


Figure A-39: Survey Unit C2 SU1—FSS Soil Sampling Locations

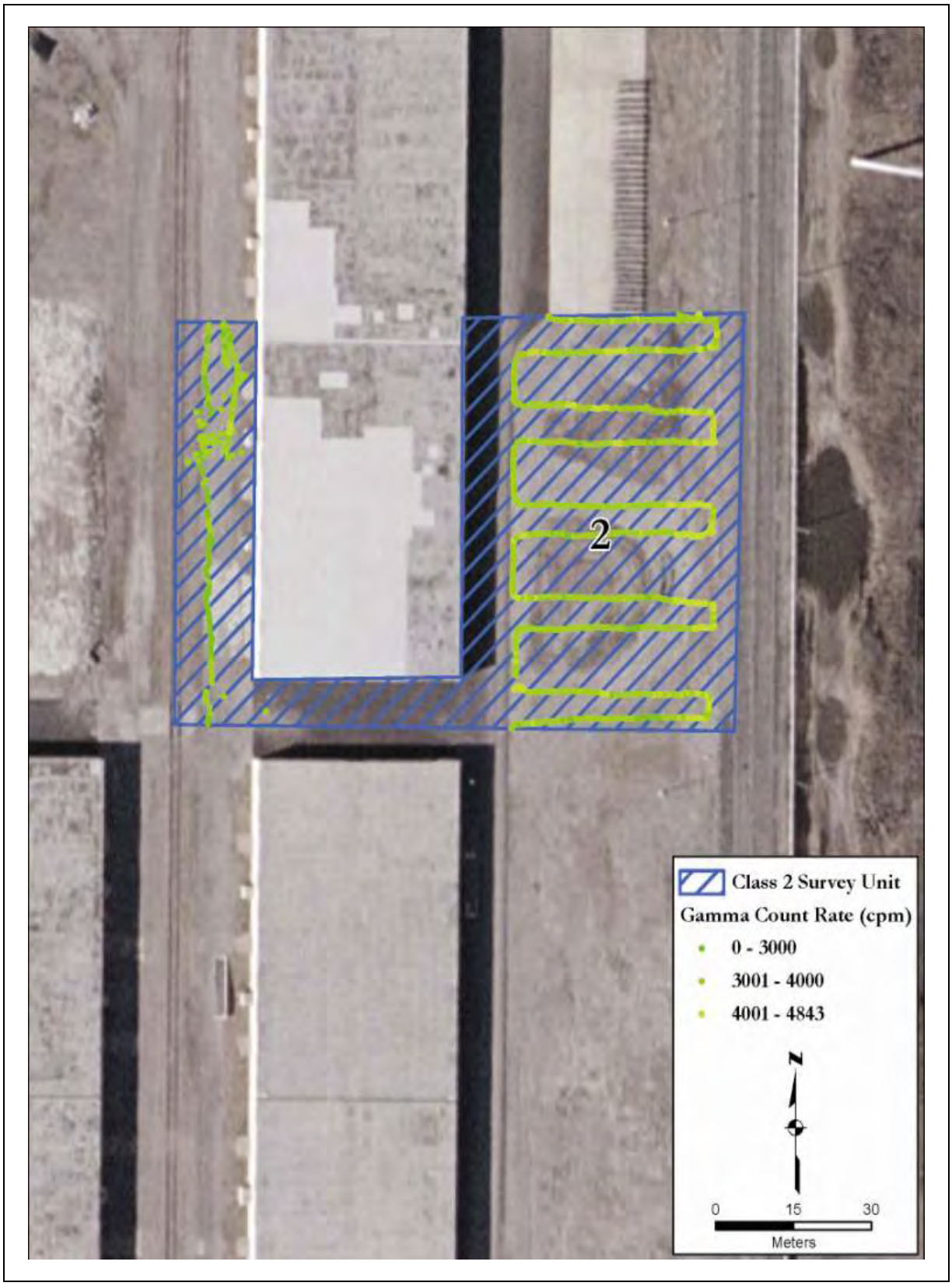


Figure A-40: Survey Unit C2 SU2—FSS Gamma Scan Results

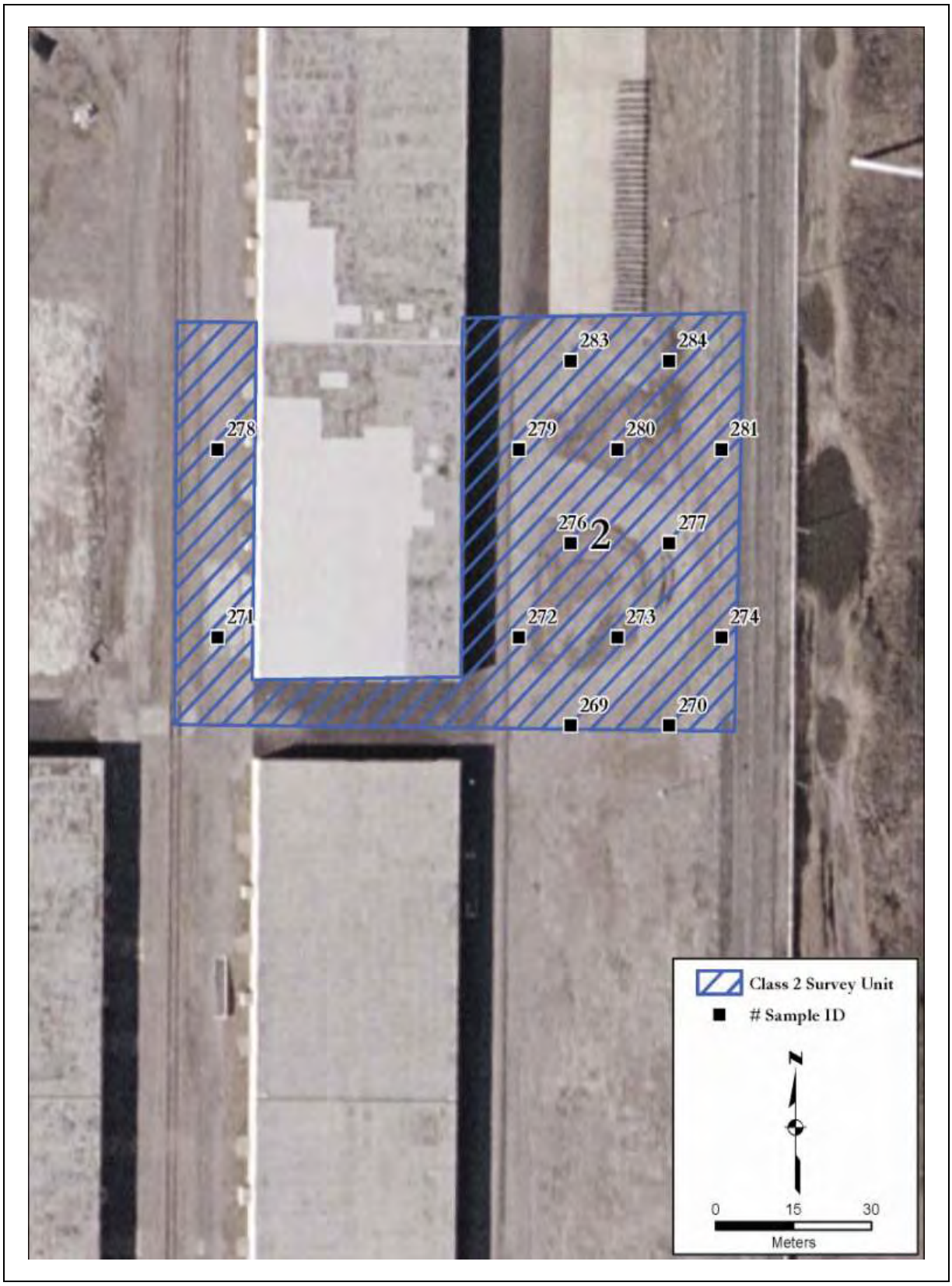


Figure A-41: Survey Unit C2 SU2—FSS Soil Sampling Locations

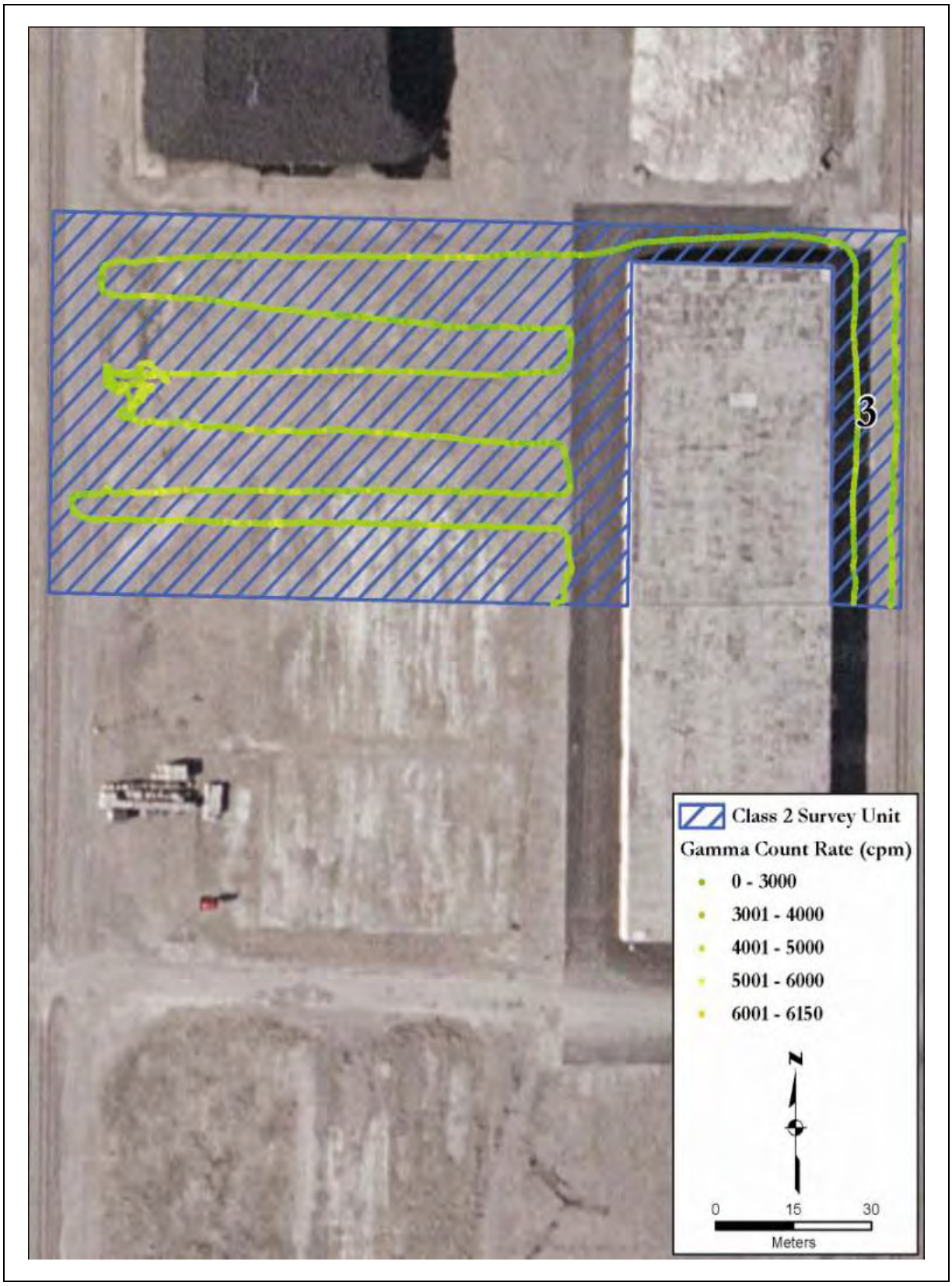


Figure A-42: Survey Unit C2 SU3—FSS Gamma Scan Results

Figure A-43: Survey Unit C2 SU3—FSS Soil Sampling Locations

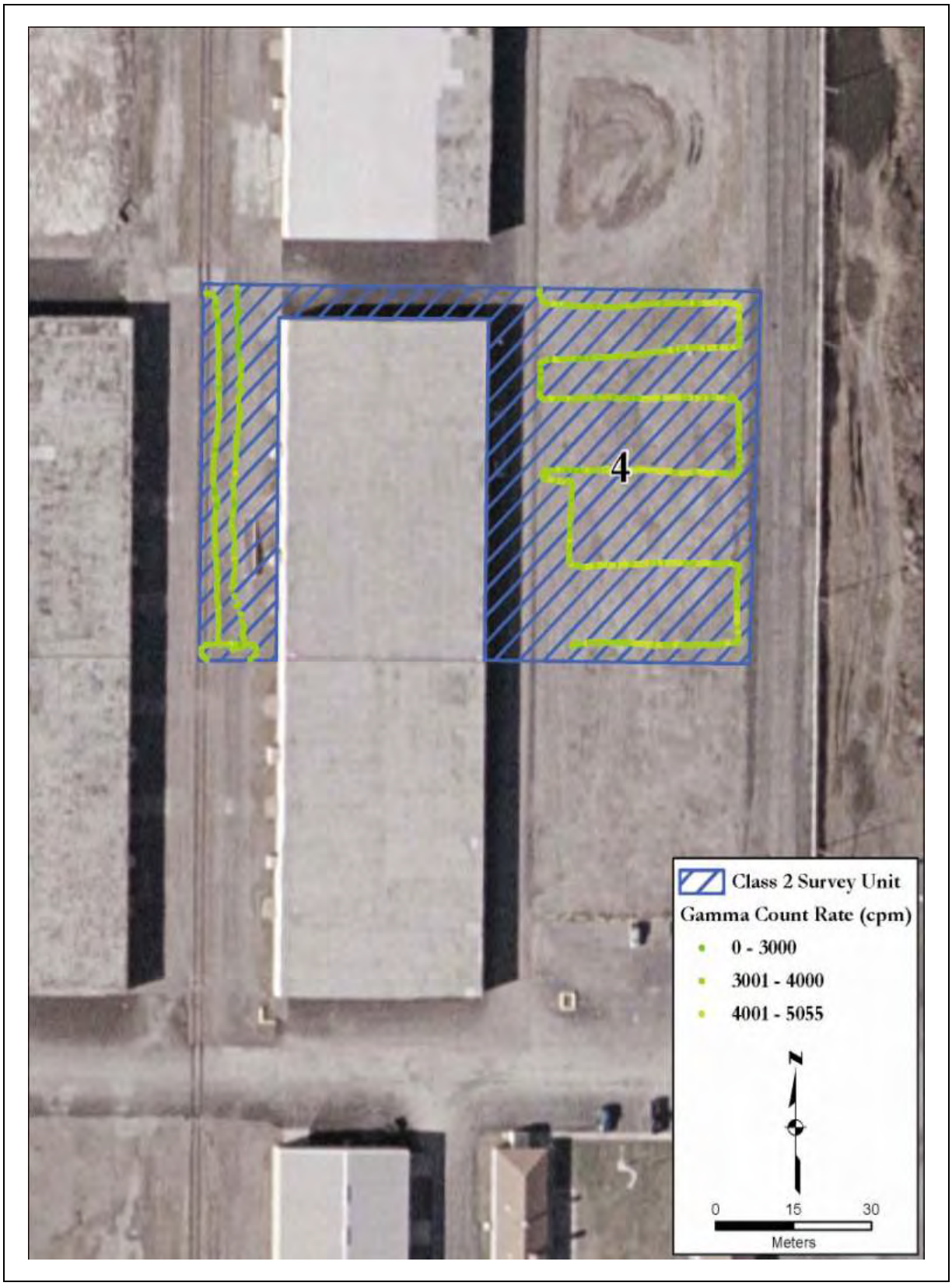


Figure A-44: Survey Unit C2 SU4—FSS Gamma Scan Results

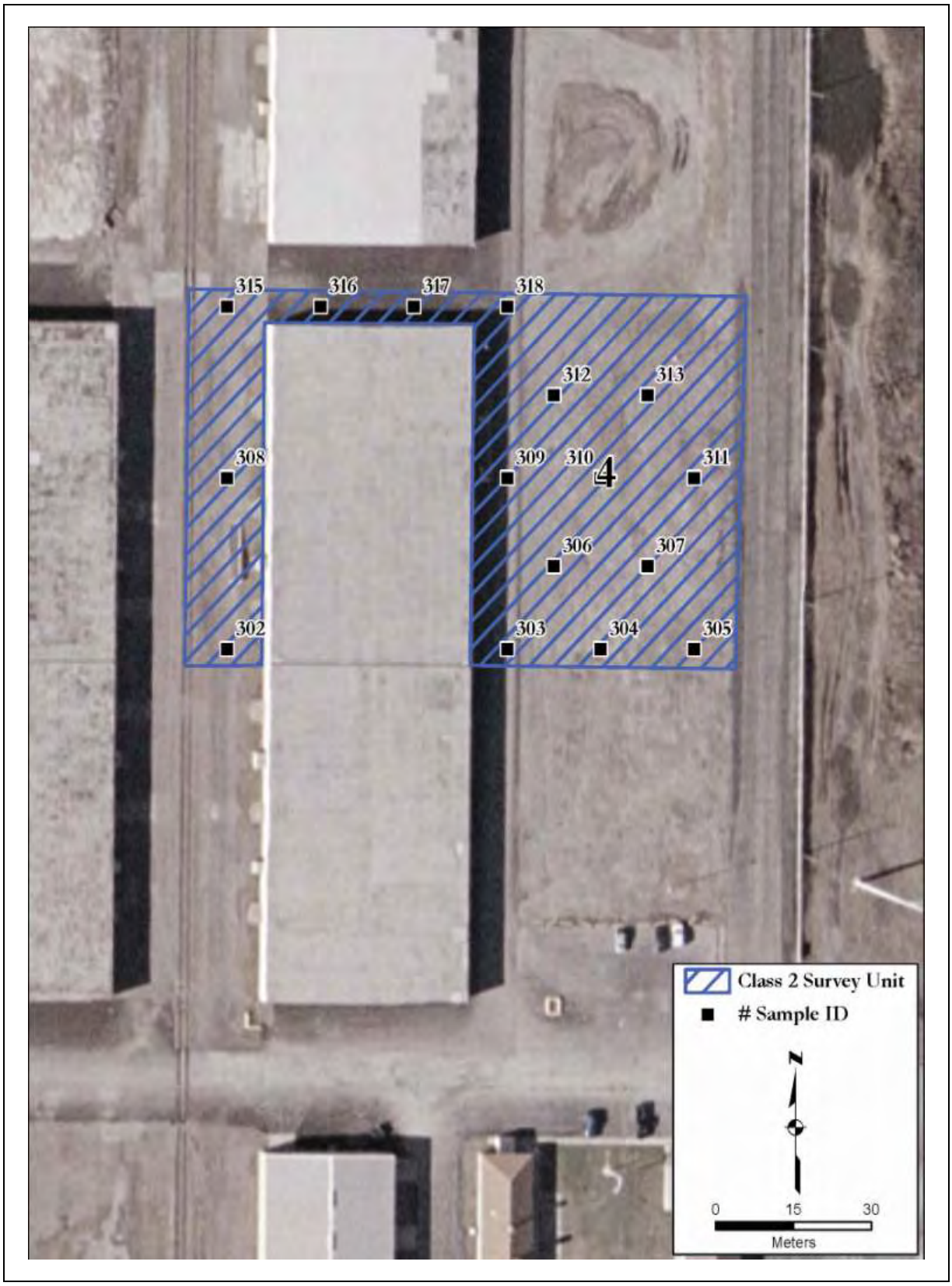


Figure A-45: Survey Unit C2 SU4—FSS Soil Sampling Locations

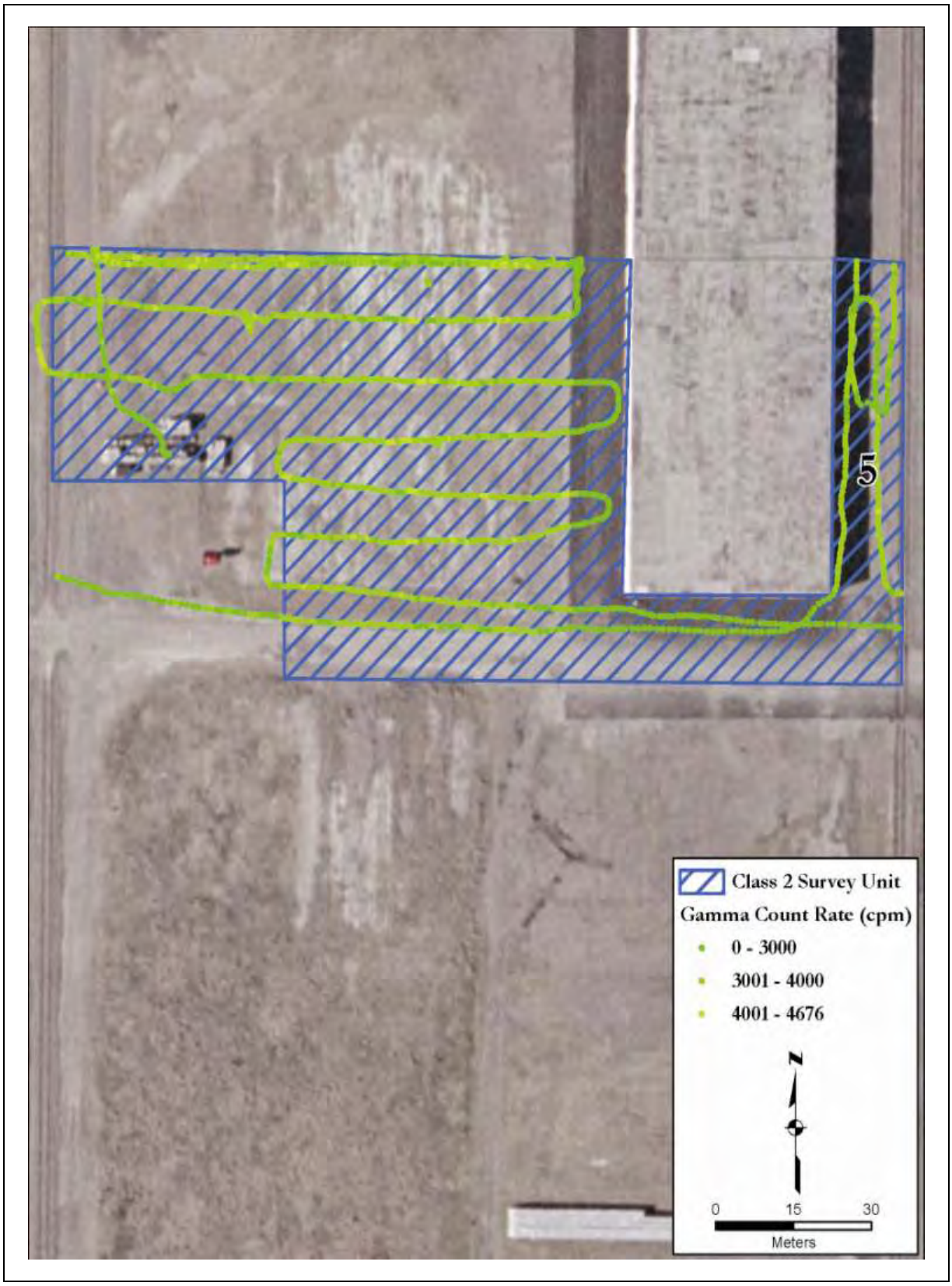


Figure A-46: Survey Unit C2 SU5—FSS Gamma Scan Results

Figure A-47: Survey Unit C2 SU5—FSS Soil Sampling Locations

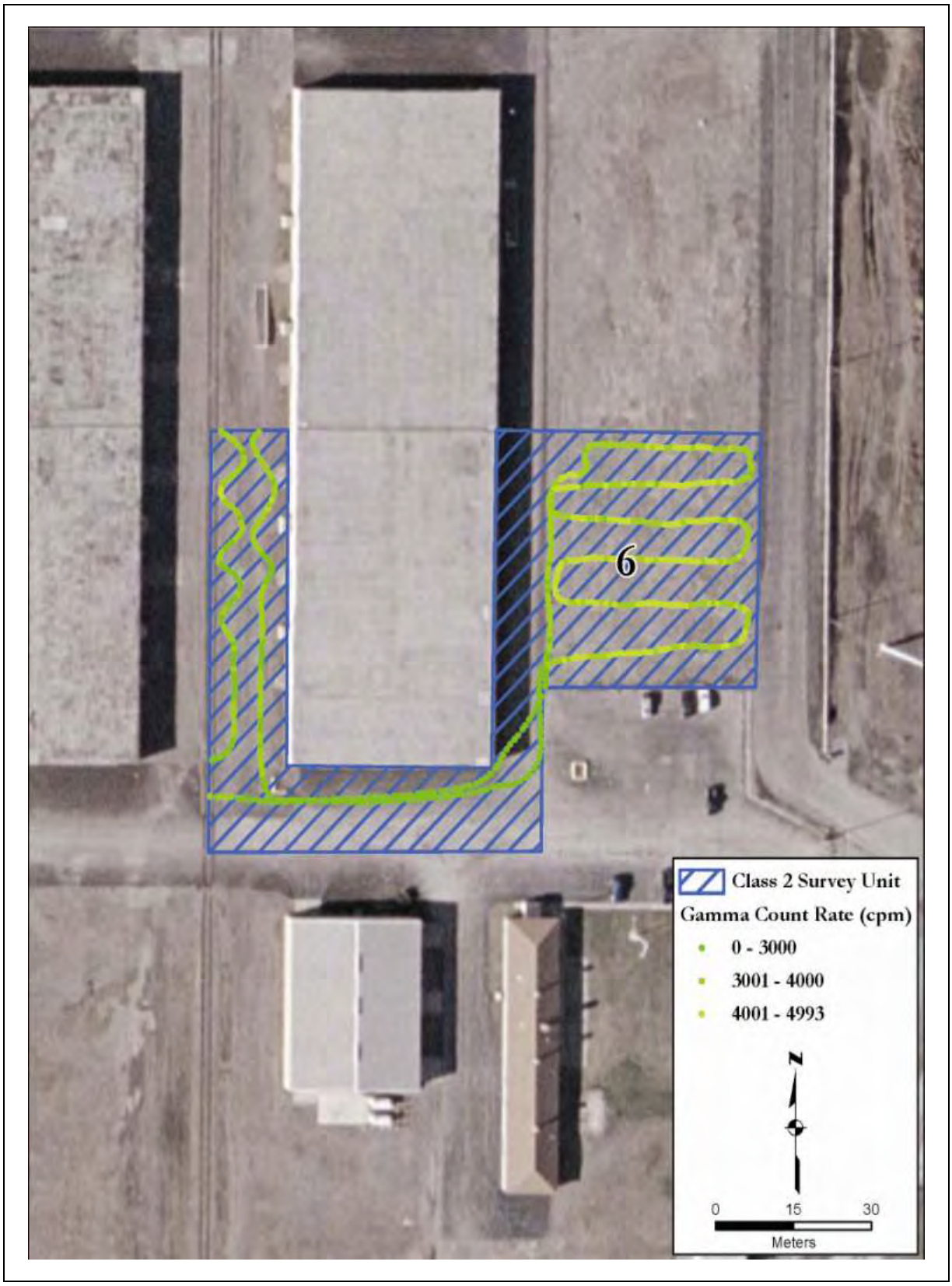


Figure A-48: Survey Unit C2 SU6—FSS Gamma Scan Results

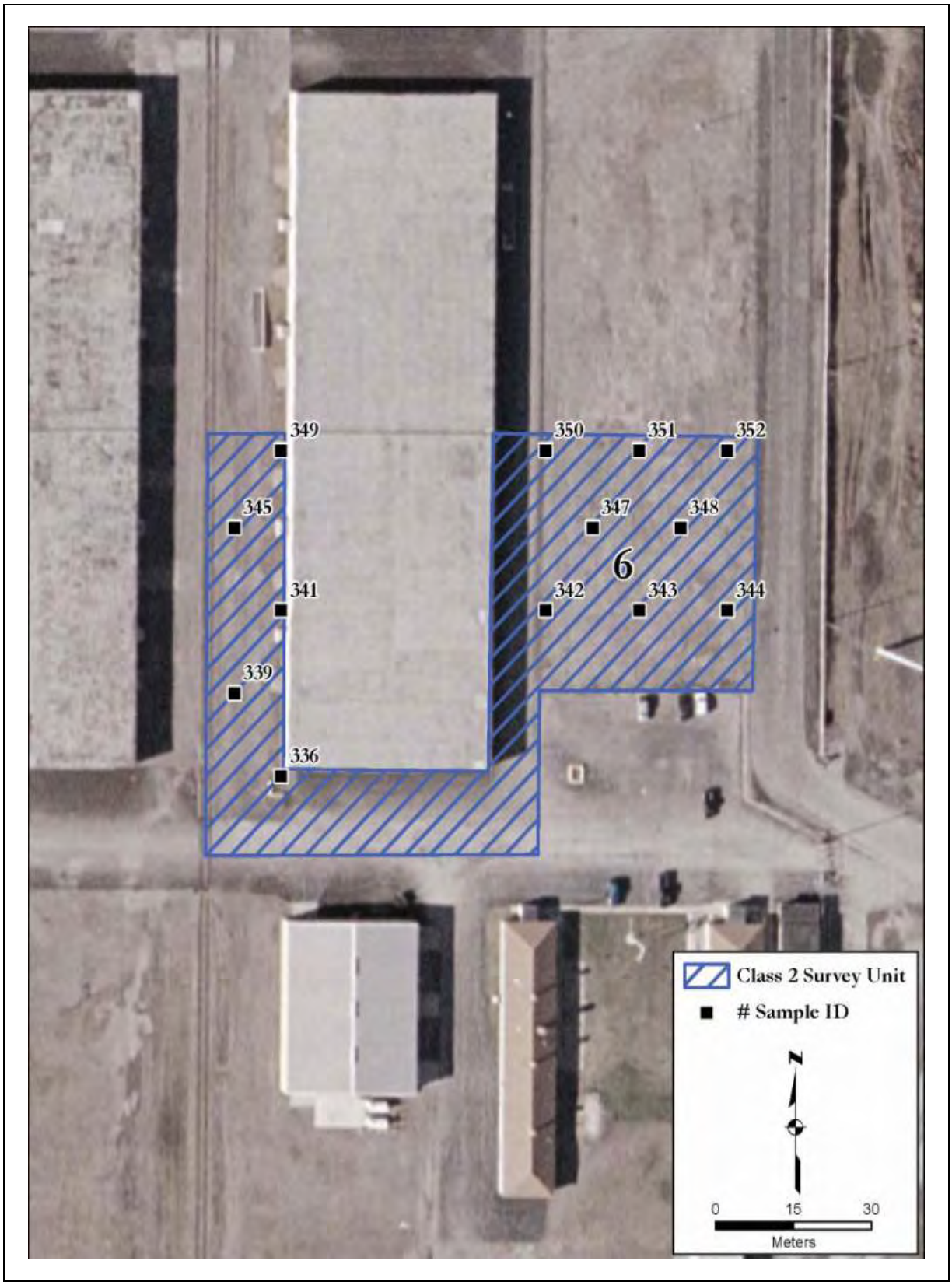


Figure A-49: Survey Unit C2 SU6—FSS Soil Sampling Locations

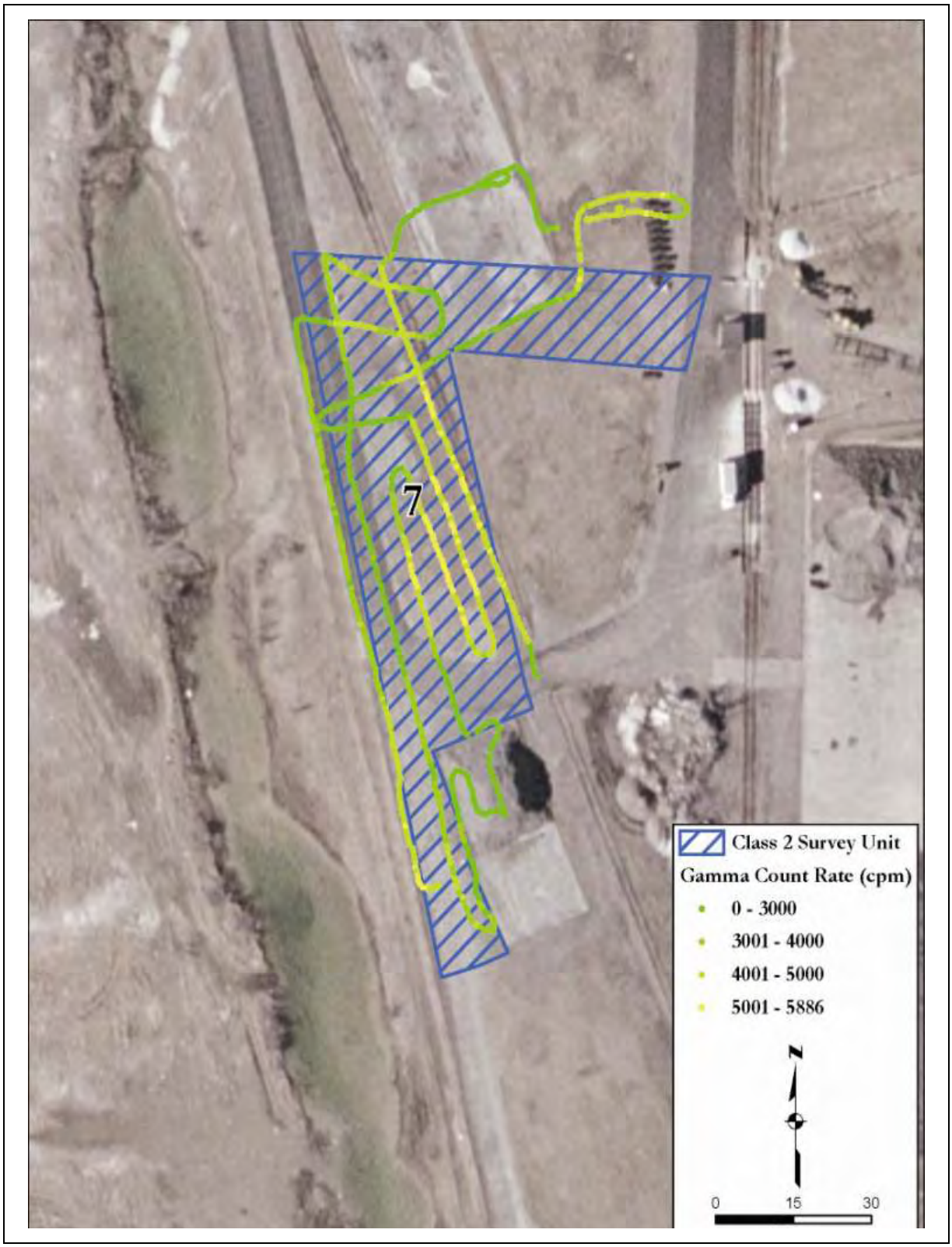


Figure A-50: Survey Unit C2 SU7—FSS Gamma Scan Results

Figure A-51: Survey Unit C2 SU7—FSS Soil Sampling Locations

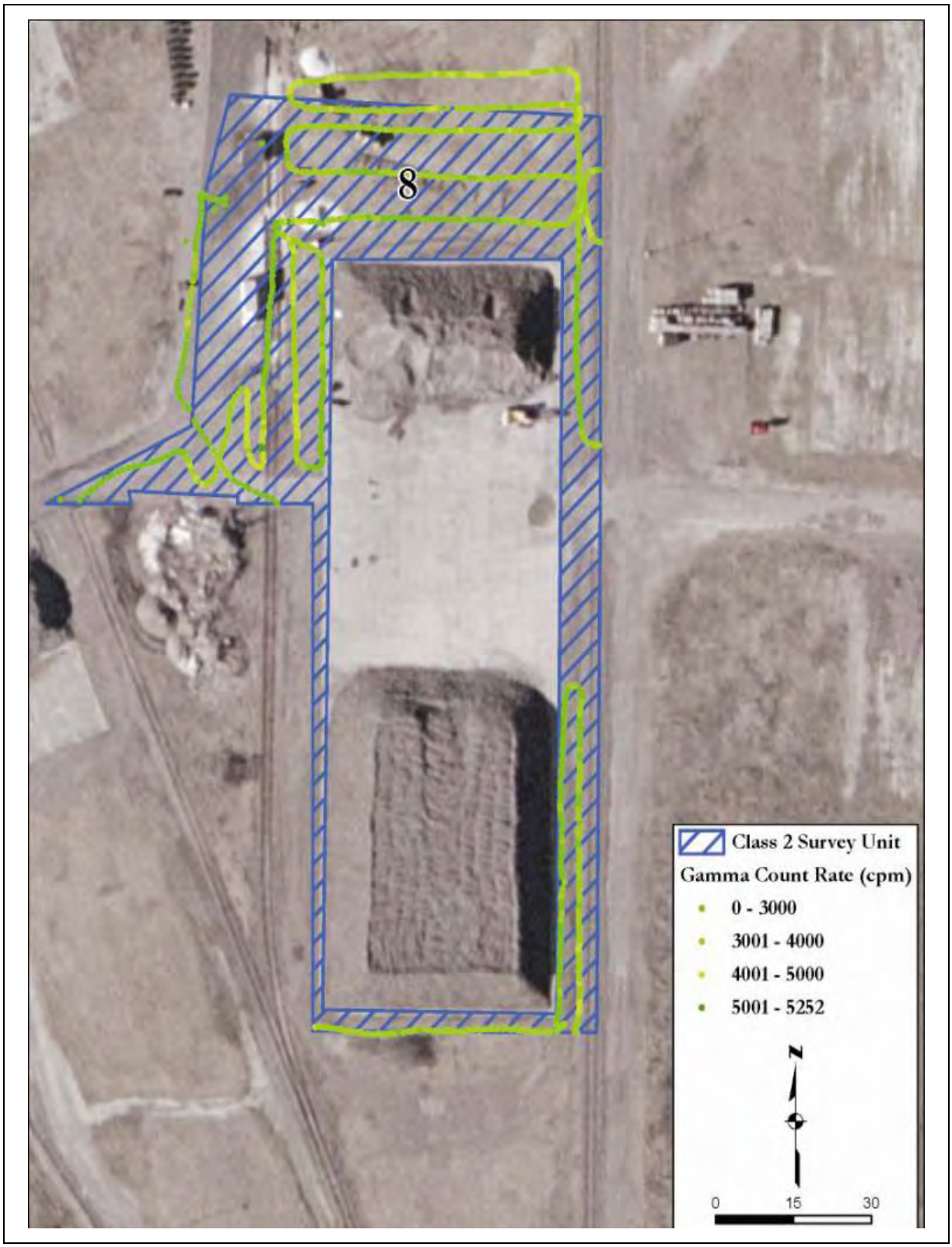


Figure A-52: Survey Unit C2 SU8—FSS Gamma Scan Results

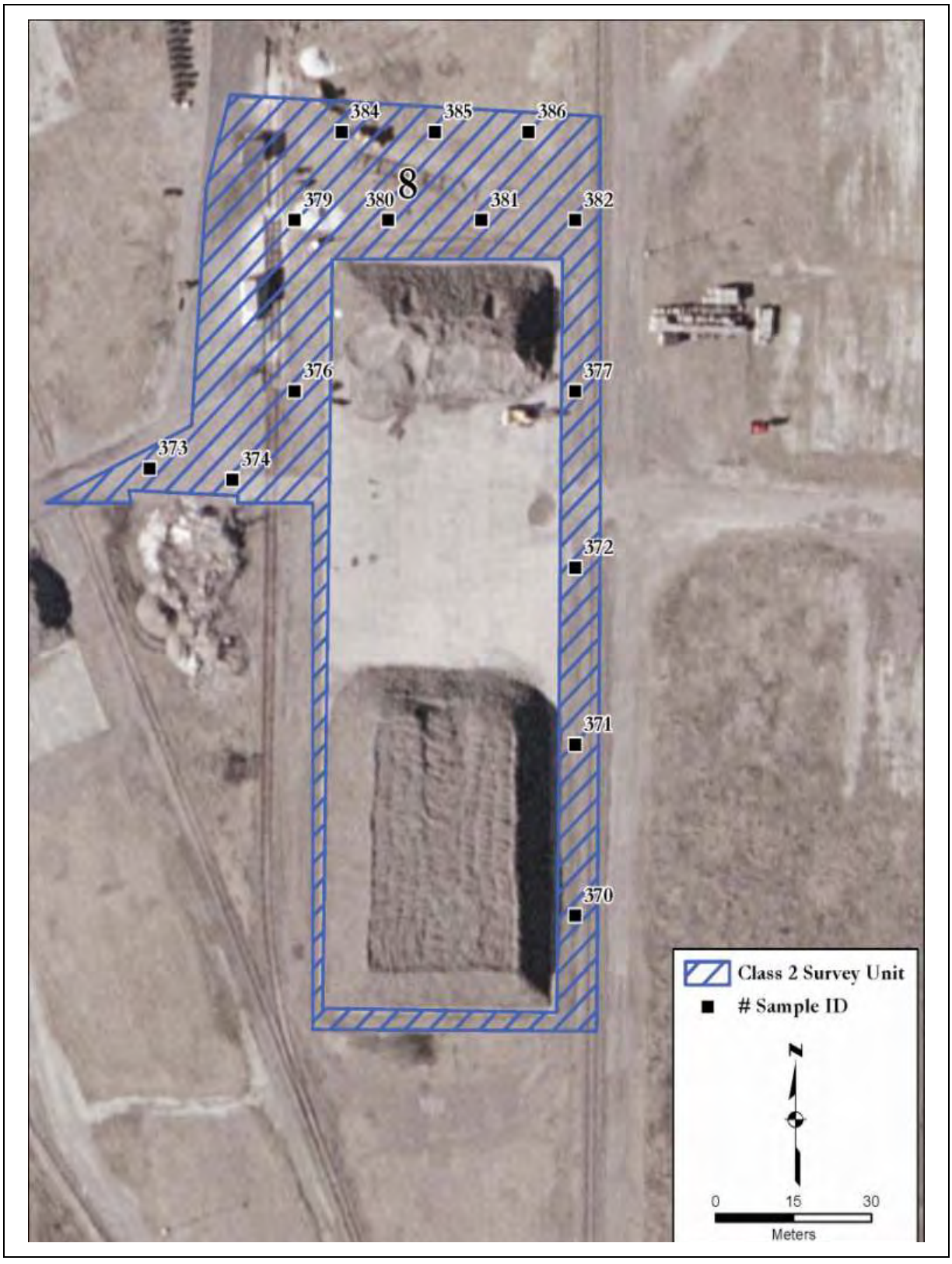


Figure A-53: Survey Unit C2 SU8—FSS Soil Sampling Locations

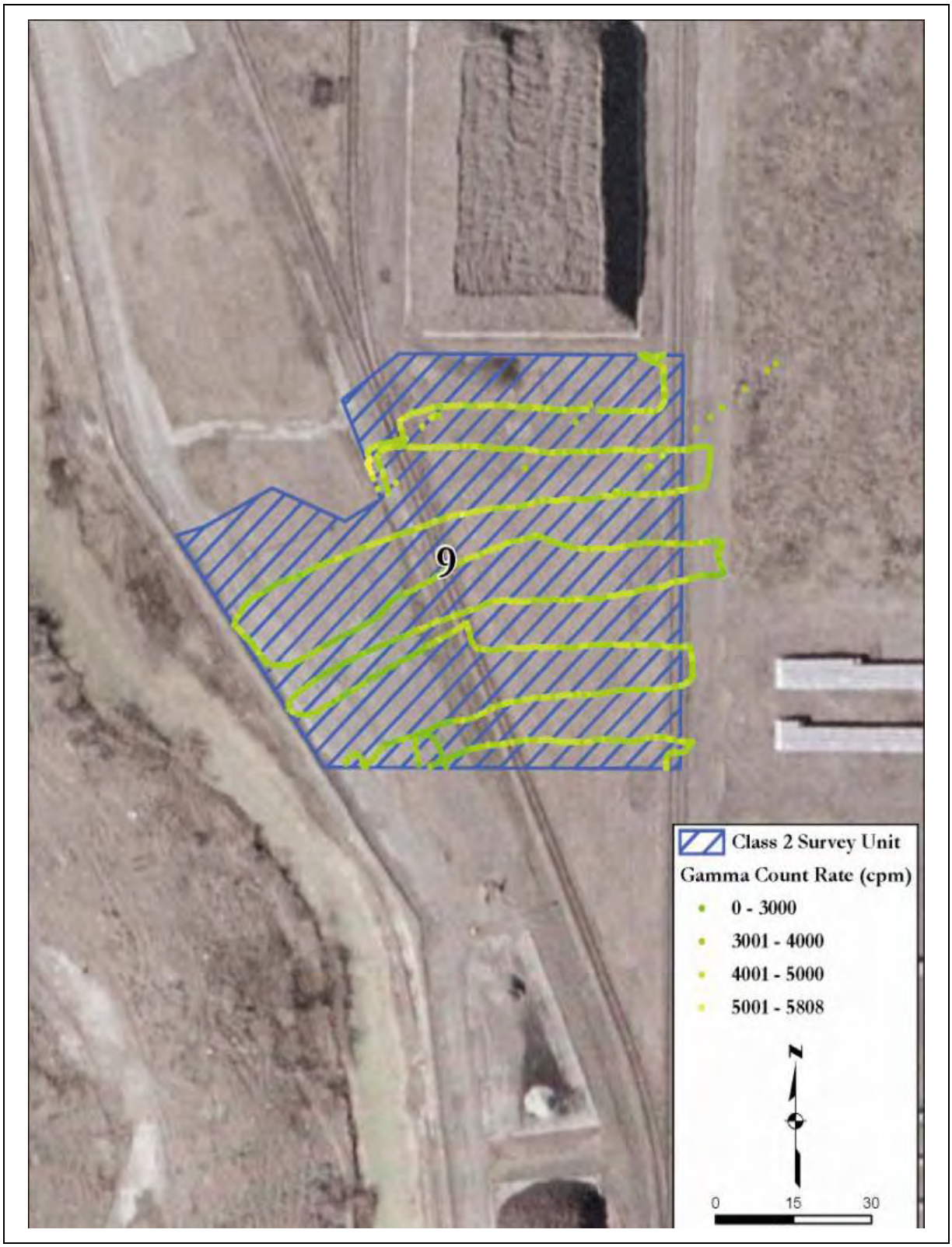


Figure A-54: Survey Unit C2 SU9—FSS Gamma Scan Results

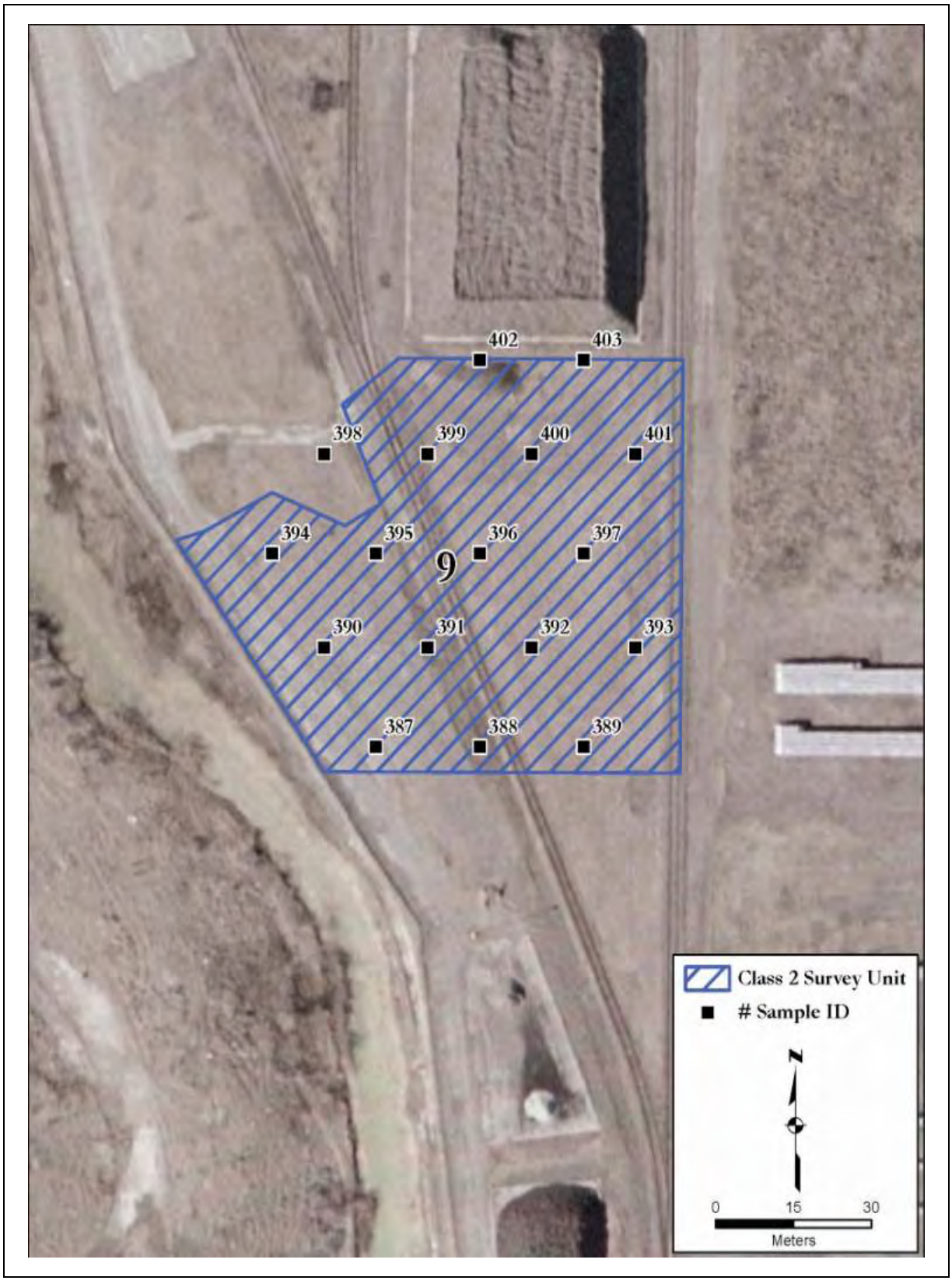


Figure A-55: Survey Unit C2 SU9—FSS Soil Sampling Locations

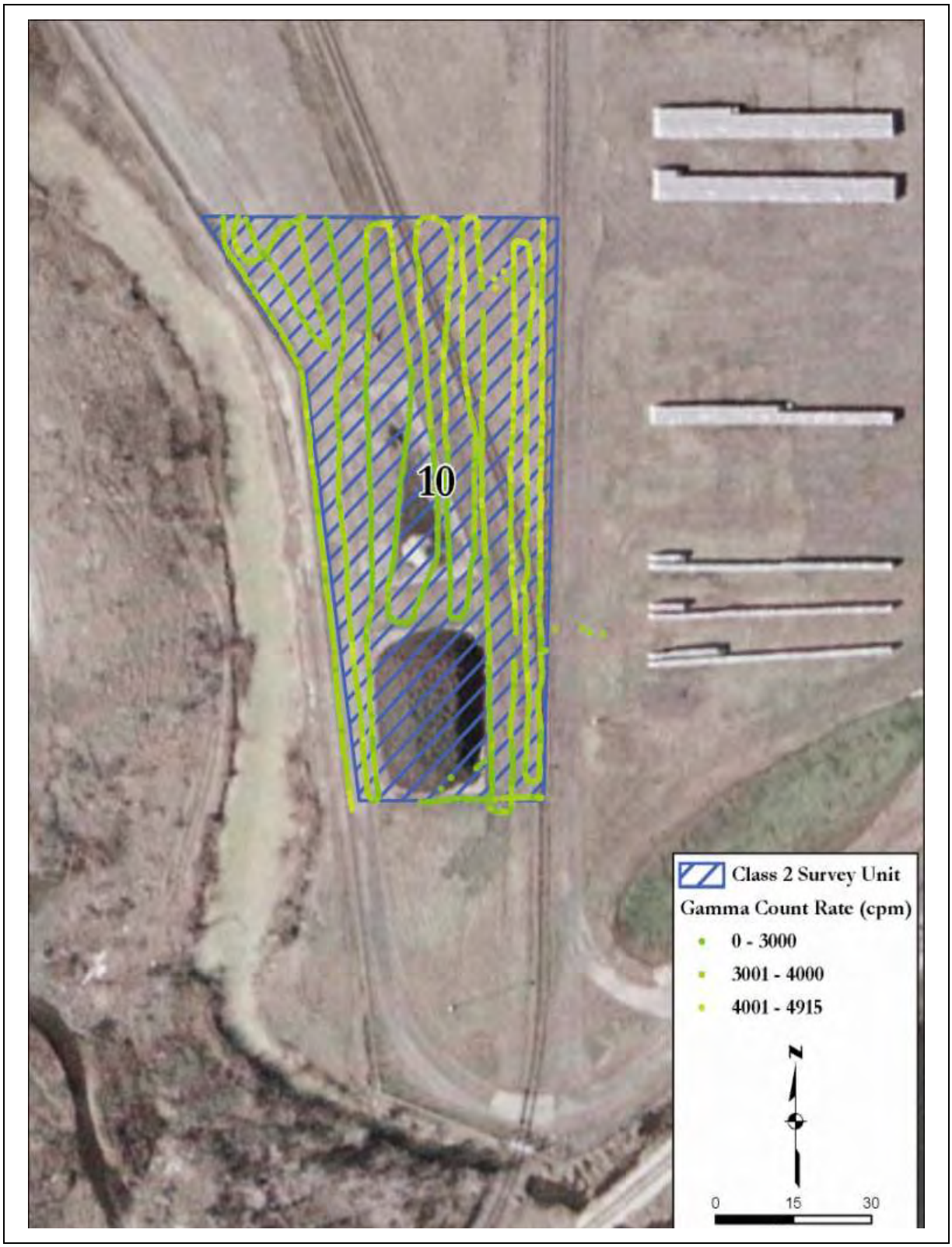


Figure A-56: Survey Unit C2 SU10—FSS Gamma Scan Results

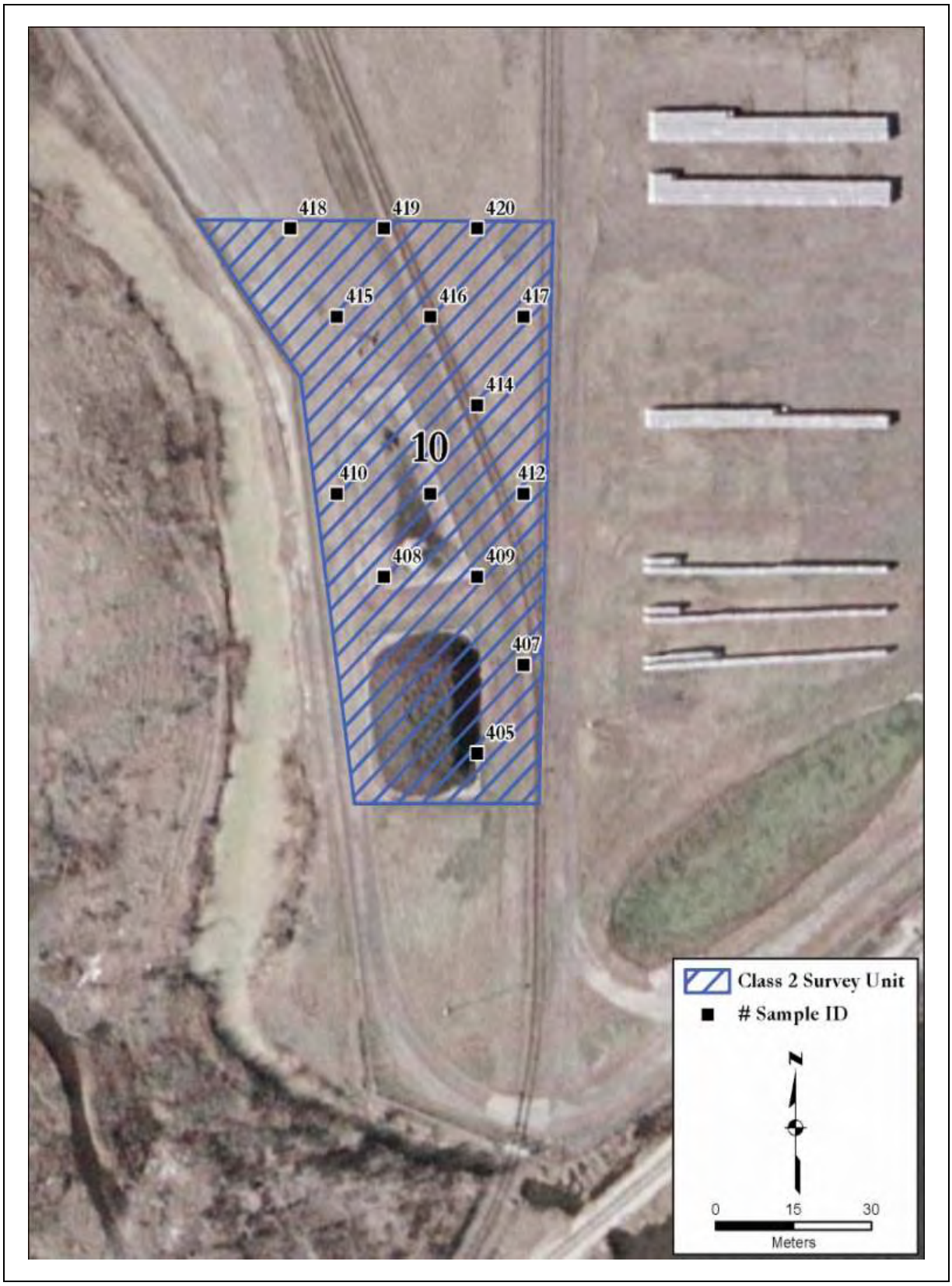


Figure A-57: Survey Unit C2 SU10—FSS Soil Sampling Locations

Figure A-58: Survey Unit C2 SU11—FSS Gamma Scan Results

Figure A-59: Survey Unit C2 SU11—FSS Soil Sampling Locations

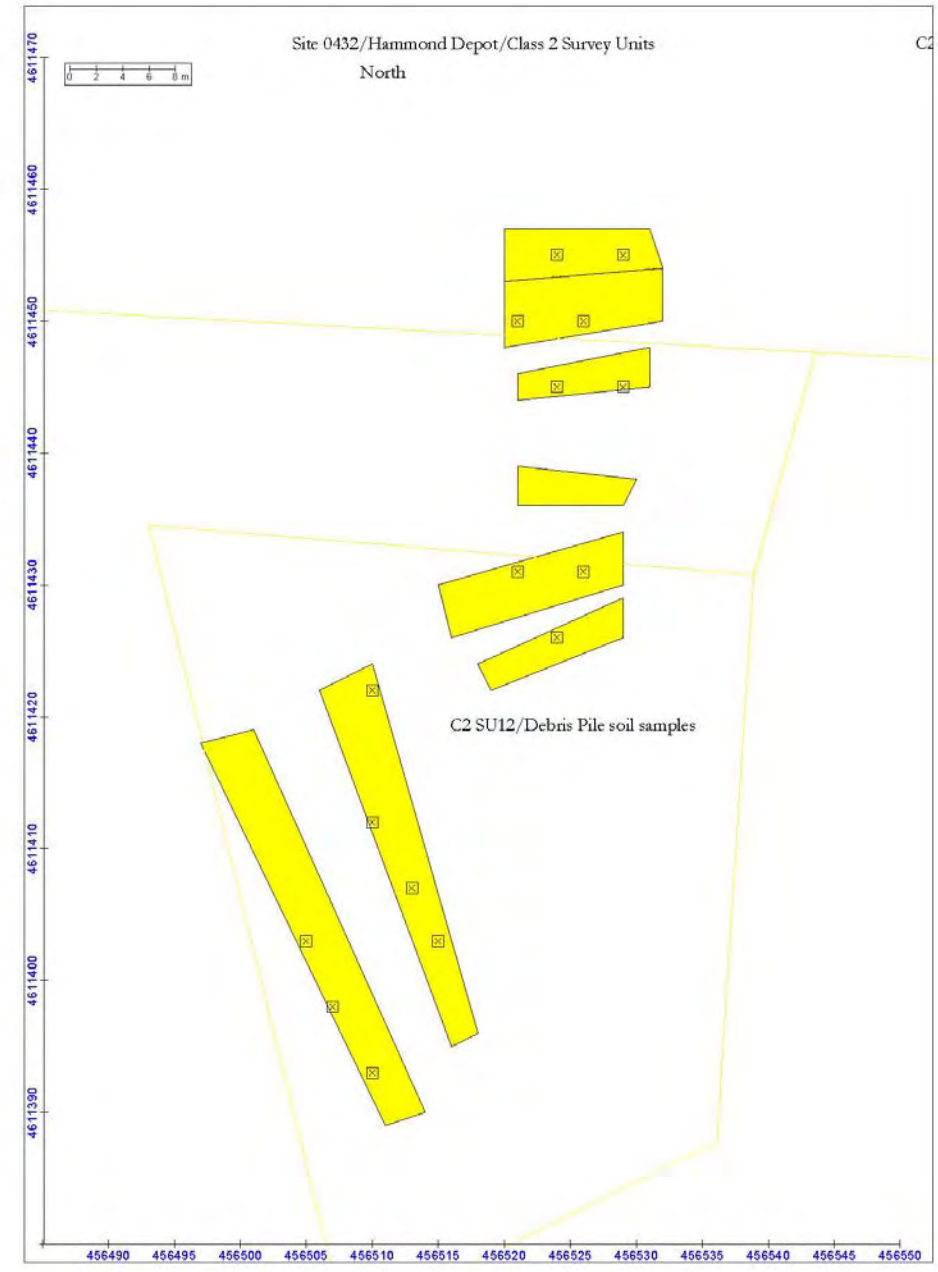


Figure A-60: Survey Unit C2 SU12—FSS Soil Sampling Locations

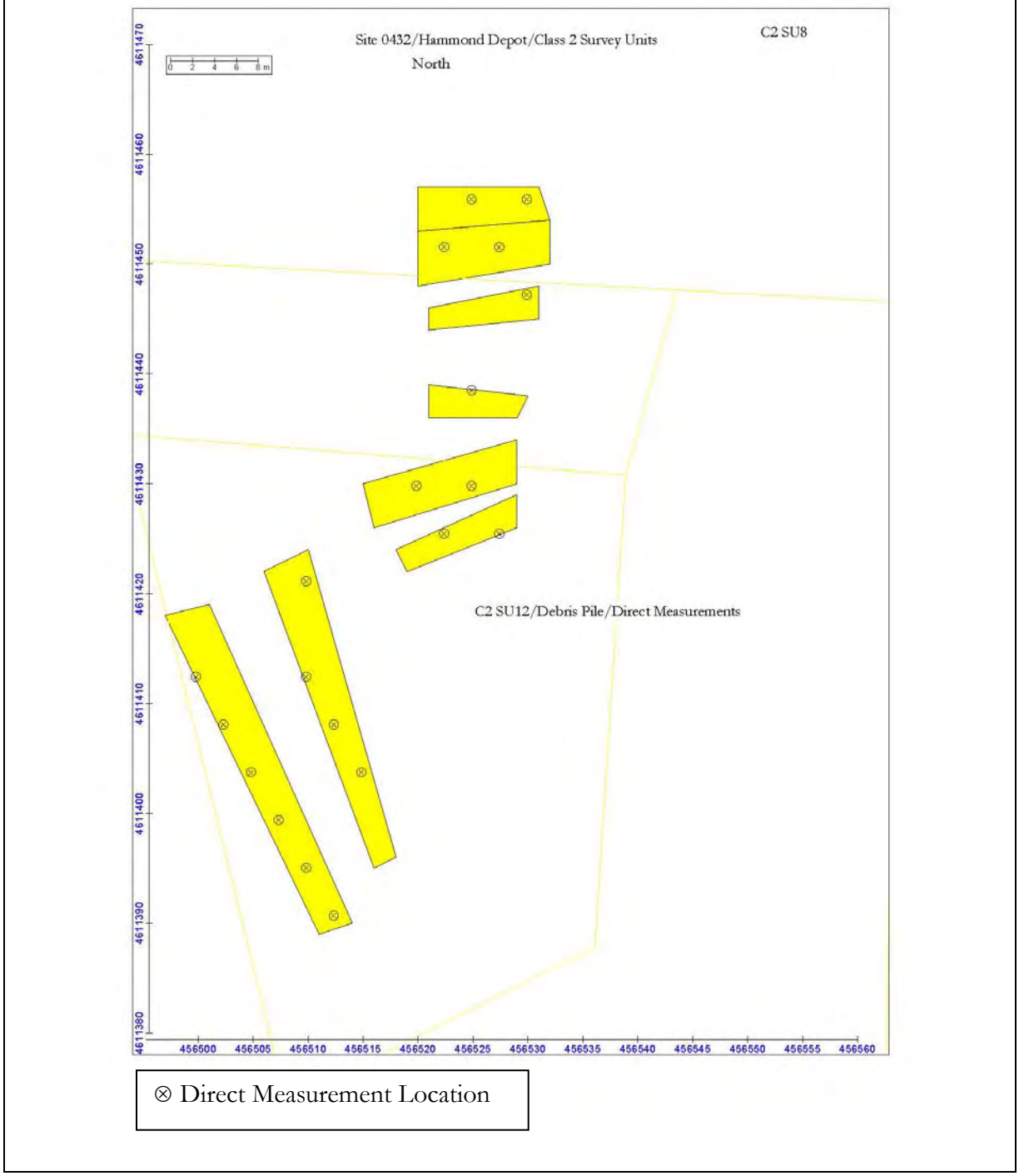


Figure A-61: Survey Unit C2 SU12, Debris Pile—FSS Direct Measurement Locations

Figure A-62: Survey Unit C3 SU1—FSS Gamma Scan Results

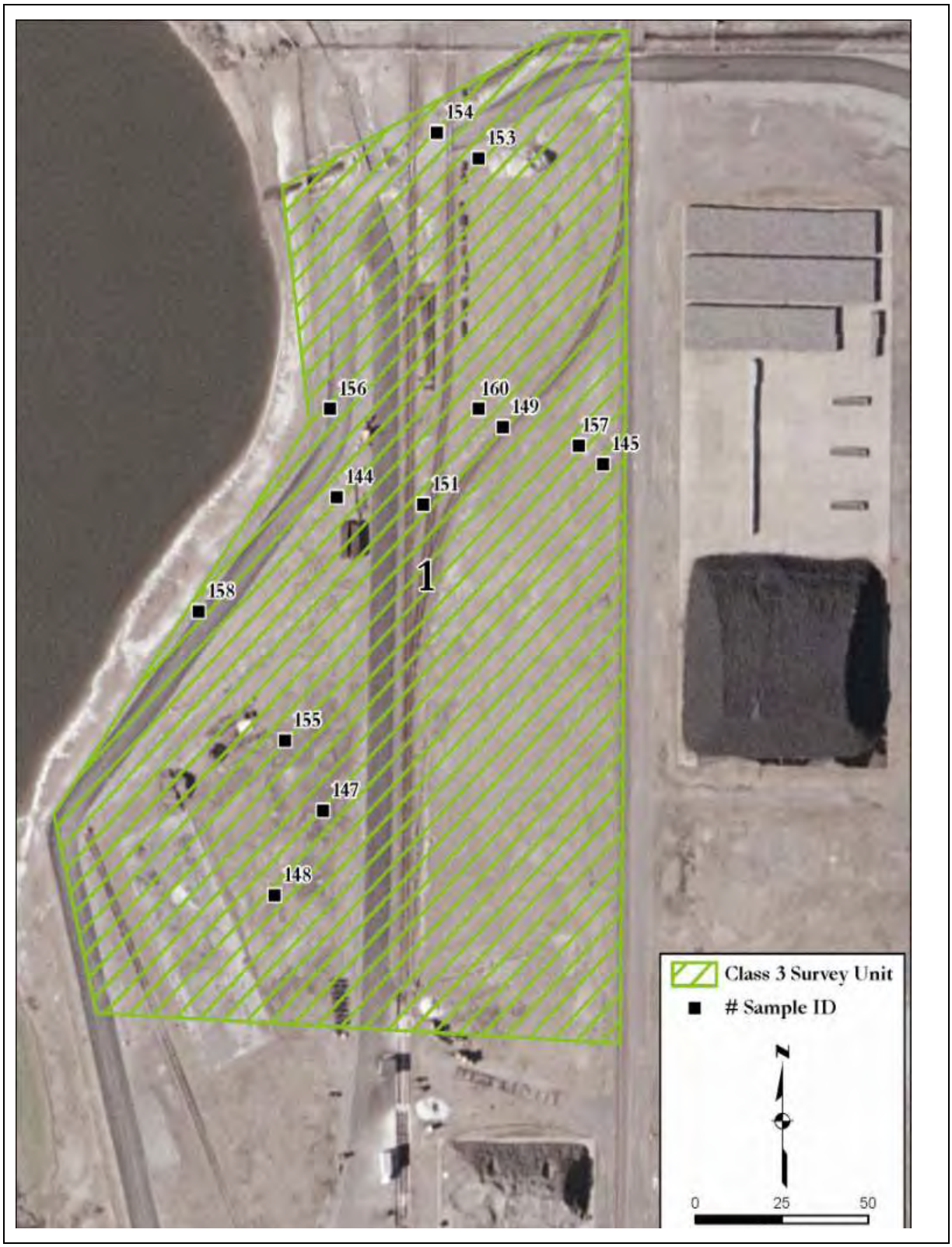


Figure A-63: Survey Unit C3 SU1—FSS Soil Sampling Locations

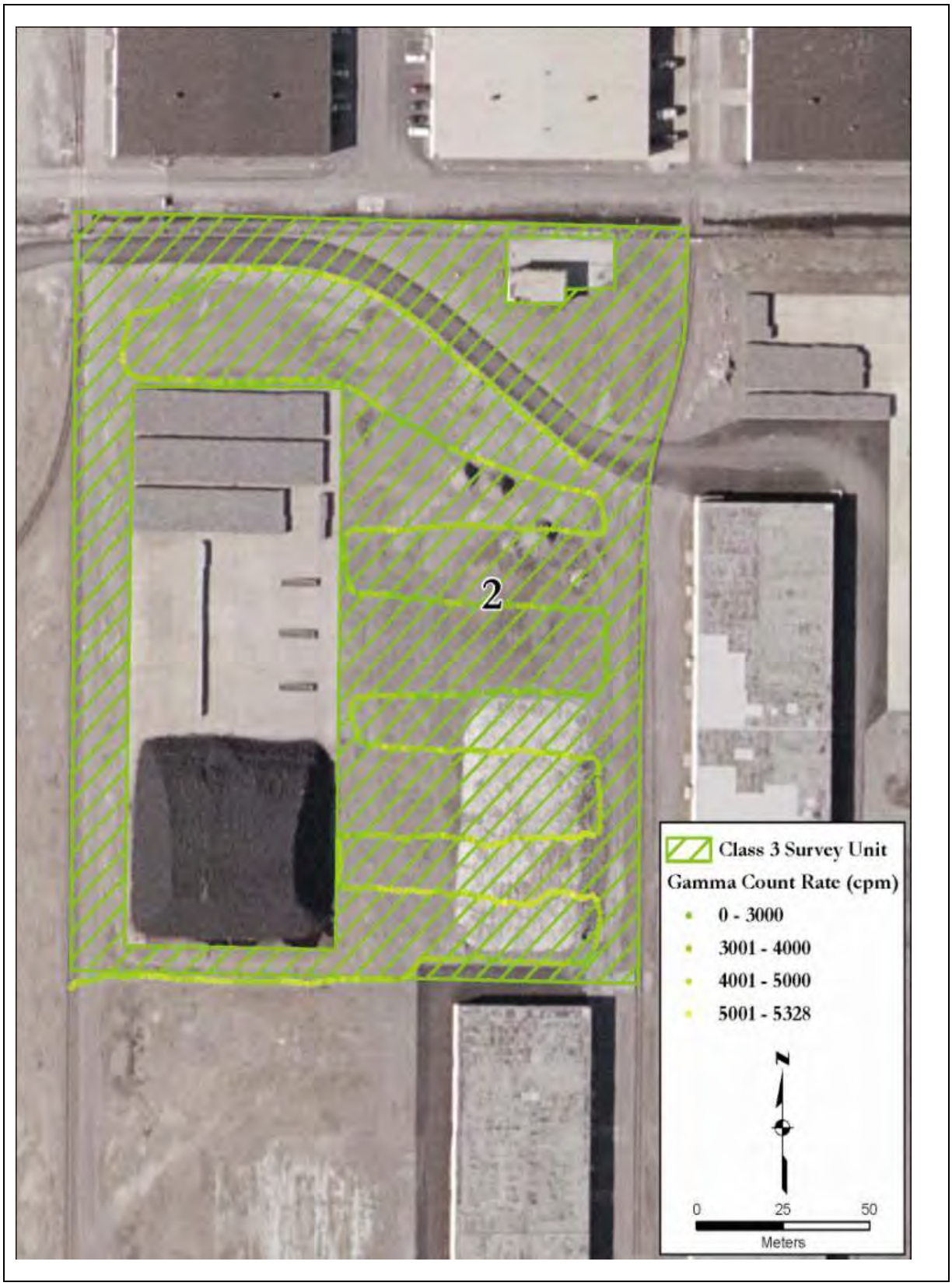


Figure A-64: Survey Unit C3 SU2—FSS Gamma Scan Results

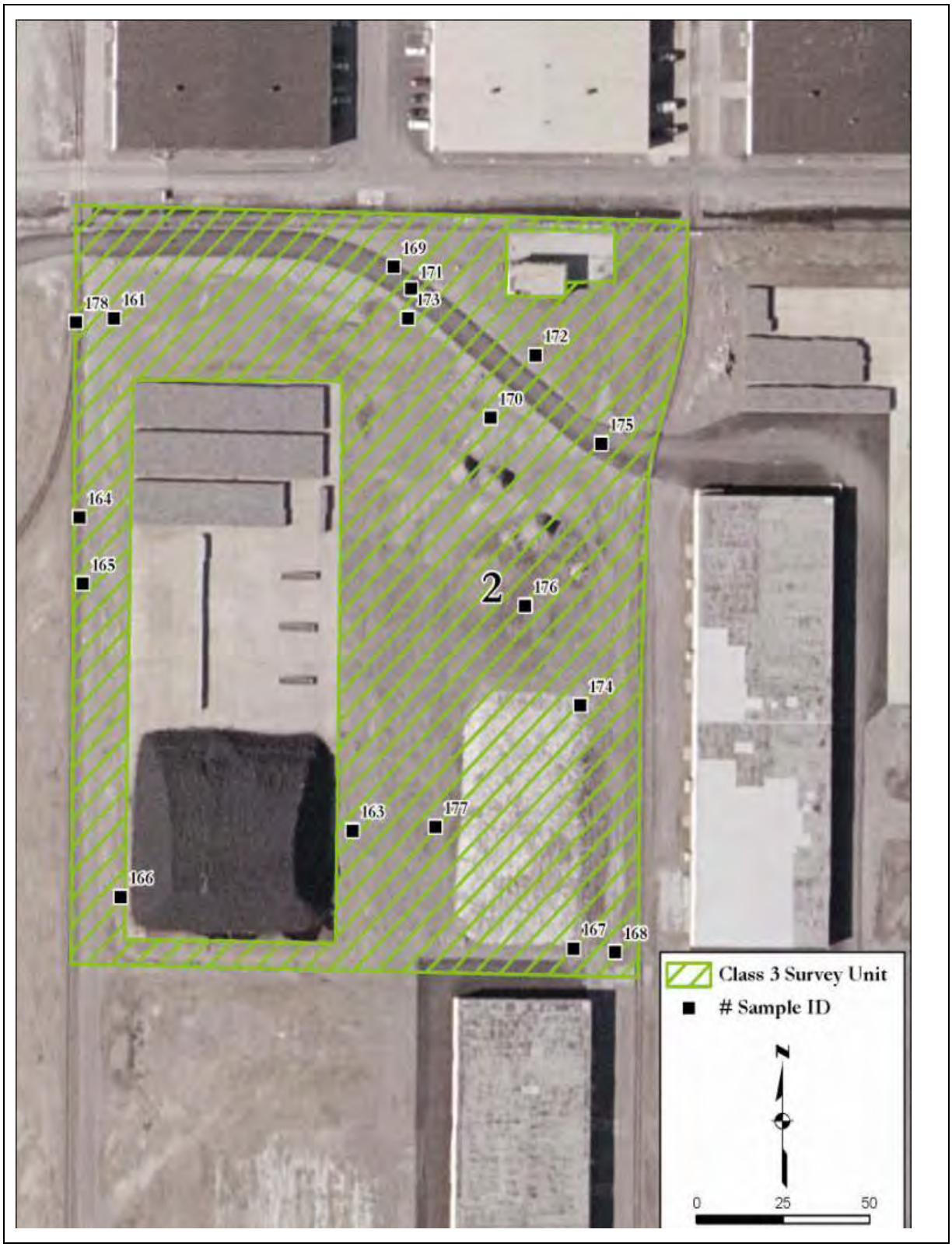


Figure A-65: Survey Unit C3 SU2—FSS Soil Sampling Locations

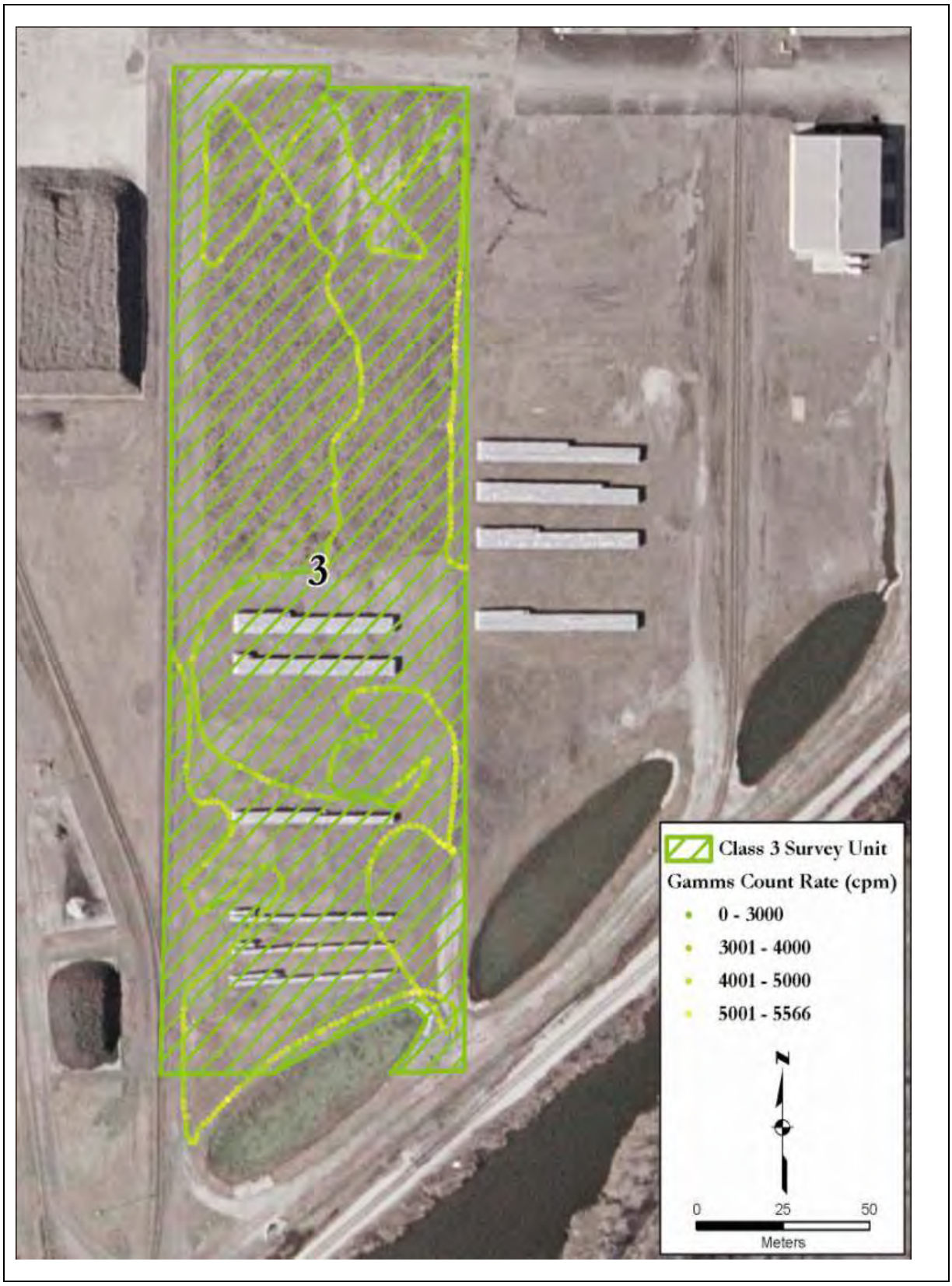


Figure A-66: Survey Unit C3 SU1—FSS Gamma Scan Results

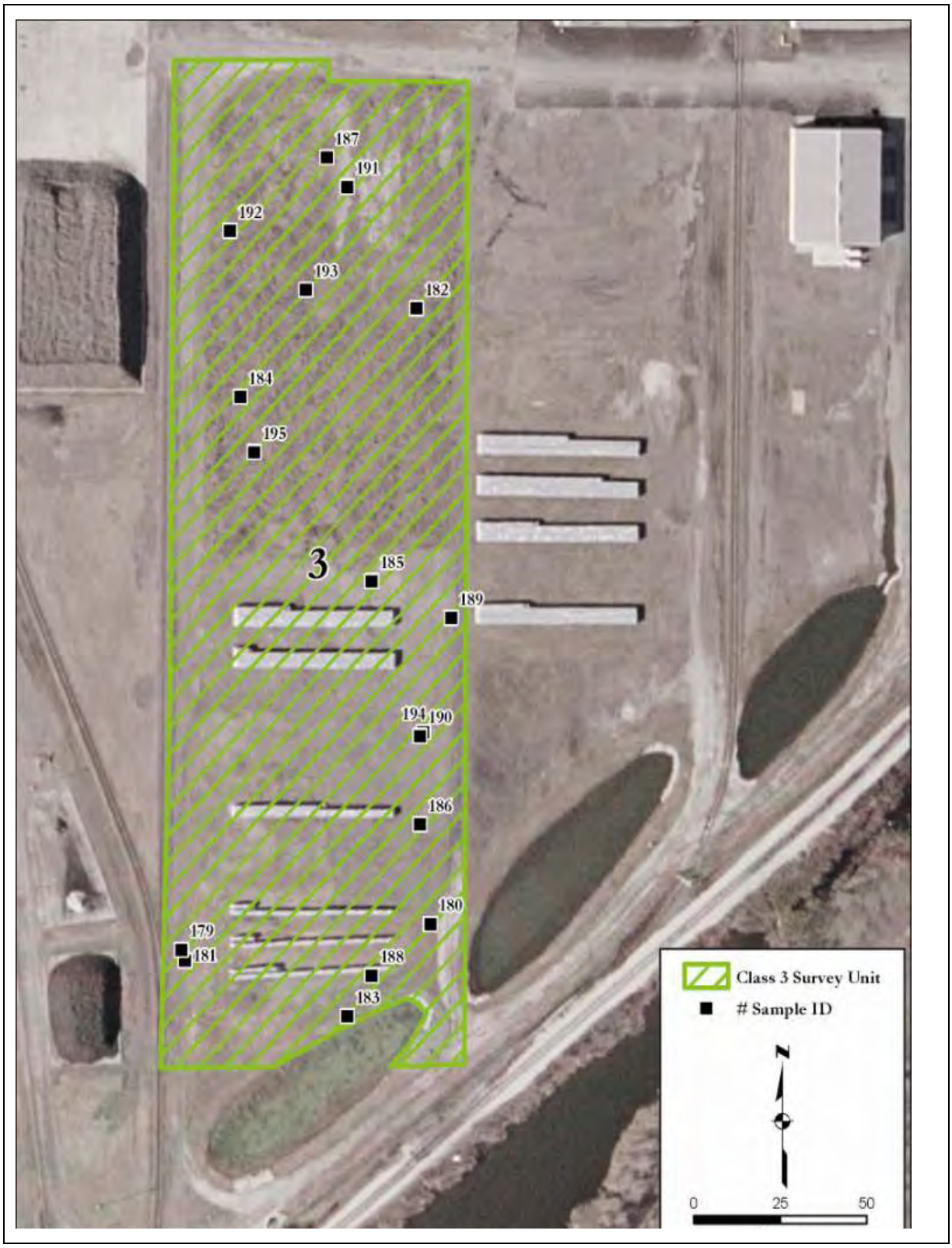


Figure A-67: Survey Unit C3 SU3—FSS Soil Sampling Locations

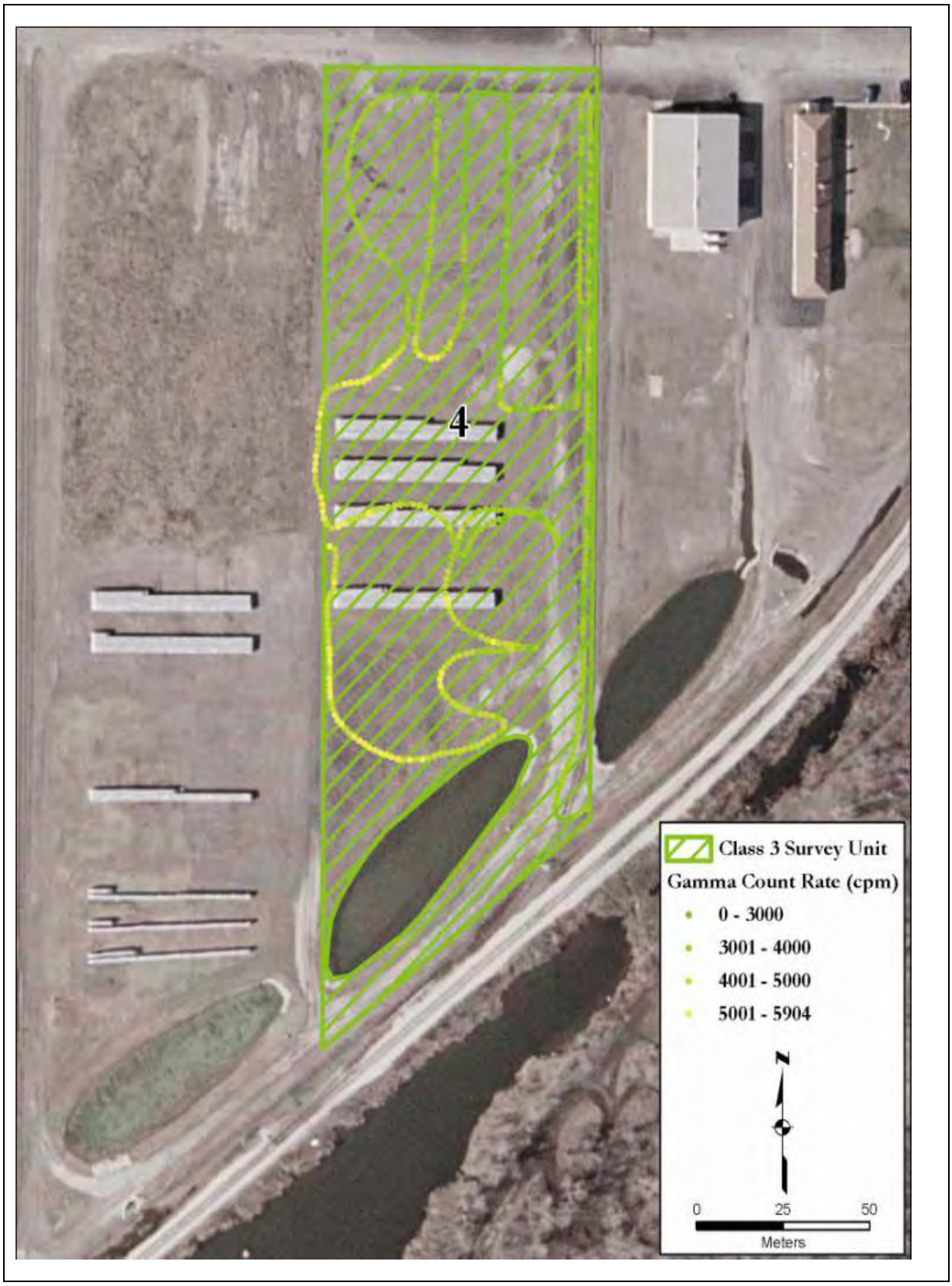


Figure A-68: Survey Unit C3 SU4—FSS Gamma Scan Results

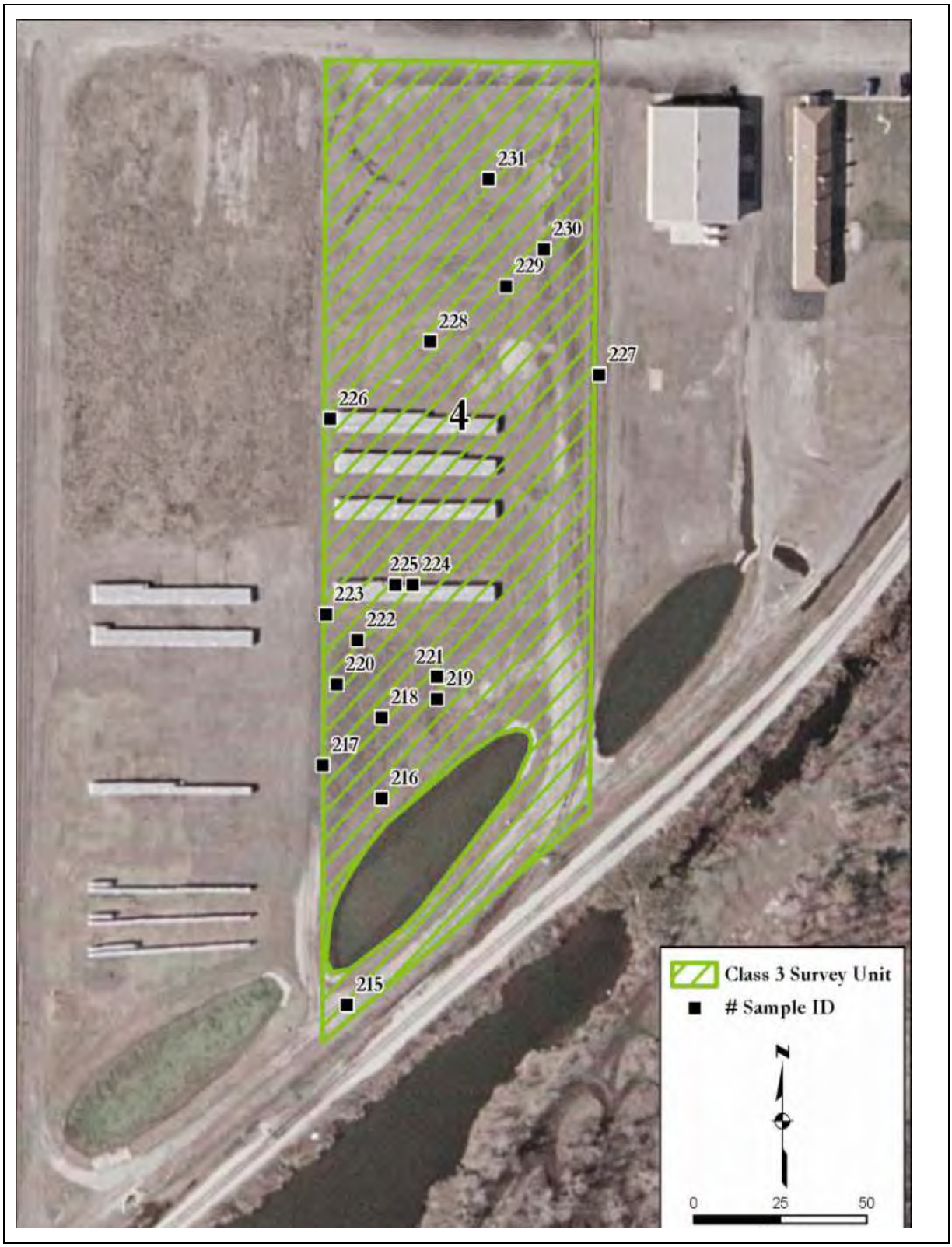


Figure A-69: Survey Unit C3 SU4—FSS Soil Sampling Locations

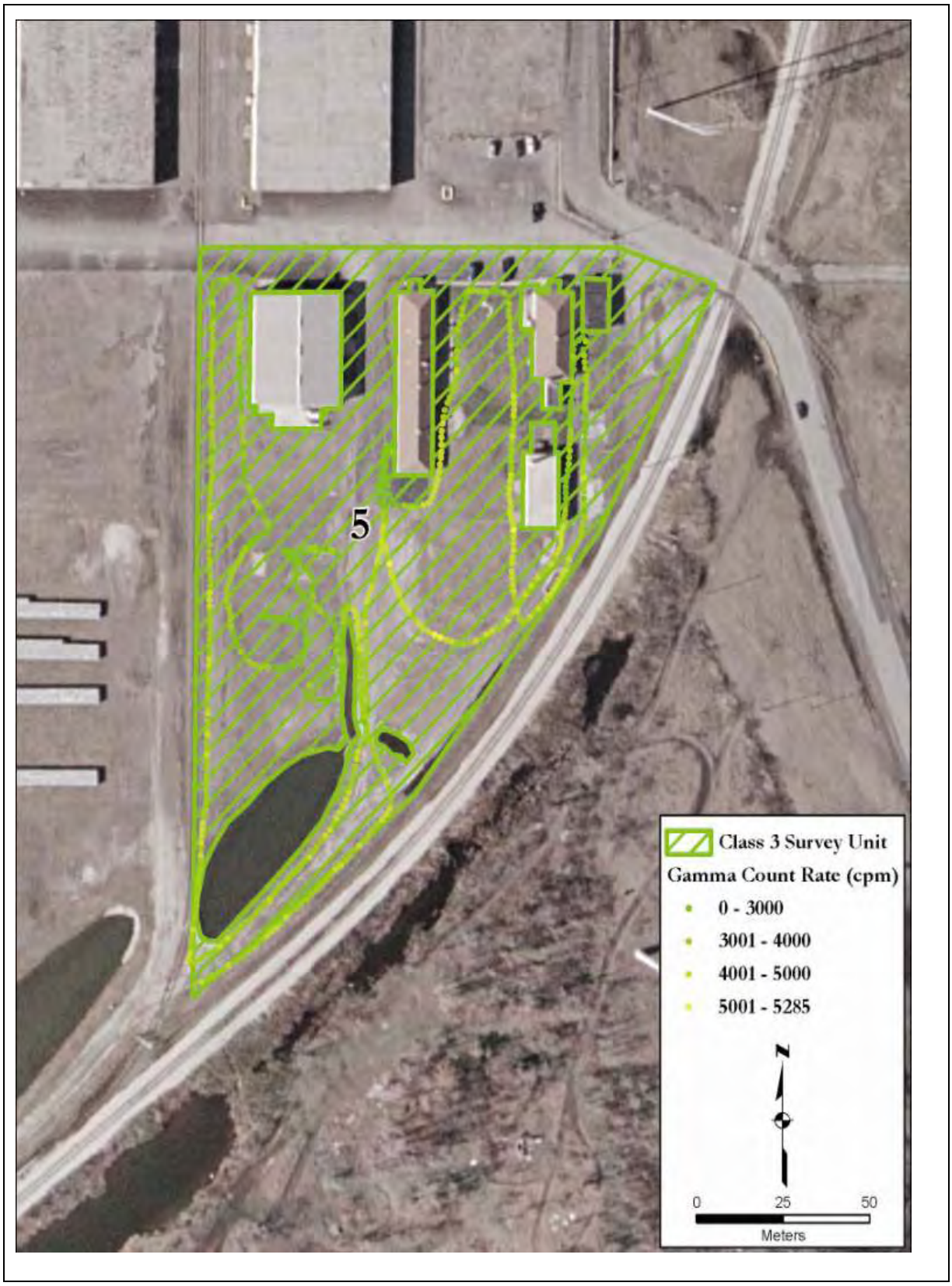


Figure A-70: Survey Unit C3 SU5—FSS Gamma Scan Results

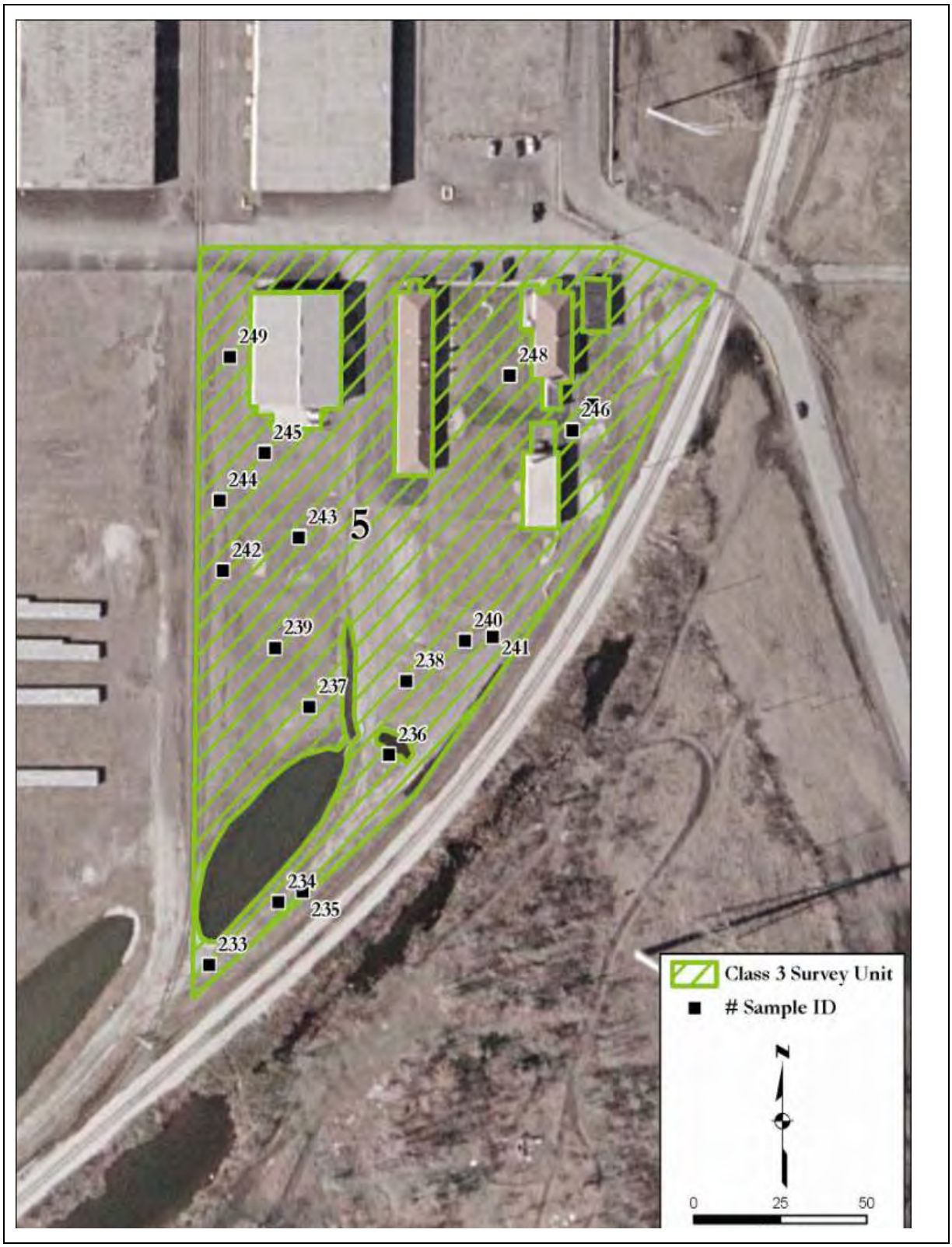


Figure A-71: Survey Unit C3 SU5—FSS Soil Sampling Locations

APPENDIX B: TABLES

Table B-1: Survey Unit Descriptions and Results Hammond Depot Hammond, Indiana							
Class and Survey Unit	**Class**	**Unit Area**	**Remarks**	**DQO complete**	**FSS complete**	**DQA Complete**	**Remarks**
Class 1 Survey Units (C1 SU#)							
C1 SU1	1	2,271 m^2	AOC 4	Yes	FSS Completed	Yes	**Pass**
C1 SU2	1	468 m^2	AOC 1	Yes	FSS Completed	Yes	**Pass**
C1 SU2.1	1	184 m^2	AOC 1	Yes	FSS Completed	Yes	**Pass**
C1 SU2.2	1	208 m^2	AOC 1	Yes	FSS Completed	Yes	**Pass**
C1 SU2.3	1	185 m^2	AOC 1	Yes	FSS Completed	Yes	**Pass**
C1 SU2.4	1	183 m^2	AOC 1	Yes	FSS Completed	Yes	**Pass**
C1 SU2.5	1	108 m^2	AOC 2	Yes	FSS Completed	Yes	**Pass**
C1 SU2.6	1	163 m^2	AOC 3	Yes	FSS Completed	Yes	**Pass**
C1 SU2.7	1	153 m^2	AOC 4	Yes	FSS Completed	Yes	**Pass**
C1 SU3	1	502 m^2	AOC 2 and 3	Yes	FSS Completed	Yes	**Pass**
C1 SU3.1	1	194 m^2	AOC 2 and 3	Yes	FSS Completed	Yes	**Pass**
C1 SU3.2	1	193 m^2	AOC 2 and 3	Yes	FSS Completed	Yes	**Pass**
C1 SU3.3	1	210 m^2	AOC 2 and 3	Yes	FSS Completed	Yes	**Pass**
C1 SU3.4	1	200 m^2	AOC 2 and 3	Yes	FSS Completed	Yes	**Pass**
C1 SU3.5	1	195 m^2	AOC 2 and 3	Yes	FSS Completed	Yes	**Pass**
C1 SU3.6	1	214 m^2	AOC 2 and 3	Yes	FSS Completed	Yes	**Pass**
C1 SU3.7	1	200 m^2	AOC 2 and 3	Yes	FSS Completed	Yes	**Pass**
C1 SU4	1	2,115 m^2	AOC 7	Yes	FSS Completed	Yes	**Pass**
C1 SU5	1	527 m^2	AOC 2 and 3	Yes	FSS Completed	Yes	**Pass**
C1 SU5.1	1	179 m^2	AOC 2 and 3	Yes	FSS Completed	Yes	**Pass**

Table B-1 (cont.): Survey Unit Descriptions and Results Hammond Depot Hammond, Indiana							
Class and Survey Unit	**Class**	**Unit Area**	**Remarks**	**DQO complete**	**FSS complete**	**DQA Complete**	**Remarks**
C1 SU5.2	1	196 m^2	AOC 2 and 3	Yes	FSS Completed	Yes	**Pass**
C1 SU5.3	1	207 m^2	AOC 2 and 3	Yes	FSS Completed	Yes	**Pass**
C1 SU5.4	1	197 m^2	AOC 2 and 3	Yes	FSS Completed	Yes	**Pass**
C1 SU5.5	1	205 m^2	AOC 2 and 3	Yes	FSS Completed	Yes	**Pass**
C1 SU5.6	1	232 m^2	AOC 2 and 3	Yes	FSS Completed	Yes	**Pass**
C1 SU5.7	1	172 m^2	AOC 2 and 3	Yes	FSS Completed	Yes	**Pass**
C1 SU5.8	1	144 m^2	AOC 2 and 3	Yes	FSS Completed	Yes	**Pass**
C1 SU6	1	2,513 m^2	AOC 6	Yes	FSS Completed	Yes	**Pass**
C1 SU7	1	1,575 m^2	AOC 5	Yes	FSS Completed	Yes	**Pass**
Class 2 Survey Units (C2 SU#)							
C2 SU1	2	11,489 m^2	Land Area	Yes	FSS Completed	Yes	**Pass**
C2 SU2	2	6,476 m^2	Land Area	Yes	FSS Completed	Yes	**Pass**
C2 SU3	2	8,947 m^2	Land Area	Yes	FSS Completed	Yes	**Pass**
C2 SU4	2	5,864 m^2	Land Area	Yes	FSS Completed	Yes	**Pass**
C2 SU5	2	8,522 m^2	Land Area	Yes	FSS Completed	Yes	**Pass**
C2 SU6	2	6,970 m^2	Land Area	Yes	FSS Completed	Yes	**Pass**
C2 SU7	2	4,559 m^2	Land Area	Yes	FSS Completed	Yes	**Pass**
C2 SU8	2	10,301 m^2	Land Area	Yes	FSS Completed	Yes	**Pass**
C2 SU9	2	5,893 m^2	Land Area	Yes	FSS Completed	Yes	**Pass**
C2 SU10	2	4,974 m^2	Land Area	Yes	FSS Completed	Yes	**Pass**
C2 SU11	2	3,289 m^2	Land Area	Yes	FSS Completed	Yes	**Pass**
C2 SU12 (soil)	2	437 m^2	Debris Pile	Yes	FSS Completed	Yes	**Pass**

Table B-1 (cont.): Survey Unit Descriptions and Results Hammond Depot Hammond, Indiana							
Class and Survey Unit	**Class**	**Unit Area**	**Remarks**	**DQO complete**	**FSS complete**	**DQA Complete**	**Remarks**
C2 SU12 (solid debris)	2	437 m^2	Debris Pile	Yes	FSS Completed	Yes. Investigation Completed/See Table B-4	**Pass**
Class 3 Survey Units (C3 SU#)							
C3 SU1	3	30,338 m^2	Land Area	Yes	FSS Completed	Yes	**Pass**
C3 SU2	3	34,296 m^2	Land Area	Yes	FSS Completed	Yes	**Pass**
C3 SU3	3	23,844 m^2	Land Area	Yes	FSS Completed	Yes	**Pass**
C3 SU4	3	17,561 m^2	Land Area	Yes	FSS Completed	Yes	**Pass**
C3 SU5	3	19,216 m^2	Land Area	Yes	FSS Completed	Yes	**Pass**
Structures With Class 1 Survey Units							
Building 200E South							
C1 SU1	1	100 m^2	Floor	Yes	FSS Completed	Yes	**Pass**
C1 SU2	1	100 m^2	Floor	Yes	FSS Completed	Yes	**Pass**
C1 SU3	1	100 m^2	Floor	Yes	FSS Completed	Yes	**Pass**
C1 SU4	1	150 m^2	Floor	Yes	FSS Completed	Yes	**Pass**
C1 SU5	1	100 m^2	Floor	Yes	FSS Completed	Yes	**Pass**
C1 SU6	1	100 m^2	Floor	Yes	FSS Completed	Yes	**Pass**
C1 SU7	1	100 m^2	Floor	Yes	FSS Completed	Yes	**Pass**
C1 SU8	1	100 m^2	Floor	Yes	FSS Completed	Yes	**Pass**
C1 SU9	1	100 m^2	Floor	Yes	FSS Completed	Yes	**Pass**
C1 SU10	1	100 m^2	Floor	Yes	FSS Completed	Yes	**Pass**
C1 SU11	1	150 m^2	Floor	Yes	FSS Completed	Yes	**Pass**
C1 SU12	1	100 m^2	Floor	Yes	FSS Completed	Yes	**Pass**
C1 SU13	1	100 m^2	Floor	Yes	FSS Completed	Yes	**Pass**
C1 SU14	1	100 m^2	Floor	Yes	FSS Completed	Yes	**Pass**

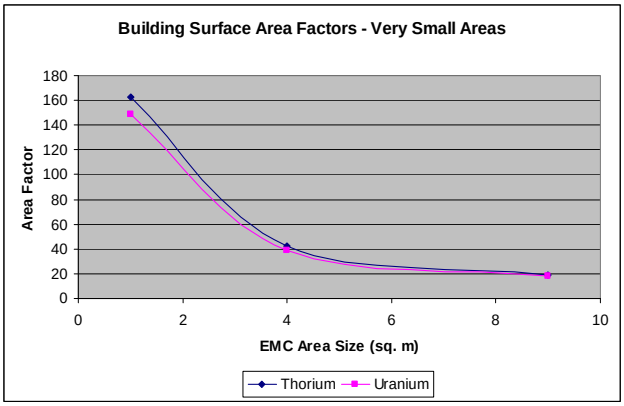
Table B-1 (cont.): Survey Unit Descriptions and Results Hammond Depot Hammond, Indiana							
Class and Survey Unit	**Class**	**Unit Area**	**Remarks**	**DQO complete**	**FSS complete**	**DQA Complete**	**Remarks**
C1 SU15	1	100 m^2	Floor	Yes	FSS Completed	Yes	**Pass**
C1 SU16	1	100 m^2	Floor	Yes	FSS Completed	Yes	**Pass**
C1 SU17	1	100 m^2	Floor	Yes	FSS Completed	Yes	**Pass**
C1 SU18	1	150m^2	Floor	Yes	FSS Completed	Yes	**Pass**
C1 SU19	1	100 m^2	Floor	Yes	FSS Completed	Yes	**Pass**
C1 SU20	1	100 m^2	Floor	Yes	FSS Completed	Yes	**Pass**
C1 SU21	1	100 m^2	Floor	Yes	FSS Completed	Yes	**Pass**
C1 SU22	1	33 m^2	Bay 10, Sect. 5 N. Wall	Yes	FSS Completed	Yes	**Pass**
C1 SU23	1	50 m^2	Bay 4, 5 W. Wall	Yes	FSS Completed	Yes	**Pass**
C1 SU24	1	125 m^2	Overheads	Yes	FSS Completed	Yes	**Pass**
C1 SU25	1	125 m^2	Overheads	Yes	FSS Completed	Yes	**Pass**
C1 SU26	1	125 m^2	Overheads	Yes	FSS Completed	Yes	**Pass**
C1 SU27	1	125 m^2	Overheads	Yes	FSS Completed	Yes. Investigation Completed/See Table B-4	**Pass**
C1 SU28	1	125 m^2	Overheads	Yes	FSS Completed	Yes. Investigation Completed/See Table B-4	**Pass**
C1 SU29	1	125 m^2	Overheads	Yes	FSS Completed	Yes. Investigation Completed/See Table B-4	**Pass**
C1 SU30	1	125 m^2	Overheads	Yes	FSS Completed	Yes. Investigation Completed/See Table B-4	**Pass**

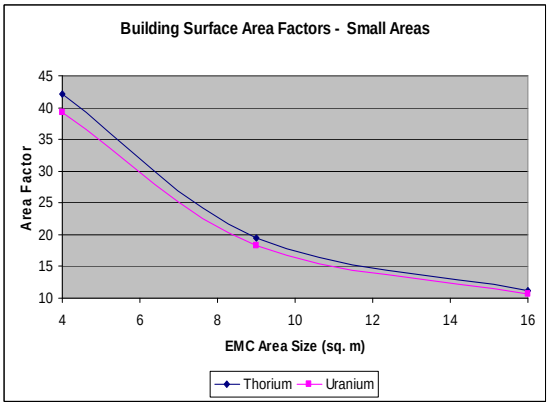
Table B-1 (cont.): Survey Unit Descriptions and Results Hammond Depot Hammond, Indiana							
Class and Survey Unit	**Class**	**Unit Area**	**Remarks**	**DQO complete**	**FSS complete**	**DQA Complete**	**Remarks**
C1 SU31	1	125 m^2	Overheads	Yes	FSS Completed	Yes. Investigation Completed/See Table B-4	**Pass**
C1 SU32	1	125 m^2	Overheads	Yes	FSS Completed	Yes. Investigation Completed/See Table B-4	**Pass**
C1 SU33	1	72 m^2	Columns 1 through 20	Yes	FSS Completed	Yes	**Pass**
C1 SU34	1	72 m^2	Columns 21 through 40	Yes	FSS Completed	Yes	**Pass**
C1 SU35	2	545 m^2	Overheads, Bays 1-2.5	Yes	FSS Completed	Yes	**Pass**
C1 SU36	2	545 m^2	Overheads, Bays 2.5-5	Yes	FSS Completed	Yes	**Pass**
C2 SU56	2	251 m^2	S. Wall and W. Wall Bays 1-3	Yes	FSS Completed	Yes	**Pass**
C2 SU57	2	266 m^2	W. Wall Bay 6-10 and N. Wall Sections 1-4	Yes	FSS Completed	Yes	**Pass**
C2 SU58	2	281 m^2	East Wall	Yes	FSS Completed	Yes	**Pass**
Building 200E North							
C2 SU37	2	1,173 m^2	Floor	Yes	FSS Completed	Yes	**Pass**
C2 SU38	2	1,173 m^2	Floor	Yes	FSS Completed	Yes	**Pass**
C3 SU39	3	901 m^2	Walls	Yes	FSS Completed	Yes	**Pass**
C3 SU40	3	2,350 m^2	Ceiling,	Yes	FSS Completed	Yes	**Pass**
C1 SU41	1	12 m^2	Closet	Yes	FSS Completed	Yes	**Pass**
C2 SU42	2	64 m^2	Locker Room F/LW	Yes	FSS Completed	Yes	**Pass**
Building 100E							
C1 SU43	1	94 m^2	Floor, Bay 16	Yes	FSS Completed	Yes. Investigation Completed/See Table B-4	**Pass**

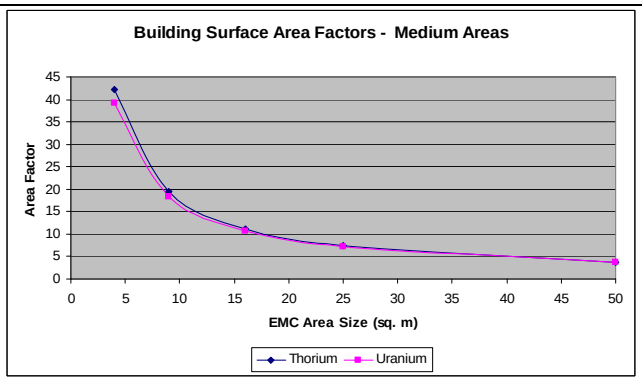
Table B-1 (cont.): Survey Unit Descriptions and Results Hammond Depot Hammond, Indiana							
Class and Survey Unit	**Class**	**Unit Area**	**Remarks**	**DQO complete**	**FSS complete**	**DQA Complete**	**Remarks**
C1 SU44	1	94 m^2	Floor, Bay 17	Yes	FSS Completed	Yes. Investigation Completed/See Table B-4	**Pass**
C1 SU59	1	93 m^2	Monazite floor	Yes	FSS Completed	Yes	**Pass**
C2 SU45	2	1,090 m^2	Floor, Bays 15-20	Yes	FSS Completed	Yes	**Pass**
C2 SU46	2	663 m^2	Walls, Bays 15-20	Yes	FSS Completed	Yes	**Pass**
C3 SU47	3	1,278 m2	Ceiling, Bays 15-20	Yes	FSS Completed	Yes	**Pass**
C3 SU48	3	7,400 m^2	All Surfaces, Bays 1-14	Yes	FSS Completed	Yes	**Pass**
C2 SU60	2	93 m^2	W. side of C1 SU59 floor	Yes	FSS Completed	Yes	**Pass**
C2 SU61	2	46 m^2	E. Side of C1 SU59 floor	Yes	FSS Completed	Yes	**Pass**
Building 100W							
C2 SU 49	2	1,750 m^2	Floor, Bays 7-17	Yes	FSS Completed	Yes	**Pass**
C2 SU 50	2	2,100 m^2	Floor and Walls, Bays 1-10	Yes	FSS Completed	Yes	**Pass**
C2 SU 51	2	2,100 m^2	Floor and Walls, Bays 11-20	Yes	FSS Completed	Yes	**Pass**
C3 SU 52	3	4,514 m^2	Ceiling	Yes	FSS Completed	Yes	**Pass**
Misc. Buildings							
C3 SU53	3	739 m^2	Garage	Yes	FSS Completed	Yes	**Pass**
C3 SU54	3	332 m^2	Workshop	Yes	FSS Completed	Yes	**Pass**
C3 SU55	3	366 m^2	Building exteriors	Yes	FSS Completed	Yes	**Pass**

Table B-2:
Structural Surface Area Factors

Building Area Factors	Area Size (square meters)							
	200	100	50	25	16	9	4	1
Thorium	1.00	1.96	3.82	7.40	11.24	19.41	42.15	162.56
Uranium	1.00	1.94	3.74	7.15	10.75	18.32	39.19	149.08







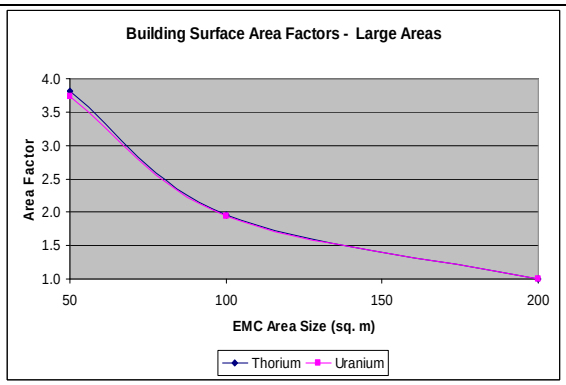
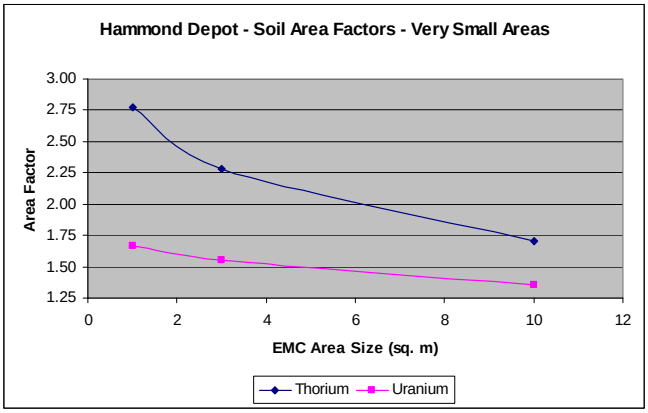
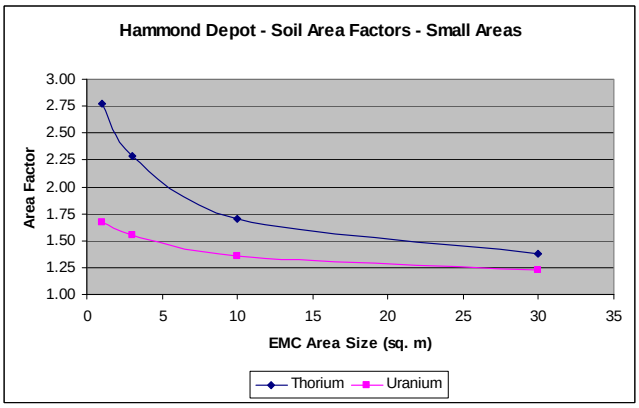
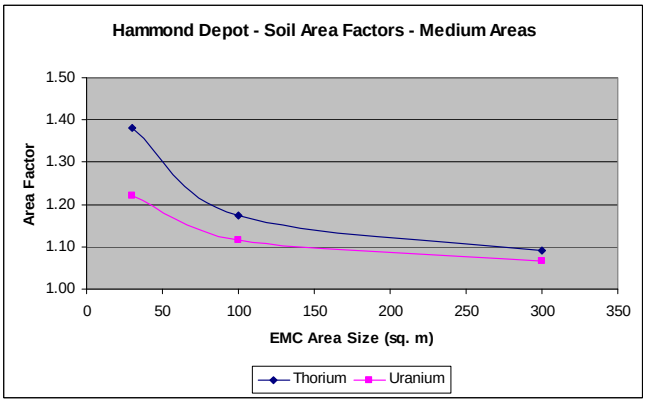


Table B-3:
Soil Area Factors

Soil Area Factors	Area Size (square meters)								
	10,000	3,000	1,000	300	100	30	10	3	1
Thorium	1.00	1.02	1.03	1.09	1.17	1.38	1.70	2.28	2.77
Uranium	1.00	1.01	1.02	1.07	1.11	1.22	1.36	1.55	1.67







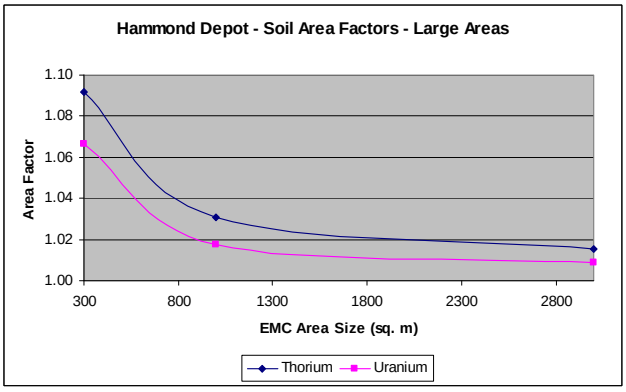


Table B-4: Investigation Results Hammond Depot Hammond, Indiana						
Survey Unit	**Class**	**Investigation Cause**	**Sample IDs**	**Initial Review**	**Further Investigation Required**	**Open/Closed Investigation**
Bldg. 100E C1 SU43 and 44	1	Elevated gamma activity detected. Monazite sand residue found on a pallet of tannin	NA	NA	Yes. Remediation of floor and expansion required, three contaminated pallets of tannin disposed of. Establishment of a new Class 1 SU and two bounding Class 2 SUs required. Surveys of tannin pallets required. 100% of accessible pallets were gamma scanned. No further contamination identified. Approximately 300 individual pallets were moved via fork lift and gamma scanned. No further contaminated pallets identified. Probable cause of contaminated pallets due to spill of monazite drum while moving between roll-up doors in Bay 15.	Closed
Bldg 200E SUs C2 SU30 and 31 changed to Class 1	2 to 1	Prior to FSS, additional characterization surveys identified several small areas of contamination on concrete following removal of asphalt overlayment.	NA	NA	No.	Closed
C2 SU12 Debris Piles (solid debris)	2	One direct measurement on a brick exceeded DCGL of 400 dpm/100 cm2	NA		Yes. Brick was relocated and identified as a common, yellow firebrick from furnaces used in the steel industry. These firebricks contain naturally occurring elevated levels of thorium and uranium. A recount of the brick was 693 cpm.	Closed

Table B-4 (cont.): Investigation Results Hammond Depot Hammond, Indiana						
Survey Unit	**Class**	**Investigation Cause**	**Sample IDs**	**Initial Review**	**Further Investigation Required**	**Open/Closed Investigation**
C1 SU34	1	Contamination found on column 22 during FSS	NA	NA	Yes. World Environmental notified and decon of two small spots performed.	Closed
C1 SU14	1	Low-level contamination found at systematic measurement location	NA	NA	Yes. World Environmental notified and decontamination of one small spot performed.	Closed
C1 SU18	1	Low level contamination found at systematic measurement location	NA	NA	Yes. World Environmental notified and decontamination of one small spot performed.	Closed
C1 SU27-32	1	Low level contamination found during FSS scans in truss supports	NA	NA	Yes. World Environmental notified and all truss supports in northern 1/3 were decontaminated.	Closed

Table B-5: FSS Structural Survey Units and Surface Activity Levels Hammond Depot Hammond, Indiana			
Building/ Survey Unit ID/ Surface	**Location (X, Y/, Z or Smear ID)[a]**	**Counts per Minute**	**Total Beta Activity dpm/100 cm^2**
Building 200E (south)			
C1 SU1			
Floor	1.2, 2.2	530	110
Floor	4.1, 2.2	453	-40
Floor	6.9, 2.2	517	87
Floor	9.8, 2.2	481	16
Floor	2.6, 4.7	509	71
Floor	5.5, 4.7	476	6
Floor	8.4, 4.7	458	-30
Floor	1.2, 7.2	477	8
Floor	4.1, 7.2	470	-6
Floor	6.9, 7.2	481	16
Floor	9.8, 7.2	461	-24
Floor	2.6, 9.7	491	36
Floor	5.5, 9.7	476	6
Floor	8.4, 9.7	487	28
C1 SU2			
Floor	12.4, 2.1	458	-30
Floor	15.2, 2.1	418	-110
Floor	18.1, 2.1	462	-22
Floor	10.9, 4.6	493	40
Floor	13.8, 4.6	476	6
Floor	16.7, 4.6	468	-10
Floor	19.6, 4.6	493	40
Floor	12.4, 7.1	508	69
Floor	15.2, 7.1	475	4
Floor	18.1, 7.1	491	36
Floor	10.9, 9.5	461	-24
Floor	13.8, 9.5	482	18
Floor	16.7, 9.5	525	100
Floor	19.6, 9.5	474	2
C1 SU3			
Floor	21.2, 1.4	429	-87
Floor	24.0, 1.4	442	-62
Floor	26.9, 1.4	450	-46
Floor	29.8, 1.4	465	-16
Floor	22.6, 3.9	485	24
Floor	25.5, 3.9	459	-28
Floor	28.3, 3.9	449	-48

Table B-5 (cont.): FSS Structural Survey Units and Surface Activity Levels Hammond Depot Hammond, Indiana			
Building/ Survey Unit ID/ Surface	**Location (X, Y/, Z or Smear ID)[a]**	**Counts per Minute**	**Total Beta Activity dpm/100 cm^2**
C1 SU3 (cont.)			
Floor	21.2, 6.4	509	71
Floor	24.0, 6.4	405	-130
Floor	26.9, 6.4	405	-130
Floor	29.8, 6.4	476	6
Floor	22.6, 8.8	412	-120
Floor	25.5, 8.8	462	-22
Floor	28.3, 8.8	468	-10
C1 SU4			
Floor	31.0, 0.7	410	-120
Floor	34.5, 0.7	434	-77
Floor	32.8, 3.7	458	-30
Floor	36.3, 3.7	421	-100
Floor	31.0, 6.8	501	56
Floor	34.5, 6.8	409	-130
Floor	32.8, 9.8	445	-56
Floor	36.3, 9.8	443	-60
Floor	31.0, 12.9	409	-130
Floor	34.5, 12.9	414	-120
Floor	32.8, 15.9	471	-4
Floor	36.3, 15.9	471	-4
Floor	31.0, 19.0	422	-100
Floor	34.5, 19.0	429	-87
Driveway	39.9, 15.9	302	-69
C1 SU5			
Floor	2.1, 12.2	464	-18
Floor	5.0, 12.2	451	-44
Floor	7.8, 12.2	480	14
Floor	0.6, 14.7	461	-24
Floor	3.5, 14.7	485	24
Floor	6.4, 14.7	489	32
Floor	9.3, 14.7	439	-67
Floor	2.1, 17.2	537	130
Floor	5.0, 17.2	465	-16
Floor	7.8, 17.2	444	-58
Floor	0.6, 19.7	559	170
Floor	3.5, 19.7	466	-14
Floor	6.4, 19.7	496	46
Floor	9.3, 19.7	517	87
Driveway	-3.4, 14.7	378	81

Table B-5 (cont.): FSS Structural Survey Units and Surface Activity Levels Hammond Depot Hammond, Indiana			
Building/ Survey Unit ID/ Surface	**Location (X, Y/, Z or Smear ID)[a]**	**Counts per Minute**	**Total Beta Activity dpm/100 cm^2**
C1 SU6			
Floor	10.7, 11.3	486	26
Floor	13.5, 11.3	469	-8
Floor	16.4, 11.3	508	69
Floor	19.3, 11.3	494	42
Floor	12.1, 13.8	483	20
Floor	15.0, 13.8	475	4
Floor	17.8, 13.8	503	60
Floor	10.7, 16.3	483	20
Floor	13.5, 16.3	493	40
Floor	16.4, 16.3	492	38
Floor	19.3, 16.3	488	30
Floor	14.5, 11.2	448	-50
Floor	10.8, 15.8	428	-89
Floor	16.9, 16.1	407	-130
C1 SU7			
Floor	20.1, 12.3	449	-48
Floor	23.0, 12.3	430	-85
Floor	25.8, 12.3	493	40
Floor	28.7, 12.3	497	48
Floor	21.5, 14.7	475	4
Floor	24.4, 14.7	446	-54
Floor	27.3, 14.7	485	24
Floor	21.3, 16.4	426	-93
Floor	23.0, 17.2	457	-32
Floor	25.8, 17.2	479	12
Floor	28.7, 17.2	488	30
Floor	28.6, 19.1	493	40
Floor	24.4, 19.7	508	69
Floor	27.3, 19.7	510	73
C1 SU8			
Floor	1.0, 22.2	480	14
Floor	3.9, 22.2	444	-58
Floor	6.8, 22.2	478	10
Floor	9.7, 22.2	466	-14
Floor	2.5, 24.7	256	-430
Floor	5.4, 24.7	595	240
Floor	8.2, 24.7	384	-180
Floor	1.0, 27.2	437	-71
Floor	3.9, 27.2	538	130

Table B-5 (cont.): FSS Structural Survey Units and Surface Activity Levels Hammond Depot Hammond, Indiana			
Building/ Survey Unit ID/ Surface	**Location (X, Y/, Z or Smear ID)[a]**	**Counts per Minute**	**Total Beta Activity dpm/100 cm^2**
C1 SU8 (cont.)			
Floor	6.8, 27.2	433	-79
Floor	9.7, 27.2	454	-38
Floor	2.5, 29.7	376	-190
Floor	5.4, 29.7	356	-230
Floor	8.2, 29.7	583	220
C1 SU9			
Floor	10.1, 21.8	509	71
Floor	13.0, 21.8	535	120
Floor	15.9, 21.8	500	54
Floor	18.7, 21.8	511	75
Floor	11.6, 24.3	510	73
Floor	14.4, 24.3	476	6
Floor	17.3, 24.3	580	210
Floor	10.1, 26.8	534	120
Floor	13.0, 26.8	499	52
Floor	15.9, 26.8	534	120
Floor	18.7, 26.8	484	22
Floor	11.6, 29.2	534	120
Floor	14.4, 29.2	485	24
Floor	17.3, 29.2	485	24
C1 SU10			
Floor	21.3, 21.4	493	40
Floor	24.1, 21.4	578	210
Floor	27.0, 21.4	479	12
Floor	29.9, 21.4	456	-34
Floor	24.8, 25.0	526	110
Floor	25.6, 23.9	470	-6
Floor	28.4, 23.9	485	24
Floor	21.3, 26.4	489	32
Floor	24.1, 26.4	485	24
Floor	27.0, 26.4	486	26
Floor	29.9, 26.4	467	-12
Floor	22.7, 28.9	466	-14
Floor	25.6, 28.9	491	36
Floor	28.4, 28.9	451	-44
C1 SU11			
Floor	31.2, 20.0	406	-130
Floor	34.8, 20.0	478	10
Floor	33.0, 23.1	475	4

Table B-5 (cont.): FSS Structural Survey Units and Surface Activity Levels Hammond Depot Hammond, Indiana			
Building/ Survey Unit ID/ Surface	**Location (X, Y/, Z or Smear ID)[a]**	**Counts per Minute**	**Total Beta Activity dpm/100 cm^2**
C1 SU11 (cont.)			
Floor	36.5, 23.1	414	-120
Floor	31.2, 26.1	481	16
Floor	34.8, 26.1	503	60
Floor	33.0, 29.2	477	8
Floor	36.5, 29.2	410	-120
Floor	31.2, 32.2	471	-4
Floor	34.8, 32.2	500	54
Floor	33.0, 35.3	430	-85
Floor	36.5, 35.3	473	0
Floor	31.2, 38.3	452	-42
Floor	34.8, 38.3	425	-95
C1 SU12			
Floor	1.2, 31.5	435	-75
Floor	4.1, 31.5	514	81
Floor	7.0, 31.5	523	99
Floor	9.9, 31.5	462	-22
Floor	2.7, 34.0	492	38
Floor	5.5, 34.0	476	6
Floor	8.4, 34.0	522	97
Floor	1.2, 36.5	468	-10
Floor	4.1, 36.5	454	-38
Floor	7.0, 36.5	553	160
Floor	9.9, 36.5	496	46
Floor	2.7, 39.0	459	-28
Floor	5.5, 39.0	468	-10
Floor	8.4, 39.0	432	-81
C1 SU13			
Floor	12.6, 30.8	505	63
Floor	15.5, 30.8	392	-160
Floor	18.4, 30.8	462	-22
Floor	11.2, 33.3	477	8
Floor	14.0, 33.3	581	210
Floor	16.9, 33.3	446	-54
Floor	19.8, 33.3	509	71
Floor	12.6, 35.8	488	30
Floor	15.5, 35.8	476	6
Floor	18.4, 35.8	638	330
Floor	11.2, 38.3	474	2
Floor	14.0, 38.3	518	89

Table B-5 (cont.): FSS Structural Survey Units and Surface Activity Levels Hammond Depot Hammond, Indiana			
Building/ Survey Unit ID/ Surface	**Location (X, Y/, Z or Smear ID)[a]**	**Counts per Minute**	**Total Beta Activity dpm/100 cm^2**
C1 SU13 (cont.)			
Floor	16.9, 38.3	500	54
Floor	19.8, 38.3	472	-2
C1 SU14			
Floor	29.5, 32.9	484	22
Floor	25.4, 31.8	502	58
Floor	28.2, 31.8	479	12
Floor	21.0, 34.3	495	44
Floor	23.9, 34.3	489	32
Floor	26.8, 34.3	501	56
Floor	29.7, 34.3	530	110
Floor	22.5, 36.8	407	-130
Floor	25.4, 36.8	520	93
Floor	28.2, 36.8	506	65
Floor	21.0, 39.3	582	220
Floor	23.9, 39.3	513	79
Floor	26.8, 39.3	537	130
Floor	29.7, 39.3	747	540
Post-RA	29.7, 39.3	589	230
C1 SU15			
Floor	0.4, 41.0	457	-32
Floor	3.2, 41.0	505	63
Floor	6.1, 41.0	503	60
Floor	9.0, 41.0	469	-8
Floor	1.8, 43.4	508	69
Floor	4.7, 43.4	456	-34
Floor	7.5, 43.4	509	71
Floor	0.4, 45.9	493	40
Floor	3.2, 45.9	465	-16
Floor	6.1, 45.9	480	14
Floor	9.0, 45.9	512	77
Floor	1.8, 48.4	471	-4
Floor	4.7, 48.4	522	97
Floor	7.5, 48.4	428	-89
C1 SU16			
Floor	11.1, 41.4	494	42
Floor	14.0, 41.4	520	93
Floor	16.8, 41.4	501	56
Floor	19.7, 41.4	565	180
Floor	12.5, 43.9	539	130

Table B-5 (cont.): FSS Structural Survey Units and Surface Activity Levels Hammond Depot Hammond, Indiana			
Building/ Survey Unit ID/ Surface	**Location (X, Y/, Z or Smear ID)[a]**	**Counts per Minute**	**Total Beta Activity dpm/100 cm^2**
C1 SU16 (cont.)			
Floor	15.4, 43.9	512	77
Floor	18.3, 43.9	518	89
Floor	11.1, 46.4	475	4
Floor	14.0, 46.4	485	24
Floor	16.8, 46.4	446	-54
Floor	19.7, 46.4	450	-46
Floor	12.5, 48.9	532	120
Floor	15.4, 48.9	451	-44
Floor	18.3, 48.9	457	-32
C1 SU17			
Floor	21.1, 42.1	466	-14
Floor	23.9, 42.1	469	-8
Floor	26.8, 42.1	522	97
Floor	28.5, 42.3	513	79
Floor	22.5, 44.6	489	32
Floor	25.4, 44.6	521	95
Floor	28.2, 44.6	539	130
Floor	21.1, 47.1	517	87
Floor	23.9, 47.1	493	40
Floor	26.8, 47.1	501	56
Floor	29.7, 47.1	474	2
Floor	22.5, 49.6	426	-93
Floor	25.4, 49.6	471	-4
Floor	28.2, 49.6	511	75
C1 SU18			
Floor	31.4, 41.7	1234	1500
Post-RA	31.4, 41.7	493	40
Floor	35.1, 41.7	490	34
Floor	33.3, 44.8	516	85
Floor	36.9, 44.8	431	-83
Floor	31.4, 47.9	506	65
Floor	35.1, 47.9	481	16
Floor	33.3, 51.0	538	130
Floor	36.9, 51.0	452	-42
Floor	31.4, 54.2	498	50
Floor	35.1, 54.2	446	-54
Floor	33.3, 57.3	469	-8
Floor	36.9, 57.3	463	-20
Floor	31.4, 60.4	488	30

Table B-5 (cont.): FSS Structural Survey Units and Surface Activity Levels Hammond Depot Hammond, Indiana			
Building/ Survey Unit ID/ Surface	**Location (X, Y/, Z or Smear ID)[a]**	**Counts per Minute**	**Total Beta Activity dpm/100 cm^2**
C1 SU18 (cont.)			
Floor	35.1, 60.4	521	95
C1 SU19			
Floor	0.7, 52.5	455	-36
Floor	3.7, 52.5	467	-12
Floor	6.7, 52.5	454	-38
Floor	9.7, 52.5	490	34
Floor	2.2, 55.1	464	-18
Floor	5.2, 55.1	435	-75
Floor	8.2, 55.1	470	-6
Floor	0.7, 57.7	455	-36
Floor	3.7, 57.7	490	34
Floor	6.7, 57.7	487	28
Floor	9.7, 57.7	477	8
Floor	2.8, 58.2	596	240
Floor	1.6, 53.8	478	10
Floor	8.2, 60.3	499	52
C1 SU20			
Floor	12.1, 51.0	524	100
Floor	15.1, 51.0	509	71
Floor	18.1, 51.0	473	0
Floor	10.6, 53.6	503	60
Floor	13.6, 53.6	514	81
Floor	16.6, 53.6	511	75
Floor	19.6, 53.6	521	95
Floor	12.1, 56.2	471	-4
Floor	15.1, 56.2	491	36
Floor	18.1, 56.2	474	2
Floor	10.6, 58.8	526	110
Floor	13.6, 58.8	496	46
Floor	16.6, 58.8	549	150
Floor	19.6, 58.8	448	-50
C1 SU21			
Floor	21.7, 51.5	511	75
Floor	24.7, 51.5	407	-130
Floor	27.7, 51.5	438	-69
Floor	20.2, 54.1	477	8
Floor	23.2, 54.1	440	-65
Floor	26.2, 54.1	486	26
Floor	29.2, 54.1	396	-150

Table B-5 (cont.): FSS Structural Survey Units and Surface Activity Levels Hammond Depot Hammond, Indiana			
Building/ Survey Unit ID/ Surface	**Location (X, Y/, Z or Smear ID)[a]**	**Counts per Minute**	**Total Beta Activity dpm/100 cm^2**
C1 SU21 (cont.)			
Floor	21.7, 56.7	457	-32
Floor	24.7, 56.7	493	40
Floor	27.7, 56.7	487	28
Floor	20.2, 59.3	437	-71
Floor	23.2, 59.3	432	-81
Floor	26.2, 59.3	540	130
Floor	29.2, 59.3	517	87
C1 SU22			
Wall	1.4, 0.6	481	65
Wall	3.0, 0.6	644	390
Wall	4.5, 0.6	504	110
Wall	6.1, 0.6	490	83
Wall	0.6, 2.0	438	-20
Wall	2.2, 2.0	468	40
Wall	3.8, 2.0	464	32
Wall	5.3, 2.0	463	30
Wall	6.9, 2.0	468	40
Wall	1.4, 3.4	418	-60
Wall	3.0, 3.4	419	-58
Wall	4.5, 3.4	478	60
Wall	6.1, 3.4	460	24
Wall	0.6, 4.7	435	-26
Wall	2.2, 4.7	474	52
Wall	3.8, 4.7	455	14
Wall	5.3, 4.7	423	-50
C1 SU23			
Wall	19.7, 3.6	190	24
Wall	19.7, 1.6	582	270
Wall	21.3, 4.6	160	-36
Wall	21.3, 2.6	567	240
Wall	21.3, 0.7	498	99
Wall	23.0, 3.6	173	-10
Wall	23.0, 1.6	564	230
Wall	24.7, 4.6	454	12
Wall	24.7, 2.6	435	-26
Wall	24.7, 0.7	560	220
Wall	26.4, 3.6	476	56
Wall	26.4, 1.6	413	-69
Wall	28.1, 4.6	168	-20

Table B-5 (cont.): FSS Structural Survey Units and Surface Activity Levels Hammond Depot Hammond, Indiana			
Building/ Survey Unit ID/ Surface	**Location (X, Y/, Z or Smear ID)[a]**	**Counts per Minute**	**Total Beta Activity dpm/100 cm^2**
C1 SU23 (cont.)			
Wall	28.1, 2.6	442	-12
Wall	28.1, 0.7	238	120
Wall	29.8, 3.6	473	50
Wall	29.8, 1.6	447	-2
C1 SU24			
Ceiling	0.2, 32.4	233	110
Ceiling	3.2, 32.4	232	110
Ceiling	6.3, 32.4	238	120
Ceiling	9.4, 32.4	250	140
Ceiling	12.5, 32.4	256	150
Ceiling	1.7, 35.1	241	120
Ceiling	4.8, 35.1	235	110
Ceiling	7.9, 35.1	234	110
Ceiling	10.9, 35.1	259	160
Ceiling	0.2, 37.8	238	120
Ceiling	3.2, 37.8	240	120
Ceiling	6.3, 37.8	268	180
Ceiling	9.4, 37.8	262	170
Ceiling	12.5, 37.8	245	130
Ceiling	1.7, 40.5	242	130
Ceiling	4.8, 40.5	239	120
Ceiling	7.9, 40.5	268	180
C1 SU25			
Ceiling	14.1, 32.3	244	130
Ceiling	17.2, 32.3	271	180
Ceiling	20.3, 32.3	261	160
Ceiling	23.3, 32.3	289	220
Ceiling	12.5, 35.0	372	380
Ceiling	15.6, 35.0	200	44
Ceiling	18.7, 35.0	292	230
Ceiling	21.8, 35.0	282	210
Ceiling	24.9, 35.0	275	190
Ceiling	14.1, 37.6	290	220
Ceiling	17.2, 37.6	253	150
Ceiling	20.3, 37.6	280	200
Ceiling	23.3, 37.6	293	230
Ceiling	12.5, 40.3	269	180
Ceiling	15.6, 40.3	301	240
Ceiling	18.7, 40.3	279	200

Table B-5 (cont.): FSS Structural Survey Units and Surface Activity Levels Hammond Depot Hammond, Indiana			
Building/ Survey Unit ID/ Surface	**Location (X, Y/, Z or Smear ID)[a]**	**Counts per Minute**	**Total Beta Activity dpm/100 cm^2**
C1 SU25 (cont.)			
Ceiling	21.8, 40.3	261	160
Ceiling	24.9, 40.3	284	210
C1 SU26			
Ceiling	26.6, 31.0	279	200
Ceiling	29.7, 31.0	306	250
Ceiling	32.8, 31.0	251	140
Ceiling	35.8, 31.0	270	180
Ceiling	25.0, 33.7	264	170
Ceiling	28.1, 33.7	283	210
Ceiling	31.2, 33.7	272	190
Ceiling	34.3, 33.7	297	240
Ceiling	37.4, 33.7	260	160
Ceiling	26.6, 36.4	275	190
Ceiling	29.7, 36.4	300	240
Ceiling	32.8, 36.4	249	140
Ceiling	35.8, 36.4	248	140
Ceiling	25.0, 39.0	235	110
Ceiling	28.1, 39.0	276	190
Ceiling	31.2, 39.0	249	140
Ceiling	34.3, 39.0	289	220
Ceiling	37.4, 39.0	240	120
C1 SU27			
Ceiling	1.7, 42.3	260	160
Ceiling	4.8, 42.3	263	170
Ceiling	7.8, 42.3	242	130
Ceiling	10.9, 42.3	244	130
Ceiling	0.1, 45.0	247	140
Ceiling	3.2, 45.0	265	170
Ceiling	6.3, 45.0	239	120
Ceiling	9.4, 45.0	246	130
Ceiling	12.5, 45.0	256	150
Ceiling	1.7, 47.7	238	120
Ceiling	4.8, 47.7	283	210
Ceiling	7.8, 47.7	237	120
Ceiling	10.9, 47.7	249	140
Ceiling	0.1, 50.3	240	120
Ceiling	3.2, 50.3	245	130
Ceiling	6.3, 50.3	241	120
Ceiling	9.4, 50.3	245	130

Table B-5 (cont.): FSS Structural Survey Units and Surface Activity Levels Hammond Depot Hammond, Indiana			
Building/ Survey Unit ID/ Surface	**Location (X, Y/, Z or Smear ID)[a]**	**Counts per Minute**	**Total Beta Activity dpm/100 cm^2**
C1 SU27 (cont.)			
Ceiling	12.5, 50.3	247	140
C1 SU28			
Ceiling	14.5, 42.2	249	140
Ceiling	17.5, 42.2	250	140
Ceiling	20.4, 42.2	248	140
Ceiling	23.3, 42.2	252	150
Ceiling	13.1, 44.8	288	220
Ceiling	16.0, 44.8	239	120
Ceiling	18.9, 44.8	264	170
Ceiling	21.9, 44.8	238	120
Ceiling	24.8, 44.8	277	200
Ceiling	14.5, 47.3	265	170
Ceiling	17.5, 47.3	313	270
Ceiling	20.4, 47.3	281	200
Ceiling	23.3, 47.3	280	200
Ceiling	13.1, 49.9	267	180
Ceiling	16.0, 49.9	264	170
Ceiling	18.9, 49.9	286	210
Ceiling	21.9, 49.9	247	140
Ceiling	24.8, 49.9	279	200
C1 SU29			
Ceiling	25.1, 42.4	268	180
Ceiling	28.2, 42.4	294	230
Ceiling	31.3, 42.4	272	190
Ceiling	34.4, 42.4	275	190
Ceiling	37.5, 42.4	290	220
Ceiling	26.7, 45.1	260	160
Ceiling	29.8, 45.1	365	370
Ceiling	32.8, 45.1	350	340
Ceiling	35.9, 45.1	216	75
Ceiling	25.1, 47.8	321	280
Ceiling	28.2, 47.8	247	140
Ceiling	31.3, 47.8	266	170
Ceiling	34.4, 47.8	242	130
Ceiling	37.5, 47.8	287	220
Ceiling	26.7, 50.4	266	170
Ceiling	29.8, 50.4	283	210
Ceiling	32.8, 50.4	255	150
Ceiling	35.9, 50.4	246	130

Table B-5 (cont.): FSS Structural Survey Units and Surface Activity Levels Hammond Depot Hammond, Indiana			
Building/ Survey Unit ID/ Surface	**Location (X, Y/, Z or Smear ID)[a]**	**Counts per Minute**	**Total Beta Activity dpm/100 cm^2**
C1 SU30			
Ceiling	1.7, 51.5	236	120
Ceiling	4.8, 51.5	229	100
Ceiling	7.9, 51.5	242	130
Ceiling	10.9, 51.5	253	150
Ceiling	0.1, 54.2	262	170
Ceiling	3.2, 54.2	274	190
Ceiling	6.3, 54.2	293	230
Ceiling	9.4, 54.2	290	220
Ceiling	12.5, 54.2	236	120
Ceiling	1.7, 56.9	275	190
Ceiling	4.8, 56.9	261	160
Ceiling	7.9, 56.9	242	130
Ceiling	10.9, 56.9	257	160
Ceiling	0.1, 59.6	262	170
Ceiling	3.2, 59.6	263	170
Ceiling	6.3, 59.6	280	200
Ceiling	9.4, 59.6	263	170
Ceiling	12.5, 59.6	249	140
C1 SU31			
Ceiling	14.2, 52.4	301	240
Ceiling	17.2, 52.4	269	180
Ceiling	20.3, 52.4	294	230
Ceiling	23.4, 52.4	283	210
Ceiling	12.6, 55.1	265	170
Ceiling	15.7, 55.1	269	180
Ceiling	18.8, 55.1	264	170
Ceiling	21.9, 55.1	272	190
Ceiling	25.0, 55.1	268	180
Ceiling	14.2, 57.8	283	210
Ceiling	17.2, 57.8	231	110
Ceiling	20.3, 57.8	278	200
Ceiling	23.4, 57.8	286	210
Ceiling	12.6, 60.4	250	140
Ceiling	15.7, 60.4	271	180
Ceiling	18.8, 60.4	276	190
Ceiling	21.9, 60.4	281	200
Ceiling	25.0, 60.4	253	150
C1 SU32			
Ceiling	26.8, 53.1	261	160

Table B-5 (cont.): FSS Structural Survey Units and Surface Activity Levels Hammond Depot Hammond, Indiana			
Building/ Survey Unit ID/ Surface	**Location (X, Y/, Z or Smear ID)[a]**	**Counts per Minute**	**Total Beta Activity dpm/100 cm^2**
C1 SU32 (cont.)			
Ceiling	29.8, 53.1	240	120
Ceiling	32.7, 53.1	255	150
Ceiling	35.6, 53.1	260	160
Ceiling	25.4, 55.6	277	200
Ceiling	28.3, 55.6	280	200
Ceiling	31.2, 55.6	278	200
Ceiling	34.2, 55.6	283	210
Ceiling	37.1, 55.6	275	190
Ceiling	26.8, 58.2	257	160
Ceiling	29.8, 58.2	256	150
Ceiling	32.7, 58.2	270	180
Ceiling	35.6, 58.2	281	200
Ceiling	25.4, 60.7	273	190
Ceiling	28.3, 60.7	251	140
Ceiling	31.2, 60.7	237	120
Ceiling	34.2, 60.7	241	120
Ceiling	37.1, 60.7	250	140
C1 SU33			
Column 1	S. Face, 2.5	190	24
Column 2	N. Face, 2.5	206	56
Column 5	W. Face, 4.6	215	73
Column 6	N. Face, 4.6	212	67
Column 7	E. Face, 1.6	203	50
Column 8	S. Face, 1.6	211	65
Column 9	S. Face, 0.6	192	28
Column 10	N. Face, 0.6	199	42
Column 11	E. Face, 3.6	193	30
Column 12	S. Face, 3.6	191	26
Column 13	S. Face, 2.7	204	52
Column 14	W. Face, 2.7	208	60
Column 19	E. Face, 1.7	243	130
Column 20	S. Face, 1.7	263	170
C1 SU34			
Column 23	E. Face, 1.6	228	99
Column 24	S. Face, 1.6	223	89
Column 25	W. Face, 0.7	240	120
Column 26	N. Face, 0.7	232	110
Column 27	E. Face, 3.7	217	77
Column 28	S. Face, 3.7	219	81

Table B-5 (cont.): FSS Structural Survey Units and Surface Activity Levels Hammond Depot Hammond, Indiana			
Building/ Survey Unit ID/ Surface	**Location (X, Y/, Z or Smear ID)[a]**	**Counts per Minute**	**Total Beta Activity dpm/100 cm^2**
C1 SU34 (cont.)			
Column 29	W. Face, 2.7	230	100
Column 30	N. Face, 2.7	200	44
Column 35	E. Face, 1.8	236	120
Column 36	S. Face, 1.8	216	75
Column 22 (J)	E. Face, 0.4	907	1100
Column 22 (J)	S. Face, 0.2	1099	1500
Column 22/post RA	E. Face, 0.4	230	-210
Column 22/Post RA	S. Face, 0.2	206	-260
C2 SU35			
Ceiling	2.4, 3.4	245	130
Ceiling	9.1, 3.4	281	200
Ceiling	15.7, 3.4	276	190
Ceiling	22.4, 3.4	250	140
Ceiling	29.0, 3.4	244	130
Ceiling	35.7, 3.4	252	150
Ceiling	5.7, 9.1	248	140
Ceiling	12.4, 9.1	237	120
Ceiling	19.1, 9.1	278	200
Ceiling	25.7, 9.1	237	120
Ceiling	32.4, 9.1	252	150
Ceiling	2.4, 14.9	229	100
Ceiling	9.1, 14.9	268	180
Ceiling	15.7, 14.9	254	150
Ceiling	22.4, 14.9	270	180
Ceiling	29.0, 14.9	267	180
Ceiling	35.7, 14.9	264	170
C2 SU36			
Ceiling	2.5, 18.4	296	230
Ceiling	9.2, 18.4	291	220
Ceiling	15.8, 18.4	301	240
Ceiling	22.5, 18.4	298	240
Ceiling	29.1, 18.4	297	240
Ceiling	35.8, 18.4	276	190
Ceiling	5.9, 24.1	263	170
Ceiling	12.5, 24.1	312	270
Ceiling	19.2, 24.1	290	220
Ceiling	25.8, 24.1	263	170
Ceiling	32.5, 24.1	289	220
Ceiling	2.5, 29.9	269	180

Table B-5 (cont.): FSS Structural Survey Units and Surface Activity Levels Hammond Depot Hammond, Indiana			
Building/ Survey Unit ID/ Surface	**Location (X, Y/, Z or Smear ID)[a]**	**Counts per Minute**	**Total Beta Activity dpm/100 cm^2**
C2 SU36 (cont.)			
Ceiling	9.2, 29.9	230	100
Ceiling	15.8, 29.9	219	81
Ceiling	22.5, 29.9	297	240
Ceiling	29.1, 29.9	257	160
Ceiling	35.8, 29.9	250	140
C2 SU56			
Wall	1.9, 0.2	299	-75
Wall	4.4, 4.5	188	20
Wall	7.0, 0.2	305	-63
Wall	9.5, 4.5	184	12
Wall	12.1, 0.2	294	-85
Wall	14.6, 4.5	209	62
Wall	17.2, 0.2	210	63
Wall	36.1, 4.5	448	0
Wall	33.5, 0.2	288	-97
Wall	31.0, 4.5	403	-89
Wall	28.4, 0.2	421	-54
Wall	25.9, 4.5	364	-170
Wall	23.3, 0.2	271	-130
Wall	20.8, 4.5	426	-44
Wall	18.2, 0.2	244	130
Wall	15.7, 4.5	397	-100
Wall	13.1, 0.2	269	-130
Wall	10.6, 4.5	190	24
Wall	8.0, 0.2	273	-130
Wall	5.5, 4.5	243	-190
Wall	2.9, 0.2	292	-89
C2 SU57			
Wall	33.2, 4.5	421	-54
Wall	35.6, 0.2	599	520
Wall	38.1, 4.5	240	120
Wall	40.6, 0.2	308	-58
Wall	43.1, 4.5	427	-42
Wall	45.6, 0.2	402	130
Wall	48.1, 4.5	174	-8
Wall	50.6, 0.2	217	77
Wall	53.1, 4.5	179	2
Wall	55.6, 0.2	306	-62
Wall	58.1, 4.5	172	-12

Table B-5 (cont.): FSS Structural Survey Units and Surface Activity Levels Hammond Depot Hammond, Indiana			
Building/ Survey Unit ID/ Surface	**Location (X, Y/, Z or Smear ID)[a]**	**Counts per Minute**	**Total Beta Activity dpm/100 cm^2**
C2 SU57 (cont.)			
Wall	60.5, 0.2	289	-95
Wall	1.0, 4.5	254	-380
Wall	3.5, 0.2	294	-310
Wall	6.0, 4.5	349	-200
Wall	8.5, 0.2	481	65
Wall	11.0, 4.5	434	-28
Wall	13.5, 0.2	477	58
Wall	16.0, 4.5	445	-6
Wall	18.5, 0.2	527	160
Wall	21.0, 4.5	464	32
Wall	23.5, 0.2	431	-34
Wall	25.9, 4.5	461	26
Wall	28.4, 0.2	519	140
C2 SU58			
Wall	61.0, 3.6	453	10
Wall	57.2, 1.4	539	180
Wall	53.4, 3.6	415	-65
Wall	49.6, 1.4	482	67
Wall	45.9, 3.6	519	140
Wall	42.1, 1.4	515	130
Wall	38.3, 3.6	436	-24
Wall	34.5, 1.4	200	44
Wall	30.7, 3.6	476	56
Wall	26.9, 1.4	511	120
Wall	23.2, 3.6	190	24
Wall	19.4, 1.4	564	230
Wall	15.6, 3.6	197	38
Wall	11.8, 1.4	532	170
Wall	8.0, 3.6	411	-73
Wall	4.3, 1.4	465	34
Wall	0.5, 3.6	461	26
Building 200E (north)			
C2 SU37			
Floor	46	296	-81
Floor	47	327	-20
Floor	48	304	-65
Floor	49	329	-16
Floor	50	337	0
Floor	52	299	-75

Table B-5 (cont.): FSS Structural Survey Units and Surface Activity Levels Hammond Depot Hammond, Indiana			
Building/ Survey Unit ID/ Surface	**Location (X, Y/, Z or Smear ID)[a]**	**Counts per Minute**	**Total Beta Activity dpm/100 cm^2**
C2 SU37 (cont.)			
Floor	53	324	-26
Floor	54	334	-6
Floor	55	336	-2
Floor	58	286	-100
Floor	59	347	20
Floor	60	291	-91
Floor	61	307	-60
Floor	62	309	-56
Floor	63	369	63
Floor	64	292	-89
Floor	65	289	-95
Floor	66	365	56
Floor	67	434	190
Floor	68	327	-20
Floor	70	332	-10
Floor	71	349	24
C2 SU38			
Floor	21	348	22
Floor	22	337	0
Floor	23	329	-16
Floor	25	439	200
Floor	26	346	18
Floor	27	327	-20
Floor	28	312	-50
Floor	29	322	-30
Floor	30	319	-36
Floor	31	354	34
Floor	32	351	28
Floor	33	333	-8
Floor	34	356	38
Floor	35	315	-44
Floor	36	294	-85
Floor	37	290	-93
Floor	38	371	67
Floor	39	332	-10
Floor	40	325	-24
Floor	41	316	-42
Floor	42	311	-52
Floor	43	291	-91

Table B-5 (cont.): FSS Structural Survey Units and Surface Activity Levels Hammond Depot Hammond, Indiana			
Building/ Survey Unit ID/ Surface	**Location (X, Y/, Z or Smear ID)[a]**	**Counts per Minute**	**Total Beta Activity dpm/100 cm^2**
C2 SU38 (cont.)			
Floor	44	325	-24
Floor	45	323	-28
C3 SU39			
W. Wall	0, 38.1, 2.4	523	140
W. Wall	0, 5.1, 3.4	217	-440
E. Wall	37.8, 27.7, 0.4	198	-34
E. Wall	37.8, 17.5, 1.5	472	45
W. Wall	0, 54.8, 0.9	461	25
E. Wall	37.8, 46.3, 2	165	-96
E. Wall	37.8, 4.6, 3.1	424	-45
N. Wall	14.9, 61, 3.5	364	-160
E. Wall	37.8, 53.6, 1.9	453	9
W. Wall	0, 40.3, 3.9	530	150
N. Wall	11.9, 61, 0.2	287	-300
W. Wall	0, 27.2, 0.3	210	-11
E. Wall	37.8, 46.3, 1.3	181	-66
S. Wall	11.4, 0, 2.9	504	110
S. Wall	14, 0, 1.8	482	64
C3 SU40			
US	72	361	48
US	73	199	-34
US	74	249	65
US	75	218	4
US	76	211	-10
US	77	110	-210
US	78	224	16
US	79	230	28
US	80	461	110
US	81	246	60
C1 SU41			
Floor	0.3, 0.2	259	-150
Floor	0.7, 1.0	328	-18
US	0.3, 0.1, 2.5	235	-200
US	0.8, 0.8, 2.5	269	-130
S. Wall	0.8, 0.0, 0.1	234	-200
E. Wall	1.6, 0.9, 0.1	250	-170
N. Wall	0.3, 2.5, 0.1	411	150
S. Wall	0.3, 0.0, 0.8	234	-200
E. Wall	1.6, 0.4, 0.8	236	-200

Table B-5 (cont.): FSS Structural Survey Units and Surface Activity Levels Hammond Depot Hammond, Indiana			
Building/ Survey Unit ID/ Surface	**Location (X, Y/, Z or Smear ID)[a]**	**Counts per Minute**	**Total Beta Activity dpm/100 cm^2**
C1 SU41 (cont.)			
N. Wall	0.7, 2.6, 0.8	403	130
W. Wall	0.0, 1.0, 0.8	299	-75
S. Wall	0.8, 0.0, 1.6	238	-200
E. Wall	1.6, 0.9, 1.6	284	-110
N. Wall	0.3, 2.5, 1.6	403	130
S. Wall	0.3, 0.0, 2.4	242	-190
E. Wall	1.6, 0.4, 2.2	252	-170
N. Wall	0.7, 2.6, 2.2	355	36
W. Wall	0.0,1.0, 2.0	306	-62
W. Wall	0.0, 0.7, 1.5	178	-75
C2 SU42			
Floor	51C	362	50
Floor	52C	409	140
Floor	53C	376	77
Floor	54C	390	110
Floor	55C	367	60
Floor	56C	378	81
Floor	57C	360	46
Floor	58C	355	36
Floor	59C	371	67
Floor	60C	380	85
Floor	61C	403	130
Floor	62C	385	95
Floor	63C	396	120
Wall	66C	438	63
Wall	67C	331	-150
Wall	68C	305	-200
Wall	69C	322	-170
Wall	70C	326	-160
Wall	71C	330	-150
Wall	72C	410	8
Wall	73C	340	-130
Building 100E			
C1 SU43			
Floor	7.8, 91.6	346	22
Floor	7.8, 99.2	383	95
Floor	10.0, 87.8	341	12
Floor	10.0, 95.4	376	81
Floor	10.0, 103.0	372	73

Table B-5 (cont.): FSS Structural Survey Units and Surface Activity Levels Hammond Depot Hammond, Indiana			
Building/ Survey Unit ID/ Surface	**Location (X, Y/, Z or Smear ID)[a]**	**Counts per Minute**	**Total Beta Activity dpm/100 cm^2**
C1 SU43 (cont.)			
Floor	12.2, 91.6	341	12
Floor	12.2, 99.2	339	8
Floor	14.4, 87.8	322	-26
Floor	14.4, 95.4	349	28
Floor	14.4, 103.0	396	120
Floor	16.5, 91.6	332	-6
Floor	16.5, 99.2	374	77
Floor	18.7, 87.8	336	2
Floor	18.7, 95.4	331	-8
Floor	18.7, 103.0	354	38
Floor (J)	9.5, 99.0	384	97
Floor (J)	15.5, 102.0	337	4
C1 SU44			
Floor	19.4, 90.4	368	65
Floor	19.4, 98.1	340	10
Floor	21.7, 86.5	324	-22
Floor	21.7, 94.3	334	-2
Floor	21.7, 102.0	372	73
Floor	23.9, 90.4	359	48
Floor	23.9, 98.1	365	60
Floor	26.1, 86.5	432	190
Floor	26.1, 94.3	341	12
Floor	26.1, 102.0	449	230
Floor	28.4, 90.4	369	67
Floor	28.4, 98.1	408	140
Floor	30.6, 86.5	389	110
Floor	30.6, 94.3	350	30
Floor	30.6, 102.0	331	-8
Floor (J)	23.1, 102.0	339	8
C2 SU45			
Floor	2.5, 87.2	350	30
Floor	37.3, 87.2	370	69
Floor	6.8, 94.7	376	81
Floor	32.9, 94.7	358	46
Floor	2.5, 102.2	356	42
Floor	37.3, 102.2	348	26
Floor	6.8, 109.8	327	-16
Floor	15.5, 109.8	339	8
Floor	24.2, 109.8	348	26

Table B-5 (cont.): FSS Structural Survey Units and Surface Activity Levels Hammond Depot Hammond, Indiana			
Building/ Survey Unit ID/ Surface	**Location (X, Y/, Z or Smear ID)[a]**	**Counts per Minute**	**Total Beta Activity dpm/100 cm^2**
C2 SU45 (cont.)			
Floor	32.9, 109.8	377	83
Floor	2.5, 117.3	369	67
Floor	12.3, 117.3	310	-50
Floor	19.9, 117.3	343	16
Floor	28.6, 117.3	386	100
Floor	36.0, 117.3	361	52
C2 SU46			
W. Wall	85.5, 3.1	188	20
W. Wall	96.4, 3.1	513	210
W. Wall	107.3, 3.1	202	48
W. Wall	118.2, 3.1	434	56
N. Wall	0.1, 1.6	250	-310
N. Wall	6.3, 1.6	447	81
N. Wall	12.6, 1.6	524	230
N. Wall	18.9, 1.6	191	26
N. Wall	25.2, 1.6	194	32
N. Wall	31.5, 1.6	408	4
N. Wall	37.8, 1.6	466	120
E. Wall	36.5, 2.5	454	95
E. Wall	25.6, 2.5	186	16
E. Wall	14.7, 2.5	471	130
E. Wall	3.8, 2.5	477	140
C3 SU47			
Ceiling	20.0, 101.5	198	40
Ceiling	34.4, 95.2	174	-8
Ceiling	5.2, 96.9	184	12
Ceiling	38.0, 102.9	175	-6
Ceiling	29.8, 107.4	171	-14
Ceiling	27.1, 102.3	172	-12
Ceiling	3.2, 97.7	158	-40
Ceiling	36.1, 111.7	159	-38
Ceiling	35.7, 103.9	196	36
Ceiling	21.6, 104.1	176	-4
Ceiling	17.6, 106.2	196	36
Ceiling	15.6, 94.1	145	-65
C3 SU48			
Floor	8	366	62
Floor	9	386	100
Floor	10	313	-44

Table B-5 (cont.): FSS Structural Survey Units and Surface Activity Levels Hammond Depot Hammond, Indiana			
Building/ Survey Unit ID/ Surface	**Location (X, Y/, Z or Smear ID)[a]**	**Counts per Minute**	**Total Beta Activity dpm/100 cm^2**
C3 SU48 (cont.)			
Floor	11	306	-58
Floor	12	341	12
Floor	13	338	6
Floor	14	320	-30
Ceiling	18	202	48
Ceiling	19	183	10
C1 SU59			
Floor	15.3, 73.2	341	12
Floor	17.9, 73.2	323	-24
Floor	21.4, 73.2	271	-130
Floor	16.5, 75.7	315	-40
Floor	19.9, 75.7	357	44
Floor	21.4, 75.7	324	-22
Floor	15.3, 78.2	326	-18
Floor	17.9, 78.2	320	-30
Floor	21.4, 78.2	334	-2
Floor	16.5, 80.7	303	-63
Floor	19.9, 80.7	310	-50
Floor	21.4, 80.7	329	-12
Floor	15.3, 83.2	343	16
Floor	19.5, 83.2	365	60
Floor	22.4, 83.2	329	-12
Floor (J)	16.5, 85.0	286	-97
Floor (J)	19.7, 85.0	292	-85
Floor (J)	22.6, 85.0	307	-56
C2 SU60			
Floor	9.0, 74.1	361	52
Floor	11.9, 74.1	344	18
Floor	14.8, 74.1	353	36
Floor	7.6, 76.6	330	-10
Floor	10.5, 76.6	351	32
Floor	13.4, 76.6	363	56
Floor	9.0, 79.1	349	28
Floor	11.9, 79.1	316	-38
Floor	14.8, 79.1	332	-6
Floor	7.6, 81.6	348	26
Floor	10.5, 81.6	316	-38
Floor	13.4, 81.6	333	-4
Floor	9.0, 84.1	337	4

Table B-5 (cont.): FSS Structural Survey Units and Surface Activity Levels Hammond Depot Hammond, Indiana			
Building/ Survey Unit ID/ Surface	**Location (X, Y/, Z or Smear ID)[a]**	**Counts per Minute**	**Total Beta Activity dpm/100 cm^2**
C2 SU60 (cont.)			
Floor	11.9, 84.1	350	30
Floor	14.8, 84.1	349	28
C2 SU61			
Floor	24.4, 79.6	360	50
Floor	26.3, 79.6	365	60
Floor	28.3, 79.6	312	-46
Floor	23.4, 81.3	380	89
Floor	25.3, 81.3	389	110
Floor	27.3, 81.3	390	110
Floor	29.3, 81.3	333	-4
Floor	24.4, 83.0	372	73
Floor	26.3, 83.0	345	20
Floor	28.3, 83.0	344	18
Floor	23.4, 84.7	321	-28
Floor	25.3, 84.7	343	16
Floor	27.3, 84.7	336	2
Floor	29.3, 84.7	355	40
Building 100W			
C2 SU49			
Floor Bay 7-17	A54	488	300
Floor Bay 7-17	A55	346	21
Floor Bay 7-17	A56	489	300
Floor Bay 7-17	A57	362	52
Floor Bay 7-17	A58	373	74
Floor Bay 7-17	A59	465	250
Floor Bay 7-17	A60	350	29
Floor Bay 7-17	A61	379	85
Floor Bay 7-17	A62	409	140
Floor Bay 7-17	A63	363	54
Floor Bay 7-17	A65	410	150
Floor Bay 7-17	A66	431	190
Floor Bay 7-17	A83	524	370
Floor Bay 7-17	A84	466	250
Floor Bay 7-17	A90	243	-180
Floor Bay 7-17	A91	300	-68
Floor Bay 7-17	A92	250	-160
Floor Bay 7-17	A93	277	-110
Floor Bay 7-17	A94	297	-74
Floor Bay 7-17	20D	333	-4

Table B-5 (cont.): FSS Structural Survey Units and Surface Activity Levels Hammond Depot Hammond, Indiana			
Building/ Survey Unit ID/ Surface	**Location (X, Y/, Z or Smear ID)[a]**	**Counts per Minute**	**Total Beta Activity dpm/100 cm^2**
C2 SU49 (cont.)			
Floor Bay 7-17	22D	313	-43
Floor Bay 7-17	24D	319	-31
C2 SU50			
F/LW Bay 1-10	A40	284	-99
F/LW Bay 1-10	A41	451	87
F/LW Bay 1-10	A42	334	-2
F/LW Bay 1-10	A43	298	-72
F/LW Bay 1-10	A44	338	6
F/LW Bay 1-10	A45	342	14
F/LW Bay 1-10	A46	505	190
F/LW Bay 1-10	A47	353	35
F/LW Bay 1-10	A48	362	52
F/LW Bay 1-10	A49	345	19
F/LW Bay 1-10	A50	390	110
F/LW Bay 1-10	A51	391	110
F/LW Bay 1-10	A52	509	200
F/LW Bay 1-10	A53	338	6
C2 SU51			
F/LW Bay 11-20	A68	533	250
F/LW Bay 11-20	A69	398	120
F/LW Bay 11-20	A70	307	-54
F/LW Bay 11-20	A71	329	-12
F/LW Bay 11-20	A72	351	31
F/LW Bay 11-20	A73	373	74
F/LW Bay 11-20	A74	425	170
F/LW Bay 11-20	A75	395	120
F/LW Bay 11-20	A76	484	150
F/LW Bay 11-20	A77	362	52
F/LW Bay 11-20	A78	339	8
F/LW Bay 11-20	A79	367	62
F/LW Bay 11-20	A80	344	17
F/LW Bay 11-20	A81	256	-290
C3 SU52			
Ceiling	A85	161	-110
Ceiling	A86	235	37
Ceiling	A87	169	-91
Ceiling	A88	241	48
Ceiling	A89	224	15
Ceiling	A90	243	52

Table B-5 (cont.): FSS Structural Survey Units and Surface Activity Levels Hammond Depot Hammond, Indiana			
Building/ Survey Unit ID/ Surface	**Location (X, Y/, Z or Smear ID)[a]**	**Counts per Minute**	**Total Beta Activity dpm/100 cm^2**
C3 SU52 (cont.)			
Ceiling	A91	300	160
Ceiling	A92	250	66
Ceiling	A93	277	120
Ceiling	A94	297	160
Ceiling	A95	282	130
Ceiling	A96	198	-35
Ceiling	A97	187	-56
Ceiling	A98	210	-12
Ceiling	A99	251	68
Ceiling	A100	333	230
Ceiling	30D	246	58
Ceiling	31D	225	17
Ceiling	32D	217	2
Ceiling	33D	221	10
Ceiling	34D	244	54
Garage			
C3 SU53			
Floor	19.2, 1	332	-6
Floor	20.6, 4.5	395	110
Floor	16.8, 5.1	376	77
Floor	21.4, 6.2	369	64
Floor	16.6, 9.7	343	15
Floor	9.4, 13.9	328	-13
Floor	7.2, 15	381	87
Floor	3.8, 15.7	372	70
Floor	2.8, 17.4	355	38
Floor	8.4, 19.7	323	-23
Floor	12, 20	359	45
Floor	1.9, 25	330	-9
Floor	18.9, 30.3	337	4
N. Wall	2.1, 30.4, 1.5	187	-55
N. Wall	13.1, 30.4. 0.9	155	-120
Workshop			
C3 SU54			
Floor	6.1, 8.6, 0	345	26
Floor	7.6, 0.9, 0	346	38
Floor	0.5, 13.1, 0	384	30
W. Wall	0.8, 3.3, 3	303	-59
W. Wall	8.6, 7.3, 3	222	-51

Table B-5 (cont.): FSS Structural Survey Units and Surface Activity Levels Hammond Depot Hammond, Indiana			
Building/ Survey Unit ID/ Surface	**Location (X, Y/, Z or Smear ID)[a]**	**Counts per Minute**	**Total Beta Activity dpm/100 cm^2**
C3 SU54 (cont.)			
Ceiling	6.1, 11, 3	285	-2
Floor	0.2, 24.5, 0	348	-32
Floor	0.2, 25.2, 0	319	49
W. Wall	0, 24.8, 0.9	300	13
Floor	1.3, 24.6, 0	366	-19
Ceiling	0.3, 31.8, 3	389	68
Ceiling	0.9, 35.2, 3	411	-66
Floor	3.8, 37.9, 0	285	-150
Floor	6.4, 28.1, 0	316	23
Building Exteriors			
C3 SU55			
100W West Wall	75.8, 2.7	349	26
100W East Wall	92.2, 2.5	355	38
100E West Wall	52.8, 1.4	351	30
100E West Wall	71.1, 2.2	185	-59
100E North Wall	20.9, 2.1	189	-51
100E East Wall	96.9, 1.9	334	-2
200E West Wall	96.6, 0.7	199	-32
200E East Wall	72.1, 2.6	361	49
200E South Wall	3.2, 0.1	342	13
Office South Wall	8.3, 2	206	-19
Office South Wall	6, 0.3	252	68
Office South Wall	16, 1.6	181	-66
Guardhouse North Wall	4.5, 0.6	137	-150
Pumphouse East Wall	5.5, 2.1	347	23
Garage East Wall	10.4, 0.6	226	19

[a]Refer to Figures A-6 through A-21.

Table B-6: FSS Survey Units and Radionuclide Concentration Levels Hammond Depot Hammond, Indiana					
Survey Unit/ Sample ID	**Coordinate N, E[a] (X, Y)**	**Th-232[b] (pCi/g)**	**U-238[c] (pCi/g)**	**SOR Gross**	**SOR Net**
Background Reference Area					
127	4611723N, 456498E	1.10 ± 0.21	2.54 ± 0.73	1.40	0.11
128	4611778N, 456355E	0.85 ± 0.19	2.66 ± 0.61	1.36	0.07
129	4611783N, 456369E	0.74 ± 0.19	2.44 ± 0.79	1.23	-0.05
130	4611802N, 456306E	1.09 ± 0.22	2.30 ± 0.85	1.30	0.01
131	4611871N, 456272E	0.93 ± 0.16	2.50 ± 0.79	1.32	0.04
132	4611872N, 456272E	0.79 ± 0.12	1.65 ± 0.40	0.93	-0.35
133	4611955N, 456275E	0.94 ± 0.16	2.30 ± 0.52	1.24	-0.04
134	4611997N, 456285E	0.98 ± 0.18	2.55 ± 0.62	1.36	0.08
135	4612040N, 456283E	0.65 ± 0.17	2.06 ± 0.63	1.05	-0.23
136	4612085N, 456286E	0.73 ± 0.21	2.66 ± 0.72	1.32	0.03
137	4612189N, 456426E	1.10 ± 0.15	2.44 ± 0.56	1.36	0.07
138	4612185N, 456501E	1.03 ± 0.21	2.42 ± 0.72	1.32	0.04
139	4612223N, 456379E	1.17 ± 0.15	2.72 ± 0.49	1.49	0.21
140	4612254N, 456466E	1.36 ± 0.28	3.35 ± 0.85	1.81	0.53
141	4612256N, 456284E	0.91 ± 0.18	1.44 ± 0.82	0.89	-0.39
142	4612256N, 456387E	1.71 ± 0.26	3.57 ± 0.77	2.02	0.74
143	4612275N, 456308E	0.33 ± 0.12	0.63 ± 0.50	0.37	-0.92
C1 SU1/AOC 4					
196	4611380N, 456512E	1.17 ± 0.19	2.16 ± 0.61	1.27	-0.02
197	4611388N, 456506E	1.15 ± 0.16	2.63 ± 0.57	1.45	0.17
198	4611388N, 456518E	1.01 ± 0.16	2.42 ± 0.45	1.32	0.03
199	4611388N, 456529E	1.15 ± 0.18	1.54 ± 0.49	1.01	-0.27
200	4611398N, 456512E	1.07 ± 0.18	2.82 ± 0.84	1.50	0.21
201	4611398N, 456523E	1.13 ± 0.16	1.98 ± 0.50	1.18	-0.10
202	4611398N, 456535E	1.20 ± 0.15	1.37 ± 0.43	0.96	-0.32
203	4611408N, 456506E	0.51 ± 0.11	0.93 ± 0.41	0.55	-0.73
204	4611408N, 456518E	1.02 ± 0.18	2.72 ± 0.67	1.44	0.16
205	4611408N, 456529E	1.22 ± 0.20	4.09 ± 0.92	2.06	0.77
206	4611418N, 456500E	0.85 ± 0.17	2.58 ± 0.72	1.33	0.04
207	4611418N, 456512E	1.05 ± 0.16	2.74 ± 0.62	1.46	0.18
208	4611418N, 456523E	1.24 ± 0.19	2.80 ± 0.69	1.55	0.27
209	4611418N, 456535E	1.25 ± 0.16	1.79 ± 0.54	1.15	-0.14
210	4611428N, 456506E	0.55 ± 0.11	1.08 ± 0.41	0.62	-0.66
211	4611428N, 456518E	0.88 ± 0.21	2.48 ± 0.67	1.30	0.01
212	4611428N, 456529E	1.31 ± 0.19	3.10 ± 0.60	1.69	0.41
213 J[d]	4611395N, 456530E	1.51 ± 0.24	2.50 ± 0.64	1.52	0.24
214 J	4611400N, 456525E	1.43 ± 0.21	2.61 ± 0.63	1.54	0.25
C1 SU2/AOC 2					
494	4611334N, 456525E	1.19 ± 0.20	3.15 ± 0.69	1.67	0.39

Table B-6 (cont.): FSS Survey Units and Radionuclide Concentration Levels Hammond Depot Hammond, Indiana					
Sample ID	**Coordinate N, E[a] (X, Y)**	**Th-232[b] (pCi/g)**	**U-238[c] (pCi/g)**	**SOR Gross**	**SOR Net**
C1 SU2/AOC 2 (cont.)					
495	4611339N, 456527E	1.36 ± 0.21	2.95 ± 0.74	1.65	0.37
496	4611344N, 456525E	1.19 ± 0.21	2.78 ± 0.67	1.52	0.24
497	4611348N, 456522E	1.43 ± 0.25	3.14 ± 0.98	1.75	0.47
498	4611348N, 456527E	0.87 ± 0.13	1.30 ± 0.42	0.82	-0.46
499	4611353N, 456519E	1.20 ± 0.21	2.89 ± 0.69	1.57	0.29
500	4611353N, 456525E	0.80 ± 0.15	1.80 ± 0.62	1.00	-0.29
501	4611358N, 456516E	1.40 ± 0.23	3.81 ± 0.95	2.01	0.72
502	4611358N, 456522E	1.33 ± 0.18	2.02 ± 0.54	1.27	-0.02
503	4611363N, 456513E	1.14 ± 0.19	2.59 ± 0.73	1.43	0.15
504	4611363N, 456519E	1.32 ± 0.21	3.07 ± 0.72	1.68	0.40
505	4611363N, 456525E	0.91 ± 0.13	1.82 ± 0.49	1.04	-0.24
506	4611368N, 456511E	1.13 ± 0.14	3.02 ± 0.47	1.60	0.32
507	4611368N, 456516E	1.38 ± 0.22	3.72 ± 0.67	1.96	0.68
508	4611368N, 456522E	1.12 ± 0.20	1.87 ± 0.84	1.13	-0.15
509	4611373N, 456513E	1.69 ± 0.26	2.96 ± 0.98	1.77	0.48
510	4611373N, 456519E	1.03 ± 0.17	2.79 ± 0.66	1.47	0.19
C1 SU3/AOC 2 and 3					
511	Sample not collected				
512	4611343N, 456556E	0.44 ± 0.10	1.32 ± 0.44	0.68	-0.60
513	4611348N, 456547E	1.34 ± 0.18	2.94 ± 0.65	1.64	0.36
514	4611348N, 456553E	0.76 ± 0.17	1.17 ± 0.53	0.73	-0.55
515	4611348N, 456559E	0.47 ± 0.08	0.91 ± 0.29	0.53	-0.76
516	4611353N, 456550E	1.34 ± 0.23	2.38 ± 0.77	1.41	0.13
517	4611353N, 456556E	0.58 ± 0.10	1.08 ± 0.47	0.63	-0.65
518	4611358N, 456547E	1.48 ± 0.24	1.82 ± 0.92	1.24	-0.04
519	4611358N, 456553E	1.05 ± 0.18	2.74 ± 0.81	1.46	0.18
520	4611358N, 456559E	0.70 ± 0.11	1.04 ± 0.37	0.66	-0.63
521	Sample not collected				
522	4611363N, 456556E	0.96 ± 0.17	1.72 ± 0.59	1.02	-0.26
523	4611368N, 456547E	1.62 ± 0.21	2.25 ± 0.66	1.46	0.18
524	4611368N, 456553E	0.94 ± 0.14	1.67 ± 0.51	0.99	-0.29
525	4611368N, 456559E	0.47 ± 0.10	0.48 ± 0.30	0.35	-0.93
526	Sample not collected				
527	4611373N, 456556E	0.85 ± 0.16	1.35 ± 0.68	0.83	-0.45
C1 SU4/AOC 7					
528	Sample not collected				
529	4611285N, 456547E	1.88 ± 0.23	3.33 ± 0.79	1.98	0.70
530	4611285N, 456556E	1.11 ± 0.17	1.96 ± 0.58	1.17	-0.12
531	4611293N, 456543E	2.47 ± 0.30	3.9 ± 1.0	2.41	1.13
532	4611293N, 456552E	1.08 ± 0.15	3.36 ± 0.61	1.72	0.43

Table B-6 (cont.): FSS Survey Units and Radionuclide Concentration Levels Hammond Depot Hammond, Indiana					
Sample ID	**Coordinate N, E[a] (X, Y)**	**Th-232[b] (pCi/g)**	**U-238[c] (pCi/g)**	**SOR Gross**	**SOR Net**
C1 SU4/AOC 7 (cont.)					
533	4611301N, 456547E	1.44 ± 0.22	3.55 ± 0.80	1.92	0.63
534	4611301N, 456556E	0.99 ± 0.14	1.66 ± 0.51	1.01	-0.28
535	4611309N, 456543E	2.05 ± 0.25	2.29 ± 0.78	1.62	0.34
536	4611309N, 456552E	0.85 ± 0.16	1.96 ± 0.57	1.08	-0.21
537	4611317N, 456538E	3.02 ± 0.35	2.56 ± 0.85	2.07	0.78
538	4611317N, 456547E	1.97 ± 0.27	2.10 ± 0.84	1.52	0.24
539	4611317N, 456556E	0.88 ± 0.15	1.54 ± 0.53	0.92	-0.36
540	4611325N, 456534E	1.26 ± 0.18	1.48 ± 0.53	1.03	-0.26
541	4611325N, 456545E	1.45 ± 0.19	2.27 ± 0.68	1.41	0.13
542	4611325N, 456552E	0.64 ± 0.14	1.20 ± 0.48	0.70	-0.58
543	4611332N, 456547E	1.06 ± 0.19	2.76 ± 0.45	1.47	0.19
544	4611332N, 456556E	0.41 ± 0.08	0.81 ± 0.30	0.47	-0.82
C1 SU5/AOC 2 and 3					
545	4611247N, 456518E	1.06 ± 0.16	2.04 ± 0.54	1.18	-0.10
546	4611252N, 456515E	1.00 ± 0.16	1.56 ± 0.61	0.97	-0.31
547	4611258N, 456512E	1.06 ± 0.18	1.87 ± 0.58	1.11	-0.17
548	4611263N, 456509E	1.24 ± 0.17	1.46 ± 0.58	1.01	-0.27
549	4611263N, 456514E	1.01 ± 0.15	1.09 ± 0.51	0.78	-0.50
550	4611268N, 456506E	1.42 ± 0.19	2.06 ± 0.71	1.31	0.03
551	4611268N, 456512E	1.12 ± 0.16	1.11 ± 0.54	0.83	-0.45
552	4611273N, 456509E	1.28 ± 0.15	1.48 ± 0.49	1.03	-0.25
553	4611278N, 456506E	1.42 ± 0.19	1.98 ± 0.96	1.28	0.00
554	4611284N, 456503E	1.32 ± 0.24	1.61 ± 0.67	1.10	-0.18
555	4611289N, 456500E	1.48 ± 0.20	1.51 ± 0.67	1.11	-0.17
556	4611294N, 456503E	1.22 ± 0.16	1.60 ± 0.43	1.06	-0.22
557	4611299N, 456500E	1.47 ± 0.19	2.21 ± 0.59	1.39	0.11
558	4611304N, 456497E	1.40 ± 0.21	1.58 ± 0.67	1.11	-0.17
559	4611309N, 456500E	1.13 ± 0.14	1.54 ± 0.47	1.01	-0.28
560	4611315N, 456497E	1.68 ± 0.21	1.85 ± 0.66	1.32	0.04
561	4611320N, 456494E	1.52 ± 0.20	1.65 ± 0.79	1.18	-0.10
C1 SU6/AOC 6					
438	4611374N, 456622E	0.56 ± 0.11	0.75 ± 0.51	0.49	-0.79
439	4611374N, 456632E	0.53 ± 0.12	0.64 ± 0.32	0.44	-0.84
440	4611374N, 456642E	0.65 ± 0.13	1.26 ± 0.46	0.73	-0.55
441	4611374N, 456651E	0.89 ± 0.12	1.42 ± 0.44	0.87	-0.41
442	4611382N, 456618E	0.38 ± 0.12	0.94 ± 0.48	0.51	-0.78
443	4611382N, 456627E	0.48 ± 0.10	0.81 ± 0.33	0.49	-0.79
444	4611382N, 456637E	0.65 ± 0.13	0.82 ± 0.38	0.55	-0.73
445	4611382N, 456646E	0.58 ± 0.11	1.40 ± 0.47	0.76	-0.52
446	4611382N, 456656E	0.57 ± 0.12	1.41 ± 0.51	0.76	-0.52

Table B-6 (cont.): FSS Survey Units and Radionuclide Concentration Levels Hammond Depot Hammond, Indiana					
Sample ID	**Coordinate N, E[a] (X, Y)**	**Th-232[b] (pCi/g)**	**U-238[c] (pCi/g)**	**SOR Gross**	**SOR Net**
C1 SU6/AOC 6 (cont.)					
447	4611390N, 456622E	0.47 ± 0.08	0.75 ± 0.26	0.46	-0.82
448	4611390N, 456632E	0.48 ± 0.10	0.97 ± 0.45	0.55	-0.73
449	4611390N, 456642E	0.51 ± 0.10	0.77 ± 0.36	0.48	-0.80
450	4611390N, 456651E	0.77 ± 0.15	1.77 ± 0.71	0.97	-0.31
451	4611399N, 456618E	0.67 ± 0.11	0.92 ± 0.43	0.60	-0.68
452	4611399N, 456627E	0.64 ± 0.13	1.02 ± 0.37	0.63	-0.65
453	4611399N, 456637E	0.74 ± 0.14	0.67 ± 0.50	0.52	-0.76
454	4611399N, 456646E	0.49 ± 0.13	1.35 ± 0.39	0.71	-0.57
455	4611399N, 456656E	1.29 ± 0.17	2.29 ± 0.59	1.36	0.08
C1 SU7/AOC 5					
456	4611049N, 456596E	0.98 ± 0.17	1.90 ± 0.52	1.10	-0.18
457	4611049N, 456603E	0.83 ± 0.19	1.54 ± 0.62	0.90	-0.38
458	4611049N, 456611E	0.88 ± 0.14	1.82 ± 0.58	1.03	-0.25
459	4611049N, 456618E	0.72 ± 0.14	1.46 ± 0.52	0.83	-0.45
460	4611055N, 456585E	1.36 ± 0.20	1.84 ± 0.77	1.20	-0.08
461	4611055N, 456593E	0.75 ± 0.14	1.75 ± 0.59	0.96	-0.32
462	4611055N, 456600E	1.00 ± 0.16	1.84 ± 0.58	1.08	-0.20
463	4611055N, 456607E	0.57 ± 0.12	0.87 ± 0.43	0.54	-0.74
464	4611055N, 456614E	0.97 ± 0.17	1.77 ± 0.57	1.04	-0.24
465	4611055N, 456622E	0.73 ± 0.13	1.38 ± 0.42	0.80	-0.48
466	4611055N, 456629E	0.91 ± 0.15	2.19 ± 0.43	1.19	-0.09
467	4611061N, 456603E	0.95 ± 0.21	2.54 ± 0.70	1.34	0.06
468	4611061N, 456612E	1.01 ± 0.16	1.50 ± 0.45	0.95	-0.33
469	4611061N, 456618E	0.76 ± 0.13	1.21 ± 0.41	0.75	-0.54
470	4611061N, 456625E	2.06 ± 0.23	2.42 ± 0.55	1.68	0.40
471	4611061N, 456632E	1.32 ± 0.20	2.58 ± 0.86	1.49	0.20
472	4611061N, 456640E	0.32 ± 0.09	0.72 ± 0.51	0.40	-0.88
473J	4611058N, 456625E	0.66 ± 0.12	1.24 ± 0.47	0.72	-0.56
474J	4611059N, 456627E	2.30 ± 0.28	2.44 ± 0.70	1.77	0.49
475J	4611060N, 456628E	1.55 ± 0.21	2.30 ± 0.69	1.45	0.17
476J	4611051N, 456626E	1.10 ± 0.17	2.04 ± 0.60	1.20	-0.09
477J	4611053N, 456628E	1.60 ± 0.21	1.39 ± 0.57	1.11	-0.17
C2 SU1					
0251	4611599N, 456795E	1.08 ± 0.20	2.40 ± 0.81	1.33	0.05
0252	Sample not collected				
0253	4611599N, 456886E	0.75 ± 0.20	1.33 ± 0.57	0.79	-0.49
0254	4611619N, 456784E	1.19 ± 0.18	1.38 ± 0.56	0.96	-0.32
0255	4611619N, 456875E	1.15 ± 0.20	3.18 ± 0.77	1.67	0.39
0256	4611639N, 456795E	0.60 ± 0.14	1.24 ± 0.47	0.70	-0.58
0257	Sample not collected				

Table B-6 (cont.): FSS Survey Units and Radionuclide Concentration Levels Hammond Depot Hammond, Indiana					
Sample ID	**Coordinate N, E[a] (X, Y)**	**Th-232[b] (pCi/g)**	**U-238[c] (pCi/g)**	**SOR Gross**	**SOR Net**
C2 SU1 (cont.)					
0258	4611639N, 456886E	0.93 ± 0.15	1.95 ± 0.55	1.10	-0.18
0259	4611662N, 456807E	0.54 ± 0.13	0.94 ± 0.54	0.56	-0.72
0260	Sample not collected				
0261	4611659N, 456875E	0.98 ± 0.21	2.34 ± 0.68	1.27	-0.01
0262	4611678N, 456795E	0.77 ± 0.14	1.62 ± 0.41	0.91	-0.37
0263	4611678N, 456886E	0.93 ± 0.17	2.01 ± 0.66	1.12	-0.16
0264	4611698N, 456807E	0.80 ± 0.17	1.03 ± 0.54	0.69	-0.59
0265	4611698N, 456830E	1.03 ± 0.18	1.86 ± 0.79	1.10	-0.18
0266	4611698N, 456852E	0.59 ± 0.11	1.40 ± 0.41	0.76	-0.52
0267	4611698N, 456875E	1.17 ± 0.18	2.35 ± 0.66	1.34	0.06
C2 SU2					
0268	Sample not collected				
0269	4611509N, 456856E	0.77 ± 0.15	1.47 ± 0.66	0.85	-0.48
0270	4611509N, 456875E	0.87 ± 0.19	1.81 ± 0.65	1.02	-0.29
0271	4611525N, 456788E	0.73 ± 0.10	1.01 ± 0.34	0.66	-0.70
0272	4611525N, 456846E	1.42 ± 0.22	1.75 ± 0.73	1.19	-0.13
0273	4611525N, 456865E	0.78 ± 0.17	1.55 ± 0.52	0.89	-0.44
0274	4611525N, 456885E	0.94 ± 0.16	2.10 ± 0.38	1.16	-0.13
0275	Sample not collected				
0276	4611542N, 456856E	0.96 ± 0.20	2.46 ± 0.80	1.32	0.04
0277	4611542N, 456875E	1.30 ± 0.18	2.00 ± 0.71	1.25	-0.05
0278	4611559N, 456788E	0.57 ± 0.10	0.74 ± 0.36	0.49	-0.88
0279	4611559N, 456846E	1.05 ± 0.14	1.62 ± 0.46	1.01	-0.31
0280	4611559N, 456865E	1.19 ± 0.19	2.24 ± 0.51	1.31	0.02
0281	4611559N, 456885E	0.81 ± 0.17	2.17 ± 0.61	1.15	-0.15
0282	Sample not collected				
0283	4611575N, 456856E	1.08 ± 0.17	1.58 ± 0.43	1.00	-0.32
0284	4611575N, 456875E	1.03 ± 0.17	2.04 ± 0.82	1.17	-0.13
C2 SU3					
0285	4611463N, 456626E	0.69 ± 0.15	2.06 ± 0.59	1.06	-0.22
0286	4611463N, 456650E	0.44 ± 0.11	1.12 ± 0.45	0.60	-0.68
0287	4611463N, 456675E	0.69 ± 0.14	1.80 ± 0.49	0.96	-0.32
0288	4611463N, 456699E	0.75 ± 0.12	1.33 ± 0.48	0.79	-0.49
0289	Sample not collected				
0290	4611463N, 456773E	0.99 ± 0.18	1.6 ± 0.68	0.98	-0.30
0291	4611484N, 456638E	1.16 ± 0.19	3.45 ± 0.72	1.78	0.50
0292	4611484N, 456662E	0.62 ± 0.13	1.70 ± 0.66	0.89	-0.39
0293	4611484N, 456687E	0.65 ± 0.15	1.68 ± 0.59	0.90	-0.39
0294	4611484N, 456712E	0.75 ± 0.12	1.20 ± 0.45	0.74	-0.54
0295	4611505N, 456626E	0.58 ± 0.14	1.47 ± 0.52	0.79	-0.49

Table B-6 (cont.): FSS Survey Units and Radionuclide Concentration Levels Hammond Depot Hammond, Indiana					
Sample ID	**Coordinate N, E[a] (X, Y)**	**Th-232[b] (pCi/g)**	**U-238[c] (pCi/g)**	**SOR Gross**	**SOR Net**
C2 SU3 (cont.)					
0296	4611505N, 456650E	0.84 ± 0.17	2.06 ± 0.66	1.11	-0.17
0297	4611505N, 456675E	0.48 ± 0.15	1.52 ± 0.60	0.77	-0.51
0298	4611505N, 456699E	0.96 ± 0.13	1.80 ± 0.59	1.05	-0.23
0299	Sample not collected				
0300	Sample not collected				
0301	4611505N, 456773E	0.77 ± 0.13	1.36 ± 0.57	0.81	-0.47
C2 SU4					
0302	4611444N, 456787E	0.86 ± 0.15	1.20 ± 0.48	0.78	-0.51
0303	4611444N, 456841E	0.94 ± 0.17	1.92 ± 0.69	1.09	-0.19
0304	4611444N, 456859E	0.88 ± 0.19	2.80 ± 0.70	1.42	0.14
0305	4611444N, 456877E	0.89 ± 0.15	1.81 ± 0.56	1.03	-0.25
0306	4611459N, 456850E	0.84 ± 0.15	1.58 ± 0.42	0.92	-0.36
0307	4611459N, 456868E	0.68 ± 0.19	2.35 ± 0.56	1.17	-0.11
0308	4611475N, 456787E	1.18 ± 0.16	1.72 ± 0.54	1.09	-0.19
0309	4611475N, 456841E	0.96 ± 0.14	1.47 ± 0.46	0.92	-0.36
0310	4611475N, 456859E	0.78 ± 0.16	2.15 ± 0.44	1.13	-0.15
0311	4611475N, 456877E	0.88 ± 0.15	2.48 ± 0.58	1.30	0.01
0312	4611490N, 456850E	0.83 ± 0.17	2.00 ± 0.61	1.09	-0.20
0313	4611490N, 456868E	0.81 ± 0.14	1.65 ± 0.47	0.94	-0.34
0314	Sample not collected				
0315	4611506N, 456787E	0.28 ± 0.07	0.57 ± 0.3	0.32	-0.96
0316	4611506N, 456805E	0.71 ± 0.13	1.79 ± 0.46	0.96	-0.32
0317	4611506N, 456823E	1.01 ± 0.18	1.53 ± 0.61	0.96	-0.32
0318	4611506N, 456841E	1.08 ± 0.15	1.35 ± 0.49	0.91	-0.37
C2 SU5					
0319	4611379N, 456671E	0.82 ± 0.15	2.00 ± 0.52	1.08	-0.20
0320	4611379N, 456695E	0.63 ± 0.14	1.31 ± 0.44	0.74	-0.54
0321	Sample not collected				
0322	Sample not collected				
0323	Sample not collected				
0324	4611400N, 456683E	0.55 ± 0.11	0.56 ± 0.46	0.41	-0.87
0325	4611400N, 456707E	0.99 ± 0.18	2.85 ± 0.83	1.48	0.20
0326	4611420N, 456622E	0.64 ± 0.11	1.43 ± 0.43	0.79	-0.49
0327	4611420N, 456646E	0.85 ± 0.16	2.10 ± 0.48	1.13	-0.15
0328	4611420N, 456671E	0.42 ± 0.09	0.45 ± 0.39	0.32	-0.96
0329	4611420N, 456695E	0.96 ± 0.15	2.01 ± 0.54	1.14	-0.15
0330	Sample not collected				
0331	4611420N, 456767E	0.57 ± 0.12	0.78 ± 0.54	0.51	-0.77
0332	4611441N, 456634E	0.70 ± 0.13	1.37 ± 0.68	0.79	-0.49
0333	4611441N, 456659E	1.02 ± 0.18	2.43 ± 0.43	1.32	0.04

Table B-6 (cont.): FSS Survey Units and Radionuclide Concentration Levels Hammond Depot Hammond, Indiana					
Sample ID	**Coordinate N, E[a] (X, Y)**	**Th-232[b] (pCi/g)**	**U-238[c] (pCi/g)**	**SOR Gross**	**SOR Net**
C2 SU5 (cont.)					
0334	4611441N, 456683E	0.82 ± 0.14	2.05 ± 0.53	1.10	-0.18
0335	4611441N, 456707E	0.73 ± 0.15	1.97 ± 0.67	1.04	-0.24
C2 SU6					
0336	4611379N, 456793E	0.42 ± 0.1	0.77 ± 0.37	0.45	-0.83
0337	Sample not collected				
0338	Sample not collected				
0339	4611394N, 456784E	0.57 ± 0.14	1.34 ± 0.59	0.73	-0.55
0340	Sample not collected				
0341	4611409N, 456793E	0.58 ± 0.12	1.41 ± 0.50	0.76	-0.52
0342	4611409N, 456844E	1.42 ± 0.19	1.73 ± 0.61	1.18	-0.10
0343	4611409N, 456862E	0.87 ± 0.17	2.59 ± 0.63	1.34	0.05
0344	4611409N, 456879E	0.86 ± 0.16	1.69 ± 0.61	0.97	-0.31
0345	4611424N, 456784E	0.65 ± 0.14	1.70 ± 0.51	0.90	-0.38
0346	Sample not collected				
0347	4611424N, 456853E	0.66 ± 0.16	1.35 ± 0.62	0.77	-0.51
0348	4611424N, 456870E	0.95 ± 0.15	2.58 ± 0.51	1.36	0.08
0349	4611438N, 456793E	0.73 ± 0.15	1.64 ± 0.50	0.91	-0.37
0350	4611438N, 456844E	1.06 ± 0.15	1.51 ± 0.44	0.97	-0.31
0351	4611438N, 456862E	0.9 ± 0.17	2.16 ± 0.54	1.17	-0.11
0352	4611438N, 456879E	0.99 ± 0.18	1.90 ± 0.69	1.10	-0.18
C2 SU7					
0353	4611336N, 456498	0.67 ± 0.13	1.58 ± 0.42	0.86	-0.42
0354	Sample not collected				
0355	Sample not collected				
0356	4611365N, 456493E	0.84 ± 0.12	1.14 ± 0.41	0.75	-0.54
0357	4611365N, 456510E	1.23 ± 0.18	2.16 ± 0.51	1.29	0.01
0358	Sample not collected				
0359	4611380N, 456502E	1.00 ± 0.14	1.78 ± 0.38	1.06	-0.23
0360	4611395N, 456473E	1.05 ± 0.18	1.96 ± 0.60	1.15	-0.14
0361	4611395N, 456493E	1.11 ± 0.16	3.07 ± 0.62	1.61	0.33
0362	4611410N, 456484E	0.45 ± 0.09	0.93 ± 0.25	0.53	-0.76
0363	4611424N, 456476E	1.09 ± 0.16	2.28 ± 0.54	1.29	0.01
0364	4611424N, 456493E	0.98 ± 0.17	2.26 ± 0.74	1.24	-0.04
0365	4611439N, 456462E	0.94 ± 0.15	1.89 ± 0.54	1.08	-0.20
0366	4611439N, 456484E	0.96 ± 0.21	3.35 ± 0.90	1.67	0.39
0367	4611439N, 456502E	0.78 ± 0.13	1.28 ± 0.49	0.78	-0.50
0368	4611439N, 456519E	0.75 ± 0.12	1.75 ± 0.48	0.96	-0.32
0369	4611439N, 456536E	1.03 ± 0.18	1.72 ± 0.64	1.04	-0.24
C2 SU8					
370	4611299N, 456610E	0.76 ± 0.12	1.54 ± 0.47	0.88	-0.40

Table B-6 (cont.): FSS Survey Units and Radionuclide Concentration Levels Hammond Depot Hammond, Indiana					
Sample ID	**Coordinate N, E[a] (X, Y)**	**Th-232[b] (pCi/g)**	**U-238[c] (pCi/g)**	**SOR Gross**	**SOR Net**
C2 SU8 (cont.)					
371	4611330N, 456610E	0.53 ± 0.10	0.98 ± 0.41	0.57	-0.71
372	4611362N, 456610E	0.45 ± 0.10	0.78 ± 0.42	0.47	-0.82
373	4611380N, 456528E	0.98 ± 0.16	1.50 ± 0.62	0.94	-0.34
374	4611378N, 456544E	0.88 ± 0.11	1.27 ± 0.37	0.81	-0.47
375	Sample not collected				
376	4611394N, 456556E	0.86 ± 0.13	2.13 ± 0.53	1.15	-0.13
377	4611394N, 456610E	0.48 ± 0.08	0.49 ± 0.27	0.36	-0.92
378	Sample not collected				
379	4611425N, 456556E	0.98 ± 0.19	1.52 ± 0.62	0.95	-0.34
380	4611425N, 456574E	0.69 ± 0.15	1.31 ± 0.49	0.76	-0.52
381	4611425N, 456592E	0.56 ± 0.10	1.17 ± 0.36	0.66	-0.62
382	4611425N, 456610E	1.31 ± 0.17	1.39 ± 0.48	1.01	-0.27
383	Sample not collected				
384	4611441N, 456565E	0.69 ± 0.12	1.24 ± 0.43	0.73	-0.55
385	4611441N, 456583E	0.79 ± 0.14	1.85 ± 0.59	1.01	-0.27
386	4611441N, 456601E	0.58 ± 0.12	1.64 ± 0.48	0.86	-0.43
C2 SU9					
387	4611208N, 456555E	0.79 ± 0.15	1.61 ± 0.55	0.92	-0.37
388	4611208N, 456575E	1.02 ± 0.17	1.93 ± 0.75	1.12	-0.16
389	4611208N, 456595E	0.80 ± 0.13	1.54 ± 0.49	0.89	-0.39
390	4611226N, 456545E	0.56 ± 0.11	0.84 ± 0.34	0.53	-0.75
391	4611226N, 456565E	1.02 ± 0.16	2.10 ± 0.52	1.19	-0.09
392	4611226N, 456585E	0.97 ± 0.15	1.14 ± 0.56	0.79	-0.49
393	4611226N, 456605E	0.91 ± 0.16	2.55 ± 0.72	1.33	0.05
394	4611243N, 456535E	0.63 ± 0.10	1.08 ± 0.30	0.65	-0.63
395	4611243N, 456555E	0.99 ± 0.17	2.17 ± 0.74	1.21	-0.07
396	4611243N, 456575E	0.80 ± 0.17	1.90 ± 0.56	1.04	-0.25
397	4611243N, 456595E	0.94 ± 0.20	2.34 ± 0.63	1.26	-0.02
398	Sample location within C1 SU2, soil remediated				
399	4611261N, 456565E	1.00 ± 0.14	1.76 ± 0.55	1.05	-0.23
400	4611261N, 456585E	0.97 ± 0.12	1.39 ± 0.47	0.89	-0.39
401	4611261N, 456605E	0.86 ± 0.13	1.93 ± 0.53	1.07	-0.21
402	4611278N, 456575E	0.82 ± 0.14	1.78 ± 0.61	0.99	-0.29
403	4611278N, 456595E	0.65 ± 0.12	0.98 ± 0.40	0.62	-0.67
C2 SU10					
0404	Sample not collected				
0405	4611107N, 456599E	0.33 ± 0.10	0.87 ± 0.46	0.46	-0.82
0406	Sample not collected				
0407	4611123N, 456608E	1.09 ± 0.19	2.22 ± 0.60	1.26	-0.02
0408	4611139N, 456581E	0.56 ± 0.15	1.14 ± 0.45	0.65	-0.63

Table B-6 (cont.): FSS Survey Units and Radionuclide Concentration Levels Hammond Depot Hammond, Indiana					
Sample ID	**Coordinate N, E[a] (X, Y)**	**Th-232[b] (pCi/g)**	**U-238[c] (pCi/g)**	**SOR Gross**	**SOR Net**
C2 SU10 (cont.)					
0409	4611139N, 456599E	0.49 ± 0.08	0.82 ± 0.23	0.50	-0.79
0410	4611154N, 456572E	0.59 ± 0.12	1.10 ± 0.48	0.64	-0.64
0411	4611154N, 456590E	0.33 ± 0.08	0.43 ± 0.26	0.29	-1.00
0412	4611154N, 456608E	1.13 ± 0.22	2.62 ± 0.81	1.44	0.16
0413	Sample not collected				
0414	4611170N, 456599E	0.97 ± 0.18	2.35 ± 0.91	1.27	-0.01
0415	4611186N, 456572E	0.71 ± 0.12	1.13 ± 0.40	0.70	-0.59
0416	4611186N, 456590E	0.99 ± 0.15	1.92 ± 0.55	1.11	-0.17
0417	4611186N, 456608E	0.81 ± 0.19	2.68 ± 0.82	1.35	0.07
0418	4611202N, 456563E	0.61 ± 0.11	1.11 ± 0.47	0.65	-0.63
0419	4611202N, 456581E	1.01 ± 0.17	2.63 ± 0.59	1.40	0.12
0420	4611202N, 456599E	0.74 ± 0.18	2.29 ± 0.62	1.17	-0.11
C2 SU11					
0421	4611061N, 456593E	0.98 ± 0.19	2.15 ± 0.73	1.20	-0.08
0422	4611072N, 456587E	1.09 ± 0.16	2.28 ± 0.61	1.29	0.01
0423	4611072N, 456600E	0.95 ± 0.17	1.73 ± 0.67	1.02	-0.26
0424	4611072N, 456612E	0.68 ± 0.12	1.72 ± 0.49	0.92	-0.36
0425	4611072N, 456624E	1.31 ± 0.23	1.74 ± 0.88	1.15	-0.13
0426	4611072N, 456651E	1.26 ± 0.17	1.61 ± 0.62	1.08	-0.20
0427	4611083N, 456580E	1.14 ± 0.20	2.01 ± 0.89	1.20	-0.09
0428	4611083N, 456593E	0.62 ± 0.15	1.63 ± 0.58	0.87	-0.42
0429	4611083N, 456606E	0.75 ± 0.18	2.29 ± 0.59	1.17	-0.11
0430	4611083N, 456619E	0.82 ± 0.14	1.67 ± 0.56	0.95	-0.33
0431	4611083N, 456670E	1.05 ± 0.17	1.83 ± 0.63	1.09	-0.19
0432	4611094N, 456587E	0.77 ± 0.13	2.24 ± 0.54	1.16	-0.12
0433	4611094N, 456600E	1.01 ± 0.16	1.76 ± 0.54	1.05	-0.23
0434	4611094N, 456612E	0.96 ± 0.17	2.82 ± 0.91	1.46	0.18
0435	4611094N, 456625E	1.21 ± 0.18	2.66 ± 0.86	1.48	0.20
0436	4611094N, 456676E	1.02 ± 0.21	1.33 ± 0.73	0.88	-0.40
0437	4611094N, 456689E	0.87 ± 0.14	1.39 ± 0.58	0.86	-0.43
C2 SU12					
0478	4611393N, 456510E	0.71 ± 0.14	2.06 ± 0.67	1.07	-0.21
0479	4611398N, 456507E	0.77 ± 0.13	2.01 ± 0.53	1.07	-0.21
0480	4611403N, 456505E	0.67 ± 0.15	1.04 ± 0.59	0.65	-0.64
0481	4611403N, 456515E	0.91 ± 0.17	1.54 ± 0.61	0.93	-0.35
0482	4611407N, 456513E	0.78 ± 0.12	1.81 ± 0.53	0.99	-0.29
0483	4611412N, 456510E	0.56 ± 0.13	1.15 ± 0.51	0.65	-0.63
0484	4611422N, 456510E	0.76 ± 0.14	1.40 ± 0.57	0.82	-0.46
0485	4611426N, 456524E	0.75 ± 0.14	1.80 ± 0.46	0.98	-0.30
0486	4611431N, 456521E	0.77 ± 0.14	1.56 ± 0.61	0.89	-0.39

Table B-6 (cont.): FSS Survey Units and Radionuclide Concentration Levels Hammond Depot Hammond, Indiana					
Sample ID	**Coordinate N, E[a] (X, Y)**	**Th-232[b] (pCi/g)**	**U-238[c] (pCi/g)**	**SOR Gross**	**SOR Net**
C2 SU12 (cont.)					
0487	4611431N, 456526E	0.90 ± 0.13	1.93 ± 0.51	1.08	-0.20
0488	4611445N, 456524E	0.77 ± 0.17	1.79 ± 0.63	0.98	-0.30
0489	4611445N, 456529E	1.36 ± 0.18	2.11 ± 0.61	1.31	0.03
0490	4611450N, 456521E	2.31 ± 0.27	2.74 ± 0.68	1.89	0.61
0491	4611450N, 456526E	1.43 ± 0.23	2.56 ± 0.67	1.52	0.23
0492	4611455N, 456524E	0.87 ± 0.16	1.59 ± 0.57	0.94	-0.35
0493	4611455N, 456529E	1.5 ± 0.3	2.34 ± 0.75	1.45	0.17
C3 SU1					
0144	4611592N, 456533E	0.77 ± 0.19	2.30 ± 0.67	1.31	-0.10
0145	4611601N, 456610E	0.95 ± 0.19	2.60 ± 0.75	1.51	0.09
0146	Sample not collected				
0147	4611507N, 456529E	0.94 ± 0.17	2.46 ± 0.64	1.44	0.03
0148	4611484N, 456515E	1.10 ± 0.19	2.90 ± 0.71	1.70	0.26
0149	4611611N, 456581E	0.90 ± 0.19	2.40 ± 0.66	1.40	-0.01
0150	Sample not collected				
0151	4611590N, 456558E	0.67 ± 0.18	2.68 ± 0.72	1.45	0.02
0152	Sample not collected				
0153	4611684N, 456574E	1.02 ± 0.19	2.66 ± 0.69	1.56	0.13
0154	4611691N, 456562E	1.10 ± 0.21	2.81 ± 0.96	1.66	0.22
0155	4611526N, 456518E	0.80 ± 0.17	1.96 ± 0.62	1.17	-0.22
0156	4611616N, 456531E	1.43 ± 0.17	1.84 ± 0.53	1.33	-0.05
0157	4611606N, 456603E	0.88 ± 0.18	2.85 ± 0.79	1.60	0.16
0158	4611561N, 456493E	0.89 ± 0.16	1.40 ± 0.58	0.94	-0.42
0159	Sample not collected				
0160	4611616N, 456574E	1.13 ± 0.21	3.31 ± 0.88	1.89	0.43
C3 SU2					
0161	4611688N, 456628E	0.82 ± 0.16	1.60 ± 0.57	1.01	0.35
0162	Sample not collected				
0163	4611549N, 456697E	0.47 ± 0.14	1.34 ± 0.69	0.70	-0.58
0164	4611634N, 456618E	0.61 ± 0.12	1.20 ± 0.50	0.69	-0.59
0165	4611616N, 456619E	0.64 ± 0.11	1.39 ± 0.51	0.78	-0.51
0166	4611531N, 456630E	0.68 ± 0.11	1.60 ± 0.42	0.87	-0.41
0167	4611517N, 456761E	0.7 ± 0.15	1.08 ± 0.40	0.67	-0.61
0168	4611516N, 456773E	0.50 ± 0.11	0.66 ± 0.33	0.44	-0.85
0169	4611702N, 456709E	0.81 ± 0.16	1.19 ± 0.68	0.76	-0.53
0170	4611661N, 456737E	0.72 ± 0.14	1.83 ± 0.40	0.98	-0.30
0171	4611696N, 456714E	0.77 ± 0.14	1.06 ± 0.51	0.69	-0.59
0172	4611678N, 456750E	0.58 ± 0.12	0.99 ± 0.51	0.60	-0.69
0173	4611688N, 456713E	0.77 ± 0.11	1.19 ± 0.29	0.74	-0.54
0174	4611583N, 456763E	0.70 ± 0.12	1.46 ± 0.45	0.83	-0.46

Table B-6 (cont.): FSS Survey Units and Radionuclide Concentration Levels Hammond Depot Hammond, Indiana					
Sample ID	**Coordinate N, E[a] (X, Y)**	**Th-232[b] (pCi/g)**	**U-238[c] (pCi/g)**	**SOR Gross**	**SOR Net**
C3 SU2 (cont.)					
0175	4611654N, 456769E	0.60 ± 0.14	0.86 ± 0.42	0.55	-0.73
0176	4611610N, 456747E	0.29 ± 0.07	0.62 ± 0.22	0.35	-0.93
0177	4611550N, 456721E	0.86 ± 0.16	1.54 ± 0.66	0.91	-0.37
0178	4611687N, 456617E	0.99 ± 0.17	2.16 ± 0.62	1.21	-0.08
C3 SU3					
0179	4611130N, 456617E	0.88 ± 0.17	1.74 ± 0.70	1.00	-0.28
0180	4611137N, 456689E	0.44 ± 0.12	1.37 ± 0.57	0.70	-0.58
0181	4611127N, 456618E	0.89 ± 0.15	1.53 ± 0.68	0.92	-0.36
0182	4611304N, 456685E	1.06 ± 0.18	2.78 ± 0.66	1.48	0.20
0183	4611112N, 456665E	1.05 ± 0.16	1.60 ± 0.54	1.00	-0.28
0184	4611280N, 456634E	0.66 ± 0.15	1.59 ± 0.52	0.86	-0.42
0185	4611230N, 456672E	0.36 ± 0.07	0.69 ± 0.25	0.40	-0.88
0186	4611164N, 456686E	0.87 ± 0.16	1.37 ± 0.58	0.85	-0.43
0187	4611345N, 456659E	0.82 ± 0.18	1.82 ± 0.66	1.01	-0.27
0188	4611123N, 456672E	1.15 ± 0.19	2.43 ± 0.67	1.37	0.09
0189	4611220N, 456695E	0.88 ± 0.13	1.18 ± 0.38	0.78	-0.51
0190	4611188N, 456686E	1.20 ± 0.19	2.24 ± 0.66	1.31	0.03
0191	4611337N, 456665E	0.76 ± 0.18	2.22 ± 0.64	1.15	-0.13
0192	4611325N, 456631E	0.86 ± 0.19	2.31 ± 0.57	1.22	-0.06
0193	4611309N, 456653E	0.74 ± 0.17	2.39 ± 0.46	1.21	-0.07
0194	4611189N, 456687E	1.02 ± 0.16	1.82 ± 0.53	1.08	-0.20
0195	4611265N, 456638E	0.39 ± 0.11	0.97 ± 0.40	0.52	-0.76
C3 SU4					
0215	4611109N, 456706E	1.40 ± 0.26	3.7 ± 1.0	1.96	0.68
0216	4611165N, 456716E	1.66 ± 0.25	2.63 ± 0.83	1.62	0.34
0217	4611174N, 456699E	1.19 ± 0.17	1.88 ± 0.55	1.16	-0.12
0218	4611187N, 456716E	1.01 ± 0.12	1.24 ± 0.46	0.84	-0.44
0219	4611192N, 456732E	1.53 ± 0.25	2.30 ± 0.86	1.45	0.17
0220	4611196N, 456703E	1.55 ± 0.23	2.16 ± 0.86	1.40	0.12
0221	4611198N, 456732E	1.38 ± 0.20	2.34 ± 0.65	1.41	0.13
0222	4611208N, 456709E	1.50 ± 0.20	2.31 ± 0.56	1.44	0.16
0223	4611215N, 456700E	0.90 ± 0.14	2.01 ± 0.69	1.11	-0.17
0224	4611223N, 456725E	1.04 ± 0.15	1.72 ± 0.51	1.05	-0.24
0225	4611223N, 456720E	1.44 ± 0.19	2.30 ± 0.61	1.42	0.13
0226	4611268N, 456701E	1.24 ± 0.17	1.65 ± 0.51	1.09	-0.19
0227	4611280N, 456779E	1.09 ± 0.16	1.39 ± 0.52	0.93	-0.35
0228	4611289N, 456730E	0.96 ± 0.16	1.94 ± 0.59	1.11	-0.18
0229	4611304N, 456752E	0.47 ± 0.09	0.60 ± 0.29	0.40	-0.88
0230	4611314N, 456763E	0.41 ± 0.09	0.74 ± 0.29	0.44	-0.85
0231	4611333N, 456747E	0.53 ± 0.11	0.85 ± 0.56	0.52	-0.76

Table B-6 (cont.): FSS Survey Units and Radionuclide Concentration Levels Hammond Depot Hammond, Indiana					
Sample ID	**Coordinate N, E[a] (X, Y)**	**Th-232[b] (pCi/g)**	**U-238[c] (pCi/g)**	**SOR Gross**	**SOR Net**
C3 SU4 (cont.)					
0232	Sample not collected				
C3 SU5					
0233	4611170N, 456781E	1.21 ± 0.19	1.15 ± 0.61	0.88	-0.41
0234	4611187N, 456801E	1.18 ± 0.17	1.72 ± 0.42	1.09	-0.19
0235	4611190N, 456808E	0.99 ± 0.16	1.60 ± 0.67	0.98	-0.30
0236	4611227N, 456833E	1.45 ± 0.20	1.94 ± 0.60	1.28	-0.01
0237	4611240N, 456810E	0.38 ± 0.08	0.60 ± 0.26	0.37	-0.91
0238	4611247N, 456838E	0.99 ± 0.14	1.67 ± 0.44	1.01	-0.27
0239	4611256N, 456800E	0.36 ± 0.10	0.63 ± 0.31	0.38	-0.91
0240	4611258N, 456855E	0.87 ± 0.15	1.55 ± 0.55	0.92	-0.36
0241	4611259N, 456863E	1.35 ± 0.20	2.42 ± 0.93	1.43	0.15
0242	4611277N, 456785E	0.63 ± 0.09	0.84 ± 0.33	0.55	-0.73
0243	4611286N, 456807E	0.88 ± 0.13	1.43 ± 0.45	0.88	-0.41
0244	4611296N, 456784E	0.75 ± 0.12	0.91 ± 0.35	0.62	-0.66
0245	4611309N, 456797E	0.59 ± 0.12	1.14 ± 0.51	0.66	-0.62
0246	4611315N, 456886E	0.76 ± 0.13	1.62 ± 0.52	0.91	-0.37
0247	4611322N, 456892E	0.38 ± 0.11	0.65 ± 0.41	0.39	-0.89
0248	4611330N, 456868E	0.64 ± 0.19	1.48 ± 0.65	0.81	-0.47
0249	4611335N, 456787E	0.58 ± 0.12	1.25 ± 0.36	0.70	-0.58
0250	Sample not collected				

[a]Global positioning coordinates are NAD 83 UTM Zone 16.
[b]Th-232 quantified from Ac-228 911 keV photopeak, uncertainties represent total propagated uncertainties at the 95% confidence interval.
[c]U-238 quantified from Th-234 63 keV photopeak, uncertainties represent total propagated uncertainties at the 95% confidence interval.
[d]J = Judgmental samples.

Table B-7: FSS Exterior Slag Survey Units and Surface Activity Levels Hammond Depot Hammond, Indiana			
Survey Unit ID/ Surface	**Location (N, E)[a]**	**Counts per Minute**	**Total Beta Activity dpm/100 cm^2**
C1 SU2			
C1 SU2.1			
Slag	4611369, 456528	479	11
Slag	4611369, 456532	541	130
Slag	4611369, 456536	569	180
Slag	4611369, 456540	481	15
Slag	4611369, 456544	462	-21
Slag	4611372, 456527	466	-13
Slag	4611372, 456530	498	47
Slag	4611372, 456534	404	-130
Slag	4611372, 456538	451	-42
Slag	4611372, 456542	408	-120
Slag	4611375, 456525	398	-140
Slag	4611375, 456528	347	-240
Slag	4611375, 456532	405	-130
Slag	4611375, 456536	498	47
C1 SU2.2			
Slag	4611358, 456530	525	98
Slag	4611358, 456535	503	57
Slag	4611358, 456539	530	110
Slag	4611358, 456543	552	150
Slag	4611362, 456528	434	-74
Slag	4611362, 456533	506	62
Slag	4611362, 456537	487	26
Slag	4611362, 456541	503	57
Slag	4611362, 456545	570	180
Slag	4611365, 456526	459	-26
Slag	4611365, 456530	495	42
Slag	4611365, 456535	476	6
Slag	4611365, 456539	485	23
Slag	4611365, 456543	513	76
C1 SU2.3			
Slag	4611347, 456529	539	120
Slag	4611347, 456533	486	25
Slag	4611347, 456537	480	13
Slag	4611347, 456541	478	9
Slag	4611347, 456545	484	21
Slag	4611350, 456531	507	64
Slag	4611350, 456535	534	120

Table B-7 (cont.): FSS Exterior Slag Survey Units and Surface Activity Levels Hammond Depot Hammond, Indiana			
Survey Unit ID/ Surface	**Location (N, E)[a]**	**Counts per Minute**	**Total Beta Activity dpm/100 cm^2**
C1 SU2.3 (cont.)			
Slag	4611350, 456539	481	15
Slag	4611350, 456543	509	68
Slag	4611354, 456529	505	60
Slag	4611354, 456533	549	140
Slag	4611354, 456537	529	110
Slag	4611354, 456541	518	85
Slag	4611354, 456545	548	140
C1 SU2.4			
Slag	4611334, 456525	498	47
Slag	4611334, 456529	559	160
Slag	4611334, 456532	475	4
Slag	4611334, 456536	431	-79
Slag	4611334, 456540	455	-34
Slag	4611334, 456544	448	-47
Slag	4611337, 456531	589	220
Slag	4611337, 456534	533	110
Slag	4611337, 456538	506	62
Slag	4611337, 456542	480	13
Slag	4611340, 456532	524	96
Slag	4611340, 456536	477	8
Slag	4611340, 456540	457	-30
Slag	4611340, 456544	525	98
C1 SU2.5			
Slag	4611334, 456519	658	350
Slag	4611337, 456520	550	150
Slag	4611339, 456519	475	4
Slag	4611339, 456522	541	130
Slag	4611342, 456517	513	76
Slag	4611342, 456520	442	-59
Slag	4611344, 456516	447	-49
Slag	4611344, 456519	530	110
Slag	4611347, 456514	564	170
Slag	4611347, 456517	482	17
Slag	4611349, 456516	539	120
Slag	4611352, 456514	490	32
Slag	4611352, 456517	450	-43
Slag	4611355, 456516	494	40
C1 SU2.6			
Slag	4611335, 456502	428	-85
Slag	4611338, 456500	413	-110

Table B-7 (cont.): FSS Exterior Slag Survey Units and Surface Activity Levels Hammond Depot Hammond, Indiana			
Survey Unit ID/ Surface	**Location (N, E)[a]**	**Counts per Minute**	**Total Beta Activity dpm/100 cm^2**
C1 SU2.6 (cont.)			
Slag	4611338, 456504	381	-170
Slag	4611338, 456508	338	-260
Slag	4611341, 456499	320	-290
Slag	4611341, 456502	361	-210
Slag	4611341, 456506	389	-160
Slag	4611341, 456510	314	-300
Slag	4611341, 456513	352	-230
Slag	4611344, 456504	358	-220
Slag	4611344, 456508	325	-280
Slag	4611344, 456511	363	-210
Slag	4611347, 456510	529	110
Slag	4611347, 456513	459	-26
C1 SU2.7			
Slag	4611328, 456505	409	-120
Slag	4611328, 456509	424	-93
Slag	4611331, 456503	426	-89
Slag	4611331, 456507	543	130
Slag	4611331, 456510	358	-220
Slag	4611331, 456514	430	-81
Slag	4611331, 456517	445	-53
Slag	4611334, 456505	362	-210
Slag	4611334, 456509	365	-200
Slag	4611334, 456512	390	-160
Slag	4611334, 456516	554	150
Slag	4611337, 456510	343	-250
Slag	4611337, 456514	408	-120
Slag	4611340, 456516	464	-17
C1 SU3			
C1 SU3.1			
Slag	4611321, 456503	450	-43
Slag	4611321, 456507	589	220
Slag	4611321, 456511	511	72
Slag	4611321, 456513	565	170
Slag	4611321, 456520	463	-19
Slag	4611324, 456505	518	85
Slag	4611324, 456509	511	72
Slag	4611324, 456514	509	68
Slag	4611324, 456518	534	120
Slag	4611324, 456522	539	120
Slag	4611328, 456511	507	64

Table B-7 (cont.): FSS Exterior Slag Survey Units and Surface Activity Levels Hammond Depot Hammond, Indiana			
Survey Unit ID/ Surface	**Location (N, E)[a]**	**Counts per Minute**	**Total Beta Activity dpm/100 cm^2**
C1 SU3.1 (cont.)			
Slag	4611328, 456516	479	11
Slag	4611328, 456520	549	140
Slag	4611332, 456522	513	76
C1 SU3.2			
Slag	4611324, 456523	500	51
Slag	4611324, 456527	588	220
Slag	4611324, 456531	570	180
Slag	4611327, 456525	610	260
Slag	4611327, 456529	504	59
Slag	4611327, 456533	512	74
Slag	No Measurement		
Slag	4611327, 456541	490	32
Slag	4611331, 456523	518	85
Slag	4611331, 456527	491	34
Slag	4611331, 456531	540	130
Slag	4611331, 456535	469	-8
Slag	4611331, 456539	432	-77
Slag	No Measurement		
C1 SU3.3			
Slag	4611310, 456502	585	210
Slag	4611310, 456507	481	15
Slag	4611310, 456512	489	30
Slag	4611310, 456516	385	-170
Slag	4611310, 456521	498	47
Slag	4611314, 456504	563	170
Slag	4611314, 456509	393	-150
Slag	4611314, 456514	476	6
Slag	4611314, 456519	368	-200
Slag	4611318, 456502	633	300
Slag	4611318, 456507	547	140
Slag	4611318, 456512	466	-13
Slag	4611318, 456516	447	-49
Slag	4611318, 456521	542	130
C1 SU3.4			
Slag	4611309, 456523	440	-62
Slag	4611309, 456527	368	-200
Slag	4611313, 456532	519	87
Slag	No Measurement		
Slag	4611313, 456527	497	45
Slag	4611313, 456530	480	13

Table B-7 (cont.): FSS Exterior Slag Survey Units and Surface Activity Levels Hammond Depot Hammond, Indiana			
Survey Unit ID/ Surface	**Location (N, E)[a]**	**Counts per Minute**	**Total Beta Activity dpm/100 cm^2**
C1 SU3.4 (cont.)			
Slag	4611313, 456534	514	77
Slag	4611316, 456525	390	-160
Slag	4611316, 456527	489	30
Slag	4611316, 456532	513	76
Slag	No Measurement		
Slag	4611320, 456525	541	130
Slag	4611320, 456530	568	180
Slag	No Measurement		
C1 SU3.5			
Slag	4611301, 456506	479	11
Slag	4611301, 456510	517	83
Slag	4611301, 456514	424	-93
Slag	4611301, 456518	409	-120
Slag	4611304, 456504	501	53
Slag	4611304, 456508	441	-60
Slag	4611304, 456512	458	-28
Slag	4611304, 456516	466	-13
Slag	4611304, 456520	423	-94
Slag	4611307, 456502	523	94
Slag	4611307, 456506	506	62
Slag	4611307, 456510	480	13
Slag	4611307, 456514	464	-17
Slag	4611307, 456518	502	55
C1 SU3.6			
Slag	4611298, 456522	375	-190
Slag	4611298, 456526	391	-150
Slag	4611298, 456531	392	-150
Slag	4611298, 456535	495	42
Slag	4611298, 456539	654	340
Slag	4611301, 456524	375	-190
Slag	4611301, 456529	398	-140
Slag	4611301, 456533	618	270
Slag	4611301, 456537	457	-30
Slag	4611305, 456522	373	-190
Slag	4611305, 456526	368	-200
Slag	4611305, 456531	376	-180
Slag	4611305, 456535	421	-98
Slag	4611305, 456539	411	-120
C1 SU3.7			
Slag	4611290, 456505	376	-180

Table B-7 (cont.): FSS Exterior Slag Survey Units and Surface Activity Levels Hammond Depot Hammond, Indiana			
Survey Unit ID/ Surface	**Location (N, E)[a]**	**Counts per Minute**	**Total Beta Activity dpm/100 cm^2**
C1 SU3.7 (cont.)			
Slag	4611290, 456510	367	-200
Slag	4611290, 456514	361	-210
Slag	4611290, 456518	417	-110
Slag	4611290, 456522	376	-180
Slag	4611294, 456507	432	-77
Slag	4611294, 456512	385	-170
Slag	4611294, 456516	474	2
Slag	4611294, 456520	454	-36
Slag	4611297, 456505	420	-100
Slag	4611297, 456510	399	-140
Slag	4611297, 456514	374	-190
Slag	4611297, 456518	359	-220
Slag	4611297, 456522	409	-120
C1 SU5.1			
Slag	4611277, 456511	386	-160
Slag	4611277, 456515	465	-15
Slag	4611277, 456519	387	-160
Slag	4611280, 456509	414	-110
Slag	4611280, 456513	392	-150
Slag	4611280, 456517	487	26
Slag	4611280, 456521	428	-85
Slag	4611284, 456507	383	-170
Slag	4611284, 456511	515	79
Slag	4611284, 456515	450	-43
Slag	4611284, 456519	453	-38
Slag	4611288, 456509	346	-240
Slag	4611288, 456513	366	-200
Slag	4611288, 456517	425	-91
C1 SU5			
C1 SU5.2			
Slag	4611287, 456524	373	-190
Slag	4611287, 456528	350	-230
Slag	4611287, 456532	366	-200
Slag	4611287, 456536	503	57
Slag	4611287, 456540	464	-17
Slag	4611290, 456526	436	-70
Slag	4611290, 456530	357	-220
Slag	4611290, 456534	402	-130
Slag	4611290, 456538	551	150
Slag	4611294, 456524	344	-240

Table B-7 (cont.): FSS Exterior Slag Survey Units and Surface Activity Levels Hammond Depot Hammond, Indiana			
Survey Unit ID/ Surface	**Location (N, E)[a]**	**Counts per Minute**	**Total Beta Activity dpm/100 cm^2**
C1 SU5.2 (cont.)			
Slag	4611294, 456528	348	-240
Slag	4611294, 456532	380	-180
Slag	4611294, 456536	437	-68
Slag	4611294, 456540	524	96
C1 SU5.3			
Slag	4611277, 456525	344	-240
Slag	4611277, 456530	523	94
Slag	4611277, 456535	489	30
Slag	4611277, 456540	386	-160
Slag	4611277, 456545	455	-34
Slag	4611281, 456523	391	-150
Slag	4611281, 456528	408	-120
Slag	4611281, 456533	502	55
Slag	4611281, 456538	439	-64
Slag	4611281, 456543	511	72
Slag	4611286, 456525	362	-210
Slag	4611286, 456530	399	-140
Slag	4611286, 456535	449	-45
Slag	4611286, 456540	443	-57
C1 SU5.4			
Slag	4611250, 456521	359	-220
Slag	4611253, 456519	592	220
Slag	4611257, 456521	520	89
Slag	4611260, 456519	415	-110
Slag	4611264, 456517	393	-150
Slag	4611264, 456521	418	-100
Slag	4611267, 456515	402	-130
Slag	4611267, 456519	444	-55
Slag	4611271, 456513	447	-49
Slag	4611271, 456517	370	-190
Slag	4611271, 456521	330	-270
Slag	4611274, 456511	406	-130
Slag	4611274, 456515	391	-150
Slag	4611274, 456519	463	-19
C1 SU5.5			
Slag	4611268, 456523	388	-160
Slag	4611268, 456527	434	-74
Slag	4611268, 456532	458	-28
Slag	4611268, 456536	563	170
Slag	4611268, 456540	447	-49

Table B-7 (cont.): FSS Exterior Slag Survey Units and Surface Activity Levels Hammond Depot Hammond, Indiana			
Survey Unit ID/ Surface	**Location (N, E)[a]**	**Counts per Minute**	**Total Beta Activity dpm/100 cm^2**
C1 SU5.5 (cont.)			
Slag	4611268, 456545	396	-150
Slag	4611268, 456549	380	-180
Slag	4611272, 456525	358	-220
Slag	4611272, 456529	440	-62
Slag	4611272, 456534	524	96
Slag	4611272, 456538	427	-87
Slag	4611272, 456542	477	8
Slag	4611272, 456547	462	-21
Slag	4611276, 456523	412	-120
Slag	4611276, 456527	387	-160
Slag	4611276, 456532	509	68
Slag	4611276, 456536	558	160
Slag	4611276, 456540	440	-62
Slag	4611276, 456545	471	-4
C1 SU5.6			
Slag	4611251, 456525	448	-47
Slag	4611251, 456530	352	-230
Slag	4611255, 456523	449	-45
Slag	4611255, 456528	458	-28
Slag	4611255, 456532	471	-4
Slag	4611259, 456525	476	6
Slag	4611259, 456530	461	-23
Slag	4611259, 456534	463	-19
Slag	4611263, 456523	517	83
Slag	4611263, 456528	389	-160
Slag	4611263, 456531	399	-140
Slag	4611267, 456525	479	11
Slag	4611267, 456530	447	-49
Slag	4611267, 456534	505	60
C1 SU5.7			
Slag	4611259, 456537	481	15
Slag	4611259, 456541	480	13
Slag	4611259, 456544	455	-34
Slag	4611259, 456548	438	-66
Slag	4611259, 456552	471	-4
Slag	4611262, 456535	461	-23
Slag	4611262, 456539	377	-180
Slag	4611262, 456543	376	-180
Slag	4611262, 456546	411	-120
Slag	4611262, 456550	460	-25

Table B-7 (cont.): FSS Exterior Slag Survey Units and Surface Activity Levels Hammond Depot Hammond, Indiana			
Survey Unit ID/ Surface	**Location (N, E)[a]**	**Counts per Minute**	**Total Beta Activity dpm/100 cm^2**
C1 SU5.7 (cont.)			
Slag	4611266, 456537	538	120
Slag	4611266, 456541	381	-170
Slag	4611266, 456544	368	-200
Slag	4611266, 456548	464	-17
C1 SU5.8			
Slag	4611251, 456544	446	-51
Slag	4611251, 456547	472	-2
Slag	4611251, 456551	436	-70
Slag	4611251, 456553	513	76
Slag	4611254, 456538	517	83
Slag	4611254, 456542	438	-66
Slag	4611254, 456545	459	-26
Slag	4611254, 456549	452	-40
Slag	4611254, 456552	448	-47
Slag	4611257, 456537	472	-2
Slag	4611257, 456540	482	17
Slag	4611257, 456544	470	-6
Slag	4611257, 456547	399	-140
Slag	4611257, 456551	517	83
C1 SU5			
Slag (J)[b]	4611268, 456505	534	120
Slag (J)	4611265, 456501	585	210
Slag (J)	4611283, 456501	660	350
Slag (J)	4611290, 456499	461	-23
Slag (J)	4611317, 456492	559	160
Slag (J)	4611323, 456493	512	74
Slag (J)	4611329, 456492	534	120

[a]Global positioning coordinates are NAD 83 UTM Zone 16.
[b]J = judgmental measurement.

APPENDIX C: REFERENCES

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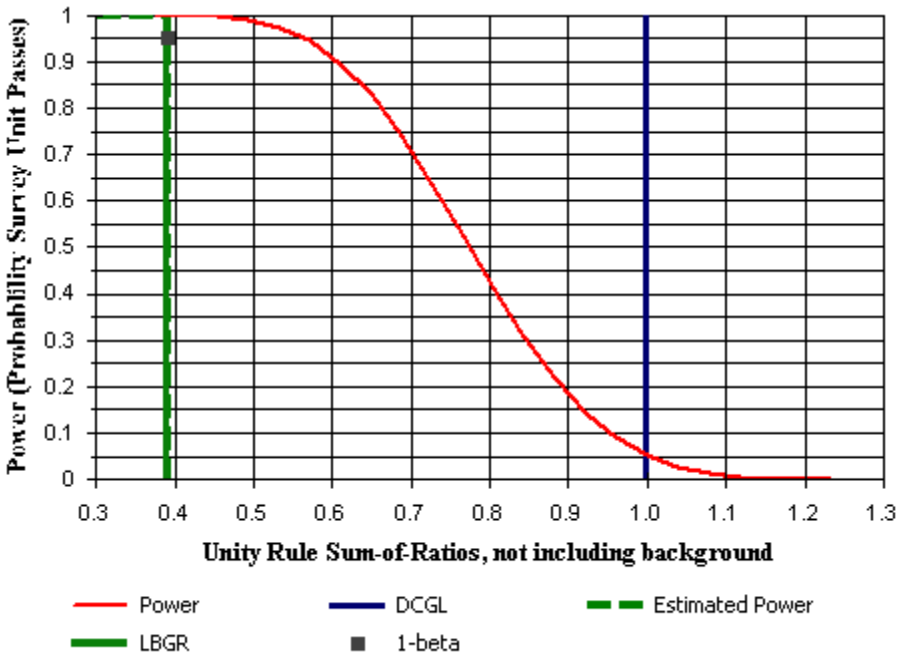
APPENDIX D: LAND SURVEY UNIT DQOs

Surface Soil Survey Plan

Survey Plan Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU1		
Comments:			
Area (m²):	1,949	Classification:	1
Selected Test:	WRS	Estimated Sigma (SOR):	0.39
DCGL (SOR):	1	Sample Size (N/2):	18
LBGR (SOR):	0.39	Estimated Conc. (SOR):	0.39
Alpha:	0.050	Estimated Power:	1
Beta:	0.050	EMC Sample Size (N):	18
Scanning Instrumentation:	NaI		

Prospective Power Curve



Surface Soil Survey Plan

Contaminant Summary

Contaminant	DCGLw (pCi/g)	Inferred Contaminant	Ratio	Modified DCGLw (pCi/g)	Scan MDC (pCi/g)
Th-232	2.90	N/A	N/A	N/A	2.9
U-238	2.50	N/A	N/A	N/A	2.8

Scan MDC revised from actual of 4.5 to 2.8 to reflect mixture scan MDC

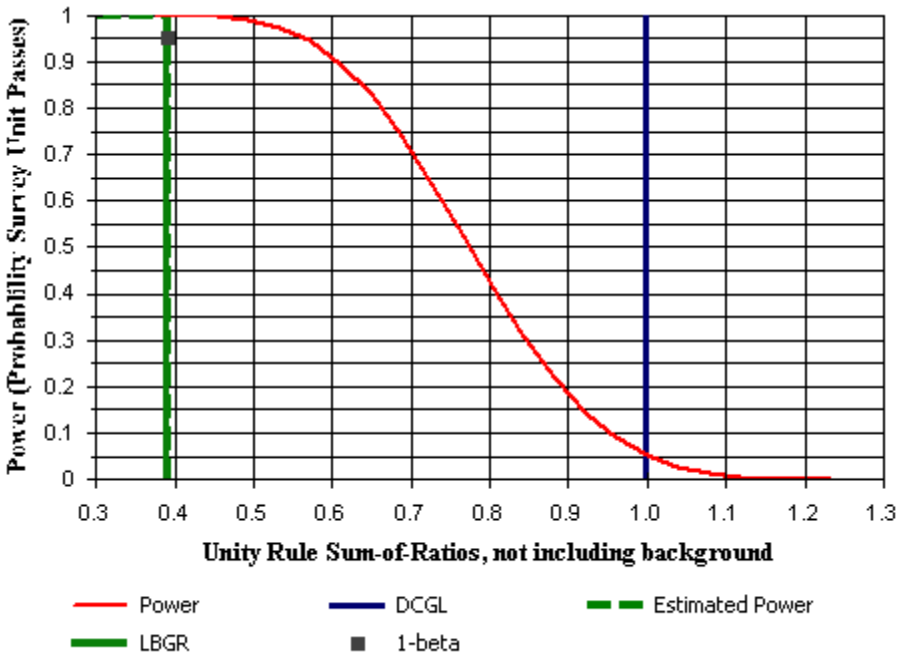
Contaminant	Survey Unit Estimate (Mean ± 1-Sigma) (pCi/g)	Reference Area Estimate (Mean ± 1-Sigma) (pCi/g)
Th-232	1.29 ± 0.47	0.82 ± 0.2
U-238	2.65 ± 0.89	2.08 ± 0.72

Surface Soil Survey Plan

Survey Plan Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU2, 3, 4, and 5 (AOC 1 and 2)		
Comments:	Survey unit area largest of the group		
Area (m²):	1,218	Classification:	1
Selected Test:	WRS	Estimated Sigma (SOR):	0.39
DCGL (SOR):	1	Sample Size (N/2):	18
LBGR (SOR):	0.39	Estimated Conc. (SOR):	0.39
Alpha:	0.050	Estimated Power:	1
Beta:	0.050	EMC Sample Size (N):	18
Scanning Instrumentation:	NaI		

Prospective Power Curve



Surface Soil Survey Plan

Contaminant Summary

Contaminant	DCGLw (pCi/g)	Inferred Contaminant	Ratio	Modified DCGLw (pCi/g)	Scan MDC (pCi/g)	
Th-232	2.90	N/A	N/A	N/A	2.8	
U-238	2.50	N/A	N/A	N/A	2.9	Scan MDC set to mixture gross activity MDC versus actual of 4.

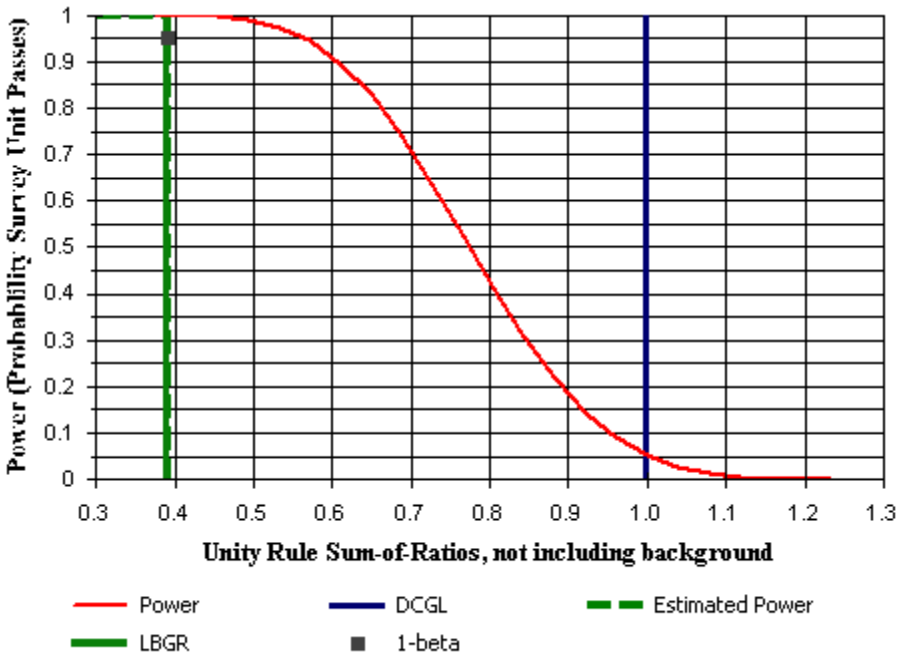
Contaminant	Survey Unit Estimate (Mean ± 1-Sigma) (pCi/g)	Reference Area Estimate (Mean ± 1-Sigma) (pCi/g)
Th-232	1.29 ± 0.47	0.82 ± 0.2
U-238	2.65 ± 0.89	2.08 ± 0.72

Surface Soil Survey Plan

Survey Plan Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU6 and 7		
Comments:	Survey unit area is the largest		
Area (m²):	2,513	Classification:	1
Selected Test:	WRS	Estimated Sigma (SOR):	0.39
DCGL (SOR):	1	Sample Size (N/2):	18
LBGR (SOR):	0.39	Estimated Conc. (SOR):	0.39
Alpha:	0.050	Estimated Power:	1
Beta:	0.050	EMC Sample Size (N):	18
Scanning Instrumentation:	NaI		

Prospective Power Curve



Surface Soil Survey Plan

Contaminant Summary

Contaminant	DCGLw (pCi/g)	Inferred Contaminant	Ratio	Modified DCGLw (pCi/g)	Scan MDC (pCi/g)	
Th-232	2.90	N/A	N/A	N/A	2.9	
U-238	2.50	N/A	N/A	N/A	2.8	Scan MDC revised from actual of 4.5 to 2.8 to reflect mixture scan MDC

Contaminant	Survey Unit Estimate (Mean ± 1-Sigma) (pCi/g)	Reference Area Estimate (Mean ± 1-Sigma) (pCi/g)
Th-232	1.29 ± 0.47	0.82 ± 0.2
U-238	2.65 ± 0.89	2.08 ± 0.72

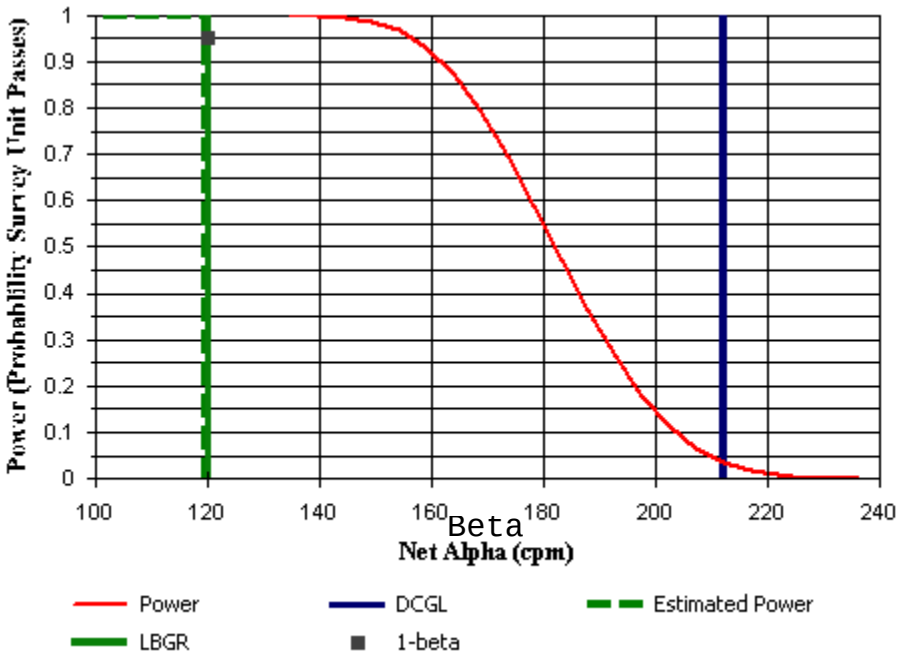
Exterior Land Area Slag Survey Unit

Building Surface Survey Plan

Survey Plan Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU2.1 through 5.8 AOC 2 and 3 slag		
Comments:	Survey unit is area is the largest of the units		
Area (m²):	210	Classification:	1
Selected Test:	Sign	Estimated Sigma (cpm):	48.3
DCGL (cpm):	212	Sample Size (N):	15
LBGR (cpm):	120	Estimated Conc. (cpm):	120
Alpha:	0.050	Estimated Power:	1.00
Beta:	0.050	EMC Sample Size (N):	15

Prospective Power Curve



Exterior Land Area Slag Survey Unit

Building Surface Survey Plan

Contaminant Summary

Contaminant	DCGLw (dpm/100 cm²)
Th-232	400

Beta measurements performed see calibration worksheets

Alpha Instrumentation Summary

Gross Alpha DCGLw (dpm/100 cm²): 400
Total Efficiency: 0.42
Gross Alpha DCGLw (cpm): 212

ID	Type	Mode	Area (cm²)
14	43-68 #30	Alpha	126

Contaminant	Energy[1]	Fraction[2]	Inst. Eff.	Surf. Eff.	Total Eff.
Th-232	N/A	1.0000	0.42	1.00	0.4200

[1] Average beta energy (keV) [N/A indicates alpha emission]
[2] Activity fraction

Gross Survey Unit Mean (cpm): 559 ± 27 (1-sigma)
Count Time (min): 1

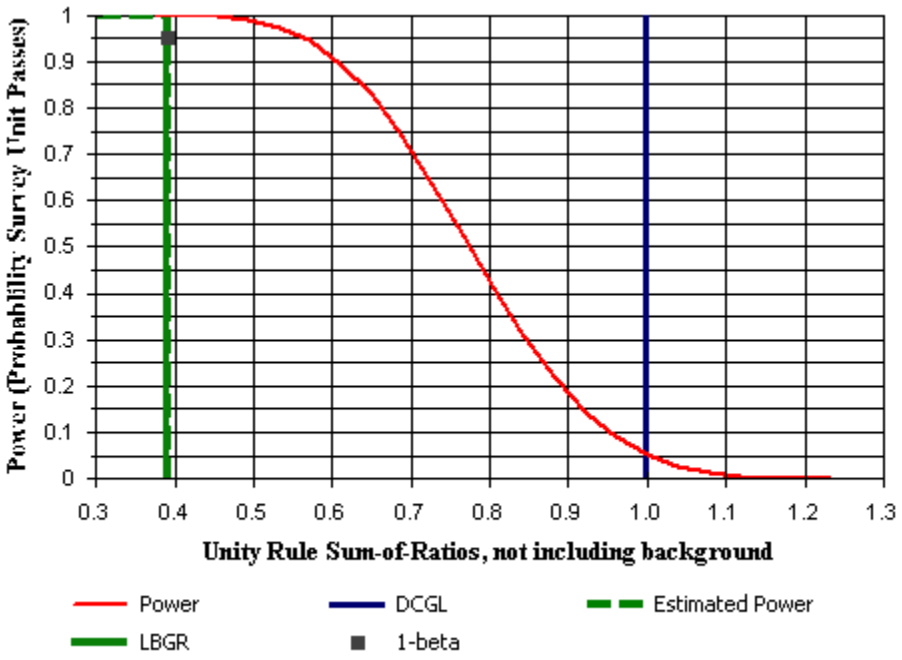
Material	Number of BKG Counts	Average (cpm)	Standard Deviation (cpm)	MDC (dpm/100 cm²)
slag	20	473.4	40.1	197
Slag 1	10	507.2	22	204
Slag 2	10	439.5	19.1	190

Surface Soil Survey Plan

Survey Plan Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C2 SU1 through 12		
Comments:	Survey unit sizes range from 3,289 to 11,489 m2		
Area (m²):	11,489	Classification:	2
Selected Test:	WRS	Estimated Sigma (SOR):	0.39
DCGL (SOR):	1	Sample Size (N/2):	18
LBGR (SOR):	0.39	Estimated Conc. (SOR):	0.39
Alpha:	0.050	Estimated Power:	1
Beta:	0.050		

Prospective Power Curve



Surface Soil Survey Plan

Contaminant Summary

Contaminant	DCGLw (pCi/g)	Inferred Contaminant	Ratio	Modified DCGLw (pCi/g)	Scan MDC (pCi/g)
Th-232	2.90	N/A	N/A	N/A	N/A
U-238	2.50	N/A	N/A	N/A	N/A

Contaminant	Survey Unit Estimate (Mean ± 1-Sigma) (pCi/g)	Reference Area Estimate (Mean ± 1-Sigma) (pCi/g)
Th-232	1.29 ± 0.47	0.82 ± 0.2
U-238	2.65 ± 0.89	2.08 ± 0.72

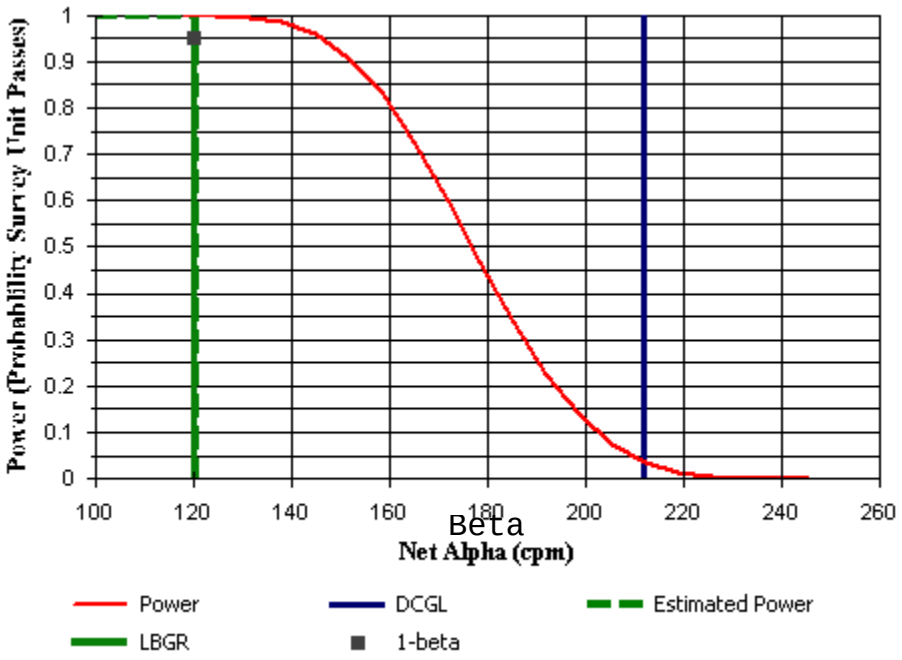
Exterior Land Area Solid Debris Survey Unit

Building Surface Survey Plan

Survey Plan Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C2 SU12 Debris Pile DM Rev. 1		
Comments:			
Area (m²):	437	Classification:	2
Selected Test:	Sign	Estimated Sigma (cpm):	67.3
DCGL (cpm):	212	Sample Size (N):	20
LBGR (cpm):	120	Estimated Conc. (cpm):	120
Alpha:	0.050	Estimated Power:	1.00
Beta:	0.050		

Prospective Power Curve



Building Surface Survey Plan

Contaminant Summary

Contaminant	DCGLw (dpm/100 cm²)
Th-232	400

Beta measurements performed see calibration worksheets

Alpha Instrumentation Summary

Gross Alpha DCGLw (dpm/100 cm²): 400
Total Efficiency: 0.42
Gross Alpha DCGLw (cpm): 212

ID	Type	Mode	Area (cm²)
14	43-68 #30	Alpha	126

Contaminant	Energy[1]	Fraction[2]	Inst. Eff.	Surf. Eff.	Total Eff.
Th-232	N/A	1.0000	0.42	1.00	0.4200

[1] Average beta energy (keV) [N/A indicates alpha emission]
[2] Activity fraction

Gross Survey Unit Mean (cpm): 457 ± 54 (1-sigma)
Count Time (min): 1

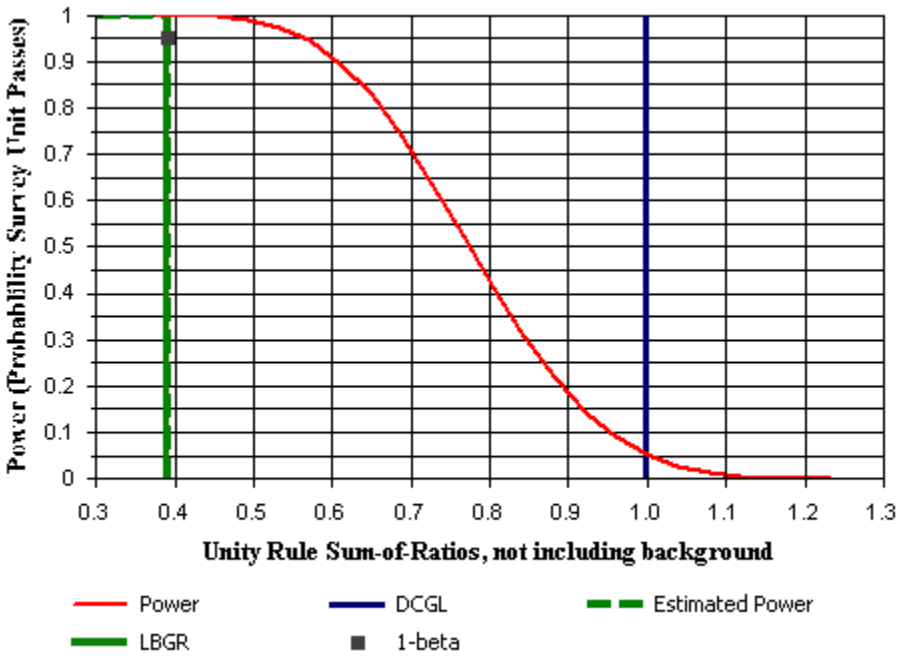
Material	Number of BKG Counts	Average (cpm)	Standard Deviation (cpm)	MDC (dpm/100 cm²)
Concrete	10	336.7	19.1	167
slag	20	473.4	40.1	197
Slag 1	10	507.2	22	204
Slag 2	10	439.5	19.1	190
Small Brick	10	577	31.9	217
Unpainted Cinder Block	10	447.7	26.5	192

Surface Soil Survey Plan

Survey Plan Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C3 SU1 through 5		
Comments:	Survey unit sizes range from 17,561 to 34,296 m2		
Area (m²):	34,296	Classification:	3
Selected Test:	WRS	Estimated Sigma (SOR):	0.39
DCGL (SOR):	1	Sample Size (N/2):	18
LBGR (SOR):	0.39	Estimated Conc. (SOR):	0.39
Alpha:	0.050	Estimated Power:	1
Beta:	0.050		

Prospective Power Curve



Surface Soil Survey Plan

Contaminant Summary

Contaminant	DCGLw (pCi/g)	Inferred Contaminant	Ratio	Modified DCGLw (pCi/g)	Scan MDC (pCi/g)
Th-232	2.90	N/A	N/A	N/A	N/A
U-238	2.50	N/A	N/A	N/A	N/A

Contaminant	Survey Unit Estimate (Mean ± 1-Sigma) (pCi/g)	Reference Area Estimate (Mean ± 1-Sigma) (pCi/g)
Th-232	1.29 ± 0.47	0.82 ± 0.2
U-238	2.65 ± 0.89	2.08 ± 0.72

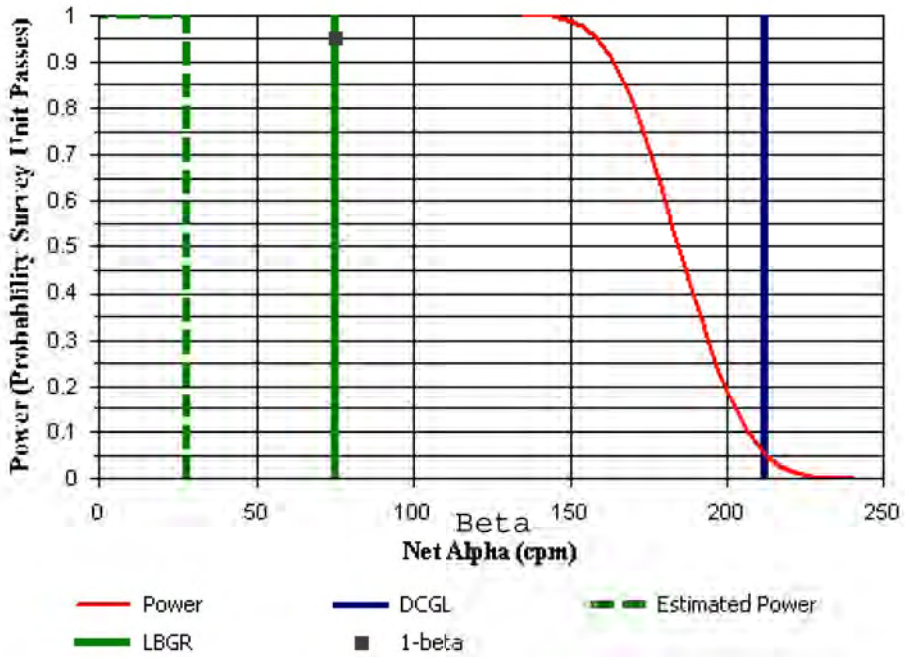
APPENDIX E: STRUCTURE SURVEY UNIT DQOs

Building Surface Survey Plan

Survey Plan Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU1 through 21 Bldg 200E slag Rev. 1		
Comments:	Survey unit area is largest of the SUs Rev. 1 to enter average slag BKG for DQA reporting		
Area (m²):	157	Classification:	1
Selected Test:	Sign	Estimated Sigma (cpm):	48.3
DCGL (cpm):	212	Sample Size (N):	14
LBGR (cpm):	75	Estimated Conc. (cpm):	27.6
Alpha:	0.050	Estimated Power:	1.00
Beta:	0.050	EMC Sample Size (N):	14

Prospective Power Curve



Building Surface Survey Plan

Contaminant Summary

Contaminant	DCGLw (dpm/100 cm²)
Th-232	400

Beta measurements performed see calibration worksheets

Alpha Instrumentation Summary

Gross Alpha DCGLw (dpm/100 cm²): 400
Total Efficiency: 0.42
Gross Alpha DCGLw (cpm): 212

ID	Type	Mode	Area (cm²)
14	43-68 #30	Alpha	126

Contaminant	Energy[1]	Fraction[2]	Inst. Eff.	Surf. Eff.	Total Eff.
Th-232	N/A	1.0000	0.42	1.00	0.4200

[1] Average beta energy (keV) [N/A indicates alpha emission]
[2] Activity fraction

Gross Survey Unit Mean (cpm): 501 ± 27 (1-sigma)
Count Time (min): 1

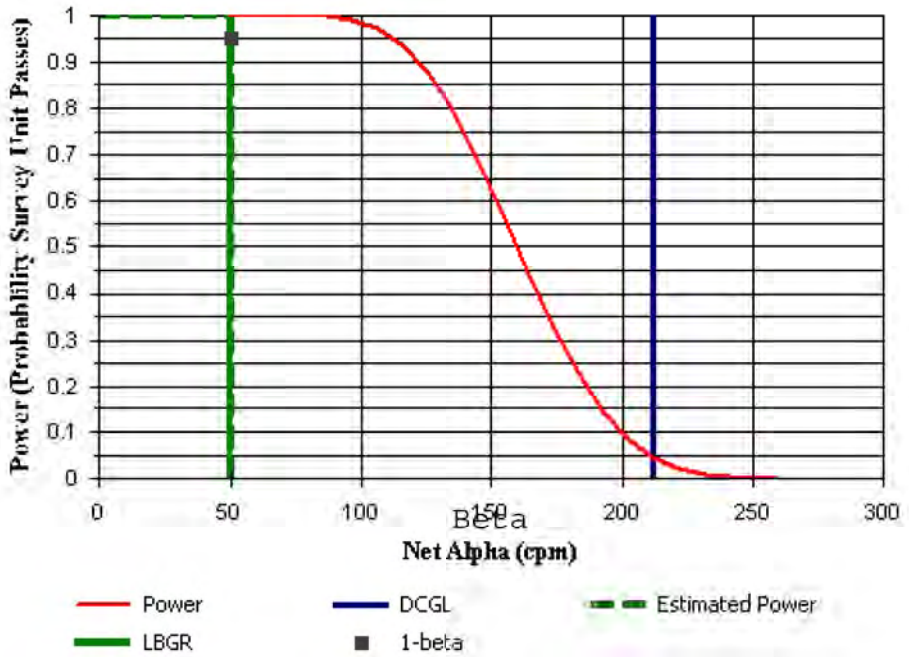
Material	Number of BKG Counts	Average (cpm)	Standard Deviation (cpm)	MDC (dpm/100 cm²)
slag	20	473.4	40.1	197

Building Surface Survey Plan

Survey Plan Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU22 and 23 Building 200E west and north wall		
Comments:			
Area (m²):	50	Classification:	1
Selected Test:	Sign	Estimated Sigma (cpm):	96.4
DCGL (cpm):	212	Sample Size (N):	17
LBGR (cpm):	50	Estimated Conc. (cpm):	50.1
Alpha:	0.050	Estimated Power:	1.00
Beta:	0.050	EMC Sample Size (N):	17

Prospective Power Curve



Building Surface Survey Plan

Contaminant Summary

Contaminant	DCGLw (dpm/100 cm²)
Th-232	400

Beta measurements performed see calibration worksheets

Alpha Instrumentation Summary

Gross Alpha DCGLw (dpm/100 cm²): 400
Total Efficiency: 0.42
Gross Alpha DCGLw (cpm): 212

ID	Type	Mode	Area (cm²)
14	43-68 #30	Alpha	126

Contaminant	Energy[1]	Fraction[2]	Inst. Eff.	Surf. Eff.	Total Eff.
Th-232	N/A	1.0000	0.42	1.00	0.4200

[1] Average beta energy (keV) [N/A indicates alpha emission]
[2] Activity fraction

Gross Survey Unit Mean (cpm): 228 ± 91 (1-sigma)
Count Time (min): 1

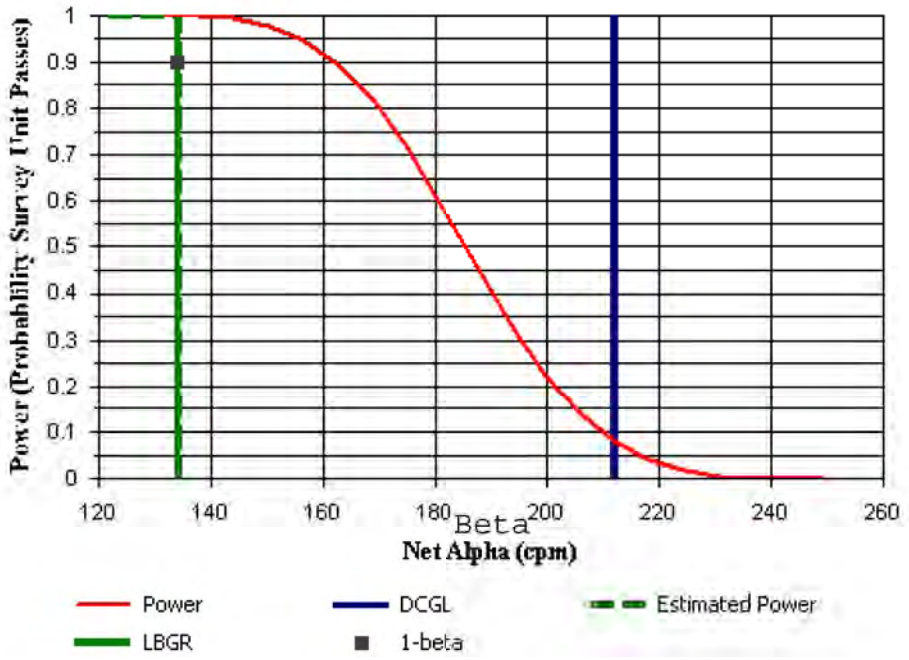
Material	Number of BKG Counts	Average (cpm)	Standard Deviation (cpm)	MDC (dpm/100 cm²)
Metal	10	177.9	7.5	123
Small Brick	10	577	31.9	217
Unpainted Cinder Block	10	447.7	26.5	192

Building Surface Survey Plan

Survey Plan Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU24 through 32 Bldg 200E Ceiling		
Comments:			
Area (m²):	125	Classification:	1
Selected Test:	Sign	Estimated Sigma (cpm):	61.9
DCGL (cpm):	212	Sample Size (N):	18
LBGR (cpm):	134	Estimated Conc. (cpm):	134
Alpha:	0.050	Estimated Power:	1.00
Beta:	0.100	EMC Sample Size (N):	18

Prospective Power Curve



Building Surface Survey Plan

Contaminant Summary

Contaminant	DCGLw (dpm/100 cm²)
Th-232	400

Beta measurements performed see calibration worksheets

Alpha Instrumentation Summary

Gross Alpha DCGLw (dpm/100 cm²): 400
Total Efficiency: 0.42
Gross Alpha DCGLw (cpm): 212

ID	Type	Mode	Area (cm²)
14	43-68 #30	Alpha	126

Contaminant	Energy[1]	Fraction[2]	Inst. Eff.	Surf. Eff.	Total Eff.
Th-232	N/A	1.0000	0.42	1.00	0.4200

[1] Average beta energy (keV) [N/A indicates alpha emission]
[2] Activity fraction

Gross Survey Unit Mean (cpm): 312 ± 53 (1-sigma)
Count Time (min): 1

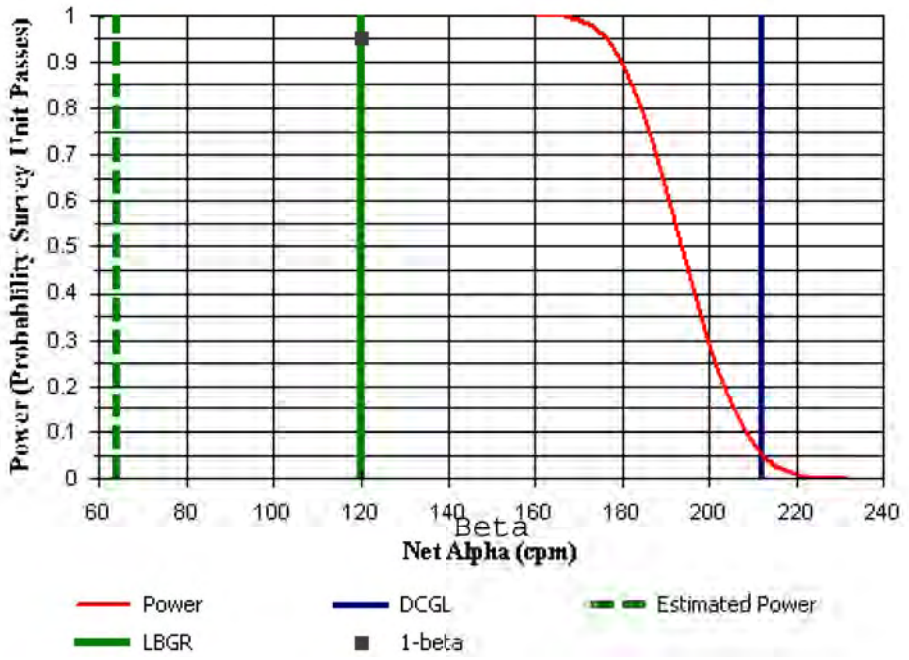
Material	Number of BKG Counts	Average (cpm)	Standard Deviation (cpm)	MDC (dpm/100 cm²)
Concrete	10	336.7	19.1	167
Metal	10	177.9	7.5	123
Small Brick	10	577	31.9	217
Unpainted Cinder Block	10	447.7	26.5	192

Building Surface Survey Plan

Survey Plan Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU33 and 34 Bldg 200E columns		
Comments:			
Area (m²):	72	Classification:	1
Selected Test:	Sign	Estimated Sigma (cpm):	32.3
DCGL (cpm):	212	Sample Size (N):	14
LBGR (cpm):	120	Estimated Conc. (cpm):	64.1
Alpha:	0.050	Estimated Power:	1.00
Beta:	0.050	EMC Sample Size (N):	14

Prospective Power Curve



Building Surface Survey Plan

Contaminant Summary

Contaminant	DCGLw (dpm/100 cm²)
Th-232	400

Beta measurements performed see calibration worksheets

Alpha Instrumentation Summary

Gross Alpha DCGLw (dpm/100 cm²): 400
Total Efficiency: 0.42
Gross Alpha DCGLw (cpm): 212

ID	Type	Mode	Area (cm²)
14	43-68 #30	Alpha	126

Contaminant	Energy[1]	Fraction[2]	Inst. Eff.	Surf. Eff.	Total Eff.
Th-232	N/A	1.0000	0.42	1.00	0.4200

[1] Average beta energy (keV) [N/A indicates alpha emission]
[2] Activity fraction

Gross Survey Unit Mean (cpm): 242 ± 26 (1-sigma)
Count Time (min): 1

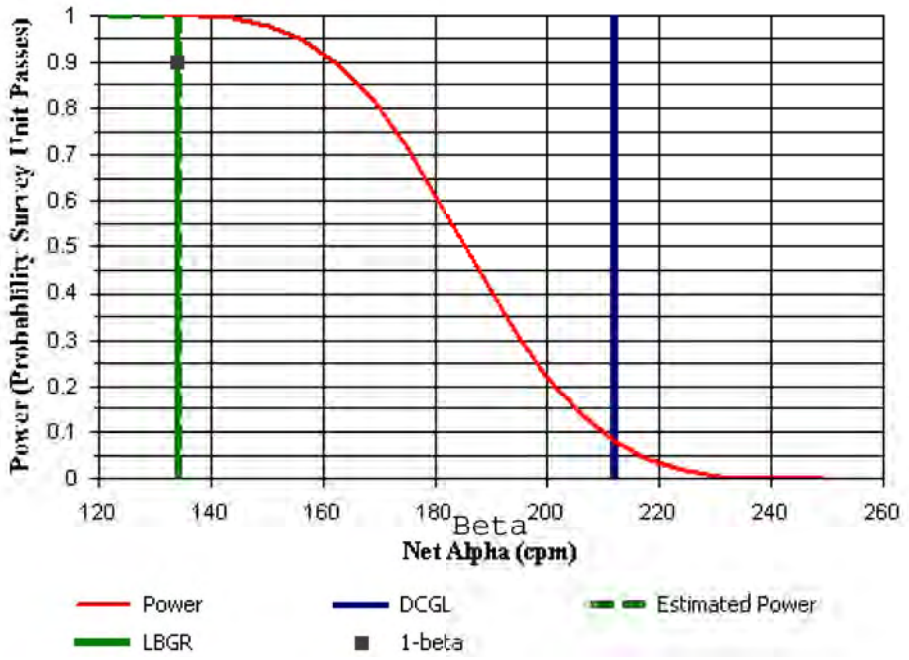
Material	Number of BKG Counts	Average (cpm)	Standard Deviation (cpm)	MDC (dpm/100 cm²)
Concrete	10	336.7	19.1	167
Metal	10	177.9	7.5	123

Building Surface Survey Plan

Survey Plan Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C2 SU35 and 36 Bldg 200E Ceiling Rev. 1		
Comments:			
Area (m²):	545	Classification:	2
Selected Test:	Sign	Estimated Sigma (cpm):	61.9
DCGL (cpm):	212	Sample Size (N):	18
LBGR (cpm):	134	Estimated Conc. (cpm):	134
Alpha:	0.050	Estimated Power:	1.00
Beta:	0.100		

Prospective Power Curve



Building Surface Survey Plan

Contaminant Summary

Contaminant	DCGLw (dpm/100 cm²)
Th-232	400

Beta measurements performed see calibration worksheets

Alpha Instrumentation Summary

Gross Alpha DCGLw (dpm/100 cm²): 400
Total Efficiency: 0.42
Gross Alpha DCGLw (cpm): 212

ID	Type	Mode	Area (cm²)
14	43-68 #30	Alpha	126

Contaminant	Energy[1]	Fraction[2]	Inst. Eff.	Surf. Eff.	Total Eff.
Th-232	N/A	1.0000	0.42	1.00	0.4200

[1] Average beta energy (keV) [N/A indicates alpha emission]
[2] Activity fraction

Gross Survey Unit Mean (cpm): 312 ± 53 (1-sigma)
Count Time (min): 1

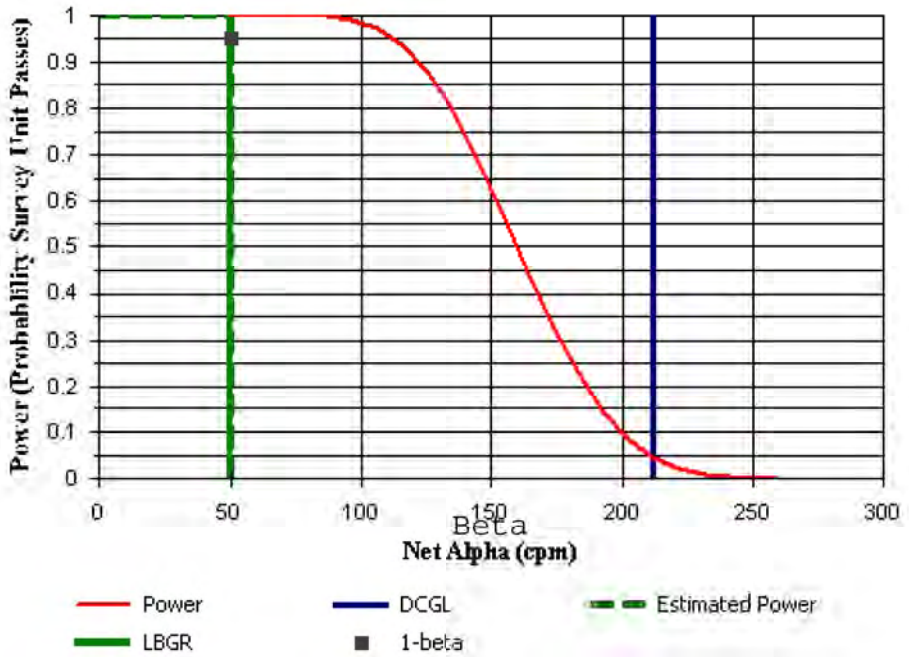
Material	Number of BKG Counts	Average (cpm)	Standard Deviation (cpm)	MDC (dpm/100 cm²)
Concrete	10	336.7	19.1	167
Metal	10	177.9	7.5	123
Painted Cinder block	10	395.7	20.9	180
Small Brick	10	577	31.9	217
Unpainted Cinder Block	10	447.7	26.5	192

Building Surface Survey Plan

Survey Plan Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C2 SU56 through 58 Bldg 200E walls		
Comments:	Survey unit area is largest or the survey units		
Area (m²):	281	Classification:	2
Selected Test:	Sign	Estimated Sigma (cpm):	96.4
DCGL (cpm):	212	Sample Size (N):	17
LBGR (cpm):	50	Estimated Conc. (cpm):	50.1
Alpha:	0.050	Estimated Power:	1.00
Beta:	0.050		

Prospective Power Curve



Building Surface Survey Plan

Contaminant Summary

Contaminant	DCGLw (dpm/100 cm²)
Th-232	400

Beta measurements performed see calibration worksheets

Alpha Instrumentation Summary

Gross Alpha DCGLw (dpm/100 cm²): 400
Total Efficiency: 0.42
Gross Alpha DCGLw (cpm): 212

ID	Type	Mode	Area (cm²)
14	43-68 #30	Alpha	126

Contaminant	Energy[1]	Fraction[2]	Inst. Eff.	Surf. Eff.	Total Eff.
Th-232	N/A	1.0000	0.42	1.00	0.4200

[1] Average beta energy (keV) [N/A indicates alpha emission]
[2] Activity fraction

Gross Survey Unit Mean (cpm): 228 ± 91 (1-sigma)
Count Time (min): 1

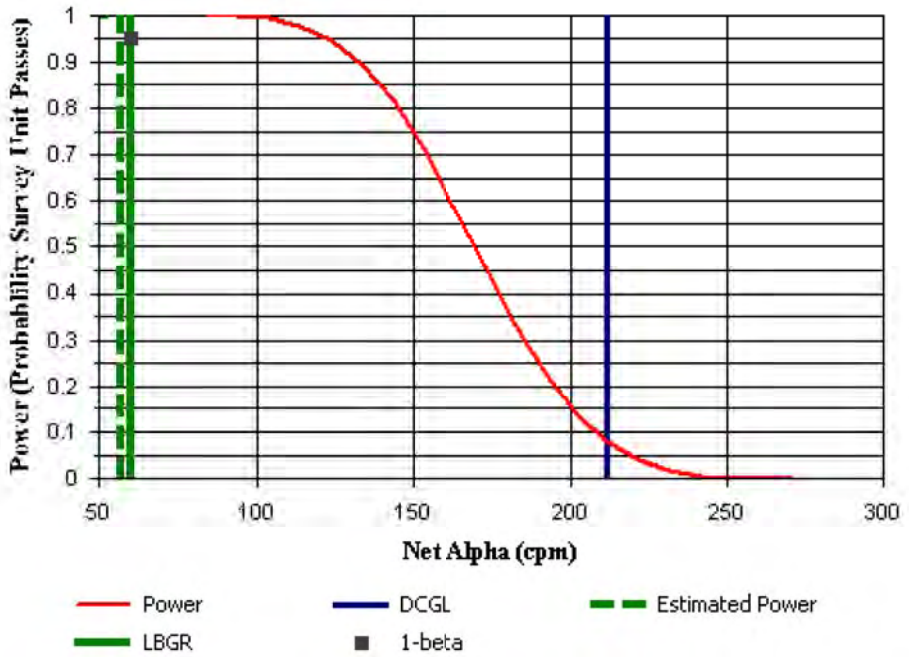
Material	Number of BKG Counts	Average (cpm)	Standard Deviation (cpm)	MDC (dpm/100 cm²)
Concrete	10	336.7	19.1	167
Metal	10	177.9	7.5	123
Painted Cinder block	10	395.7	20.9	180
Small Brick	10	577	31.9	217
Unpainted Cinder Block	10	447.7	26.5	192

Building Surface Survey Plan

Survey Plan Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU41 Bldg 200E NW closet Rev 1		
Comments:	revised to add metal background		
Area (m²):	20	Classification:	1
Selected Test:	Sign	Estimated Sigma (cpm):	98.2
DCGL (cpm):	212	Sample Size (N):	18
LBGR (cpm):	60	Estimated Conc. (cpm):	57.1
Alpha:	0.050	Estimated Power:	1.00
Beta:	0.050	EMC Sample Size (N):	18

Prospective Power Curve



Building Surface Survey Plan

Contaminant Summary

Contaminant	DCGLw (dpm/100 cm²)
Th-232	400

Beta measurements performed see calibration worksheets

Alpha Instrumentation Summary

Gross Alpha DCGLw (dpm/100 cm²): 400
Total Efficiency: 0.42
Gross Alpha DCGLw (cpm): 212

ID	Type	Mode	Area (cm²)
14	43-68 #30	Alpha	126

Contaminant	Energy[1]	Fraction[2]	Inst. Eff.	Surf. Eff.	Total Eff.
Th-232	N/A	1.0000	0.42	1.00	0.4200

[1] Average beta energy (keV) [N/A indicates alpha emission]
[2] Activity fraction

Gross Survey Unit Mean (cpm): 235 ± 96 (1-sigma)
Count Time (min): 1

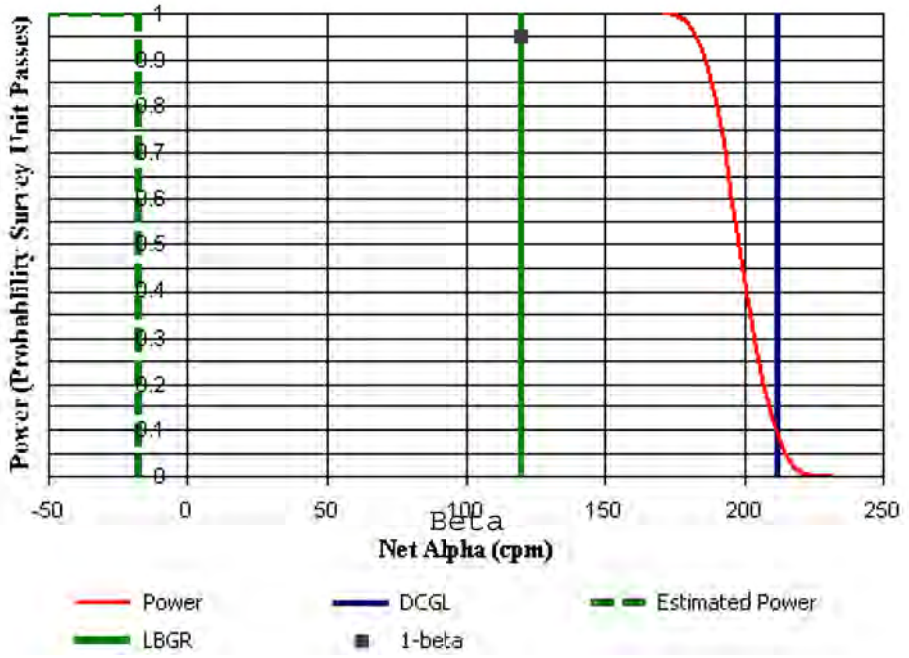
Material	Number of BKG Counts	Average (cpm)	Standard Deviation (cpm)	MDC (dpm/100 cm²)
Concrete	10	336.7	19.1	167
Metal	10	177.9	7.5	123
Painted Cinder block	10	395.7	20.9	180

Building Surface Survey Plan

Survey Plan Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU43 and 44 Building 100E , C1 SU59		
Comments:			
Area (m²):	200	Classification:	1
Selected Test:	Sign	Estimated Sigma (cpm):	27.7
DCGL (cpm):	212	Sample Size (N):	13
LBGR (cpm):	120	Estimated Conc. (cpm):	-17.7
Alpha:	0.050	Estimated Power:	1.00
Beta:	0.050	EMC Sample Size (N):	13

Prospective Power Curve



Building Surface Survey Plan

Contaminant Summary

Contaminant	DCGLw (dpm/100 cm²)
Th-232	400

Beta measurements performed see calibration worksheets

Alpha Instrumentation Summary

Gross Alpha DCGLw (dpm/100 cm²): 400
Total Efficiency: 0.42
Gross Alpha DCGLw (cpm): 212

ID	Type	Mode	Area (cm²)
14	43-68 #30	Alpha Beta	126

Contaminant	Energy[1]	Fraction[2]	Inst. Eff.	Surf. Eff.	Total Eff.
Th-232	N/A	1.0000	0.42	1.00	0.4200

[1] Average beta energy (keV) [N/A indicates alpha emission]
[2] Activity fraction

Gross Survey Unit Mean (cpm): 319 ± 20 (1-sigma)
Count Time (min): 1

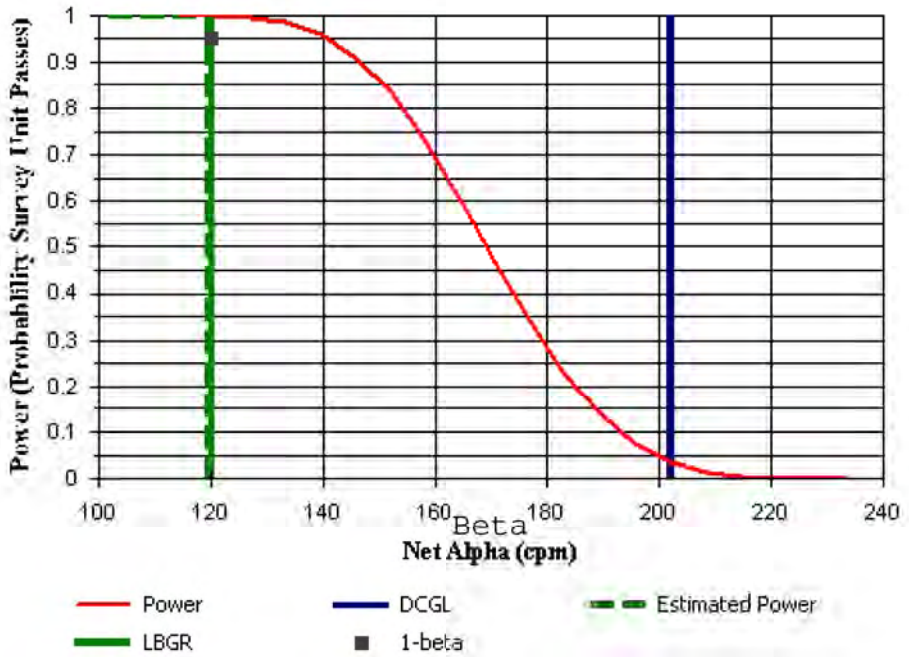
Material	Number of BKG Counts	Average (cpm)	Standard Deviation (cpm)	MDC (dpm/100 cm²)
Concrete	10	336.7	19.1	167

Building Surface Survey Plan

Survey Plan Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	Class 2 SUs Scoping Rev. 1		
Comments:	Survey area is maximum SU size		
Area (m²):	2,100	Classification:	2
Selected Test:	Sign	Estimated Sigma (cpm):	62.6
DCGL (cpm):	202	Sample Size (N):	20
LBGR (cpm):	120	Estimated Conc. (cpm):	120
Alpha:	0.050	Estimated Power:	1.00
Beta:	0.050		

Prospective Power Curve



Building Surface Survey Plan

Contaminant Summary

Contaminant	DCGLw (dpm/100 cm²)
Th-232	400

Beta measurements performed see calibration worksheets

Alpha Instrumentation Summary

Gross Alpha DCGLw (dpm/100 cm²): 400
Total Efficiency: 0.40
Gross Alpha DCGLw (cpm): 202

ID	Type	Mode	Area (cm²)
15	43-68 #20	Alpha	126

Contaminant	Energy[1]	Fraction[2]	Inst. Eff.	Surf. Eff.	Total Eff.
Th-232	N/A	1.0000	0.40	1.00	0.4000

[1] Average beta energy (keV) [N/A indicates alpha emission]
[2] Activity fraction

Gross Survey Unit Mean (cpm): 281 ± 55 (1-sigma)
Count Time (min): 1

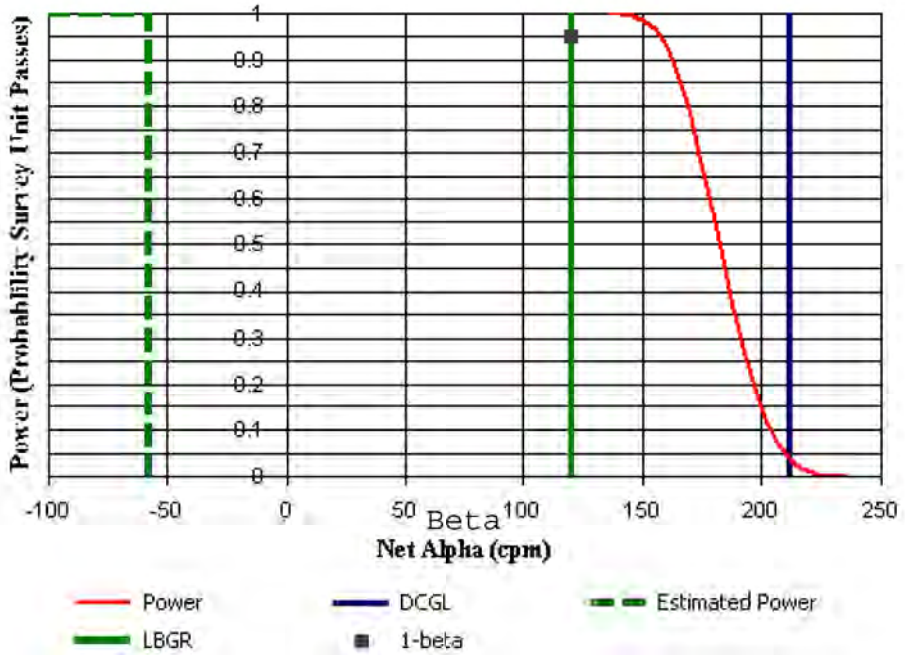
Material	Number of BKG Counts	Average (cpm)	Standard Deviation (cpm)	MDC (dpm/100 cm²)
Concrete	10	334.7	18	175
Metal	10	161.3	6.4	123
Small Brick	10	535.4	15.9	219
Unpainted Cinder Block	10	405.8	29.9	192

Building Surface Survey Plan

Survey Plan Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	Class 2 SUs		
Comments:	Survey unit area is maximum		
Area (m²):	2,100	Classification:	2
Selected Test:	Sign	Estimated Sigma (cpm):	47.4
DCGL (cpm):	212	Sample Size (N):	15
LBGR (cpm):	120	Estimated Conc. (cpm):	-57.9
Alpha:	0.050	Estimated Power:	1.00
Beta:	0.050		

Prospective Power Curve



Building Surface Survey Plan

Contaminant Summary

Contaminant	DCGLw (dpm/100 cm²)
Th-232	400

Beta measurements performed see calibration worksheet

Alpha Instrumentation Summary

Gross Alpha DCGLw (dpm/100 cm²): 400
Total Efficiency: 0.42
Gross Alpha DCGLw (cpm): 212

ID	Type	Mode	Area (cm²)
14	43-68 #30	Alpha	126

Contaminant	Energy[1]	Fraction[2]	Inst. Eff.	Surf. Eff.	Total Eff.
Th-232	N/A	1.0000	0.42	1.00	0.4200

[1] Average beta energy (keV) [N/A indicates alpha emission]
[2] Activity fraction

Gross Survey Unit Mean (cpm): 120 ± 35 (1-sigma)
Count Time (min): 1

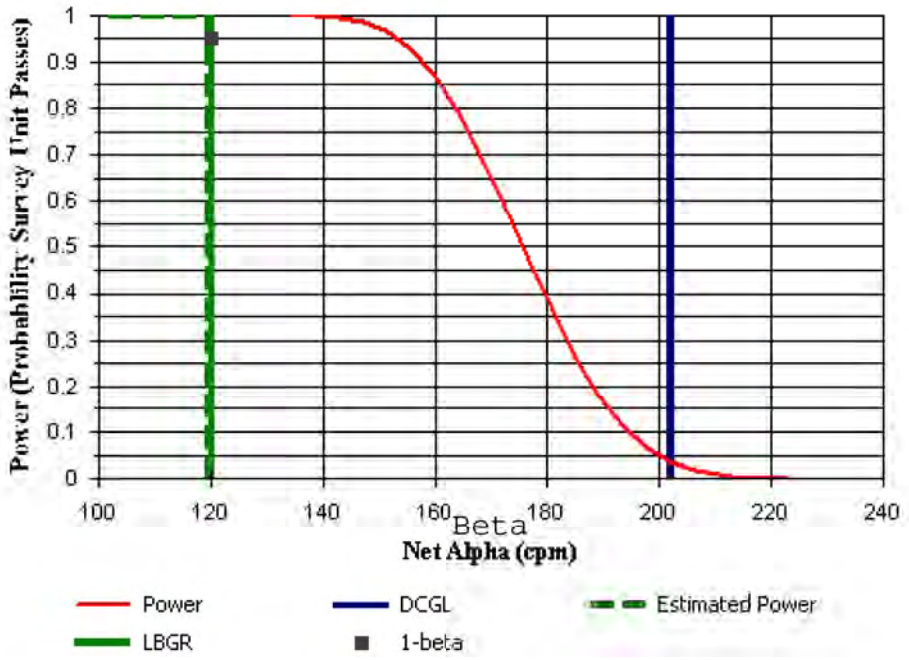
Material	Number of BKG Counts	Average (cpm)	Standard Deviation (cpm)	MDC (dpm/100 cm²)
Concrete	10	336.7	19.1	167
Metal	10	177.9	7.5	123
Painted Cinder block	10	395.7	20.9	180
Small Brick	10	577	31.9	217
Unpainted Cinder Block	10	447.7	26.5	192

Building Surface Survey Plan

Survey Plan Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	Class 3 SUs scoping		
Comments:	Survey unit area is maximum		
Area (m²):	7,400	Classification:	3
Selected Test:	Sign	Estimated Sigma (cpm):	42.4
DCGL (cpm):	202	Sample Size (N):	15
LBGR (cpm):	120	Estimated Conc. (cpm):	120
Alpha:	0.050	Estimated Power:	1.00
Beta:	0.050		

Prospective Power Curve



Building Surface Survey Plan

Contaminant Summary

Contaminant	DCGLw (dpm/100 cm²)
Th-232	400

Beta measurements performed see calibration worksheets

Alpha Instrumentation Summary

Gross Alpha DCGLw (dpm/100 cm²): 400
Total Efficiency: 0.40
Gross Alpha DCGLw (cpm): 202

ID	Type	Mode	Area (cm²)
15	43-68 #20	Alpha	126

Contaminant	Energy[1]	Fraction[2]	Inst. Eff.	Surf. Eff.	Total Eff.
Th-232	N/A	1.0000	0.40	1.00	0.4000

[1] Average beta energy (keV) [N/A indicates alpha emission]
[2] Activity fraction

Gross Survey Unit Mean (cpm): 281 ± 30 (1-sigma)
Count Time (min): 1

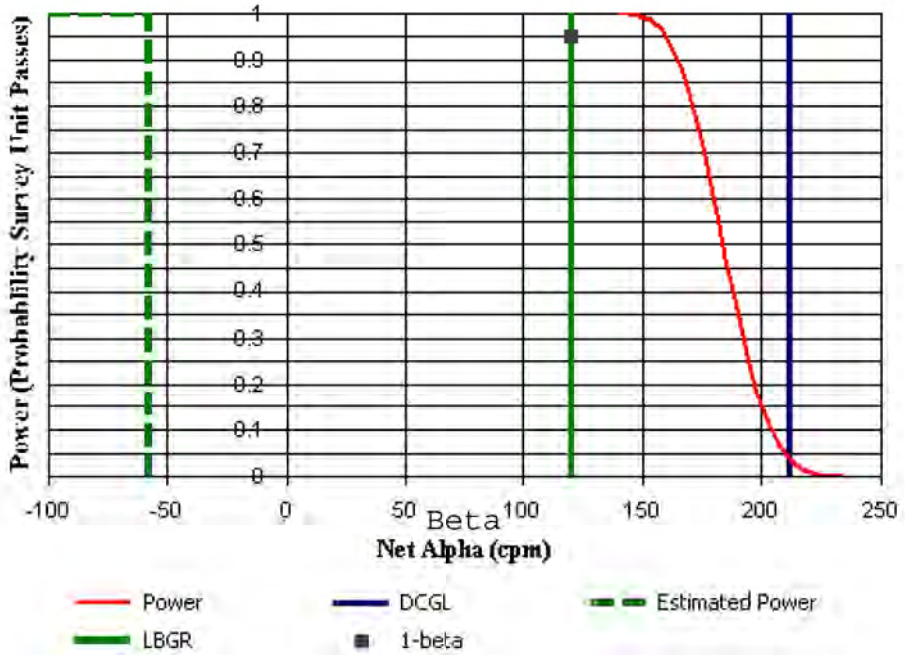
Material	Number of BKG Counts	Average (cpm)	Standard Deviation (cpm)	MDC (dpm/100 cm²)
Concrete	10	334.7	18	175
Metal	10	161.3	6.4	123
Painted Cinder block	10	334.7	18	175
Small Brick	10	535.4	15.9	219
Unpainted Cinder Block	10	405.8	29.9	192

Building Surface Survey Plan

Survey Plan Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	Class 3 SUs		
Comments:	Survey Unit area is maximum		
Area (m²):	7,400	Classification:	3
Selected Test:	Sign	Estimated Sigma (cpm):	45.2
DCGL (cpm):	212	Sample Size (N):	15
LBGR (cpm):	120	Estimated Conc. (cpm):	-57.9
Alpha:	0.050	Estimated Power:	1.00
Beta:	0.050		

Prospective Power Curve



Building Surface Survey Plan

Contaminant Summary

Contaminant	DCGLw (dpm/100 cm²)
Th-232	400

Beta measurements performed see calibration worksheets

Alpha Instrumentation Summary

Gross Alpha DCGLw (dpm/100 cm²): 400
Total Efficiency: 0.42
Gross Alpha DCGLw (cpm): 212

ID	Type	Mode	Area (cm²)
14	43-68 #30	Alpha	126

Contaminant	Energy[1]	Fraction[2]	Inst. Eff.	Surf. Eff.	Total Eff.
Th-232	N/A	1.0000	0.42	1.00	0.4200

[1] Average beta energy (keV) [N/A indicates alpha emission]
[2] Activity fraction

Gross Survey Unit Mean (cpm): 120 ± 32 (1-sigma)
Count Time (min): 1

Material	Number of BKG Counts	Average (cpm)	Standard Deviation (cpm)	MDC (dpm/100 cm²)
Concrete	10	336.7	19.1	167
Metal	10	177.9	7.5	123
Painted Cinder block	10	395.7	20.9	180
Small Brick	10	577	31.9	217
Unpainted Cinder Block	10	447.7	26.5	192

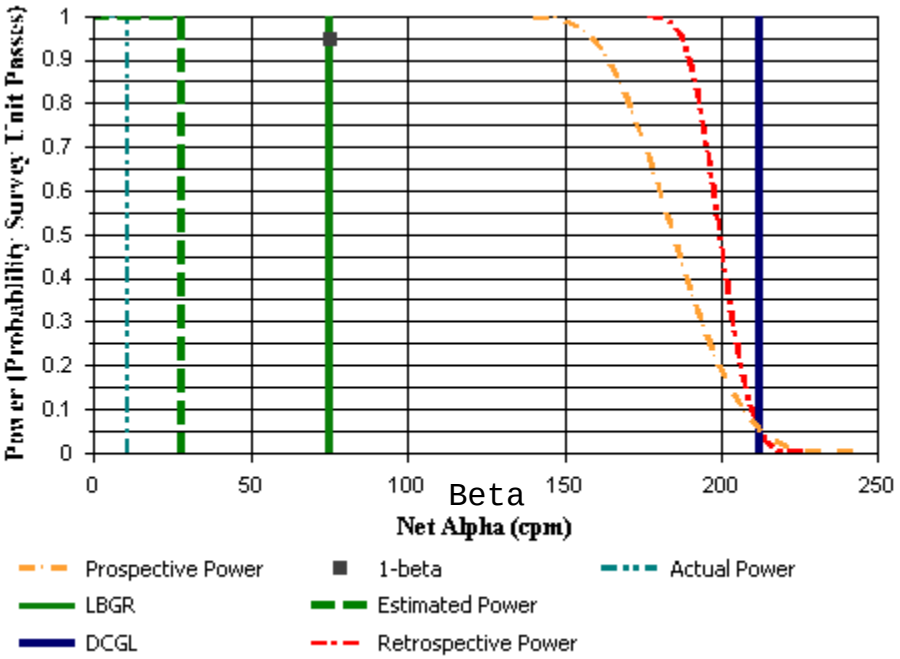
APPENDIX F: STRUCTURE SURVEY UNIT DQAs

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU1 through 21 Bldg 200E slag Rev. 1 C1 SU1		
Report Number:	1		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
1.2, 2.2	Slag	S	530
4.1, 2.2	Slag	S	453
6.9, 2.2	Slag	S	517
9.8, 2.2	Slag	S	481
2.6, 4.7	Slag	S	509
5.5, 4.7	Slag	S	476
8.4, 4.7	Slag	S	458
1.2, 7.2	Slag	S	477
4.1, 7.2	Slag	S	470
6.9, 7.2	Slag	S	481
9.8, 7.2	Slag	S	461
2.6, 9.7	Slag	S	491
5.5, 9.7	Slag	S	476
8.4, 9.7	Slag	S	487

Basic Statistical Quantities Summary

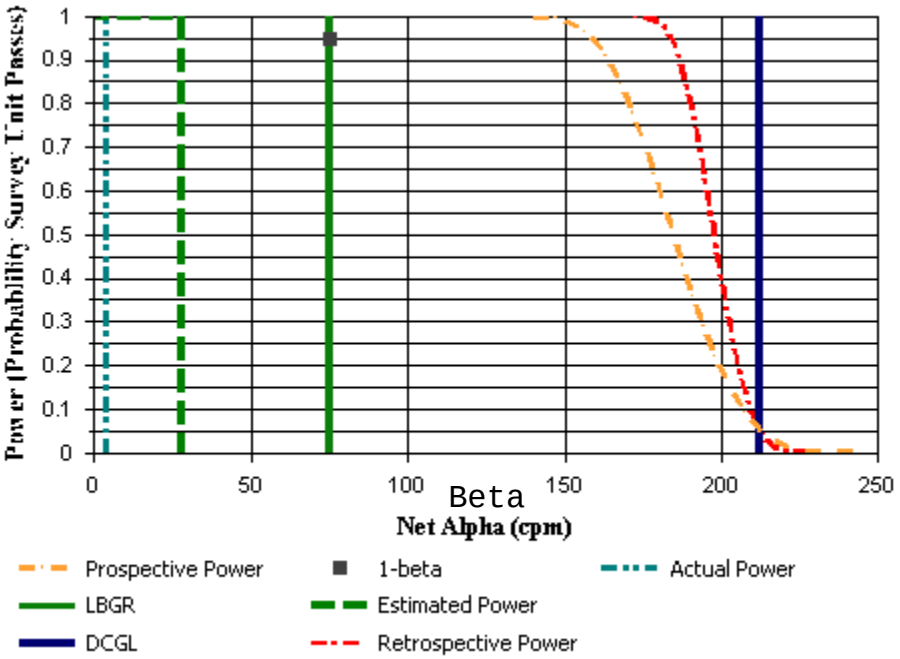
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=14
Mean (dpm/100 cm²)	18.91	N/A	27.6
Median (dpm/100 cm²)	10.68	N/A	N/A
Std Dev (dpm/100 cm²)	42.06	N/A	48.3
High Value (dpm/100 cm²)	107.05	N/A	N/A
Low Value (dpm/100 cm²)	-38.45	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU1 through 21 Bldg 200E slag Rev. 1 C1 SU2		
Report Number:	2		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
12.4, 2.1	Slag	S	458
15.2, 2.1	Slag	S	418
18.1, 2.1	Slag	S	462
10.9, 4.6	Slag	S	493
13.8, 4.6	Slag	S	476
16.7, 4.6	Slag	S	468
19.6, 4.6	Slag	S	493
12.4, 7.1	Slag	S	508
15.2, 7.1	Slag	S	475
18.1, 7.1	Slag	S	491
10.9, 9.5	Slag	S	461
13.8, 9.5	Slag	S	482
16.7, 9.5	Slag	S	525
19.6, 9.5	Slag	S	474

Basic Statistical Quantities Summary

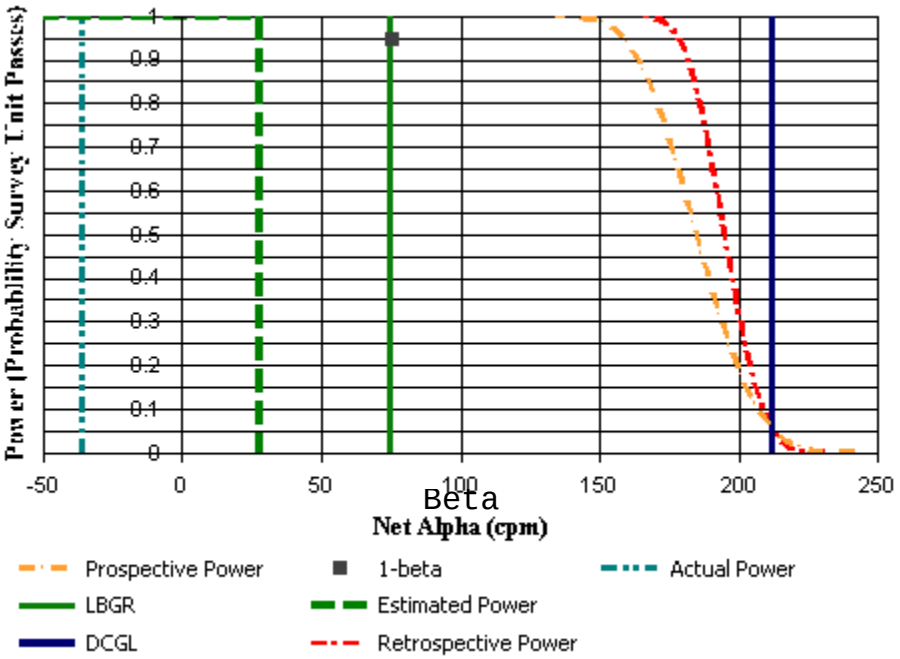
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=14
Mean (dpm/100 cm²)	7.71	N/A	27.6
Median (dpm/100 cm²)	4.06	N/A	N/A
Std Dev (dpm/100 cm²)	48.07	N/A	48.3
High Value (dpm/100 cm²)	97.60	N/A	N/A
Low Value (dpm/100 cm²)	-104.59	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU1 through 21 Bldg 200E slag Rev. 1 C1 SU3		
Report Number:	3		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
21.2, 1.4	Slag	S	429
24.0, 1.4	Slag	S	442
26.9, 1.4	Slag	S	450
29.8, 1.4	Slag	S	465
22.6, 3.9	Slag	S	485
25.5, 3.9	Slag	S	459
28.3, 3.9	Slag	S	449
21.2, 6.4	Slag	S	509
24.0, 6.4	Slag	S	405
26.9, 6.4	Slag	S	405
29.8, 6.4	Slag	S	476
22.6, 8.8	Slag	S	412
25.5, 8.8	Slag	S	462
28.3, 8.8	Slag	S	468

Basic Statistical Quantities Summary

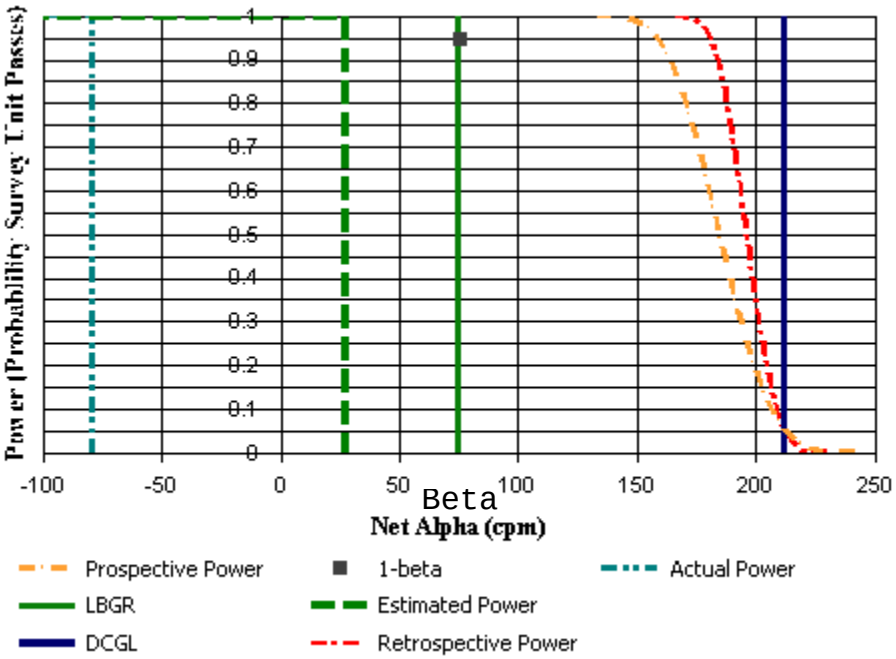
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=14
Mean (dpm/100 cm²)	-41.96	N/A	27.6
Median (dpm/100 cm²)	-35.62	N/A	N/A
Std Dev (dpm/100 cm²)	57.74	N/A	48.3
High Value (dpm/100 cm²)	67.37	N/A	N/A
Low Value (dpm/100 cm²)	-129.16	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU1 through 21 Bldg 200E slag Rev. 1 C1 SU4		
Report Number:	4		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
31.0, 0.7	Slag	S	410
34.5, 0.7	Slag	S	434
32.8, 3.7	Slag	S	458
36.3, 3.7	Slag	S	421
31.0, 6.8	Slag	S	501
34.5, 6.8	Slag	S	409
32.8, 9.8	Slag	S	445
36.3, 9.8	Slag	S	443
31.0, 12.9	Slag	S	409
34.5, 12.9	Slag	S	414
32.8, 15.9	Slag	S	471
36.3, 15.9	Slag	S	471
31.0, 19.0	Slag	S	422
34.5, 19.0	Slag	S	429

Basic Statistical Quantities Summary

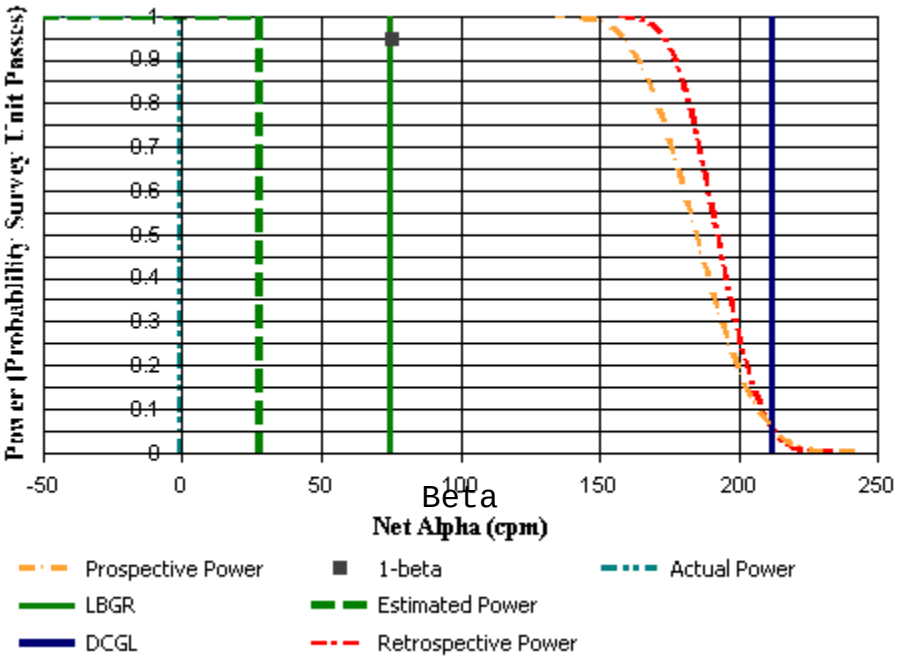
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=14
Mean (dpm/100 cm²)	-66.12	N/A	27.6
Median (dpm/100 cm²)	-79.08	N/A	N/A
Std Dev (dpm/100 cm²)	53.20	N/A	48.3
High Value (dpm/100 cm²)	52.25	N/A	N/A
Low Value (dpm/100 cm²)	-121.60	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU1 through 21 Bldg 200E slag Rev. 1 C1 SU5		
Report Number:	5		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
2.1, 12.2	Slag	S	464
5.0, 12.2	Slag	S	451
7.8, 12.2	Slag	S	480
0.6, 14.7	Slag	S	461
3.5, 14.7	Slag	S	485
6.4, 14.7	Slag	S	489
9.3, 14.7	Slag	S	439
2.1, 17.2	Slag	S	537
5.0, 17.2	Slag	S	465
7.8, 17.2	Slag	S	444
0.6, 19.7	Slag	S	559
3.5, 19.7	Slag	S	466
6.4, 19.7	Slag	S	496
9.3, 19.7	Slag	S	517

Basic Statistical Quantities Summary

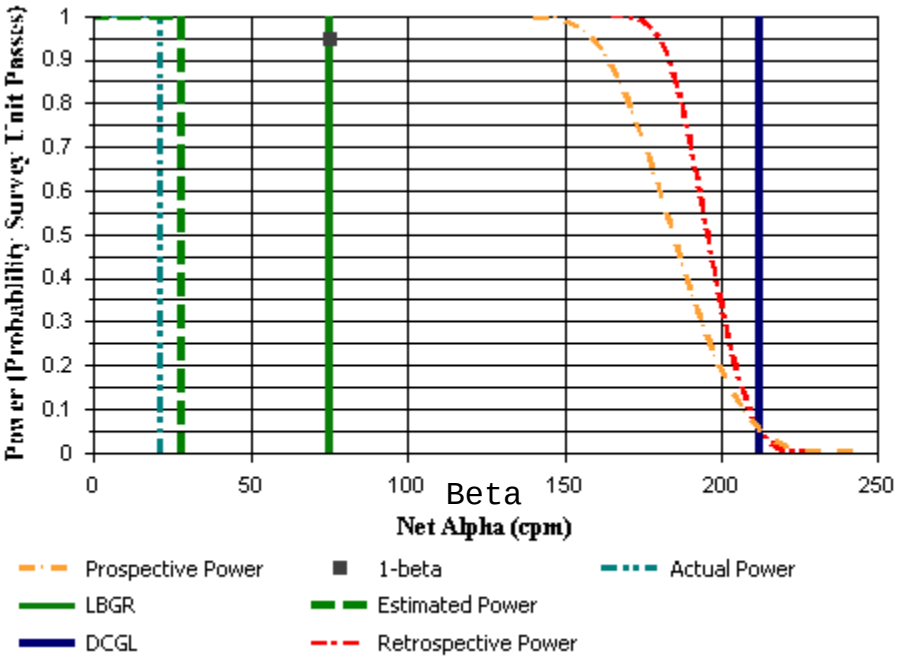
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=14
Mean (dpm/100 cm²)	17.02	N/A	27.6
Median (dpm/100 cm²)	-0.66	N/A	N/A
Std Dev (dpm/100 cm²)	66.29	N/A	48.3
High Value (dpm/100 cm²)	161.85	N/A	N/A
Low Value (dpm/100 cm²)	-64.91	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU1 through 21 Bldg 200E slag Rev. 1 C1 SU6		
Report Number:	6		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
10.7, 11.3	Slag	S	486
13.5, 11.3	Slag	S	469
16.4, 11.3	Slag	S	508
19.3, 11.3	Slag	S	494
12.1, 13.8	Slag	S	483
15.0, 13.8	Slag	S	475
17.8, 13.8	Slag	S	503
10.7, 16.3	Slag	S	483
13.5, 16.3	Slag	S	493
16.4, 16.3	Slag	S	492
19.3, 16.3	Slag	S	488
14.5, 11.2	Slag	S	448
10.8, 15.8	Slag	S	428
16.9, 16.1	Slag	S	407

Basic Statistical Quantities Summary

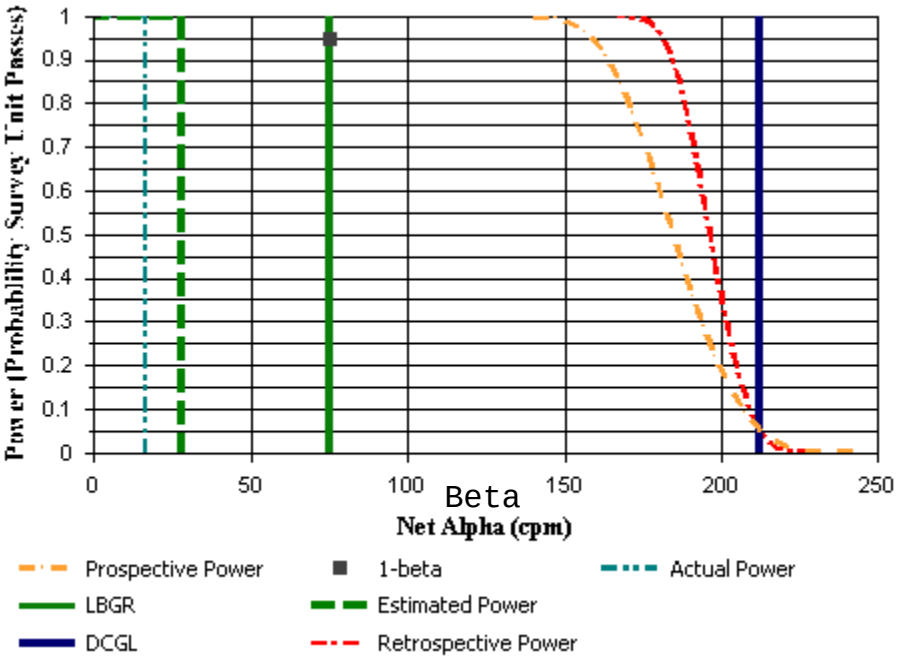
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=14
Mean (dpm/100 cm²)	4.06	N/A	27.6
Median (dpm/100 cm²)	21.07	N/A	N/A
Std Dev (dpm/100 cm²)	54.62	N/A	48.3
High Value (dpm/100 cm²)	65.48	N/A	N/A
Low Value (dpm/100 cm²)	-125.38	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU1 through 21 Bldg 200E slag Rev. 1 C1 SU7		
Report Number:	7		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
20.1, 12.3	Slag	S	449
23.0, 12.3	Slag	S	430
25.8, 12.3	Slag	S	493
28.7, 12.3	Slag	S	497
21.5, 14.7	Slag	S	475
24.4, 14.7	Slag	S	446
27.3, 14.7	Slag	S	485
21.3, 16.4	Slag	S	426
23.0, 17.2	Slag	S	457
25.8, 17.2	Slag	S	479
28.7, 17.2	Slag	S	488
28.6, 19.1	Slag	S	493
24.4, 19.7	Slag	S	508
27.3, 19.7	Slag	S	510

Basic Statistical Quantities Summary

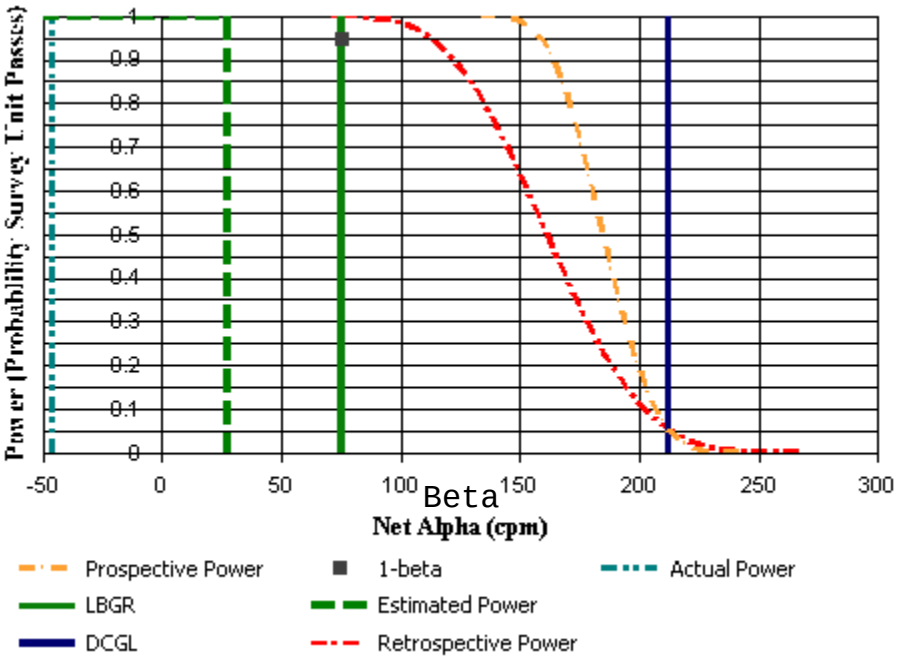
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=14
Mean (dpm/100 cm²)	1.23	N/A	27.6
Median (dpm/100 cm²)	16.35	N/A	N/A
Std Dev (dpm/100 cm²)	52.37	N/A	48.3
High Value (dpm/100 cm²)	69.26	N/A	N/A
Low Value (dpm/100 cm²)	-89.47	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU1 through 21 Bldg 200E slag Rev. 1 C1 SU8		
Report Number:	8		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
1.0, 22.2	Slag	S	480
3.9, 22.2	Slag	S	444
6.8, 22.2	Slag	S	478
9.7, 22.2	Slag	S	466
2.5, 24.7	Slag	S	256
5.4, 24.7	Slag	S	595
8.2, 24.7	Slag	S	384
1.0, 27.2	Slag	S	437
3.9, 27.2	Slag	S	538
6.8, 27.2	Slag	S	433
9.7, 27.2	Slag	S	454
2.5, 29.7	Slag	S	376
5.4, 29.7	Slag	S	356
8.2, 29.7	Slag	S	583

Basic Statistical Quantities Summary

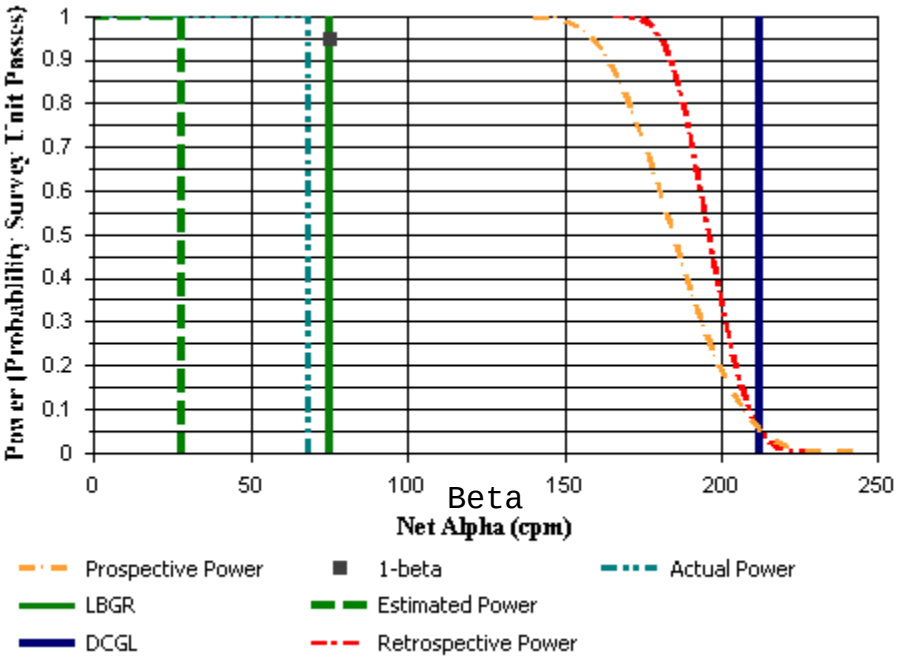
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=14
Mean (dpm/100 cm²)	-46.82	N/A	27.6
Median (dpm/100 cm²)	-46.01	N/A	N/A
Std Dev (dpm/100 cm²)	169.97	N/A	48.3
High Value (dpm/100 cm²)	229.88	N/A	N/A
Low Value (dpm/100 cm²)	-410.71	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU1 through 21 Bldg 200E slag Rev. 1 C1 SU9		
Report Number:	9		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
10.1, 21.8	Slag	S	509
13.0, 21.8	Slag	S	535
15.9, 21.8	Slag	S	500
18.7, 21.8	Slag	S	511
11.6, 24.3	Slag	S	510
14.4, 24.3	Slag	S	476
17.3, 24.3	Slag	S	580
10.1, 26.8	Slag	S	534
13.0, 26.8	Slag	S	499
15.9, 26.8	Slag	S	534
18.7, 26.8	Slag	S	484
11.6, 29.2	Slag	S	534
14.4, 29.2	Slag	S	485
17.3, 29.2	Slag	S	485

Basic Statistical Quantities Summary

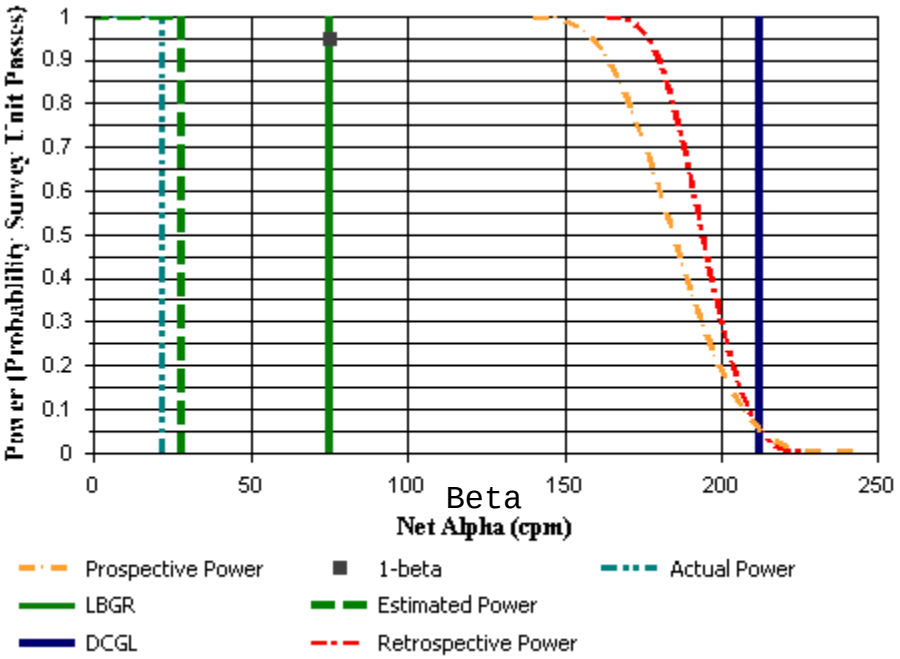
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=14
Mean (dpm/100 cm²)	74.11	N/A	27.6
Median (dpm/100 cm²)	68.31	N/A	N/A
Std Dev (dpm/100 cm²)	53.62	N/A	48.3
High Value (dpm/100 cm²)	201.53	N/A	N/A
Low Value (dpm/100 cm²)	5.01	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU1 through 21 Bldg 200E slag Rev. 1 C1 SU10		
Report Number:	10		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
21.3, 21.4	Slag	S	493
24.1, 21.4	Slag	S	578
27.0, 21.4	Slag	S	479
29.9, 21.4	Slag	S	456
24.8, 25.0	Slag	S	526
25.6, 23.9	Slag	S	470
28.4, 23.9	Slag	S	485
21.3, 26.4	Slag	S	489
24.1, 26.4	Slag	S	485
27.0, 26.4	Slag	S	486
29.9, 26.4	Slag	S	467
22.7, 28.9	Slag	S	466
25.6, 28.9	Slag	S	491
28.4, 28.9	Slag	S	451

Basic Statistical Quantities Summary

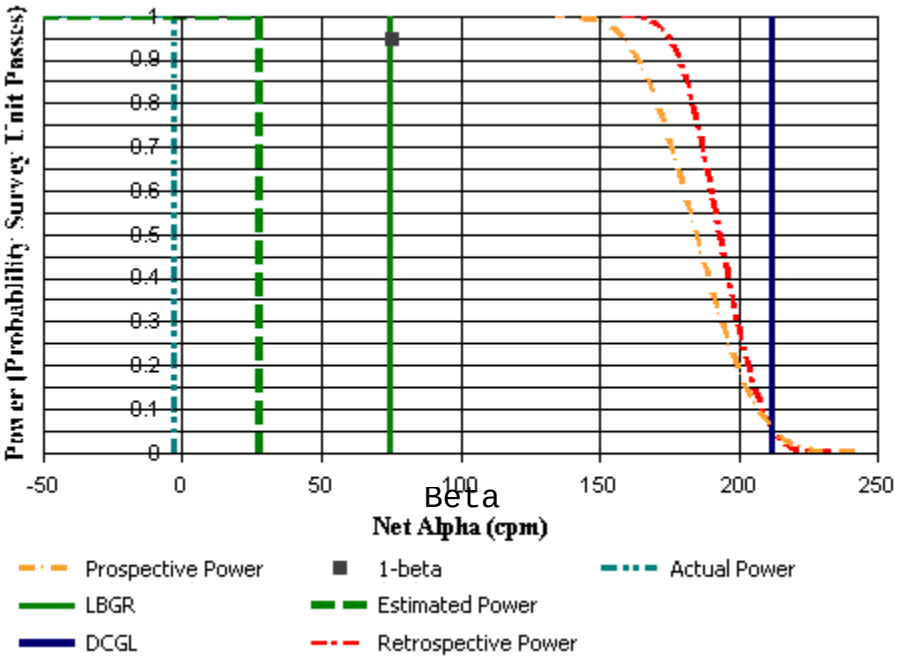
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=14
Mean (dpm/100 cm²)	26.33	N/A	27.6
Median (dpm/100 cm²)	22.01	N/A	N/A
Std Dev (dpm/100 cm²)	60.48	N/A	48.3
High Value (dpm/100 cm²)	197.75	N/A	N/A
Low Value (dpm/100 cm²)	-42.23	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU1 through 21 Bldg 200E slag Rev. 1 C1 SU11		
Report Number:	11		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
31.2, 20.0	Slag	S	406
34.8, 20.0	Slag	S	478
33.0, 23.1	Slag	S	475
36.5, 23.1	Slag	S	414
31.2, 26.1	Slag	S	481
34.8, 26.1	Slag	S	503
33.0, 29.2	Slag	S	477
36.5, 29.2	Slag	S	410
31.2, 32.2	Slag	S	471
34.8, 32.2	Slag	S	500
33.0, 35.3	Slag	S	430
36.5, 35.3	Slag	S	473
31.2, 38.3	Slag	S	452
34.8, 38.3	Slag	S	425

Basic Statistical Quantities Summary

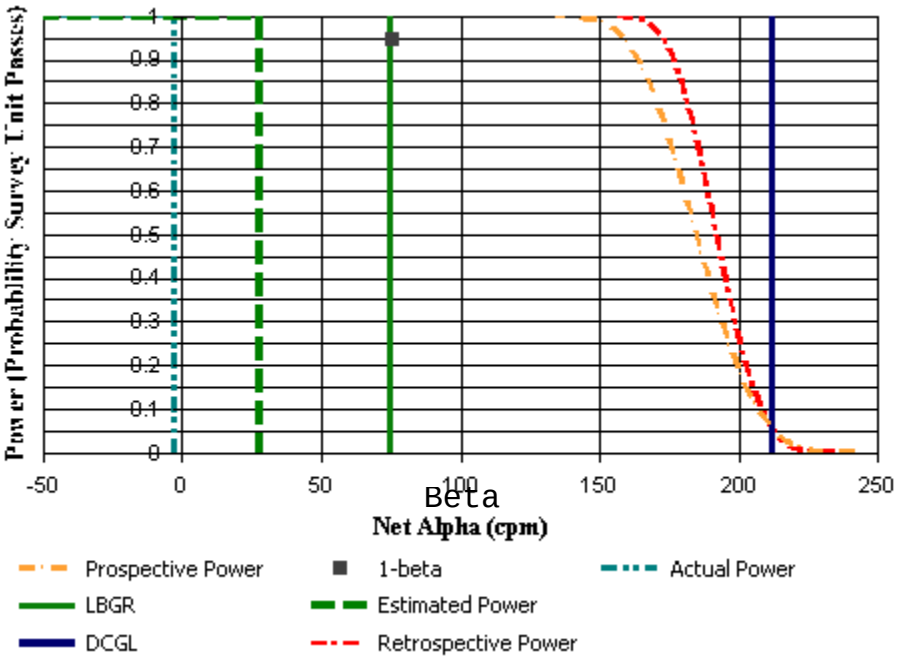
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=14
Mean (dpm/100 cm²)	-31.30	N/A	27.6
Median (dpm/100 cm²)	-2.55	N/A	N/A
Std Dev (dpm/100 cm²)	63.31	N/A	48.3
High Value (dpm/100 cm²)	56.03	N/A	N/A
Low Value (dpm/100 cm²)	-127.27	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU1 through 21 Bldg 200E slag Rev. 1 C1 SU12		
Report Number:	12		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
1.2, 31.5	Slag	S	435
4.1, 31.5	Slag	S	514
7.0, 31.5	Slag	S	523
9.9, 31.5	Slag	S	462
2.7, 34.0	Slag	S	492
5.5, 34.0	Slag	S	476
8.4, 34.0	Slag	S	522
1.2, 36.5	Slag	S	468
4.1, 36.5	Slag	S	454
7.0, 36.5	Slag	S	553
9.9, 36.5	Slag	S	496
2.7, 39.0	Slag	S	459
5.5, 39.0	Slag	S	468
8.4, 39.0	Slag	S	432

Basic Statistical Quantities Summary

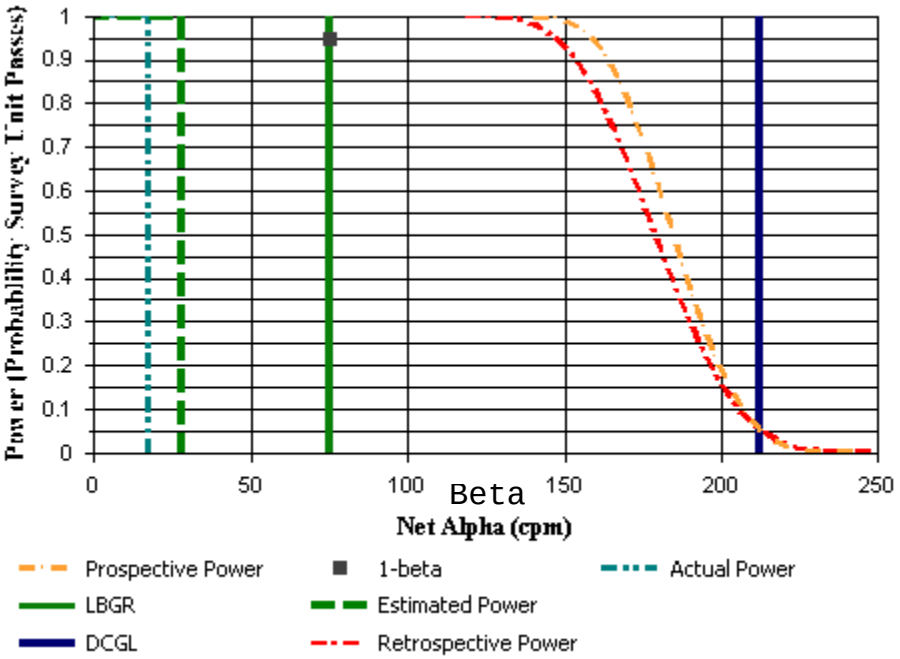
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=14
Mean (dpm/100 cm²)	17.16	N/A	27.6
Median (dpm/100 cm²)	-2.55	N/A	N/A
Std Dev (dpm/100 cm²)	67.30	N/A	48.3
High Value (dpm/100 cm²)	150.51	N/A	N/A
Low Value (dpm/100 cm²)	-78.14	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU1 through 21 Bldg 200E slag Rev. 1 C1 SU13		
Report Number:	13		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
12.6, 30.8	Slag	S	505
15.5, 30.8	Slag	S	392
18.4, 30.8	Slag	S	462
11.2, 33.3	Slag	S	477
14.0, 33.3	Slag	S	581
16.9, 33.3	Slag	S	446
19.8, 33.3	Slag	S	509
12.6, 35.8	Slag	S	488
15.5, 35.8	Slag	S	476
18.4, 35.8	Slag	S	638
11.2, 38.3	Slag	S	474
14.0, 38.3	Slag	S	518
16.9, 38.3	Slag	S	500
19.8, 38.3	Slag	S	472

Basic Statistical Quantities Summary

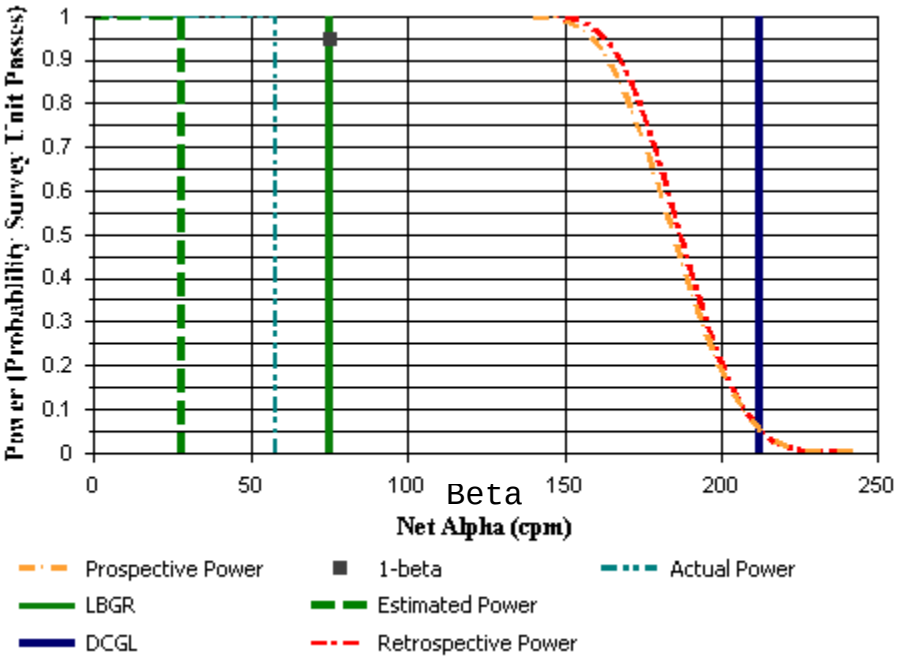
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=14
Mean (dpm/100 cm²)	41.99	N/A	27.6
Median (dpm/100 cm²)	17.29	N/A	N/A
Std Dev (dpm/100 cm²)	110.55	N/A	48.3
High Value (dpm/100 cm²)	311.13	N/A	N/A
Low Value (dpm/100 cm²)	-153.72	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU1 through 21 Bldg 200E slag Rev. 1 C1 SU14		
Report Number:	14		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

			Beta
Measurement	**Material**	**Type**	**Gross Alpha (cpm)**
22.5, 31.8	Slag	S	484
25.4, 31.8	Slag	S	502
28.2, 31.8	Slag	S	479
21.0, 34.3	Slag	S	495
23.9, 34.3	Slag	S	489
26.8, 34.3	Slag	S	501
29.7, 34.3	Slag	S	530
22.5, 36.8	Slag	S	407
25.4, 36.8	Slag	S	520
28.2, 36.8	Slag	S	506
21.0, 39.3	Slag	S	582
23.9, 39.3	Slag	S	513
26.8, 39.3	Slag	S	537
29.7, 39.3	Slag	S	589

Basic Statistical Quantities Summary

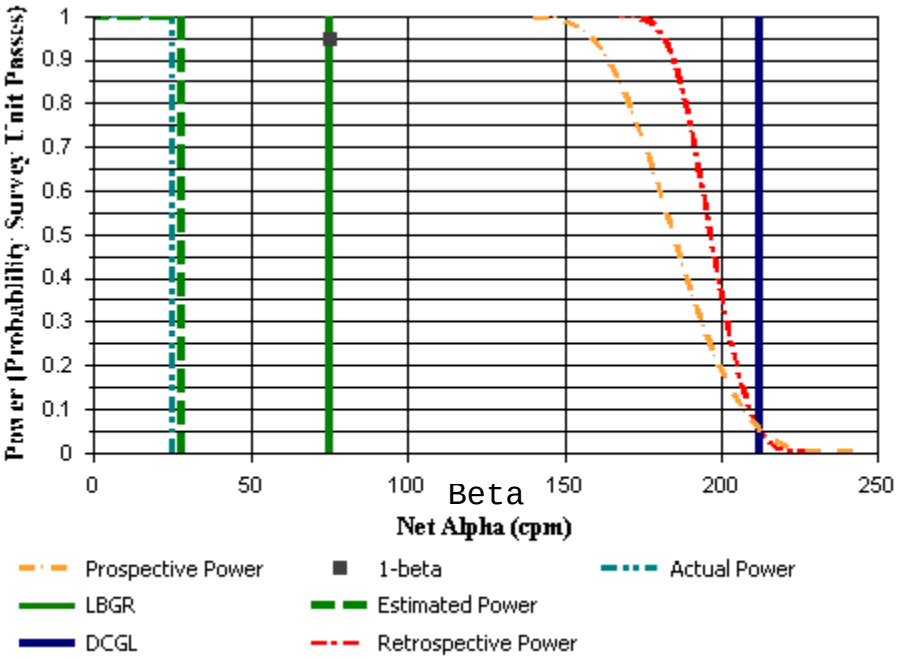
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=14
Mean (dpm/100 cm²)	68.45	N/A	27.6
Median (dpm/100 cm²)	57.92	N/A	N/A
Std Dev (dpm/100 cm²)	84.07	N/A	48.3
High Value (dpm/100 cm²)	218.54	N/A	N/A
Low Value (dpm/100 cm²)	-125.38	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU1 through 21 Bldg 200E slag Rev. 1 C1 SU15		
Report Number:	15		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
0.4, 41.0	Slag	S	457
3.2, 41.0	Slag	S	505
6.1, 41.0	Slag	S	503
9.0, 41.0	Slag	S	469
1.8, 43.4	Slag	S	508
4.7, 43.4	Slag	S	456
7.5, 43.4	Slag	S	509
0.4, 45.9	Slag	S	493
3.2, 45.9	Slag	S	465
6.1, 45.9	Slag	S	480
9.0, 45.9	Slag	S	512
1.8, 48.4	Slag	S	471
4.7, 48.4	Slag	S	522
7.5, 48.4	Slag	S	428

Basic Statistical Quantities Summary

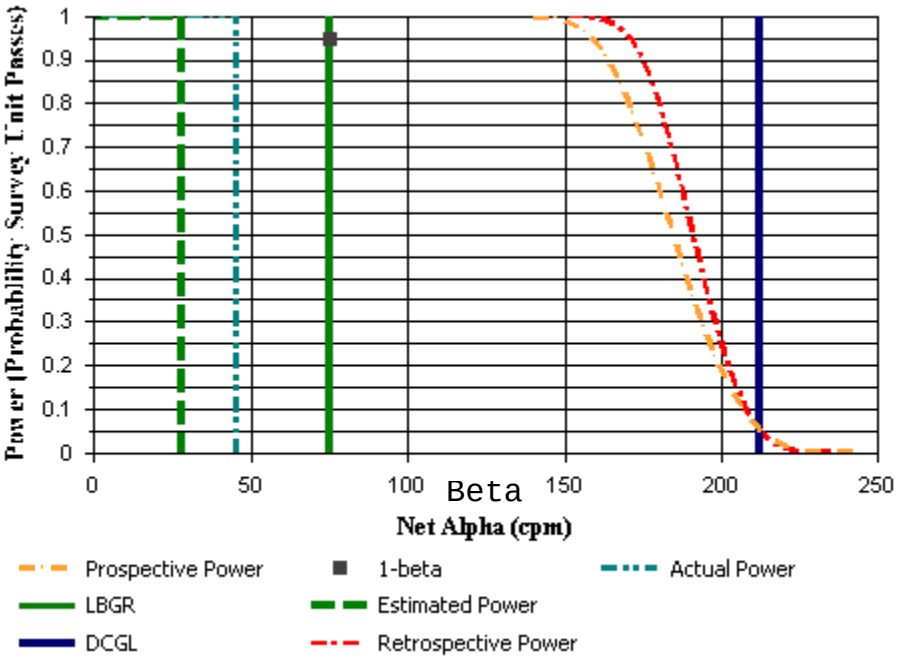
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=14
Mean (dpm/100 cm²)	20.39	N/A	27.6
Median (dpm/100 cm²)	24.85	N/A	N/A
Std Dev (dpm/100 cm²)	51.70	N/A	48.3
High Value (dpm/100 cm²)	91.93	N/A	N/A
Low Value (dpm/100 cm²)	-85.70	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU1 through 21 Bldg 200E slag Rev. 1 C1 SU16		
Report Number:	16		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
11.1, 41.4	Slag	S	494
14.0, 41.4	Slag	S	520
16.8, 41.4	Slag	S	501
19.7, 41.4	Slag	S	565
12.5, 43.9	Slag	S	539
15.4, 43.9	Slag	S	512
18.3, 43.9	Slag	S	518
11.1, 46.4	Slag	S	475
14.0, 46.4	Slag	S	485
16.8, 46.4	Slag	S	446
19.7, 46.4	Slag	S	450
12.5, 48.9	Slag	S	532
15.4, 48.9	Slag	S	451
18.3, 48.9	Slag	S	457

Basic Statistical Quantities Summary

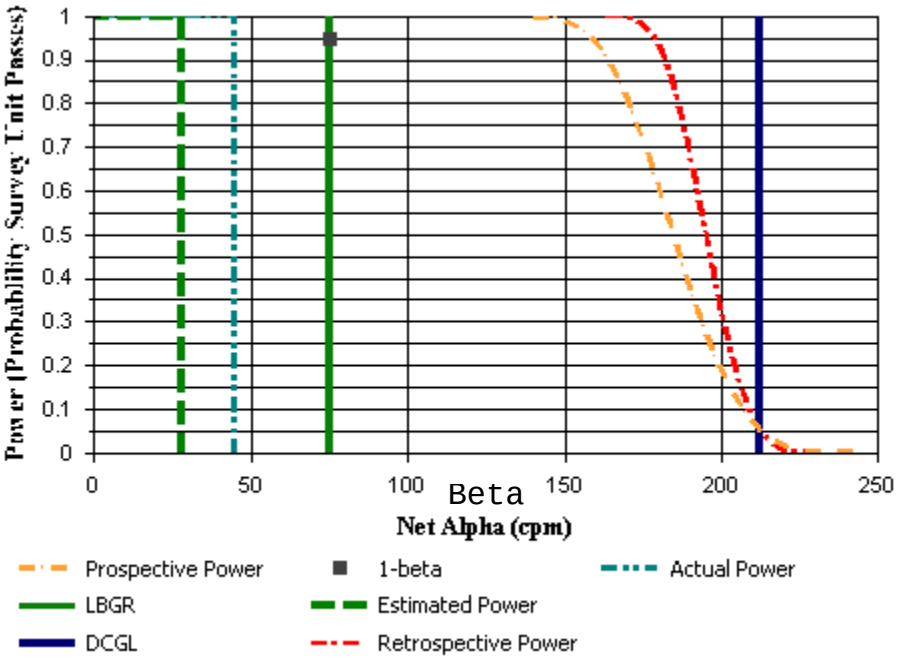
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=14
Mean (dpm/100 cm²)	42.94	N/A	27.6
Median (dpm/100 cm²)	45.63	N/A	N/A
Std Dev (dpm/100 cm²)	70.27	N/A	48.3
High Value (dpm/100 cm²)	173.19	N/A	N/A
Low Value (dpm/100 cm²)	-51.68	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU1 through 21 Bldg 200E slag Rev. 1 C1 SU17		
Report Number:	17		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
21.1, 42.1	Slag	S	466
23.9, 42.1	Slag	S	469
26.8, 42.1	Slag	S	522
28.5, 42.3	Slag	S	513
22.5, 44.6	Slag	S	489
25.4, 44.6	Slag	S	521
28.2, 44.6	Slag	S	539
21.1, 47.1	Slag	S	517
23.9, 47.1	Slag	S	493
26.8, 47.1	Slag	S	501
29.7, 47.1	Slag	S	474
22.5, 49.6	Slag	S	426
25.4, 49.6	Slag	S	471
28.2, 49.6	Slag	S	511

Basic Statistical Quantities Summary

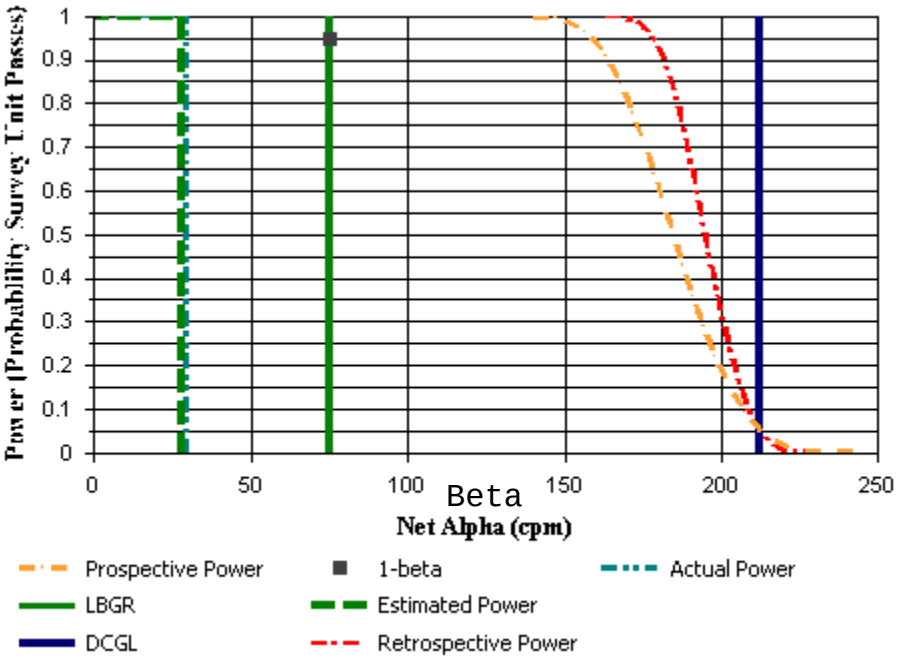
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=14
Mean (dpm/100 cm²)	38.48	N/A	27.6
Median (dpm/100 cm²)	44.69	N/A	N/A
Std Dev (dpm/100 cm²)	56.82	N/A	48.3
High Value (dpm/100 cm²)	124.06	N/A	N/A
Low Value (dpm/100 cm²)	-89.47	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU1 through 21 Bldg 200E slag Rev. 1 C1 SU18		
Report Number:	18		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
31.4, 41.7	Slag	S	493
35.1, 41.7	Slag	S	490
33.3, 44.8	Slag	S	516
36.9, 44.8	Slag	S	431
31.4, 47.9	Slag	S	506
35.1, 47.9	Slag	S	481
33.3, 51.0	Slag	S	538
36.9, 51.0	Slag	S	452
31.4, 54.2	Slag	S	498
35.1, 54.2	Slag	S	446
33.3, 57.3	Slag	S	469
36.9, 57.3	Slag	S	463
31.4, 60.4	Slag	S	488
35.1, 60.4	Slag	S	521

Basic Statistical Quantities Summary

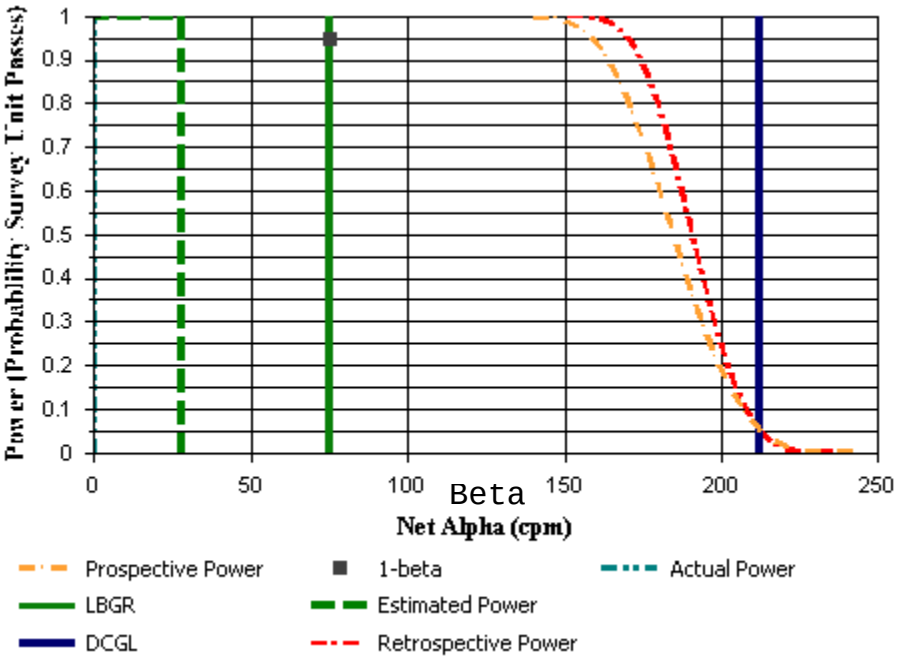
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=14
Mean (dpm/100 cm²)	22.28	N/A	27.6
Median (dpm/100 cm²)	29.57	N/A	N/A
Std Dev (dpm/100 cm²)	57.54	N/A	48.3
High Value (dpm/100 cm²)	122.17	N/A	N/A
Low Value (dpm/100 cm²)	-80.03	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU1 through 21 Bldg 200E slag Rev. 1 C1 SU19		
Report Number:	19		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
0.7, 52.5	Slag	S	455
3.7, 52.5	Slag	S	467
6.7, 52.5	Slag	S	454
9.7, 52.5	Slag	S	490
2.2, 55.1	Slag	S	464
5.2, 55.1	Slag	S	435
8.2, 55.1	Slag	S	470
0.7, 57.7	Slag	S	455
3.7, 57.7	Slag	S	490
6.7, 57.7	Slag	S	487
9.7, 57.7	Slag	S	477
2.8, 58.2	Slag	S	596
1.6, 53.8	Slag	S	478
8.2, 60.3	Slag	S	499

Basic Statistical Quantities Summary

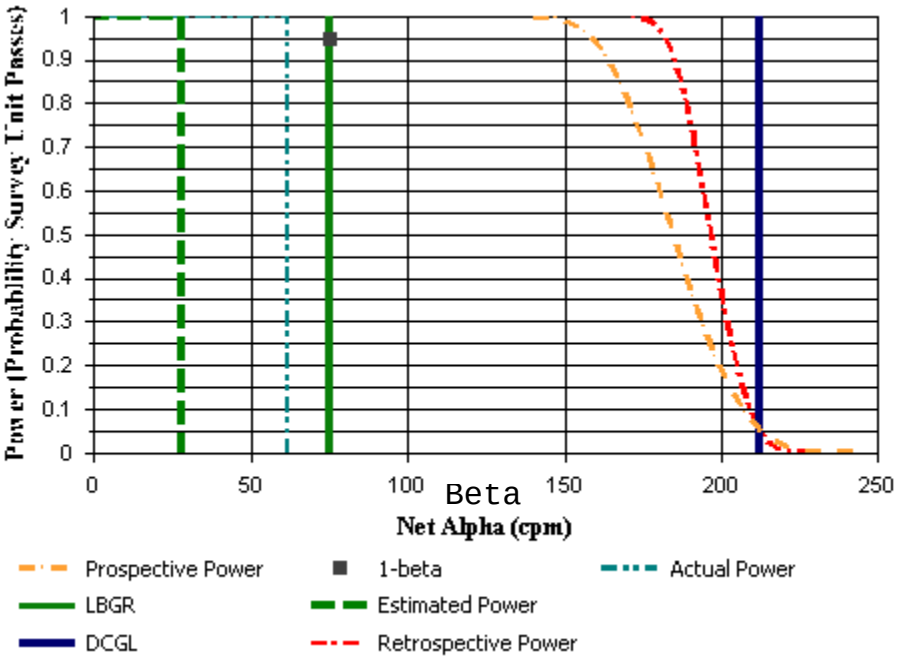
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=14
Mean (dpm/100 cm²)	12.16	N/A	27.6
Median (dpm/100 cm²)	0.28	N/A	N/A
Std Dev (dpm/100 cm²)	71.39	N/A	48.3
High Value (dpm/100 cm²)	231.76	N/A	N/A
Low Value (dpm/100 cm²)	-72.47	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU1 through 21 Bldg 200E slag Rev. 1 C1 SU20		
Report Number:	20		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
12.1, 51.0	Slag	S	524
15.1, 51.0	Slag	S	509
18.1, 51.0	Slag	S	473
10.6, 53.6	Slag	S	503
13.6, 53.6	Slag	S	514
16.6, 53.6	Slag	S	511
19.6, 53.6	Slag	S	521
12.1, 56.2	Slag	S	471
15.1, 56.2	Slag	S	491
18.1, 56.2	Slag	S	474
10.6, 58.8	Slag	S	526
13.6, 58.8	Slag	S	496
16.6, 58.8	Slag	S	549
19.6, 58.8	Slag	S	448

Basic Statistical Quantities Summary

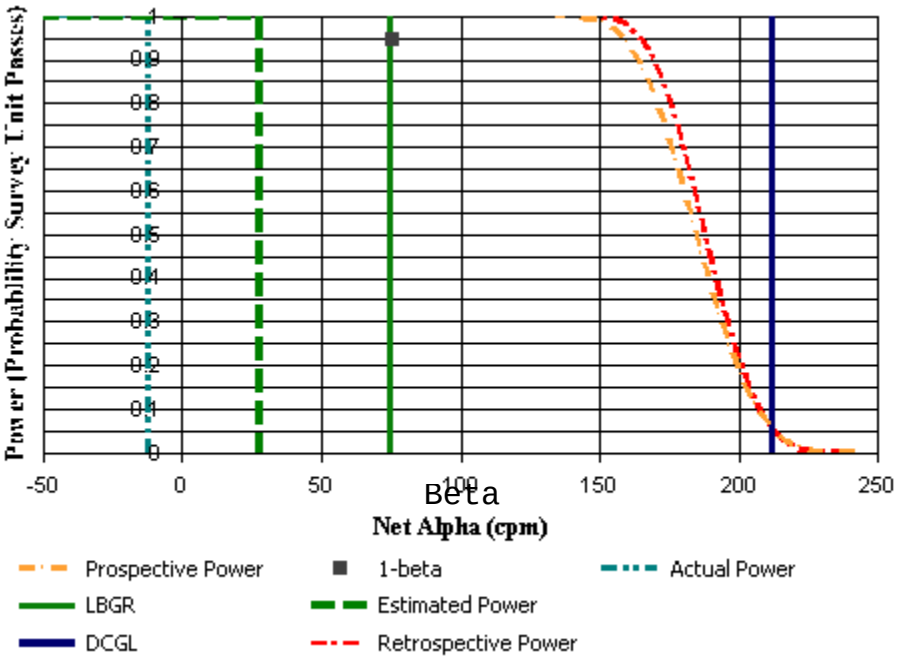
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=14
Mean (dpm/100 cm²)	51.71	N/A	27.6
Median (dpm/100 cm²)	61.70	N/A	N/A
Std Dev (dpm/100 cm²)	51.19	N/A	48.3
High Value (dpm/100 cm²)	142.95	N/A	N/A
Low Value (dpm/100 cm²)	-47.90	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU1 through 21 Bldg 200E slag Rev. 1 C1 SU21		
Report Number:	21		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
21.7, 51.5	Slag	S	511
24.7, 51.5	Slag	S	407
27.7, 51.5	Slag	S	438
20.2, 54.1	Slag	S	477
23.2, 54.1	Slag	S	440
26.2, 54.1	Slag	S	486
29.2, 54.1	Slag	S	396
21.7, 56.7	Slag	S	457
24.7, 56.7	Slag	S	493
27.7, 56.7	Slag	S	487
20.2, 59.3	Slag	S	437
23.2, 59.3	Slag	S	432
26.2, 59.3	Slag	S	540
29.2, 59.3	Slag	S	517

Basic Statistical Quantities Summary

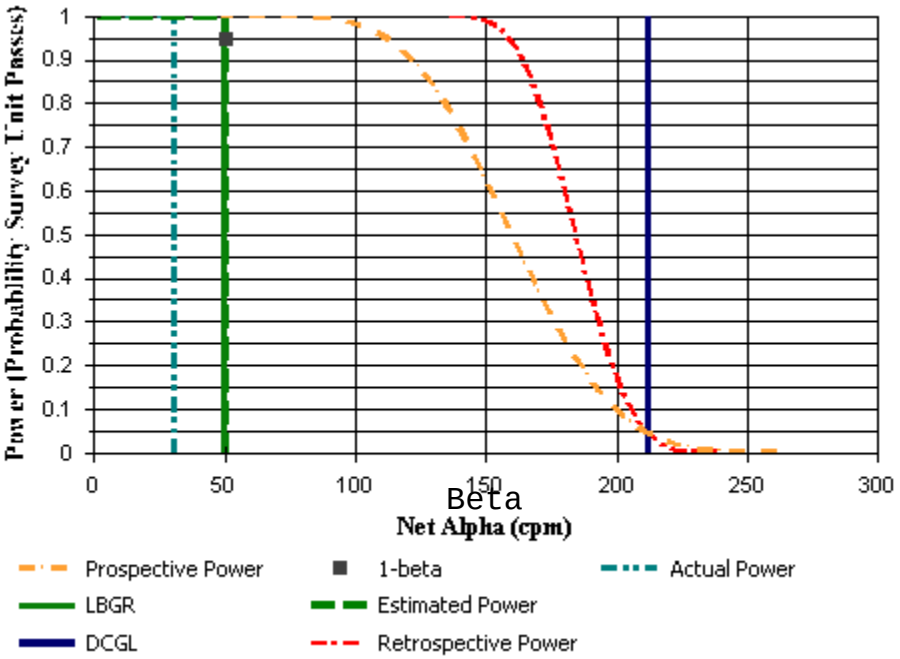
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=14
Mean (dpm/100 cm²)	-14.70	N/A	27.6
Median (dpm/100 cm²)	-12.00	N/A	N/A
Std Dev (dpm/100 cm²)	80.70	N/A	48.3
High Value (dpm/100 cm²)	125.94	N/A	N/A
Low Value (dpm/100 cm²)	-146.16	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU22 and 23 Building 200E west and north wall C1 SU22 NE corner wall		
Report Number:	1		
Survey Unit Measurements:	17		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
1.4, 0.6	Unpainted Cinder Block	S	481
3.0, 0.6	Unpainted Cinder Block	S	644
4.5, 0.6	Unpainted Cinder Block	S	504
6.1, 0.6	Unpainted Cinder Block	S	490
0.6, 2.0	Unpainted Cinder Block	S	438
2.2, 2.0	Unpainted Cinder Block	S	468
3.8, 2.0	Unpainted Cinder Block	S	464
5.3, 2.0	Unpainted Cinder Block	S	463
6.9, 2.0	Unpainted Cinder Block	S	468
1.4, 3.4	Unpainted Cinder Block	S	418
3.0, 3.4	Unpainted Cinder Block	S	419
4.5, 3.4	Unpainted Cinder Block	S	478
6.1, 3.4	Unpainted Cinder Block	S	460
0.6, 4.7	Unpainted Cinder Block	S	435
2.2, 4.7	Unpainted Cinder Block	S	474
3.8, 4.7	Unpainted Cinder Block	S	455
5.3, 4.7	Unpainted Cinder Block	S	423

Basic Statistical Quantities Summary

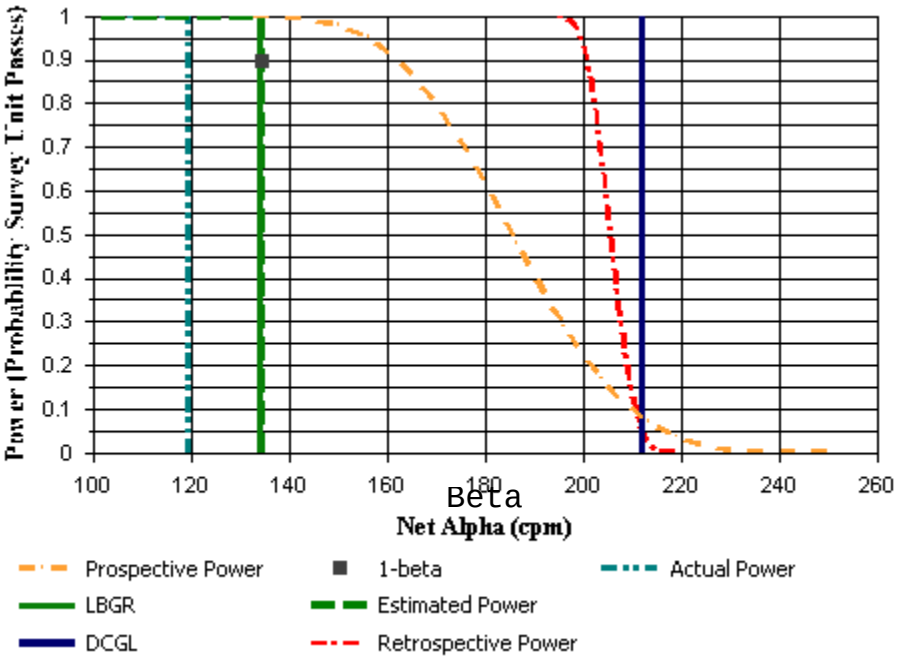
Statistic	Survey Unit	Background	DQO Results
Sample Number	17	N/A	N=17
Mean (dpm/100 cm²)	41.25	N/A	50.1
Median (dpm/100 cm²)	30.80	N/A	N/A
Std Dev (dpm/100 cm²)	97.06	N/A	96.4
High Value (dpm/100 cm²)	370.94	N/A	N/A
Low Value (dpm/100 cm²)	-56.12	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU24 through 32 Bldg 200E Ceiling	C1 SU24	
Report Number:	1		
Survey Unit Measurements:	17		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
0.2, 32.4	Metal	S	233
3.2, 32.4	Metal	S	232
6.3, 32.4	Metal	S	238
9.4, 32.4	Metal	S	250
12.5, 32.4	Metal	S	256
1.7, 35.1	Metal	S	241
4.8, 35.1	Metal	S	235
7.9, 35.1	Metal	S	234
10.9, 35.1	Metal	S	259
0.2, 37.8	Metal	S	238
3.2, 37.8	Metal	S	240
6.3, 37.8	Metal	S	268
9.4, 37.8	Metal	S	262
12.5, 37.8	Metal	S	245
1.7, 40.5	Metal	S	242
4.8, 40.5	Metal	S	239
7.9, 40.5	Metal	S	268

Basic Statistical Quantities Summary

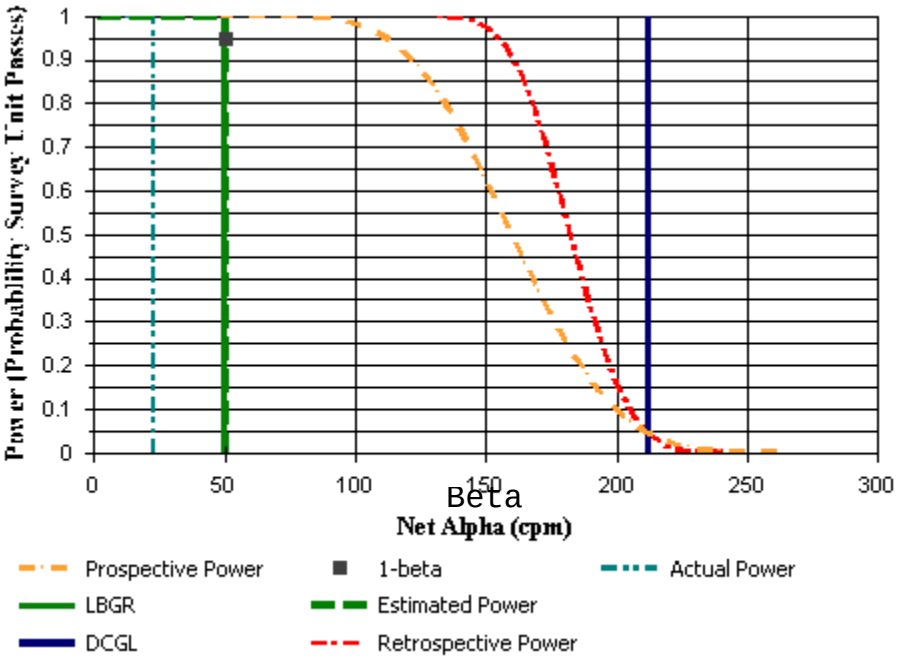
Statistic	Survey Unit	Background	DQO Results
Sample Number	17	N/A	N=18
Mean (dpm/100 cm²)	128.46	N/A	134
Median (dpm/100 cm²)	119.24	N/A	N/A
Std Dev (dpm/100 cm²)	23.11	N/A	61.9
High Value (dpm/100 cm²)	170.26	N/A	N/A
Low Value (dpm/100 cm²)	102.23	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU22 and 23 Building 200E west and north wall C1 SU23west central wall		
Report Number:	2		
Survey Unit Measurements:	17		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
19.7, 3.6	Metal	S	190
19.7, 1.6	Unpainted Cinder Block	S	582
21.3, 4.6	Metal	S	160
21.3, 2.6	Unpainted Cinder Block	S	567
21.3, 0.7	Unpainted Cinder Block	S	498
23.0, 3.6	Metal	S	173
23.0, 1.6	Unpainted Cinder Block	S	564
24.7, 4.6	Unpainted Cinder Block	S	454
24.7, 2.6	Unpainted Cinder Block	S	435
24.7, 0.7	Unpainted Cinder Block	S	560
26.4, 3.6	Unpainted Cinder Block	S	476
26.4, 1.6	Unpainted Cinder Block	S	413
28.1, 4.6	Metal	S	168
28.1, 2.6	Unpainted Cinder Block	S	442
28.1, 0.7 actual material concrete, Metal BKG used (178 vs. 337)	Metal	S	238
29.8, 3.6	Unpainted Cinder Block	S	473
29.8, 1.6	Unpainted Cinder Block	S	447

Basic Statistical Quantities Summary

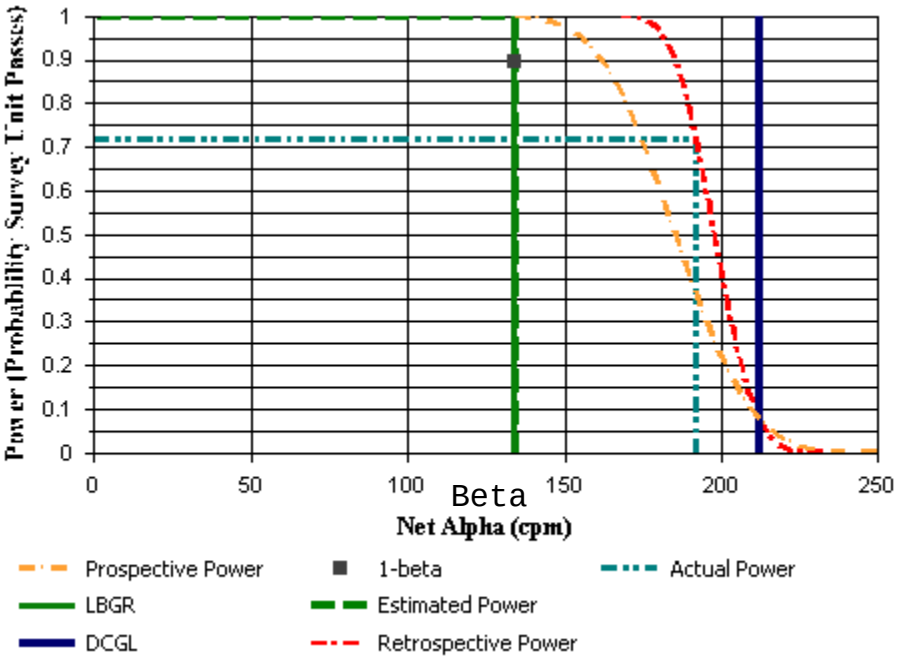
Statistic	Survey Unit	Background	DQO Results
Sample Number	17	N/A	N=17
Mean (dpm/100 cm²)	64.26	N/A	50.1
Median (dpm/100 cm²)	22.86	N/A	N/A
Std Dev (dpm/100 cm²)	103.88	N/A	96.4
High Value (dpm/100 cm²)	253.78	N/A	N/A
Low Value (dpm/100 cm²)	-65.57	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU24 through 32 Bldg 200E Ceiling C1 SU25		
Report Number:	3		
Survey Unit Measurements:	18		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
14.1, 32.3	Metal	S	244
17.2, 32.3	Metal	S	271
20.3, 32.3	Metal	S	261
23.3, 32.3	Metal	S	289
12.5, 35.0	Metal	S	372
15.6, 35.0	Metal	S	200
18.7, 35.0	Metal	S	292
21.8, 35.0	Metal	S	282
24.9, 35.0	Metal	S	275
14.1, 37.6	Metal	S	290
17.2, 37.6	Metal	S	253
20.3, 37.6	Metal	S	280
23.3, 37.6	Metal	S	293
12.5, 40.3	Metal	S	269
15.6, 40.3	Metal	S	301
18.7, 40.3	Metal	S	279
21.8, 40.3	Metal	S	261
24.9, 40.3	Metal	S	284

Basic Statistical Quantities Summary

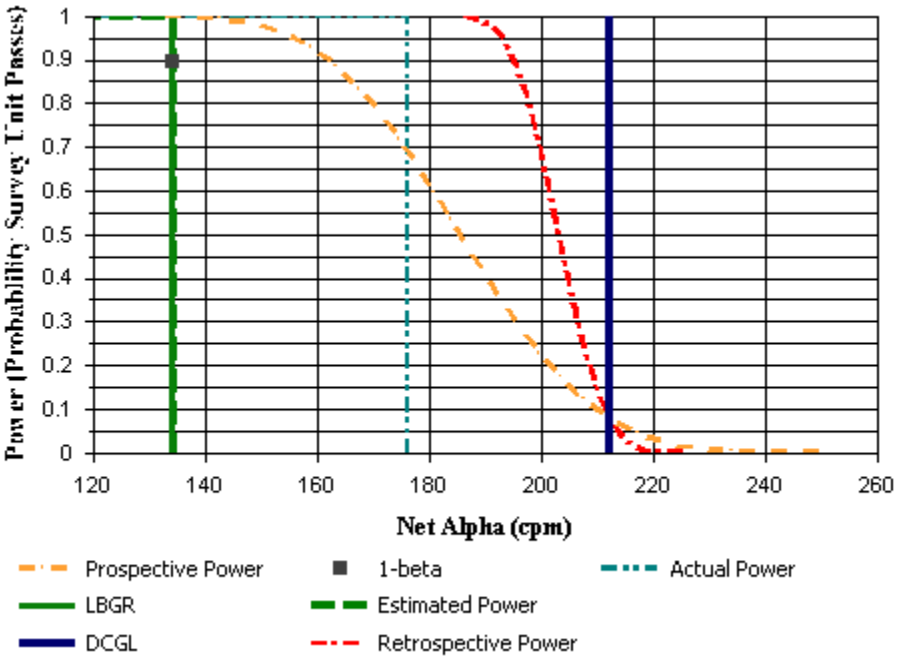
Statistic	Survey Unit	Background	DQO Results
Sample Number	18	N/A	N=18
Mean (dpm/100 cm²)	188.31	N/A	134
Median (dpm/100 cm²)	191.99	N/A	N/A
Std Dev (dpm/100 cm²)	62.65	N/A	61.9
High Value (dpm/100 cm²)	366.78	N/A	N/A
Low Value (dpm/100 cm²)	41.76	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU24 through 32 Bldg 200E Ceiling C1 SU26		
Report Number:	4		
Survey Unit Measurements:	18		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Gross Alpha (cpm)
26.6, 31.0	Metal	S	279
29.7, 31.0	Metal	S	306
32.8, 31.0	Metal	S	251
35.8, 31.0	Metal	S	270
25.0, 33.7	Metal	S	264
28.1, 33.7	Metal	S	283
31.2, 33.7	Metal	S	272
34.3, 33.7	Metal	S	297
37.4, 33.7	Metal	S	260
26.6, 36.4	Metal	S	275
29.7, 36.4	Metal	S	300
32.8, 36.4	Metal	S	249
35.8, 36.4	Metal	S	248
25.0, 39.0	Metal	S	235
28.1, 39.0	Metal	S	276
31.2, 39.0	Metal	S	249
34.3, 39.0	Metal	S	289
37.4, 39.0	Metal	S	240

Basic Statistical Quantities Summary

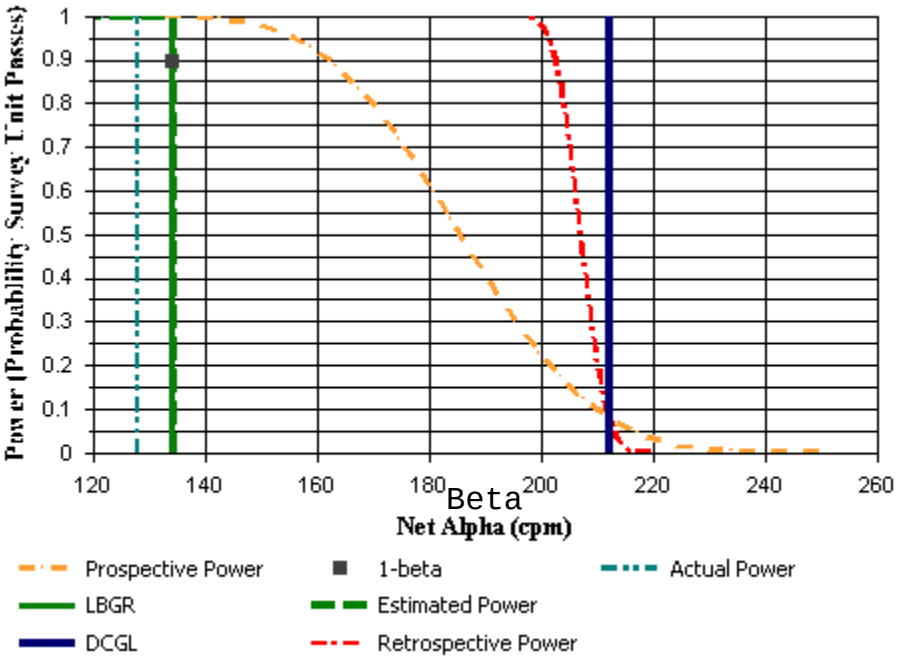
Statistic	Survey Unit	Background	DQO Results
Sample Number	18	N/A	N=18
Mean (dpm/100 cm^2)	172.25	N/A	134
Median (dpm/100 cm^2)	175.93	N/A	N/A
Std Dev (dpm/100 cm^2)	39.88	N/A	61.9
High Value (dpm/100 cm^2)	242.06	N/A	N/A
Low Value (dpm/100 cm^2)	107.90	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU24 through 32 Bldg 200E Ceiling C1 SU27		
Report Number:	5		
Survey Unit Measurements:	18		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
1.7, 42.3	Metal	S	260
4.8, 42.3	Metal	S	263
7.8, 42.3	Metal	S	242
10.9, 42.3	Metal	S	244
0.1, 45.0	Metal	S	247
3.2, 45.0	Metal	S	265
6.3, 45.0	Metal	S	239
9.4, 45.0	Metal	S	246
12.5, 45.0	Metal	S	256
1.7, 47.7	Metal	S	238
4.8, 47.7	Metal	S	283
7.8, 47.7	Metal	S	237
10.9, 47.7	Metal	S	249
0.1, 50.3	Metal	S	240
3.2, 50.3	Metal	S	245
6.3, 50.3	Metal	S	241
9.4, 50.3	Metal	S	245
12.5, 50.3	Metal	S	247

Basic Statistical Quantities Summary

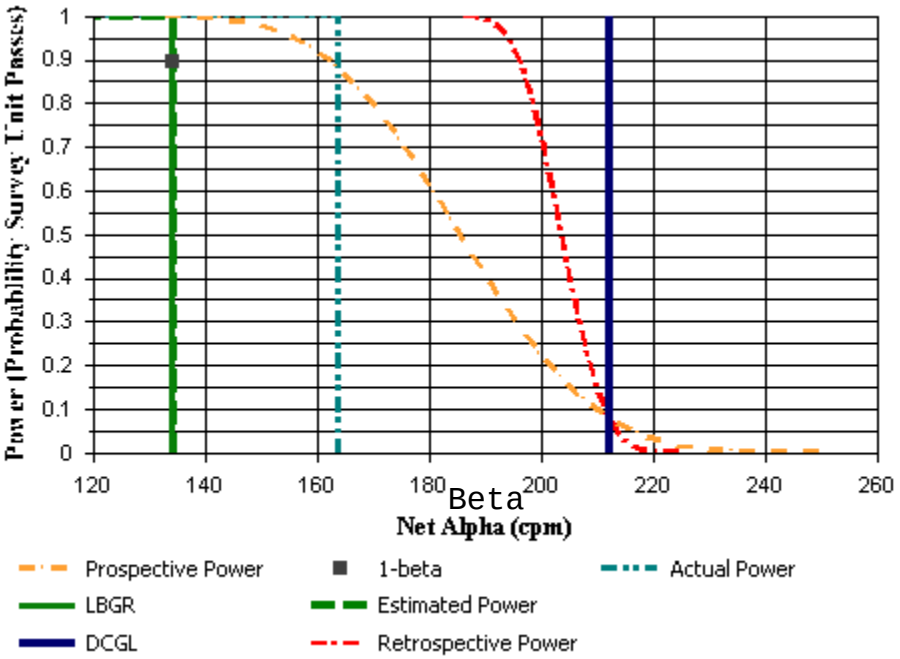
Statistic	Survey Unit	Background	DQO Results
Sample Number	18	N/A	N=18
Mean (dpm/100 cm²)	134.88	N/A	134
Median (dpm/100 cm²)	127.74	N/A	N/A
Std Dev (dpm/100 cm²)	22.50	N/A	61.9
High Value (dpm/100 cm²)	198.60	N/A	N/A
Low Value (dpm/100 cm²)	111.68	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU24 through 32 Bldg 200E Ceiling C1 SU28		
Report Number:	7		
Survey Unit Measurements:	18		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
14.5, 42.2	Metal	S	249
17.5, 42.2	Metal	S	250
20.4, 42.2	Metal	S	248
23.3, 42.2	Metal	S	252
13.1, 44.8	Metal	S	288
16.0, 44.8	Metal	S	239
18.9, 44.8	Metal	S	264
21.9, 44.8	Metal	S	238
24.8, 44.8	Metal	S	277
14.5, 47.3	Metal	S	265
17.5, 47.3	Metal	S	313
20.4, 47.3	Metal	S	281
23.3, 47.3	Metal	S	280
13.1, 49.9	Metal	S	267
16.0, 49.9	Metal	S	264
18.9, 49.9	Metal	S	286
21.9, 49.9	Metal	S	247
24.8, 49.9	Metal	S	279

Basic Statistical Quantities Summary

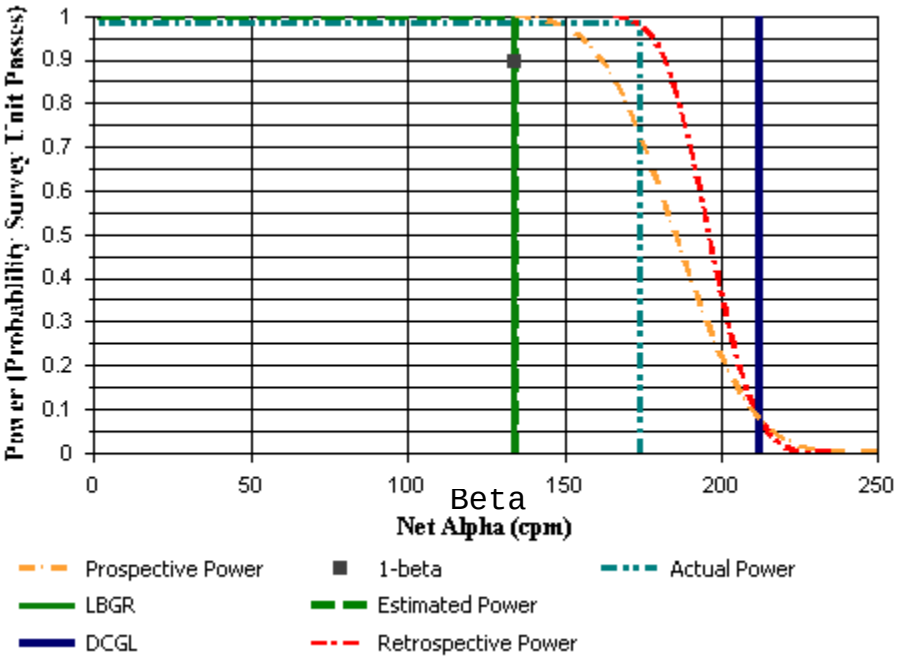
Statistic	Survey Unit	Background	DQO Results
Sample Number	18	N/A	N=18
Mean (dpm/100 cm²)	166.37	N/A	134
Median (dpm/100 cm²)	163.64	N/A	N/A
Std Dev (dpm/100 cm²)	37.66	N/A	61.9
High Value (dpm/100 cm²)	255.29	N/A	N/A
Low Value (dpm/100 cm²)	113.57	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU24 through 32 Bldg 200E Ceiling C1 SU29		
Report Number:	10		
Survey Unit Measurements:	18		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
25.1, 42.4	Metal	S	268
28.2, 42.4	Metal	S	294
31.3, 42.4	Metal	S	272
34.4, 42.4	Metal	S	275
37.5, 42.4	Metal	S	290
26.7, 45.1	Metal	S	260
29.8, 45.1	Metal	S	365
32.8, 45.1	Metal	S	350
35.9, 45.1	Metal	S	216
25.1, 47.8	Metal	S	321
28.2, 47.8	Metal	S	247
31.3, 47.8	Metal	S	266
34.4, 47.8	Metal	S	242
37.5, 47.8	Metal	S	287
26.7, 50.4	Metal	S	266
29.8, 50.4	Metal	S	283
32.8, 50.4	Metal	S	255
35.9, 50.4	Metal	S	246

Basic Statistical Quantities Summary

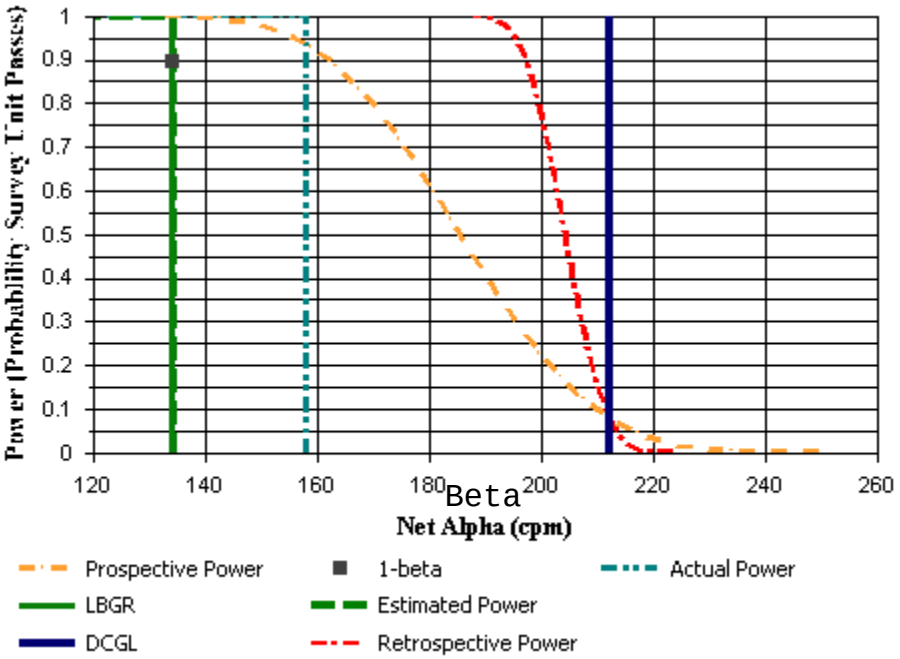
Statistic	Survey Unit	Background	DQO Results
Sample Number	18	N/A	N=18
Mean (dpm/100 cm²)	189.05	N/A	134
Median (dpm/100 cm²)	174.04	N/A	N/A
Std Dev (dpm/100 cm²)	70.29	N/A	61.9
High Value (dpm/100 cm²)	353.55	N/A	N/A
Low Value (dpm/100 cm²)	72.00	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU24 through 32 Bldg 200E Ceiling C1 SU30		
Report Number:	8		
Survey Unit Measurements:	18		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
1.7, 51.5	Metal	S	236
4.8, 51.5	Metal	S	229
7.9, 51.5	Metal	S	242
10.9, 51.5	Metal	S	253
0.1, 54.2	Metal	S	262
3.2, 54.2	Metal	S	274
6.3, 54.2	Metal	S	293
9.4, 54.2	Metal	S	290
12.5, 54.2	Metal	S	236
1.7, 56.9	Metal	S	275
4.8, 56.9	Metal	S	261
7.9, 56.9	Metal	S	242
10.9, 56.9	Metal	S	257
0.1, 59.6	Metal	S	262
3.2, 59.6	Metal	S	263
6.3, 59.6	Metal	S	280
9.4, 59.6	Metal	S	263
12.5, 59.6	Metal	S	249

Basic Statistical Quantities Summary

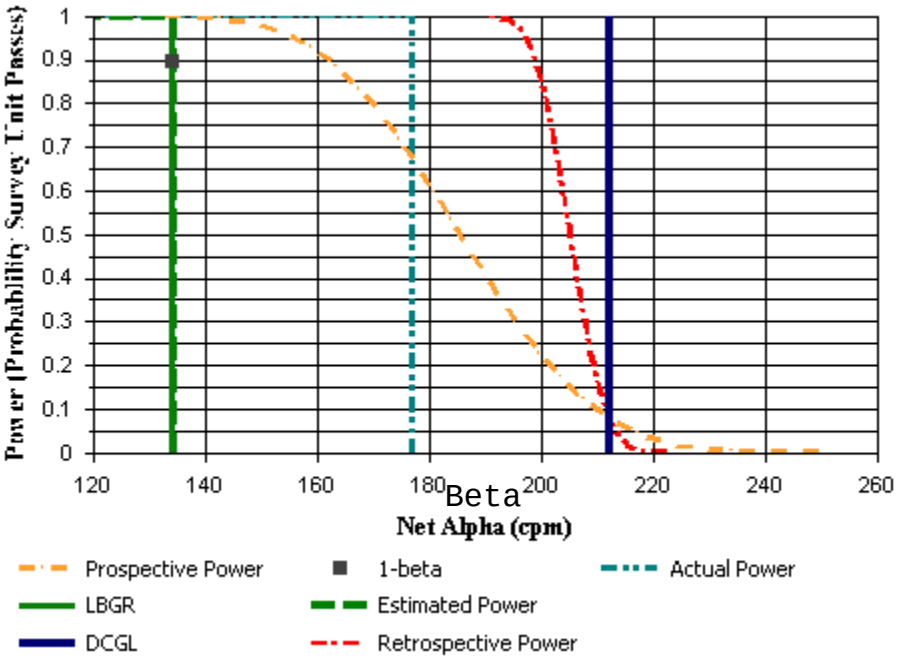
Statistic	Survey Unit	Background	DQO Results
Sample Number	18	N/A	N=18
Mean (dpm/100 cm²)	153.78	N/A	134
Median (dpm/100 cm²)	157.97	N/A	N/A
Std Dev (dpm/100 cm²)	34.81	N/A	61.9
High Value (dpm/100 cm²)	217.50	N/A	N/A
Low Value (dpm/100 cm²)	96.56	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU24 through 32 Bldg 200E Ceiling C1 SU31		
Report Number:	9		
Survey Unit Measurements:	18		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
14.2, 52.4	Metal	S	301
17.2, 52.4	Metal	S	269
20.3, 52.4	Metal	S	294
23.4, 52.4	Metal	S	283
12.6, 55.1	Metal	S	265
15.7, 55.1	Metal	S	269
18.8, 55.1	Metal	S	264
21.9, 55.1	Metal	S	272
25.0, 55.1	Metal	S	268
14.2, 57.8	Metal	S	283
17.2, 57.8	Metal	S	231
20.3, 57.8	Metal	S	278
23.4, 57.8	Metal	S	286
12.6, 60.4	Metal	S	250
15.7, 60.4	Metal	S	271
18.8, 60.4	Metal	S	276
21.9, 60.4	Metal	S	281
25.0, 60.4	Metal	S	253

Basic Statistical Quantities Summary

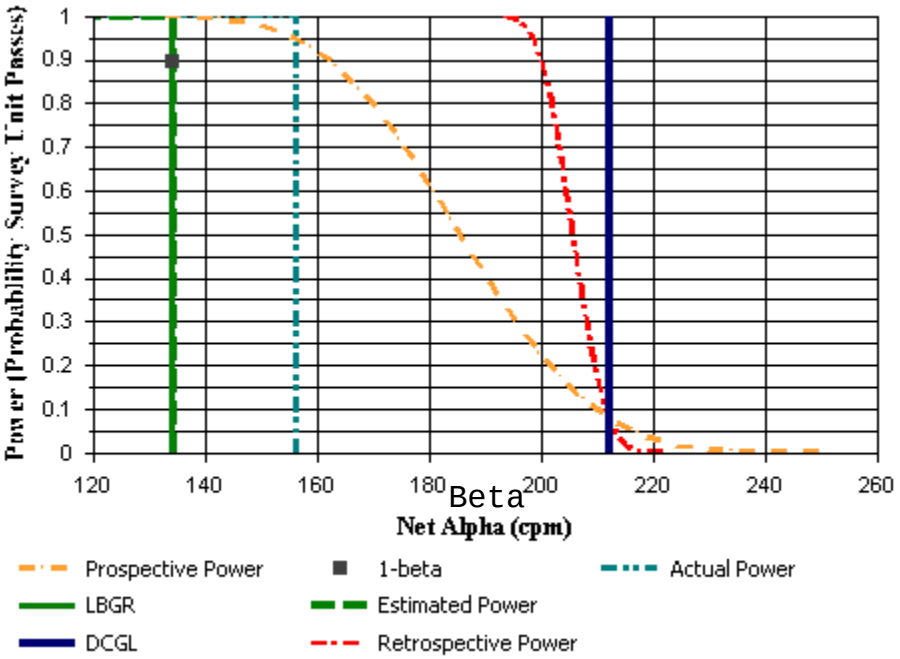
Statistic	Survey Unit	Background	DQO Results
Sample Number	18	N/A	N=18
Mean (dpm/100 cm²)	177.61	N/A	134
Median (dpm/100 cm²)	176.87	N/A	N/A
Std Dev (dpm/100 cm²)	30.98	N/A	61.9
High Value (dpm/100 cm²)	232.62	N/A	N/A
Low Value (dpm/100 cm²)	100.34	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU24 through 32 Bldg 200E Ceiling		
Report Number:	11		
Survey Unit Measurements:	18		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
26.8, 53.1	Metal	S	261
29.8, 53.1	Metal	S	240
32.7, 53.1	Metal	S	255
35.6, 53.1	Metal	S	260
25.4, 55.6	Metal	S	277
28.3, 55.6	Metal	S	280
31.2, 55.6	Metal	S	278
34.2, 55.6	Metal	S	283
37.1, 55.6	Metal	S	275
26.8, 58.2	Metal	S	257
29.8, 58.2	Metal	S	256
32.7, 58.2	Metal	S	270
35.6, 58.2	Metal	S	281
25.4, 60.7	Metal	S	273
28.3, 60.7	Metal	S	251
31.2, 60.7	Metal	S	237
34.2, 60.7	Metal	S	241
37.1, 60.7	Metal	S	250

Basic Statistical Quantities Summary

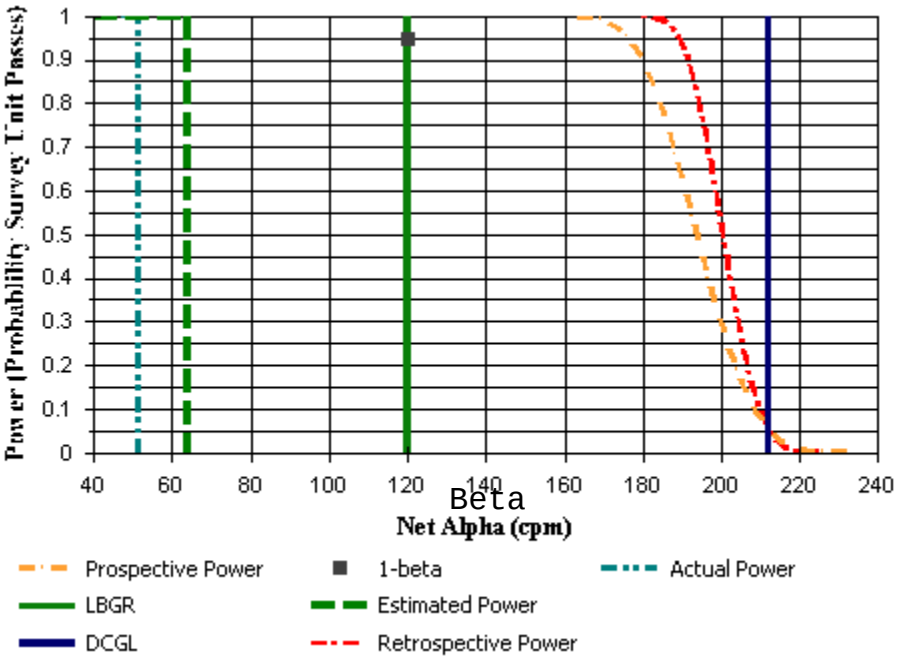
Statistic	Survey Unit	Background	DQO Results
Sample Number	18	N/A	N=18
Mean (dpm/100 cm²)	159.86	N/A	134
Median (dpm/100 cm²)	156.08	N/A	N/A
Std Dev (dpm/100 cm²)	28.57	N/A	61.9
High Value (dpm/100 cm²)	198.60	N/A	N/A
Low Value (dpm/100 cm²)	111.68	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU33 and 34 Bldg 200E columns C1 SU33 Columns 1-20		
Report Number:	1		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
Column 1, S. Face /2	Metal	S	190
Column 2, N. Face /2	Metal	S	206
Column 5, W. Face /4	Metal	S	215
Column 6, N. Face /4	Metal	S	212
Column 7, E. Face /1	Metal	S	203
Column 8, S. Face /1	Metal	S	211
Column 9, S. Face /0	Metal	S	192
Column 10, N. Face /	Metal	S	199
Column 11, E. Face /	Metal	S	193
Column 12, S. Face /	Metal	S	191
Column 13, S. Face /	Metal	S	204
Column 14, W. Face /	Metal	S	208
Column 19, E. Face /	Metal	S	243
Column 20, S. Face /	Metal	S	263

Basic Statistical Quantities Summary

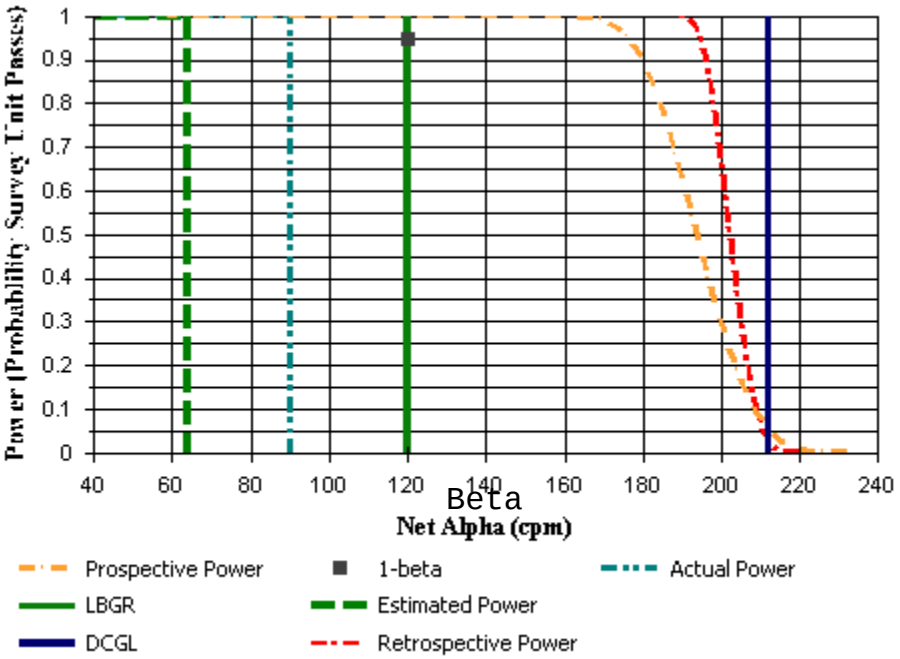
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=14
Mean (dpm/100 cm²)	59.31	N/A	64.1
Median (dpm/100 cm²)	51.21	N/A	N/A
Std Dev (dpm/100 cm²)	38.94	N/A	32.3
High Value (dpm/100 cm²)	160.81	N/A	N/A
Low Value (dpm/100 cm²)	22.86	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU33 and 34 Bldg 200E columns C1 SU34 columns 21-36		
Report Number:	2		
Survey Unit Measurements:	10		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)*** 2 hot spots found and deconned.		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
Column 23, E. Face /	Metal	S	228
Column 24, S. Face /	Metal	S	223
Column 25, W. Face /	Metal	S	240
Column 26, N. Face /	Metal	S	232
Column 27, E. Face /	Metal	S	217
Column 28, S. Face /	Metal	S	219
Column 29, W. Face /	Metal	S	230
Column 30, N. Face /	Metal	S	200
Column 35, E. Face /	Metal	S	236
Column 36, S. Face /	Metal	S	216

Basic Statistical Quantities Summary

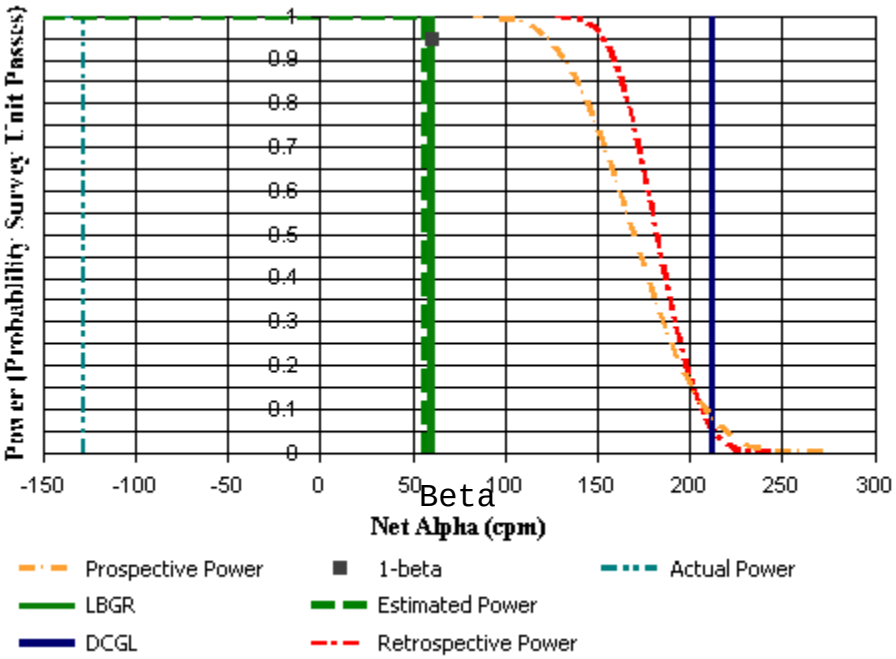
Statistic	Survey Unit	Background	DQO Results
Sample Number	10	N/A	N=14
Mean (dpm/100 cm²)	87.30	N/A	64.1
Median (dpm/100 cm²)	89.95	N/A	N/A
Std Dev (dpm/100 cm²)	22.10	N/A	32.3
High Value (dpm/100 cm²)	117.35	N/A	N/A
Low Value (dpm/100 cm²)	41.76	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU41 Bldg 200E NW closet Rev 1		
Report Number:	1		
Survey Unit Measurements:	19		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
0.3, 0.2	Concrete	S	259
0.7, 1.0	Concrete	S	328
0.3, 0.1, 2.5	Concrete	S	235
0.8, 0.8, 2.5	Concrete	S	269
0.8, 0.0, 0.1	Concrete	S	234
1.6, 0.9, 0.1	Concrete	S	250
0.3, 2.5, 0.1	Concrete	S	411
0.3, 0.0, 0.8	Concrete	S	234
1.6, 0.4, 0.8	Concrete	S	236
0.7, 2.6, 0.8	Concrete	S	403
0.0, 1.0, 0.8	Concrete	S	299
0.8, 0.0, 1.6	Concrete	S	238
1.6, 0.9, 1.6	Concrete	S	284
0.3, 2.5, 1.6	Concrete	S	403
0.3, 0.0, 2.4	Concrete	S	242
1.6, 0.4, 2.2	Concrete	S	252
0.7, 2.6, 2.2	Concrete	S	355
0.0,1.0, 2.0	Concrete	S	306
0.0, 0.7, 1.5	Metal	S	178

Basic Statistical Quantities Summary

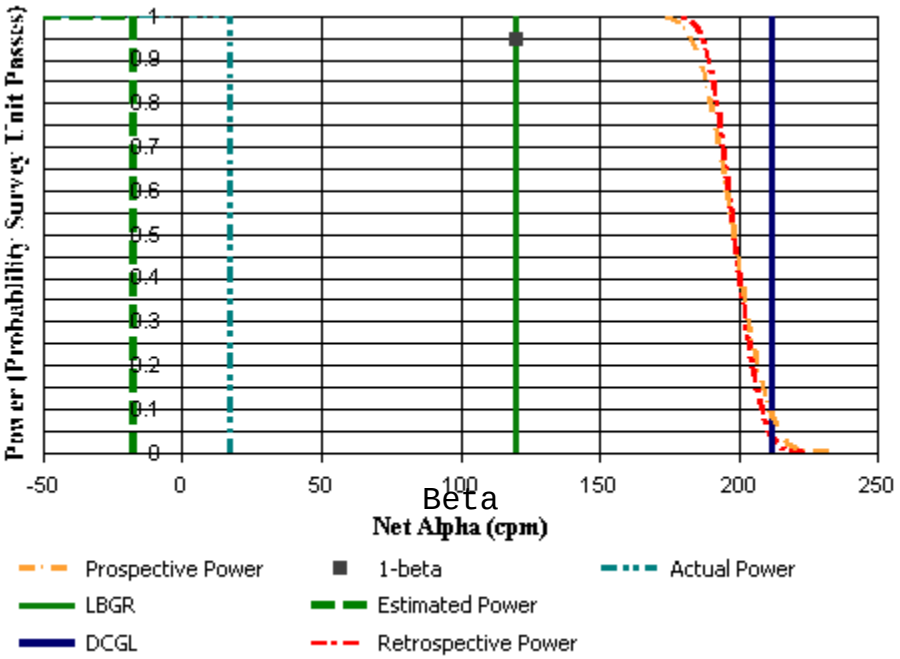
Statistic	Survey Unit	Background	DQO Results
Sample Number	19	N/A	N=18
Mean (dpm/100 cm²)	-81.80	N/A	57.1
Median (dpm/100 cm²)	-127.93	N/A	N/A
Std Dev (dpm/100 cm²)	117.72	N/A	98.2
High Value (dpm/100 cm²)	140.40	N/A	N/A
Low Value (dpm/100 cm²)	-194.07	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU43 and 44 Building 100E C1 SU43		
Report Number:	1		
Survey Unit Measurements:	15		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
7.8, 91.6	Concrete	S	346
7.8, 99.2	Concrete	S	383
10.0, 87.8	Concrete	S	341
10.0, 95.4	Concrete	S	376
10.0, 103.0	Concrete	S	372
12.2, 91.6	Concrete	S	341
12.2, 99.2	Concrete	S	339
14.4, 87.8	Concrete	S	322
14.4, 95.4	Concrete	S	349
14.4, 103.0	Concrete	S	396
16.5, 91.6	Concrete	S	332
16.5, 99.2	Concrete	S	374
18.7, 87.8	Concrete	S	336
18.7, 95.4	Concrete	S	331
18.7, 103.0	Concrete	S	354

Basic Statistical Quantities Summary

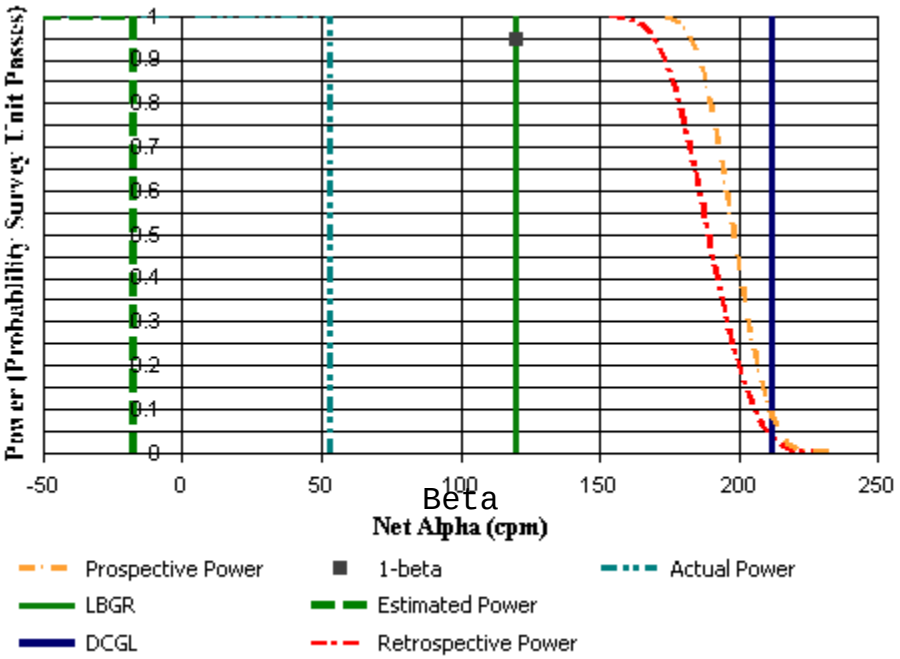
Statistic	Survey Unit	Background	DQO Results
Sample Number	15	N/A	N=13
Mean (dpm/100 cm²)	30.42	N/A	-17.7
Median (dpm/100 cm²)	17.57	N/A	N/A
Std Dev (dpm/100 cm²)	41.66	N/A	27.7
High Value (dpm/100 cm²)	112.06	N/A	N/A
Low Value (dpm/100 cm²)	-27.78	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU43 and 44 Building 100E C1 SU44		
Report Number:	2		
Survey Unit Measurements:	15		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
19.4, 90.4	Concrete	S	368
19.4, 98.1	Concrete	S	340
21.7, 86.5	Concrete	S	324
21.7, 94.3	Concrete	S	334
21.7, 102.0	Concrete	S	372
23.9, 90.4	Concrete	S	359
23.9, 98.1	Concrete	S	365
26.1, 86.5	Concrete	S	432
26.1, 94.3	Concrete	S	341
26.1, 102.0	Concrete	S	449
28.4, 90.4	Concrete	S	369
28.4, 98.1	Concrete	S	408
30.6, 86.5	Concrete	S	389
30.6, 94.3	Concrete	S	350
30.6, 102.0	Concrete	S	331

Basic Statistical Quantities Summary

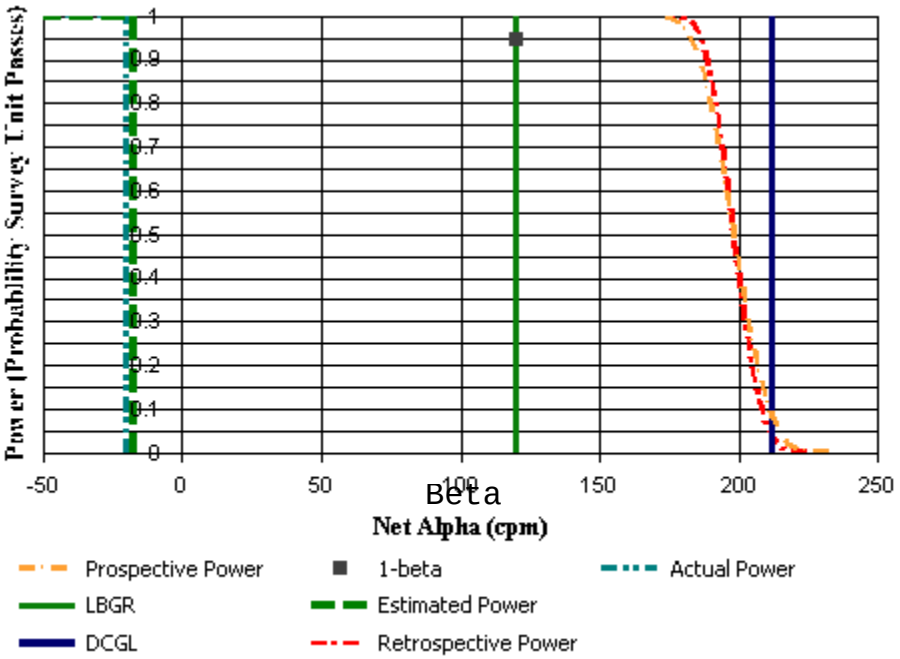
Statistic	Survey Unit	Background	DQO Results
Sample Number	15	N/A	N=13
Mean (dpm/100 cm²)	60.53	N/A	-17.7
Median (dpm/100 cm²)	53.48	N/A	N/A
Std Dev (dpm/100 cm²)	69.79	N/A	27.7
High Value (dpm/100 cm²)	212.21	N/A	N/A
Low Value (dpm/100 cm²)	-24.00	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU43 and 44 Building 100E C1 SU59 Bays 13 and 14 (added)		
Report Number:	3		
Survey Unit Measurements:	15		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
15.3, 73.2	Concrete	S	341
17.9, 73.2	Concrete	S	323
21.4, 73.2	Concrete	S	271
16.5, 75.7	Concrete	S	315
19.9, 75.7	Concrete	S	357
21.4, 75.7	Concrete	S	324
15.3, 78.2	Concrete	S	326
17.9, 78.2	Concrete	S	320
21.4, 78.2	Concrete	S	334
16.5, 80.7	Concrete	S	303
19.9, 80.7	Concrete	S	310
21.4, 80.7	Concrete	S	329
15.3, 83.2	Concrete	S	343
19.5, 83.2	Concrete	S	365
22.4, 83.2	Concrete	S	329

Basic Statistical Quantities Summary

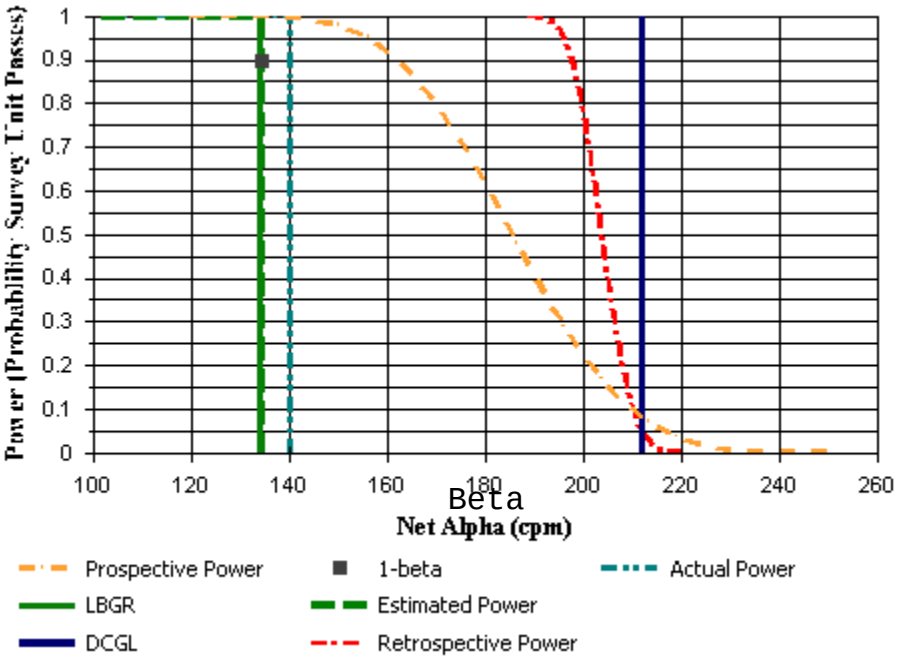
Statistic	Survey Unit	Background	DQO Results
Sample Number	15	N/A	N=13
Mean (dpm/100 cm²)	-20.22	N/A	-17.7
Median (dpm/100 cm²)	-20.22	N/A	N/A
Std Dev (dpm/100 cm²)	42.43	N/A	27.7
High Value (dpm/100 cm²)	53.48	N/A	N/A
Low Value (dpm/100 cm²)	-124.15	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C2 SU35 and 36 Bldg 200E Ceiling Rev. 1 C2 SU35		
Report Number:	1		
Survey Unit Measurements:	17		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
2.4, 3.4	Metal	S	245
9.1, 3.4	Metal	S	281
15.7, 3.4	Metal	S	276
22.4, 3.4	Metal	S	250
29.0, 3.4	Metal	S	244
35.7, 3.4	Metal	S	252
5.7, 9.1	Metal	S	248
12.4, 9.1	Metal	S	237
19.1, 9.1	Metal	S	278
25.7, 9.1	Metal	S	237
32.4, 9.1	Metal	S	252
2.4, 14.9	Metal	S	229
9.1, 14.9	Metal	S	268
15.7, 14.9	Metal	S	254
22.4, 14.9	Metal	S	270
29.0, 14.9	Metal	S	267
35.7, 14.9	Metal	S	264

Basic Statistical Quantities Summary

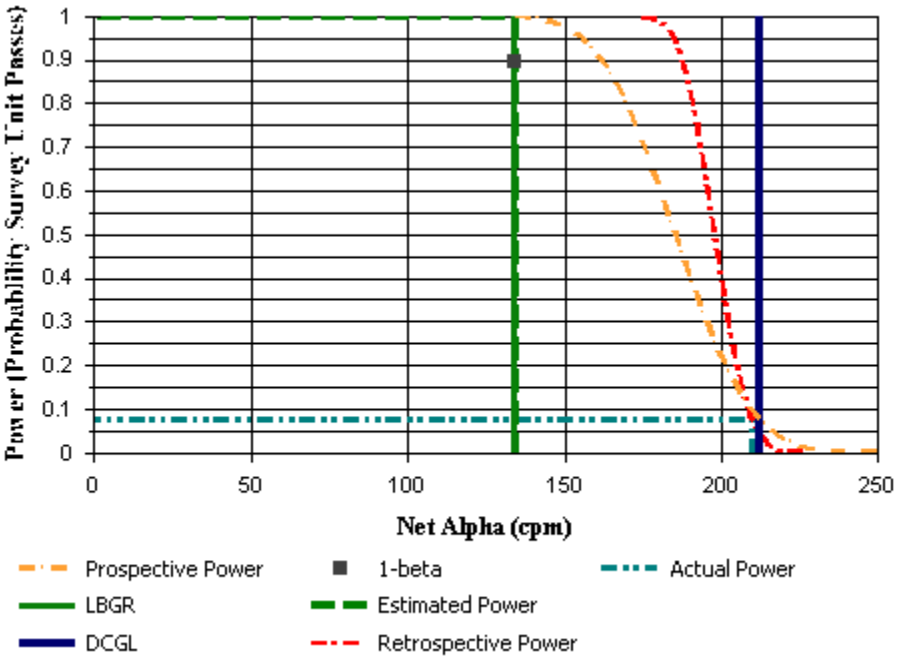
Statistic	Survey Unit	Background	DQO Results
Sample Number	17	N/A	N=18
Mean (dpm/100 cm²)	147.58	N/A	134
Median (dpm/100 cm²)	140.02	N/A	N/A
Std Dev (dpm/100 cm²)	29.45	N/A	61.9
High Value (dpm/100 cm²)	194.82	N/A	N/A
Low Value (dpm/100 cm²)	96.56	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C2 SU35 and 36 Bldg 200E Ceiling Rev. 1		
Report Number:	2		
Survey Unit Measurements:	17		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Gross Alpha (cpm)
2.5, 18.4	Metal	S	296
9.2, 18.4	Metal	S	291
15.8, 18.4	Metal	S	301
22.5, 18.4	Metal	S	298
29.1, 18.4	Metal	S	297
35.8, 18.4	Metal	S	276
5.9, 24.1	Metal	S	263
12.5, 24.1	Metal	S	312
19.2, 24.1	Metal	S	290
25.8, 24.1	Metal	S	263
32.5, 24.1	Metal	S	289
2.5, 29.9	Metal	S	269
9.2, 29.9	Metal	S	230
15.8, 29.9	Metal	S	219
22.5, 29.9	Metal	S	297
29.1, 29.9	Metal	S	257
35.8, 29.9	Metal	S	250

Basic Statistical Quantities Summary

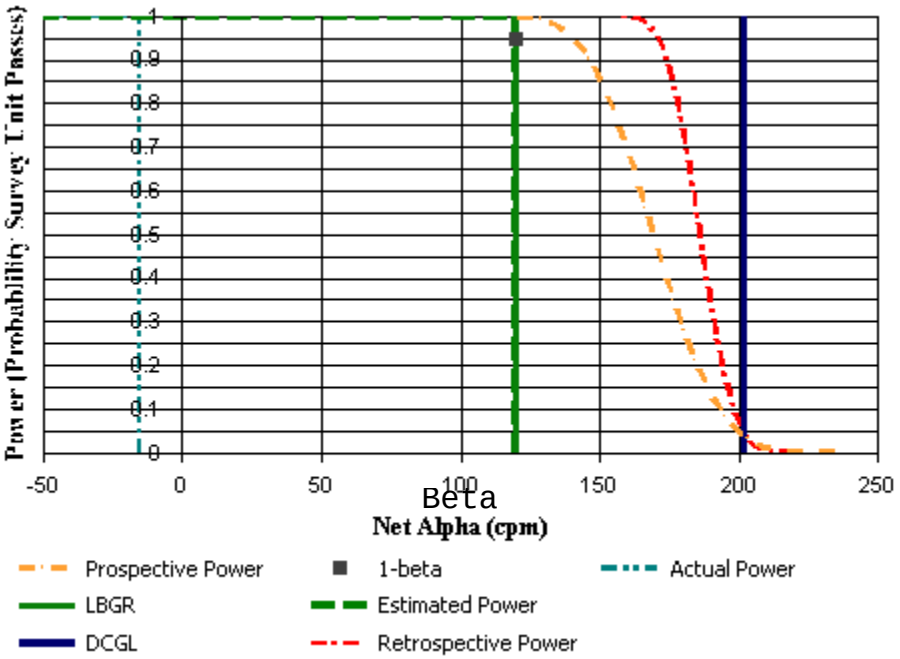
Statistic	Survey Unit	Background	DQO Results
Sample Number	17	N/A	N=18
Mean (dpm/100 cm^2)	186.04	N/A	134
Median (dpm/100 cm^2)	209.94	N/A	N/A
Std Dev (dpm/100 cm^2)	49.69	N/A	61.9
High Value (dpm/100 cm^2)	253.40	N/A	N/A
Low Value (dpm/100 cm^2)	77.66	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	Class 2 SUs Scoping Rev. 1 C2 SU37 Building 200E, North		
Report Number:	1		
Survey Unit Measurements:	22		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
46	Concrete	S	296
47	Concrete	S	327
48	Concrete	S	304
49	Concrete	S	329
50	Concrete	S	337
52	Concrete	S	299
53	Concrete	S	324
54	Concrete	S	334
55	Concrete	S	336
58	Concrete	S	286
59	Concrete	S	347
60	Concrete	S	291
61	Concrete	S	307
62	Concrete	S	309
63	Concrete	S	369
64	Concrete	S	292
65	Concrete	S	289
66	Concrete	S	365
67	Concrete	S	434
68	Concrete	S	327
70	Concrete	S	332
71	Concrete	S	349

Basic Statistical Quantities Summary

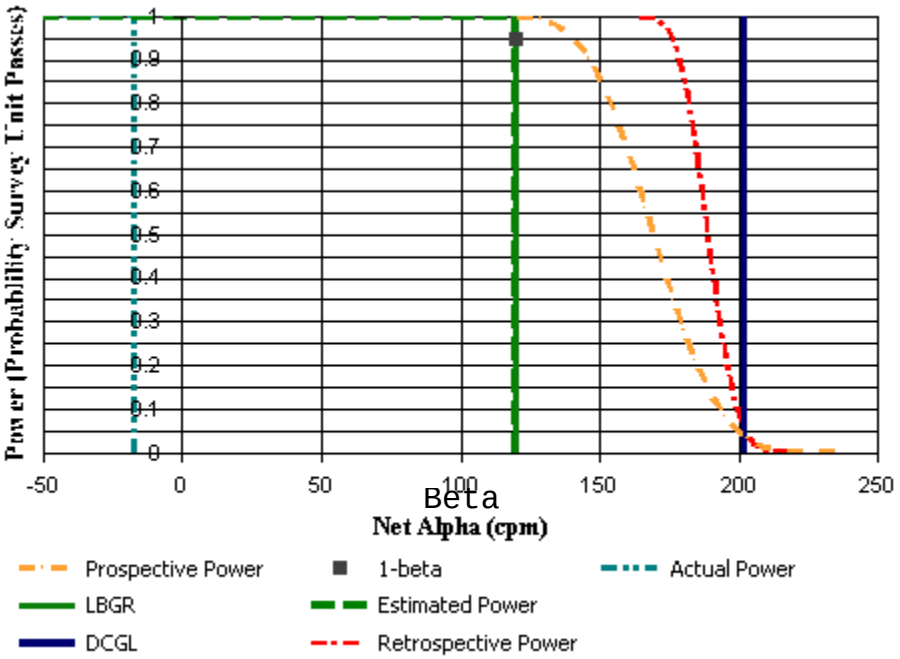
Statistic	Survey Unit	Background	DQO Results
Sample Number	22	N/A	N=20
Mean (dpm/100 cm²)	-16.27	N/A	120
Median (dpm/100 cm²)	-15.28	N/A	N/A
Std Dev (dpm/100 cm²)	67.70	N/A	62.6
High Value (dpm/100 cm²)	197.02	N/A	N/A
Low Value (dpm/100 cm²)	-96.63	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	Class 2 SUs Scoping Rev. 1 C2 SU38 Building 200E,N,Bays 16-20		
Report Number:	3		
Survey Unit Measurements:	24		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
21	Concrete	S	348
22	Concrete	S	337
23	Concrete	S	329
25	Concrete	S	439
26	Concrete	S	346
27	Concrete	S	327
28	Concrete	S	312
29	Concrete	S	322
30	Concrete	S	319
31	Concrete	S	354
32	Concrete	S	351
33	Concrete	S	333
34	Concrete	S	356
35	Concrete	S	315
36	Concrete	S	294
37	Concrete	S	290
38	Concrete	S	371
39	Concrete	S	332
40	Concrete	S	325
41	Concrete	S	316
42	Concrete	S	311
43	Concrete	S	291
44	Concrete	S	325
45	Concrete	S	323

Basic Statistical Quantities Summary

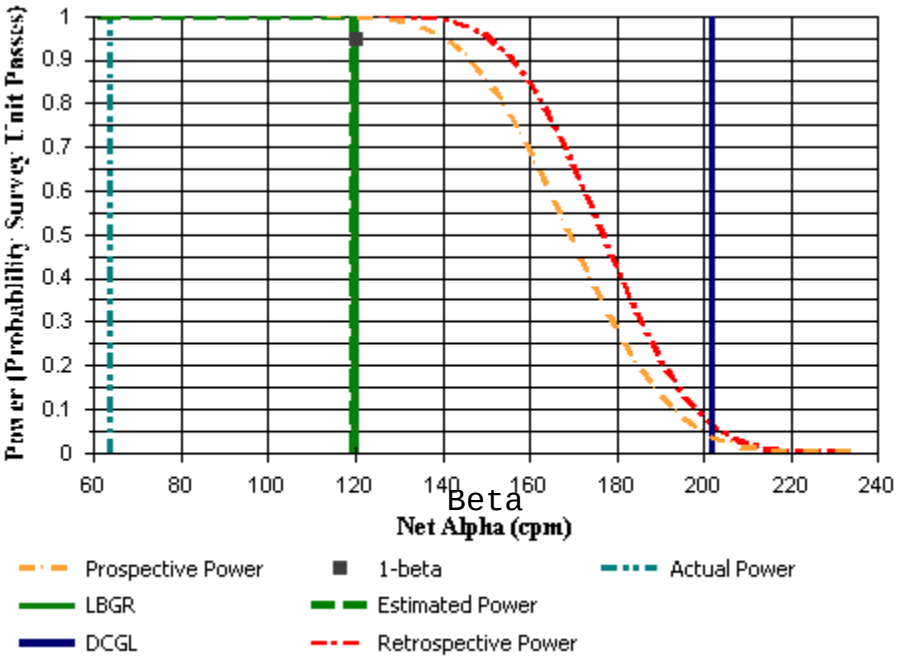
Statistic	Survey Unit	Background	DQO Results
Sample Number	24	N/A	N=20
Mean (dpm/100 cm²)	-5.52	N/A	120
Median (dpm/100 cm²)	-17.26	N/A	N/A
Std Dev (dpm/100 cm²)	60.84	N/A	62.6
High Value (dpm/100 cm²)	206.94	N/A	N/A
Low Value (dpm/100 cm²)	-88.69	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	Class 2 SUs Scoping Rev. 1 C2 SU42 Building 200E Locker Room		
Report Number:	4		
Survey Unit Measurements:	21		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
51C	Concrete	S	362
52C	Concrete	S	409
53C	Concrete	S	376
54C	Concrete	S	390
55C	Concrete	S	367
56C	Concrete	S	378
57C	Concrete	S	360
58C	Concrete	S	355
59C	Concrete	S	371
60C	Concrete	S	380
61C	Concrete	S	403
62C	Concrete	S	385
63C	Concrete	S	396
66C	Unpainted Cinder Block	S	438
67C	Unpainted Cinder Block	S	331
68C	Unpainted Cinder Block	S	305
69C	Unpainted Cinder Block	S	322
70C	Unpainted Cinder Block	S	326
71C	Unpainted Cinder Block	S	330
72C	Unpainted Cinder Block	S	410
73C	Unpainted Cinder Block	S	340

Basic Statistical Quantities Summary

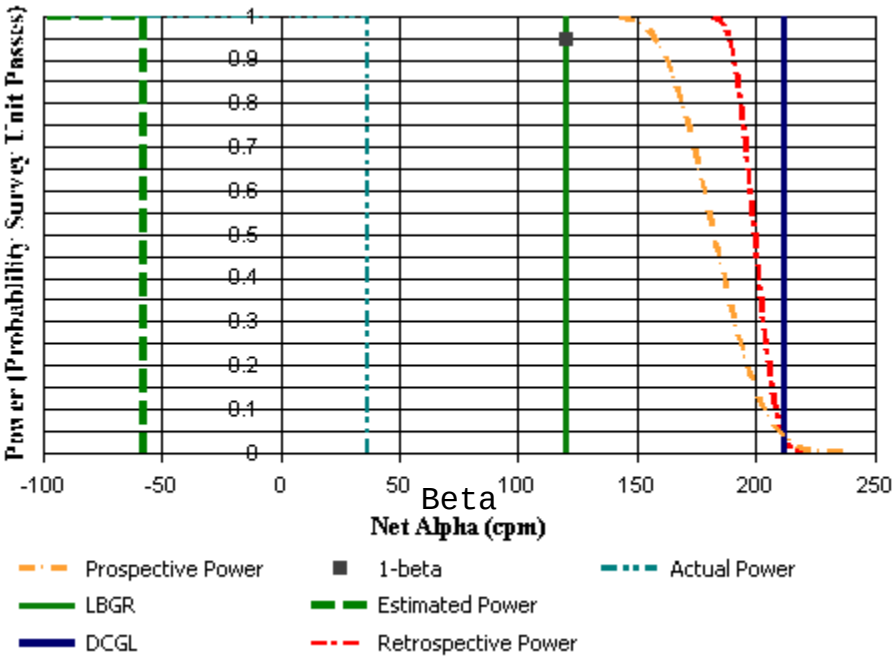
Statistic	Survey Unit	Background	DQO Results
Sample Number	21	N/A	N=20
Mean (dpm/100 cm²)	12.90	N/A	120
Median (dpm/100 cm²)	63.89	N/A	N/A
Std Dev (dpm/100 cm²)	116.30	N/A	62.6
High Value (dpm/100 cm²)	147.42	N/A	N/A
Low Value (dpm/100 cm²)	-200.00	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	Class 2 SUs C2 SU45 Building 100E bays 15-20 floor		
Report Number:	5		
Survey Unit Measurements:	15		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
2.5, 87.2	Concrete	S	350
37.3, 87.2	Concrete	S	370
6.8, 94.7	Concrete	S	376
32.9, 94.7	Concrete	S	358
2.5, 102.2	Concrete	S	356
37.3, 102.2	Concrete	S	348
6.8, 109.8	Concrete	S	327
15.5, 109.8	Concrete	S	339
24.2, 109.8	Concrete	S	348
32.9, 109.8	Concrete	S	377
2.5, 117.3	Concrete	S	369
12.3, 117.3	Concrete	S	310
19.9, 117.3	Concrete	S	343
28.6, 117.3	Concrete	S	386
36.0, 117.3	Concrete	S	361

Basic Statistical Quantities Summary

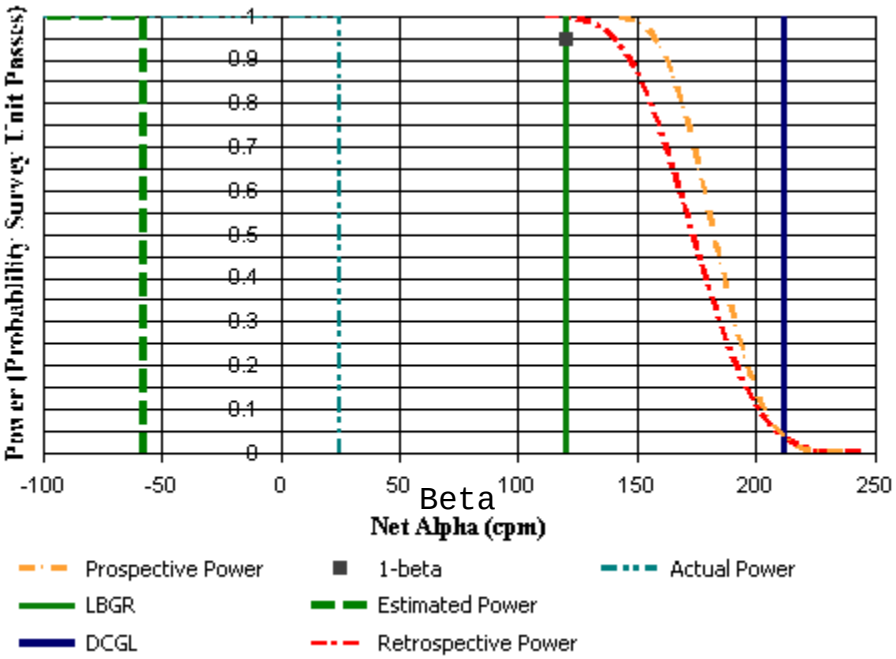
Statistic	Survey Unit	Background	DQO Results
Sample Number	15	N/A	N=15
Mean (dpm/100 cm²)	33.70	N/A	-57.9
Median (dpm/100 cm²)	36.47	N/A	N/A
Std Dev (dpm/100 cm²)	38.07	N/A	47.4
High Value (dpm/100 cm²)	93.16	N/A	N/A
Low Value (dpm/100 cm²)	-50.45	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	Class 2 SUs C2 SU46 Building 100E, bays 15-20 walls		
Report Number:	3		
Survey Unit Measurements:	15		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
85.5, 3.1 /W. Wall	Metal	S	188
96.4, 3.1 /W. Wall	Unpainted Cinder Block	S	513
107.3, 3.1 /W. Wall	Metal	S	202
118.2, 3.1 /W. Wall	Unpainted Cinder Block	S	434
0.1, 1.6 /N. Wall	Unpainted Cinder Block	S	250
6.3, 1.6 /N. Wall	Unpainted Cinder Block	S	447
12.6, 1.6 /N. Wall	Unpainted Cinder Block	S	524
18.9, 1.6 /N. Wall	Metal	S	191
25.2, 1.6 /N. Wall	Metal	S	194
31.5, 1.6 /N. Wall	Unpainted Cinder Block	S	408
37.8, 1.6 /N. Wall	Unpainted Cinder Block	S	466
36.5, 2.5 /E. Wall	Unpainted Cinder Block	S	454
25.6, 2.5 /E. Wall	Metal	S	186
14.7, 2.5 /E. Wall	Unpainted Cinder Block	S	471
3.8, 2.5 /E. Wall	Unpainted Cinder Block	S	477

Basic Statistical Quantities Summary

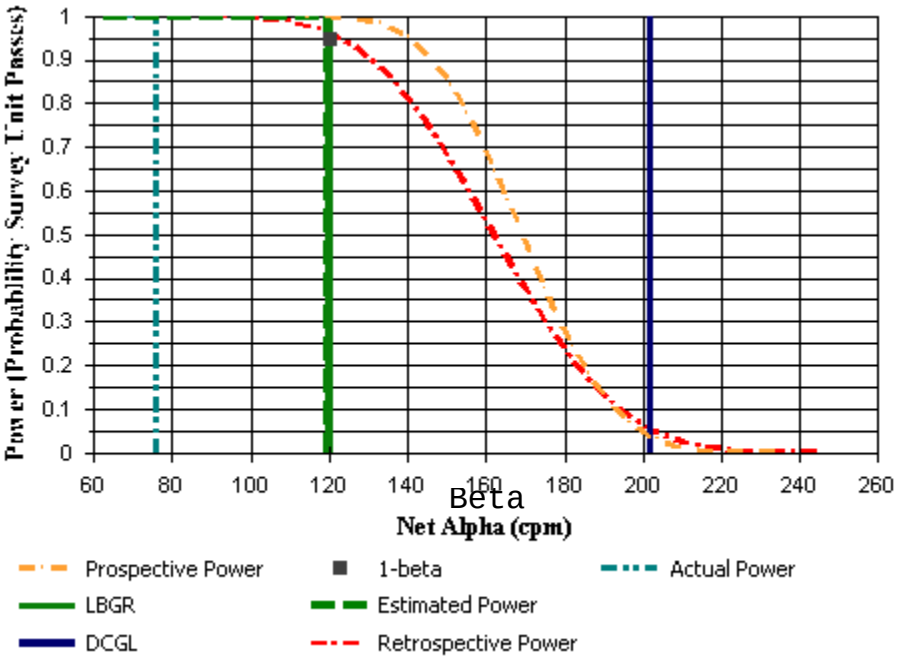
Statistic	Survey Unit	Background	DQO Results
Sample Number	15	N/A	N=15
Mean (dpm/100 cm²)	4.85	N/A	-57.9
Median (dpm/100 cm²)	24.75	N/A	N/A
Std Dev (dpm/100 cm²)	117.13	N/A	47.4
High Value (dpm/100 cm²)	144.18	N/A	N/A
Low Value (dpm/100 cm²)	-373.58	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	Class 2 SUs Scoping Rev. 1 C2 SU49 Building 100W, Bays 10-17		
Report Number:	2		
Survey Unit Measurements:	19		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
A54	Concrete	S	488
A55	Concrete	S	346
A56	Concrete	S	489
A57	Concrete	S	362
A58	Concrete	S	373
A59	Concrete	S	465
A60	Concrete	S	350
A61	Concrete	S	379
A62	Concrete	S	409
A63	Concrete	S	363
A65	Concrete	S	410
A66	Concrete	S	431
A83	Concrete	S	524
A84	Concrete	S	466
A90	Concrete	S	243
A91	Concrete	S	300
A92	Concrete	S	250
A93	Concrete	S	277
A94	Concrete	S	297

Basic Statistical Quantities Summary

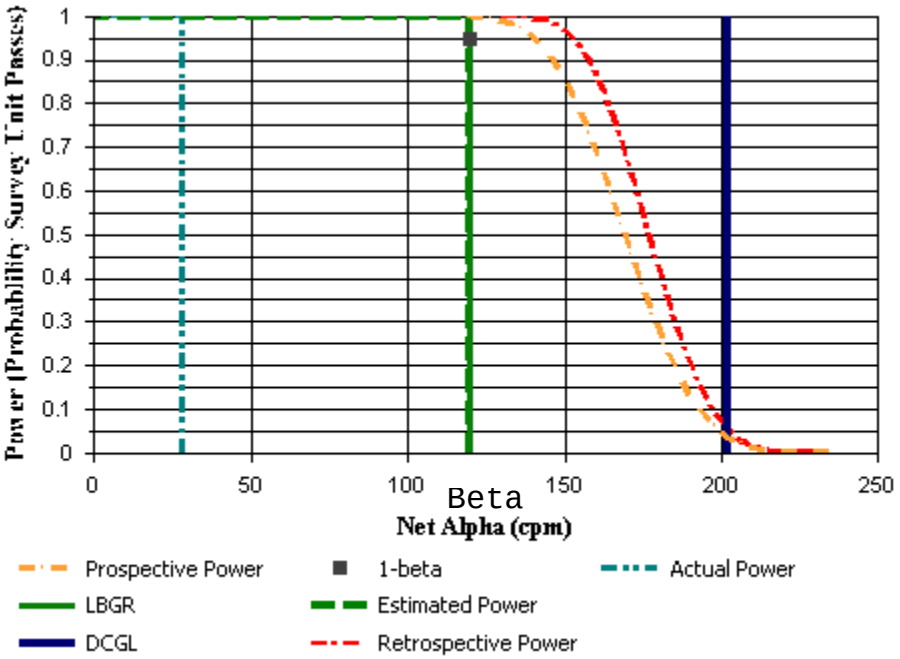
Statistic	Survey Unit	Background	DQO Results
Sample Number	19	N/A	N=20
Mean (dpm/100 cm²)	90.09	N/A	120
Median (dpm/100 cm²)	75.99	N/A	N/A
Std Dev (dpm/100 cm²)	165.69	N/A	62.6
High Value (dpm/100 cm²)	375.60	N/A	N/A
Low Value (dpm/100 cm²)	-181.94	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	Class 2 SUs Scoping Rev. 1 C2 SU50 Building 100W, Bays 1-10		
Report Number:	5		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
A40	Concrete	S	284
A41	Unpainted Cinder Block	S	451
A42	Concrete	S	334
A43	Concrete	S	298
A44	Concrete	S	338
A45	Concrete	S	342
A46	Unpainted Cinder Block	S	505
A47	Concrete	S	353
A48	Concrete	S	362
A49	Concrete	S	345
A50	Concrete	S	390
A51	Concrete	S	391
A52	Unpainted Cinder Block	S	509
A53	Concrete	S	338

Basic Statistical Quantities Summary

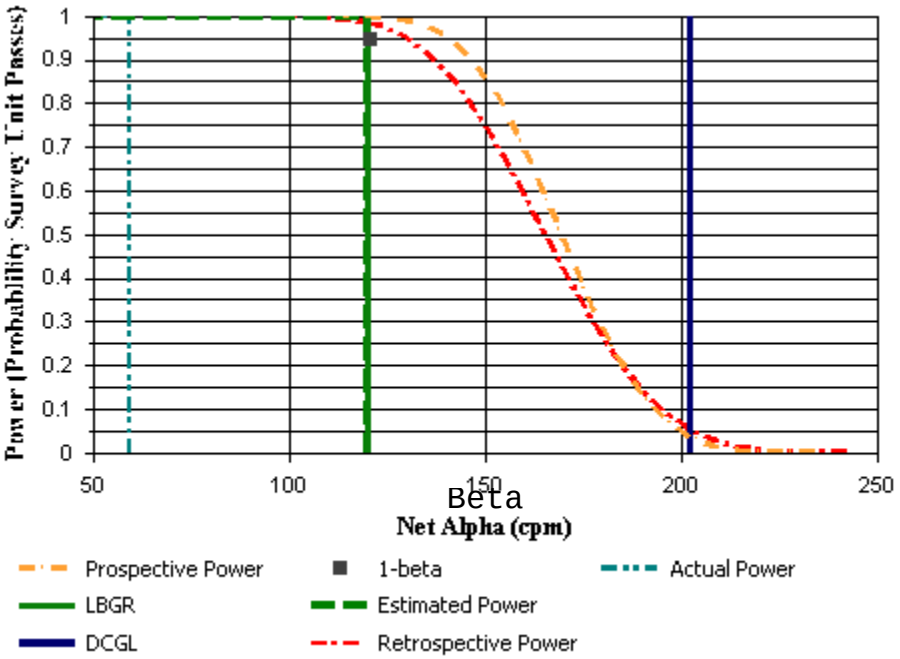
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=20
Mean (dpm/100 cm²)	48.31	N/A	120
Median (dpm/100 cm²)	28.37	N/A	N/A
Std Dev (dpm/100 cm²)	88.12	N/A	62.6
High Value (dpm/100 cm²)	204.76	N/A	N/A
Low Value (dpm/100 cm²)	-100.60	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	Class 2 SUs Scoping Rev. 1 C2 SU51 Building 100W, Bays 11-20		
Report Number:	6		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
A68	Unpainted Cinder Block	S	533
A69	Concrete	S	398
A70	Concrete	S	307
A71	Concrete	S	329
A72	Concrete	S	351
A73	Concrete	S	373
A74	Concrete	S	425
A75	Concrete	S	395
A76	Unpainted Cinder Block	S	484
A77	Concrete	S	362
A78	Concrete	S	339
A79	Concrete	S	367
A80	Concrete	S	344
A81	Unpainted Cinder Block	S	256

Basic Statistical Quantities Summary

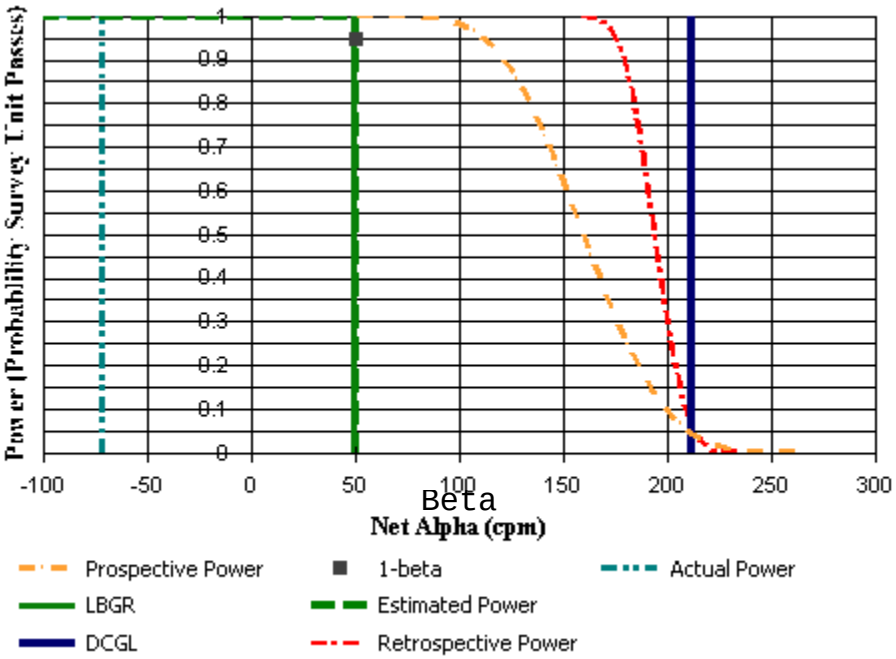
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=20
Mean (dpm/100 cm²)	51.57	N/A	120
Median (dpm/100 cm²)	59.13	N/A	N/A
Std Dev (dpm/100 cm²)	129.64	N/A	62.6
High Value (dpm/100 cm²)	252.38	N/A	N/A
Low Value (dpm/100 cm²)	-297.22	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C2 SU56 through 58 Bldg 200E walls C2 SU56 south and southwest walls		
Report Number:	1		
Survey Unit Measurements:	21		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
1.9, 0.2	Concrete	S	299
4.4, 4.5	Metal	S	188
7.0, 0.2	Concrete	S	305
9.5, 4.5	Metal	S	184
12.1, 0.2	Concrete	S	294
14.6, 4.5	Metal	S	209
17.2, 0.2	Metal	S	210
36.1, 4.5	Unpainted Cinder Block	S	448
33.5, 0.2	Concrete	S	288
31.0, 4.5	Unpainted Cinder Block	S	403
28.4, 0.2	Unpainted Cinder Block	S	421
25.9, 4.5	Unpainted Cinder Block	S	364
23.3, 0.2	Concrete	S	271
20.8, 4.5	Unpainted Cinder Block	S	426
18.2, 0.2	Metal	S	244
15.7, 4.5	Unpainted Cinder Block	S	397
13.1, 0.2	Concrete	S	269
10.6, 4.5	Metal	S	190
8.0, 0.2	Concrete	S	273
5.5, 4.5	Concrete	S	243
2.9, 0.2	Concrete	S	292

Basic Statistical Quantities Summary

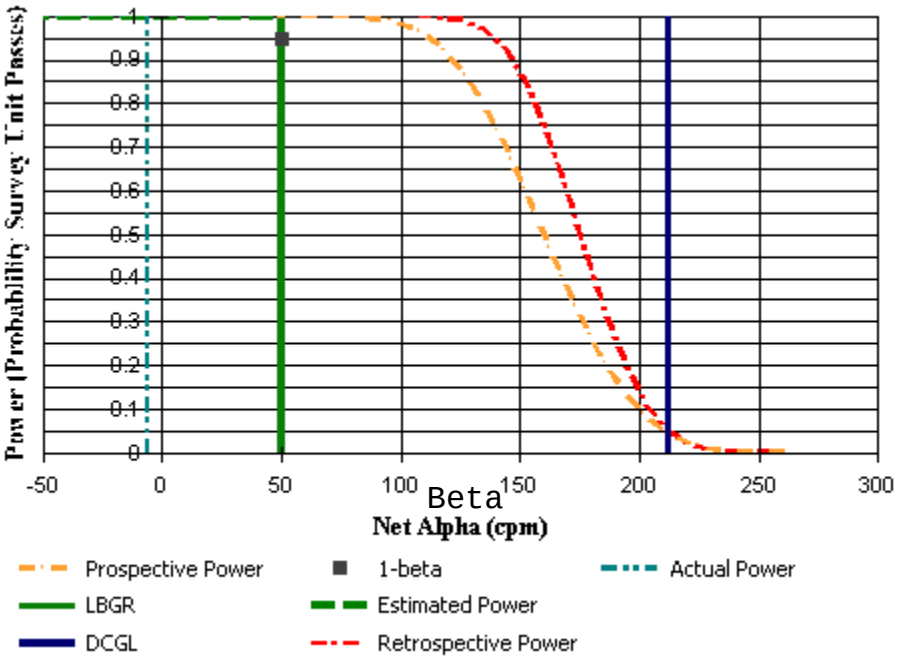
Statistic	Survey Unit	Background	DQO Results
Sample Number	21	N/A	N=17
Mean (dpm/100 cm²)	-50.92	N/A	50.1
Median (dpm/100 cm²)	-71.24	N/A	N/A
Std Dev (dpm/100 cm²)	78.50	N/A	96.4
High Value (dpm/100 cm²)	124.91	N/A	N/A
Low Value (dpm/100 cm²)	-177.06	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C2 SU56 through 58 Bldg 200E walls C2 SU57		
Report Number:	3		
Survey Unit Measurements:	24		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Pass
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

			Beta
Measurement	**Material**	**Type**	**Gross Alpha (cpm)**
33.2, 4.5	Unpainted Cinder Block	S	421
35.6, 0.2	Concrete	S	599
38.1, 4.5	Metal	S	240
40.6, 0.2	Concrete	S	308
43.1, 4.5	Unpainted Cinder Block	S	427
45.6, 0.2	Concrete	S	402
48.1, 4.5	Metal	S	174
50.6, 0.2	Metal	S	217
53.1, 4.5	Metal	S	179
55.6, 0.2	Concrete	S	306
58.1, 4.5	Metal	S	172
60.5, 0.2	Concrete	S	289
1.0, 4.5	Unpainted Cinder Block	S	254
3.5, 0.2	Unpainted Cinder Block	S	294
6.0, 4.5	Unpainted Cinder Block	S	349
8.5, 0.2	Unpainted Cinder Block	S	481
11.0, 4.5	Unpainted Cinder Block	S	434
13.5, 0.2	Unpainted Cinder Block	S	477
16.0, 4.5	Unpainted Cinder Block	S	445
18.5, 0.2	Unpainted Cinder Block	S	527
21.0, 4.5	Unpainted Cinder Block	S	464
23.5, 0.2	Unpainted Cinder Block	S	431
25.9, 4.5	Unpainted Cinder Block	S	461
28.4, 0.2	Unpainted Cinder Block	S	519

Basic Statistical Quantities Summary

Statistic	**Survey Unit**	**Background**	**DQO Results**
Sample Number	24	N/A	N=17
Mean (dpm/100 cm²)	2.30	N/A	50.1
Median (dpm/100 cm²)	-6.24	N/A	N/A
Std Dev (dpm/100 cm²)	161.88	N/A	96.4
High Value (dpm/100 cm²)	495.65	N/A	N/A
Low Value (dpm/100 cm²)	-366.02	N/A	N/A

DQA Building Surface Report

Statistical Test Summary

S+:	23
Critical Value:	16
Result:	Pass

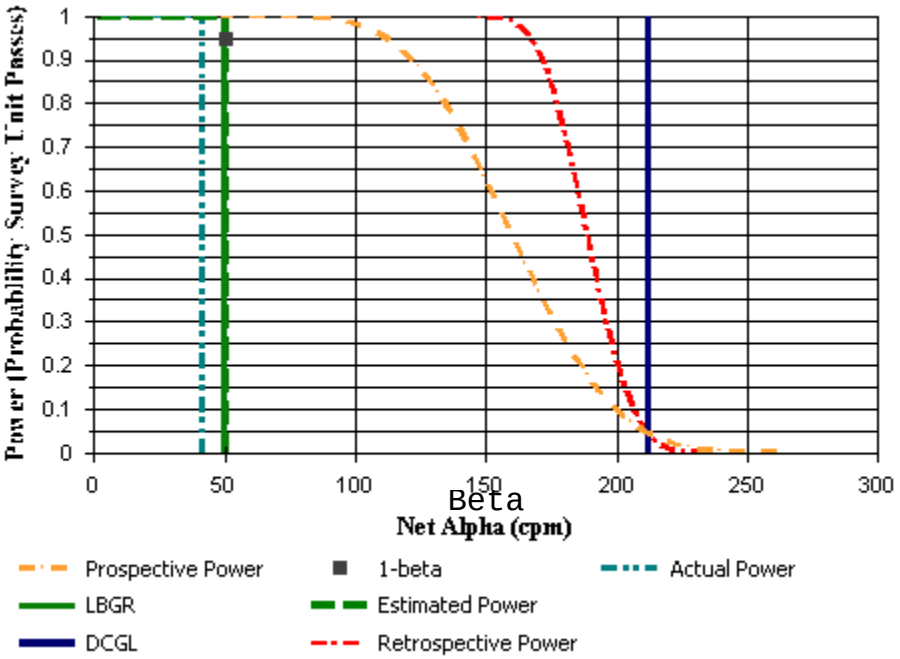
Data	DCGLw - Data	Sign
-26.7	238.70	+
262.3	-50.30	-
62.1	149.90	+
-28.7	240.70	+
-20.7	232.70	+
65.3	146.70	+
-3.90000000000001	215.90	+
39.1	172.90	+
1.09999999999999	210.90	+
-30.7	242.70	+
-5.90000000000001	217.90	+
-47.7	259.70	+
-193.7	405.70	+
-153.7	365.70	+
-98.7	310.70	+
33.3	178.70	+
-13.7	225.70	+
29.3	182.70	+
-2.69999999999999	214.70	+
79.3	132.70	+
16.3	195.70	+
-16.7	228.70	+
13.3	198.70	+
71.3	140.70	+

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C2 SU56 through 58 Bldg 200E walls C2 SU58 East Wall		
Report Number:	2		
Survey Unit Measurements:	17		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
61.0, 3.6	Unpainted Cinder Block	S	453
57.2, 1.4	Unpainted Cinder Block	S	539
53.4, 3.6	Unpainted Cinder Block	S	415
49.6, 1.4	Unpainted Cinder Block	S	482
45.9, 3.6	Unpainted Cinder Block	S	519
42.1, 1.4	Unpainted Cinder Block	S	515
38.3, 3.6	Unpainted Cinder Block	S	436
34.5, 1.4	Metal	S	200
30.7, 3.6	Unpainted Cinder Block	S	476
26.9, 1.4	Unpainted Cinder Block	S	511
23.2, 3.6	Metal	S	190
19.4, 1.4	Unpainted Cinder Block	S	564
15.6, 3.6	Metal	S	197
11.8, 1.4	Unpainted Cinder Block	S	532
8.0, 3.6	Unpainted Cinder Block	S	411
4.3, 1.4	Unpainted Cinder Block	S	465
0.5, 3.6	Unpainted Cinder Block	S	461

Basic Statistical Quantities Summary

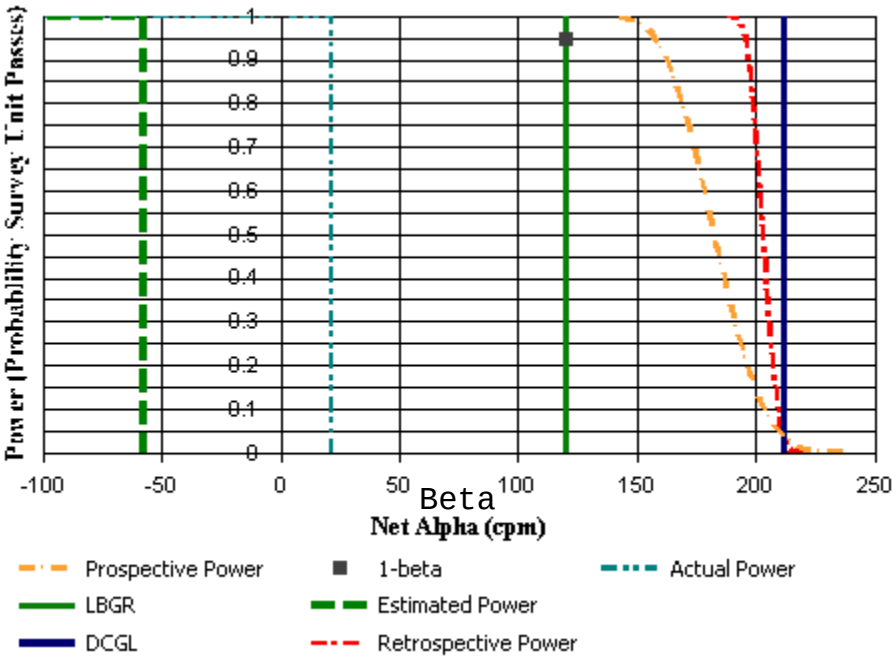
Statistic	Survey Unit	Background	DQO Results
Sample Number	17	N/A	N=17
Mean (dpm/100 cm²)	62.75	N/A	50.1
Median (dpm/100 cm²)	41.76	N/A	N/A
Std Dev (dpm/100 cm²)	81.66	N/A	96.4
High Value (dpm/100 cm²)	219.77	N/A	N/A
Low Value (dpm/100 cm²)	-69.35	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	Class 2 SUs C2 SU60 Building 100E Bay 13, 14 west floor		
Report Number:	2		
Survey Unit Measurements:	15		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
9.0, 74.1	Concrete	S	361
11.9, 74.1	Concrete	S	344
14.8, 74.1	Concrete	S	353
7.6, 76.6	Concrete	S	330
10.5, 76.6	Concrete	S	351
13.4, 76.6	Concrete	S	363
9.0, 79.1	Concrete	S	349
11.9, 79.1	Concrete	S	316
14.8, 79.1	Concrete	S	332
7.6, 81.6	Concrete	S	348
10.5, 81.6	Concrete	S	316
13.4, 81.6	Concrete	S	333
9.0, 84.1	Concrete	S	337
11.9, 84.1	Concrete	S	350
14.8, 84.1	Concrete	S	349

Basic Statistical Quantities Summary

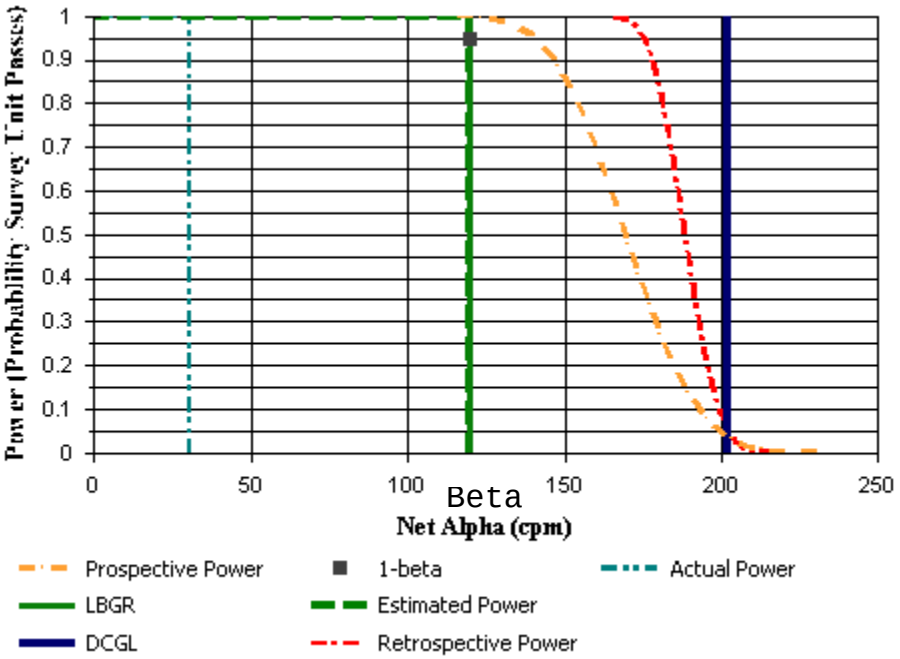
Statistic	Survey Unit	Background	DQO Results
Sample Number	15	N/A	N=15
Mean (dpm/100 cm²)	10.27	N/A	-57.9
Median (dpm/100 cm²)	21.35	N/A	N/A
Std Dev (dpm/100 cm²)	27.23	N/A	47.4
High Value (dpm/100 cm²)	49.70	N/A	N/A
Low Value (dpm/100 cm²)	-39.12	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	Class 2 SUs Scoping C2 SU61 Building 100E bay 13, 14 east floor		
Report Number:	2		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
24.4, 79.6	Concrete	S	360
26.3, 79.6	Concrete	S	365
28.3, 79.6	Concrete	S	312
23.4, 81.3	Concrete	S	380
25.3, 81.3	Concrete	S	389
27.3, 81.3	Concrete	S	390
29.3, 81.3	Concrete	S	333
24.4, 83.0	Concrete	S	372
26.3, 83.0	Concrete	S	345
28.3, 83.0	Concrete	S	344
23.4, 84.7	Concrete	S	321
25.3, 84.7	Concrete	S	343
27.3, 84.7	Concrete	S	336
29.3, 84.7	Concrete	S	355

Basic Statistical Quantities Summary

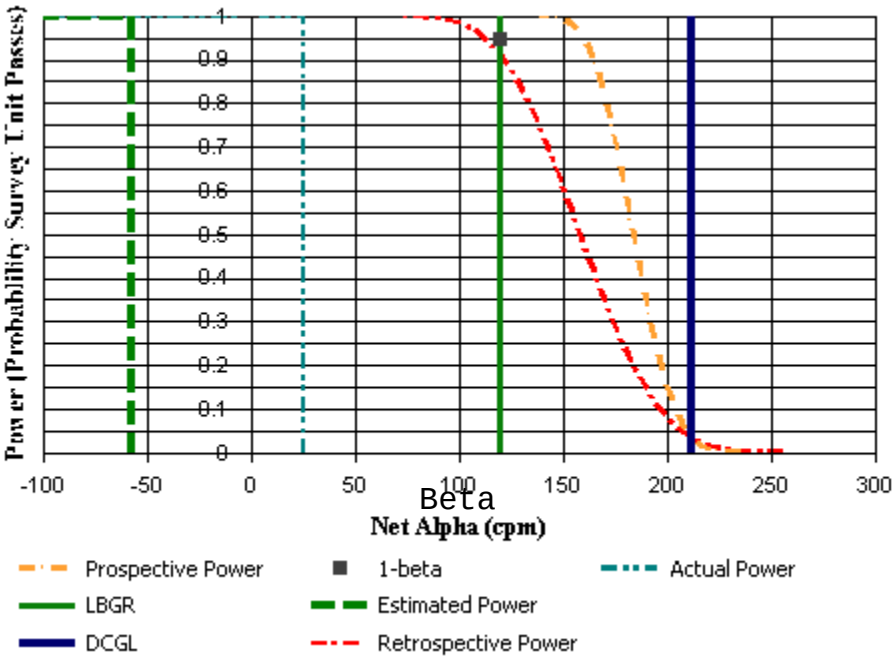
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=25
Mean (dpm/100 cm²)	36.73	N/A	120
Median (dpm/100 cm²)	30.36	N/A	N/A
Std Dev (dpm/100 cm²)	47.94	N/A	69.7
High Value (dpm/100 cm²)	109.72	N/A	N/A
Low Value (dpm/100 cm²)	-45.04	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	Class 3 SUs C3 SU39 Building 200E North, walls		
Report Number:	4		
Survey Unit Measurements:	15		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
0, 38.1, 2.4	Unpainted Cinder Block	S	523
0, 5.1, 3.4	Unpainted Cinder Block	S	217
37.8, 27.7, 0.4	Metal	S	198
37.8, 17.5, 1.5	Unpainted Cinder Block	S	472
0, 54.8, 0.9	Unpainted Cinder Block	S	461
37.8, 46.3, 2	Metal	S	165
37.8, 4.6, 3.1	Unpainted Cinder Block	S	424
14.9, 61, 3.5	Unpainted Cinder Block	S	364
37.8, 53.6, 1.9	Unpainted Cinder Block	S	453
0, 40.3, 3.9	Unpainted Cinder Block	S	530
11.9, 61, 0.2	Unpainted Cinder Block	S	287
0, 27.2, 0.3	Metal	S	210
37.8, 46.3, 1.3	Metal	S	181
11.4, 0, 2.9	Unpainted Cinder Block	S	504
14, 0, 1.8	Unpainted Cinder Block	S	482

Basic Statistical Quantities Summary

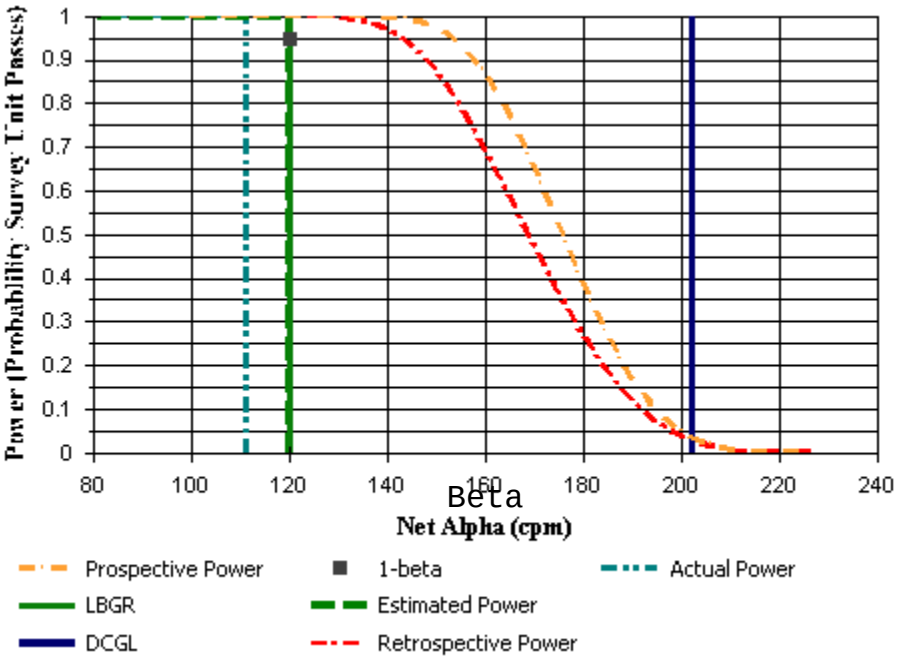
Statistic	Survey Unit	Background	DQO Results
Sample Number	15	N/A	N=15
Mean (dpm/100 cm²)	-20.82	N/A	-57.9
Median (dpm/100 cm²)	25.13	N/A	N/A
Std Dev (dpm/100 cm²)	162.86	N/A	45.2
High Value (dpm/100 cm²)	155.52	N/A	N/A
Low Value (dpm/100 cm²)	-435.94	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	Class 3 SUs scoping C3 SU40 Building 200E, N, US		
Report Number:	1		
Survey Unit Measurements:	10		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
72	Concrete	S	361
73	Metal	S	199
74	Metal	S	249
75	Metal	S	218
76	Metal	S	211
77	Metal	S	110
78	Metal	S	224
79	Metal	S	230
80	Unpainted Cinder Block	S	461
81	Metal	S	246

Basic Statistical Quantities Summary

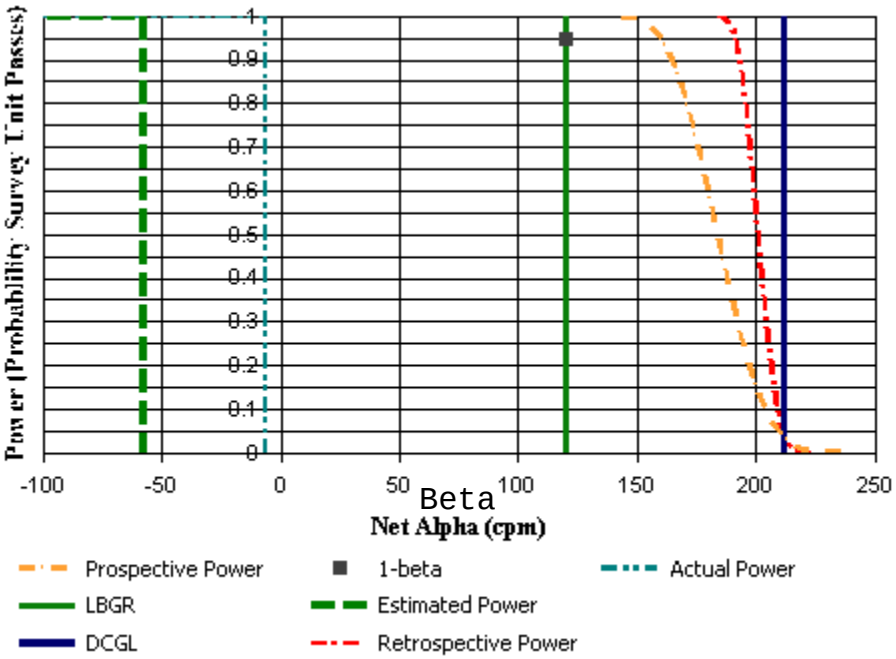
Statistic	Survey Unit	Background	DQO Results
Sample Number	10	N/A	N=15
Mean (dpm/100 cm²)	94.86	N/A	120
Median (dpm/100 cm²)	111.01	N/A	N/A
Std Dev (dpm/100 cm²)	78.63	N/A	42.4
High Value (dpm/100 cm²)	174.01	N/A	N/A
Low Value (dpm/100 cm²)	-101.79	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	Class 3 SUs C3 SU47 Building 100E ceiling Bays 15-20		
Report Number:	5		
Survey Unit Measurements:	12		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
20.0, 101.5	Metal	S	198
34.4, 95.2	Metal	S	174
5.2, 96.9	Metal	S	184
38.0, 102.9	Metal	S	175
29.8, 107.4	Metal	S	171
27.1, 102.3	Metal	S	172
3.2, 97.7	Metal	S	158
36.1, 111.7	Metal	S	159
35.7, 103.9	Metal	S	196
21.6, 104.1	Metal	S	176
17.6, 106.2	Metal	S	196
15.6, 94.1	Metal	S	145

Basic Statistical Quantities Summary

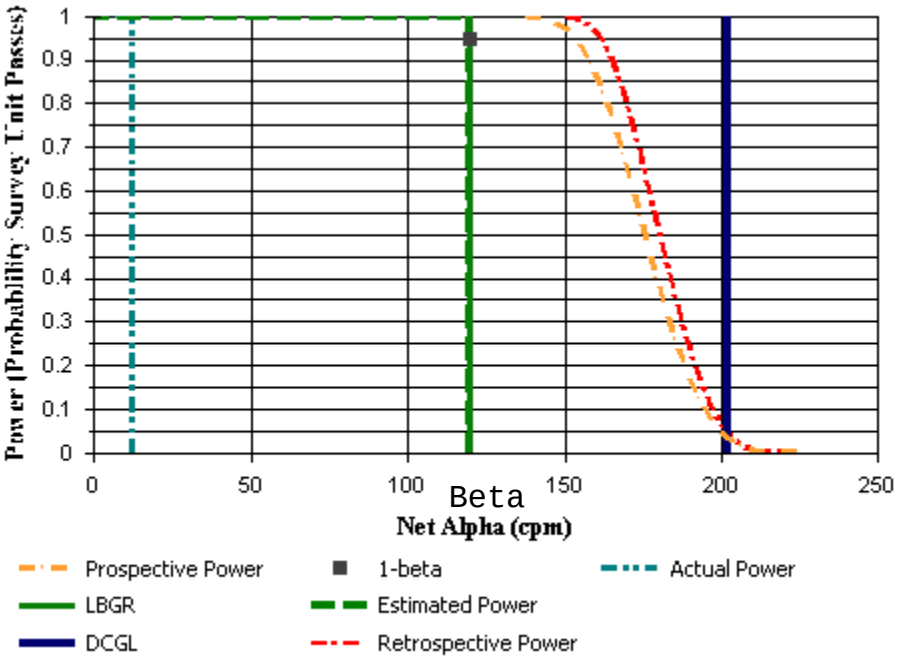
Statistic	Survey Unit	Background	DQO Results
Sample Number	12	N/A	N=15
Mean (dpm/100 cm²)	-4.85	N/A	-57.9
Median (dpm/100 cm²)	-6.42	N/A	N/A
Std Dev (dpm/100 cm²)	31.01	N/A	45.2
High Value (dpm/100 cm²)	37.98	N/A	N/A
Low Value (dpm/100 cm²)	-62.17	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	Class 3 SUs scoping C3 SU48 Building 100E, Bays 1-14		
Report Number:	3		
Survey Unit Measurements:	9		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
8	Concrete	S	366
9	Concrete	S	386
10	Concrete	S	313
11	Concrete	S	306
12	Concrete	S	341
13	Concrete	S	338
14	Concrete	S	320
18	Metal	S	202
19	Metal	S	183

Basic Statistical Quantities Summary

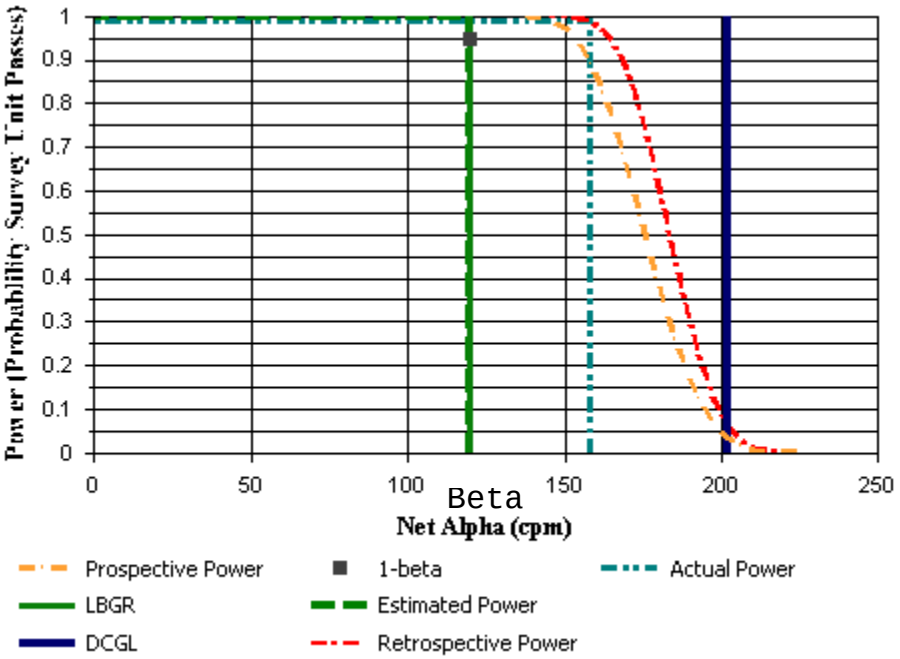
Statistic	Survey Unit	Background	DQO Results
Sample Number	9	N/A	N=15
Mean (dpm/100 cm²)	19.73	N/A	120
Median (dpm/100 cm²)	12.50	N/A	N/A
Std Dev (dpm/100 cm²)	56.16	N/A	42.4
High Value (dpm/100 cm²)	101.79	N/A	N/A
Low Value (dpm/100 cm²)	-56.94	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	Class 3 SUs scoping C3 SU52 Building 100W US		
Report Number:	2		
Survey Unit Measurements:	21		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
A85	Metal	S	161
A86	Metal	S	235
A87	Metal	S	169
A88	Metal	S	241
A89	Metal	S	224
A90	Metal	S	243
A91	Metal	S	300
A92	Metal	S	250
A93	Metal	S	277
A94	Metal	S	297
A95	Metal	S	282
A96	Metal	S	198
A97	Metal	S	187
A98	Metal	S	210
A99	Metal	S	251
A100	Metal	S	333
30D	Metal	S	246
31D	Metal	S	225
32D	Metal	S	217
33D	Metal	S	221
34D	Metal	S	244

Basic Statistical Quantities Summary

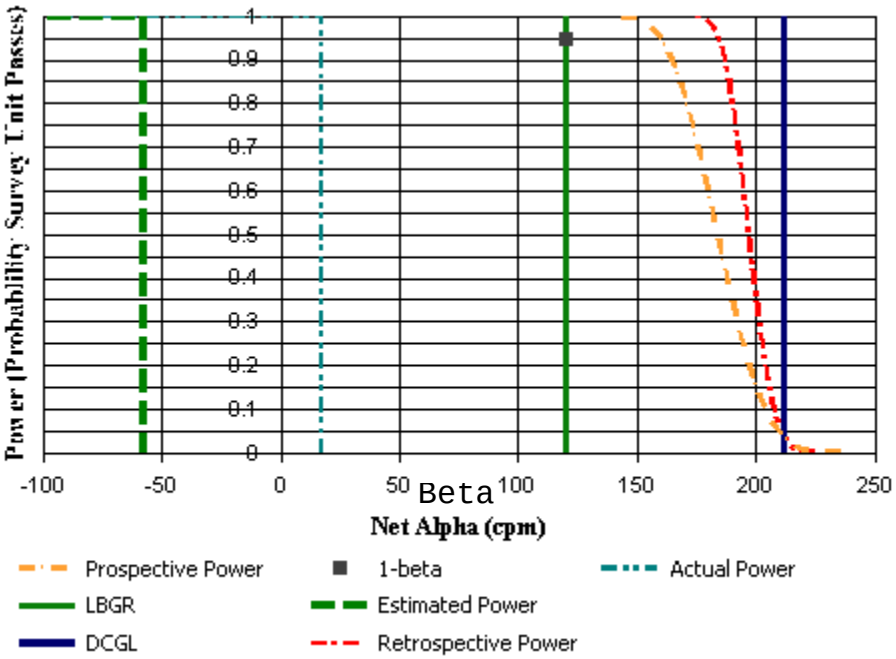
Statistic	Survey Unit	Background	DQO Results
Sample Number	21	N/A	N=15
Mean (dpm/100 cm²)	153.41	N/A	120
Median (dpm/100 cm²)	158.13	N/A	N/A
Std Dev (dpm/100 cm²)	85.37	N/A	42.4
High Value (dpm/100 cm²)	340.67	N/A	N/A
Low Value (dpm/100 cm²)	-0.60	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	Class 3 SUs C3 SU53 Garage		
Report Number:	3		
Survey Unit Measurements:	15		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
19.2, 1	Concrete	S	332
20.6, 4.5	Concrete	S	395
16.8, 5.1	Concrete	S	376
21.4, 6.2	Concrete	S	369
16.6, 9.7	Concrete	S	343
9.4, 13.9	Concrete	S	328
7.2, 15	Concrete	S	381
3.8, 15.7	Concrete	S	372
2.8, 17.4	Concrete	S	355
8.4, 19.7	Concrete	S	323
12, 20	Concrete	S	359
1.9, 25	Concrete	S	330
18.9, 30.3	Concrete	S	337
2.1, 30.4, 1.5	Metal	S	187
13.1, 30.4. 0.9	Metal	S	155

Basic Statistical Quantities Summary

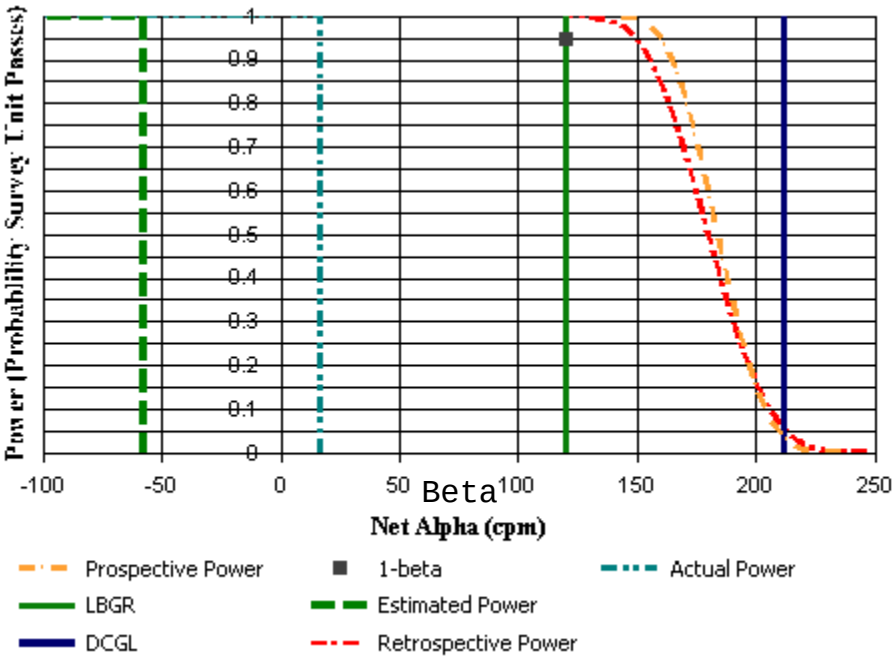
Statistic	Survey Unit	Background	DQO Results
Sample Number	15	N/A	N=15
Mean (dpm/100 cm²)	26.34	N/A	-57.9
Median (dpm/100 cm²)	17.20	N/A	N/A
Std Dev (dpm/100 cm²)	45.42	N/A	45.2
High Value (dpm/100 cm²)	110.17	N/A	N/A
Low Value (dpm/100 cm²)	-43.27	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	Class 3 SUs C1 SU54 Workshop		
Report Number:	2		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
6.1, 8.6, 0/Floor/WS	Concrete	S	345
7.6, 0.9, 0/Floor/WS	Concrete	S	346
0.5, 13.1, 0/Floor/W	Concrete	S	384
0.8, 3.3, 3/W. Wall/	Concrete	S	303
8.6, 7.3, 3/W. Wall/	Concrete	S	222
6.1, 11, 3/Ceiling/O	Metal	S	285
0.2, 24.5, 0/Floor/C	Concrete	S	348
0.2, 25.2, 0/Floor/C	Concrete	S	319
0, 24.8, 0.9/W. Wall	Concrete	S	300
1.3, 24.6, 0/Floor/C	Concrete	S	366
0.3, 31.8, 3/Ceiling	Concrete	S	389
0.9, 35.2, 3/Ceiling	Concrete	S	411
3.8, 37.9, 0/Floor/B	Concrete	S	285
6.4, 28.1, 0/Floor/B	Concrete	S	316

Basic Statistical Quantities Summary

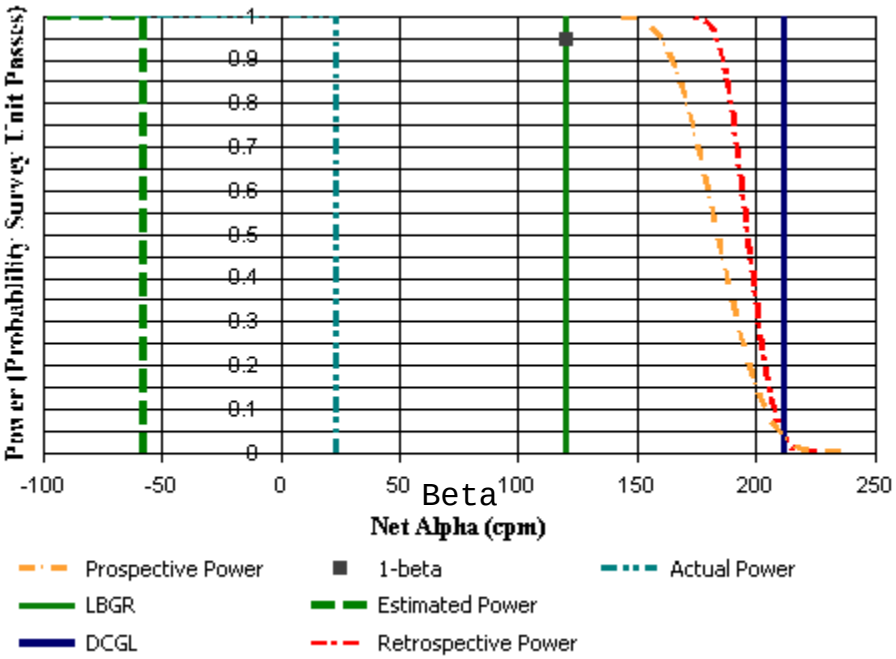
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=15
Mean (dpm/100 cm²)	8.64	N/A	-57.9
Median (dpm/100 cm²)	16.63	N/A	N/A
Std Dev (dpm/100 cm²)	107.24	N/A	45.2
High Value (dpm/100 cm²)	202.38	N/A	N/A
Low Value (dpm/100 cm²)	-216.74	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	Class 3 SUs C3 SU55 Building Exteriors		
Report Number:	1		
Survey Unit Measurements:	15		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
75.8, 2.7/100W West	Concrete	S	349
92.2, 2.5/100W East	Concrete	S	355
52.8, 1.4/100E West	Concrete	S	351
71.1, 2.2/100E West	Metal	S	185
20.9, 2.1/100E North	Metal	S	189
96.9, 1.9/100E East	Concrete	S	334
96.6, 0.7/200E West	Metal	S	199
72.1, 2.6/200E East	Concrete	S	361
3.2, 0.1/200E South	Concrete	S	342
8.3, 2/Office South	Metal	S	206
6, 0.3/Office South	Metal	S	252
16, 1.6/Office South	Metal	S	181
4.5, 0.6/Guardhouse	Metal	S	137
5.5, 2.1/Pumphouse E	Concrete	S	347
10.4, 0.6/Garage Eas	Metal	S	226

Basic Statistical Quantities Summary

Statistic	Survey Unit	Background	DQO Results
Sample Number	15	N/A	N=15
Mean (dpm/100 cm²)	29.47	N/A	-57.9
Median (dpm/100 cm²)	23.24	N/A	N/A
Std Dev (dpm/100 cm²)	47.03	N/A	45.2
High Value (dpm/100 cm²)	140.02	N/A	N/A
Low Value (dpm/100 cm²)	-77.29	N/A	N/A

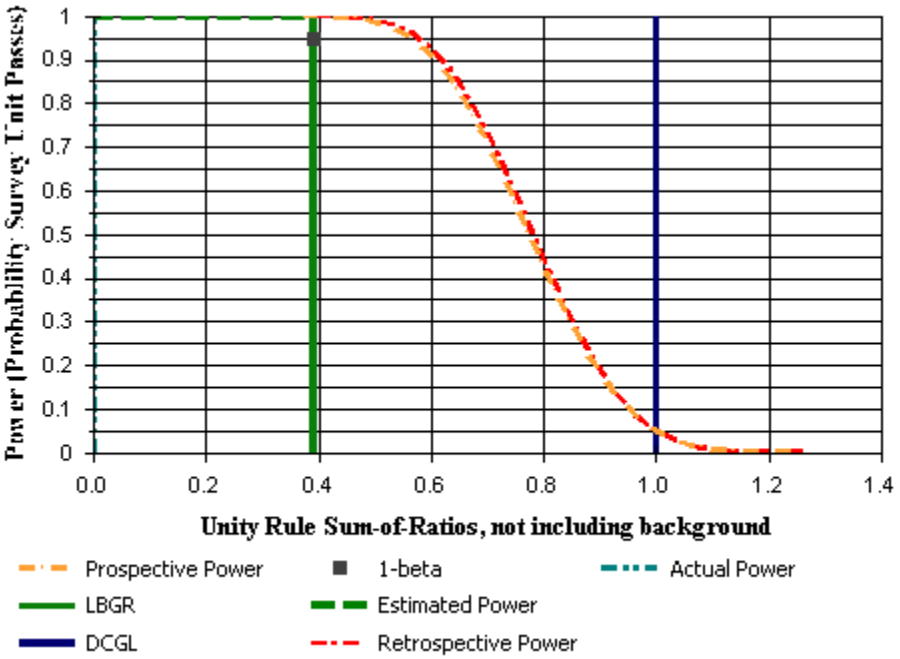
APPENDIX G: LAND SURVEY UNIT DQAs

DQA Surface Soil Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU1		
Report Number:	1		
Survey Unit Samples:	17		
Reference Area Samples:	17		
Test Performed:	WRS	Test Result:	Pass
Judgmental Samples:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Surface Soil Report

Survey Unit Data

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Th-232 (pCi/g)	U-238 (pCi/g)
196	S	1.17	2.16
197	S	1.15	2.63
198	S	1.01	2.42
199	S	1.15	1.54
200	S	1.07	2.82
201	S	1.13	1.98
202	S	1.2	1.37
203	S	0.51	0.93
204	S	1.02	2.72
205	S	1.22	4.09
206	S	0.85	2.58
207	S	1.05	2.74
208	S	1.24	2.8
209	S	1.25	1.79
210	S	0.55	1.08
211	S	0.88	2.48
212	S	1.31	3.1
127	R	1.1	2.54
128	R	0.85	2.66
129	R	0.74	2.44
130	R	1.09	2.3
131	R	0.93	2.5
132	R	0.79	1.65
133	R	0.94	2.3
134	R	0.98	2.55
135	R	0.65	2.06
136	R	0.73	2.66
137	R	1.1	2.44
138	R	1.03	2.42
139	R	1.17	2.72
140	R	1.36	3.35
141	R	0.91	1.44
142	R	1.71	3.57
143	R	0.33	0.63

DQA Surface Soil Report

Modified Data (Unity Rule SOR)

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Sum-of-Ratios (SOR)
196	S	1.27
197	S	1.45
198	S	1.32
199	S	1.01
200	S	1.5
201	S	1.18
202	S	0.96
203	S	0.55
204	S	1.44
205	S	2.06
206	S	1.33
207	S	1.46
208	S	1.55
209	S	1.15
210	S	0.62
211	S	1.3
212	S	1.69
127	R	1.4
128	R	1.36
129	R	1.23
130	R	1.3
131	R	1.32
132	R	0.93
133	R	1.24
134	R	1.36
135	R	1.05
136	R	1.32
137	R	1.36
138	R	1.32
139	R	1.49
140	R	1.81
141	R	0.89
142	R	2.02
143	R	0.37

DQA Surface Soil Report

Basic Statistical Quantities Summary

Statistic	Survey Unit	Background	DQO Results
Sample Number	17	17	N/2=18
Mean (SOR)	1.28	1.28	0.39
Median (SOR)	1.32	1.32	N/A
Std Dev (SOR)	0.37	0.36	0.39
High Value (SOR)	2.06	2.02	N/A
Low Value (SOR)	0.55	0.37	N/A

Statistical Test Summary

Sum of Ranks:	595
Sum of Reference Ranks:	432
Critical Value:	345
Result:	Pass

Data	Type	Adjusted Data	Rank	Reference Rank
0.37	R	1.37	11	11
0.89	R	1.89	18	18
0.93	R	1.93	19	19
1.05	R	2.05	20	20
1.23	R	2.23	22	22
1.24	R	2.24	23	23
1.3	R	2.3	24	24
1.32	R	2.32	26	26
1.32	R	2.32	26	26
1.32	R	2.32	26	26
1.36	R	2.36	29	29
1.36	R	2.36	29	29
1.36	R	2.36	29	29
1.4	R	2.4	31	31
1.49	R	2.49	32	32
1.81	R	2.81	33	33
2.02	R	3.02	34	34
0.55	S	0.55	1	0
0.62	S	0.62	2	0
0.96	S	0.96	3	0
1.01	S	1.01	4	0
1.15	S	1.15	5	0
1.18	S	1.18	6	0
1.27	S	1.27	7	0
1.3	S	1.3	8	0

DQA Surface Soil Report

Statistical Test Summary

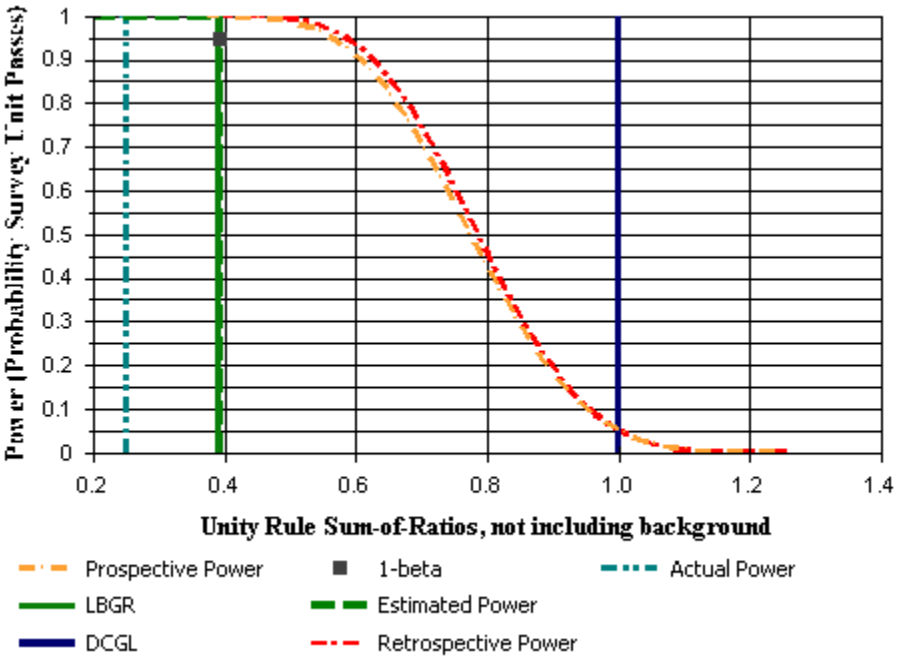
Data	Type	Adjusted Data	Rank	Reference Rank
1.32	S	1.32	9	0
1.33	S	1.33	10	0
1.44	S	1.44	12	0
1.45	S	1.45	13	0
1.46	S	1.46	14	0
1.5	S	1.5	15	0
1.55	S	1.55	16	0
1.69	S	1.69	17	0
2.06	S	2.06	21	0

DQA Surface Soil Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU2, 3, 4, and 5 (AOC 1 and 2) C1 SU2		
Report Number:	1		
Survey Unit Samples:	17		
Reference Area Samples:	17		
Test Performed:	WRS	Test Result:	Pass
Judgmental Samples:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Surface Soil Report

Survey Unit Data

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Th-232 (pCi/g)	U-238 (pCi/g)
494	S	1.19	3.15
495	S	1.36	2.95
496	S	1.19	2.78
497	S	1.43	3.14
498	S	0.87	1.3
499	S	1.2	2.89
500	S	0.8	1.8
501	S	1.4	3.81
502	S	1.33	2.02
503	S	1.14	2.59
504	S	1.32	3.07
505	S	0.91	1.82
506	S	1.13	3.02
507	S	1.38	3.72
508	S	1.12	1.87
509	S	1.69	2.96
510	S	1.03	2.79
127	R	1.1	2.54
128	R	0.85	2.66
129	R	0.74	2.44
130	R	1.09	2.3
131	R	0.93	2.5
132	R	0.79	1.65
133	R	0.94	2.3
134	R	0.98	2.55
135	R	0.65	2.06
136	R	0.73	2.66
137	R	1.1	2.44
138	R	1.03	2.42
139	R	1.17	2.72
140	R	1.36	3.35
141	R	0.91	1.44
142	R	1.71	3.57
143	R	0.33	0.63

DQA Surface Soil Report

Modified Data (Unity Rule SOR)

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Sum-of-Ratios (SOR)
494	S	1.67
495	S	1.65
496	S	1.52
497	S	1.75
498	S	0.82
499	S	1.57
500	S	1
501	S	2.01
502	S	1.27
503	S	1.43
504	S	1.68
505	S	1.04
506	S	1.6
507	S	1.96
508	S	1.13
509	S	1.77
510	S	1.47
127	R	1.4
128	R	1.36
129	R	1.23
130	R	1.3
131	R	1.32
132	R	0.93
133	R	1.24
134	R	1.36
135	R	1.05
136	R	1.32
137	R	1.36
138	R	1.32
139	R	1.49
140	R	1.81
141	R	0.89
142	R	2.02
143	R	0.37

DQA Surface Soil Report

Basic Statistical Quantities Summary

Statistic	Survey Unit	Background	DQO Results
Sample Number	17	17	N/2=18
Mean (SOR)	1.49	1.28	0.39
Median (SOR)	1.57	1.32	N/A
Std Dev (SOR)	0.34	0.36	0.39
High Value (SOR)	2.01	2.02	N/A
Low Value (SOR)	0.82	0.37	N/A

Statistical Test Summary

Sum of Ranks:	595
Sum of Reference Ranks:	426
Critical Value:	345
Result:	Pass

Data	Type	Adjusted Data	Rank	Reference Rank
0.37	R	1.37	6	6
0.89	R	1.89	17	17
0.93	R	1.93	18	18
1.05	R	2.05	21	21
1.23	R	2.23	22	22
1.24	R	2.24	23	23
1.3	R	2.3	24	24
1.32	R	2.32	26	26
1.32	R	2.32	26	26
1.32	R	2.32	26	26
1.36	R	2.36	29	29
1.36	R	2.36	29	29
1.36	R	2.36	29	29
1.4	R	2.4	31	31
1.49	R	2.49	32	32
1.81	R	2.81	33	33
2.02	R	3.02	34	34
0.82	S	0.82	1	0
1	S	1	2	0
1.04	S	1.04	3	0
1.13	S	1.13	4	0
1.27	S	1.27	5	0
1.43	S	1.43	7	0
1.47	S	1.47	8	0
1.52	S	1.52	9	0

DQA Surface Soil Report

Statistical Test Summary

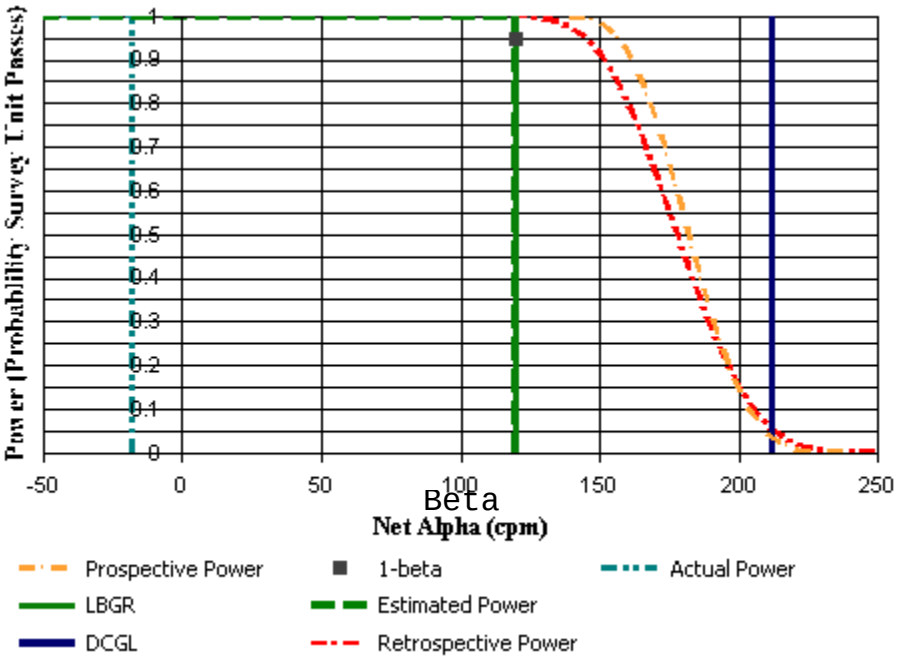
Data	Type	Adjusted Data	Rank	Reference Rank
1.57	S	1.57	10	0
1.6	S	1.6	11	0
1.65	S	1.65	12	0
1.67	S	1.67	13	0
1.68	S	1.68	14	0
1.75	S	1.75	15	0
1.77	S	1.77	16	0
1.96	S	1.96	19	0
2.01	S	2.01	20	0

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU2.1 through 5.8 AOC 2 and 3 slag C1 SU2.1		
Report Number:	1		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
4611369, 456528	Slag	S	479
4611369, 456532	Slag	S	541
4611369, 456536	Slag	S	569
4611369, 456540	Slag	S	481
4611369, 456544	Slag	S	462
4611372, 456527	Slag	S	466
4611372, 456530	Slag	S	498
4611372, 456534	Slag	S	404
4611372, 456538	Slag	S	451
4611372, 456542	Slag	S	408
4611375, 456525	Slag	S	398
4611375, 456528	Slag	S	347
4611375, 456532	Slag	S	405
4611375, 456536	Slag	S	498

Basic Statistical Quantities Summary

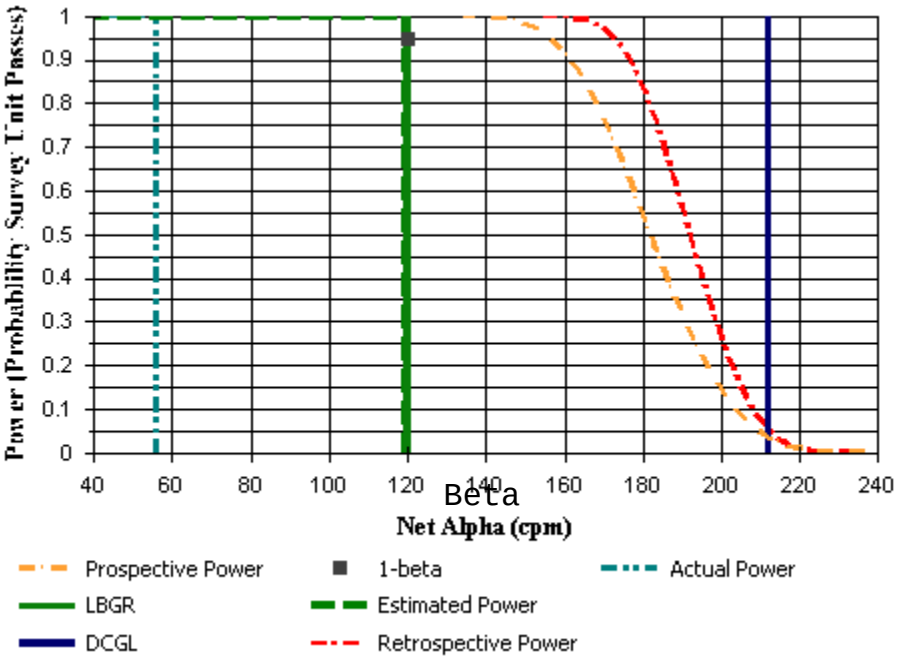
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=15
Mean (dpm/100 cm²)	-29.68	N/A	120
Median (dpm/100 cm²)	-17.67	N/A	N/A
Std Dev (dpm/100 cm²)	114.41	N/A	48.3
High Value (dpm/100 cm²)	180.74	N/A	N/A
Low Value (dpm/100 cm²)	-238.76	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU2.1 through 5.8 AOC 2 and 3 slag C1 SU2.2		
Report Number:	2		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
4611358, 456530	Slag	S	525
4611358, 456535	Slag	S	503
4611358, 456539	Slag	S	530
4611358, 456543	Slag	S	552
4611362, 456528	Slag	S	434
4611362, 456533	Slag	S	506
4611362, 456537	Slag	S	487
4611362, 456541	Slag	S	503
4611362, 456545	Slag	S	570
4611365, 456526	Slag	S	459
4611365, 456530	Slag	S	495
4611365, 456535	Slag	S	476
4611365, 456539	Slag	S	485
4611365, 456543	Slag	S	513

Basic Statistical Quantities Summary

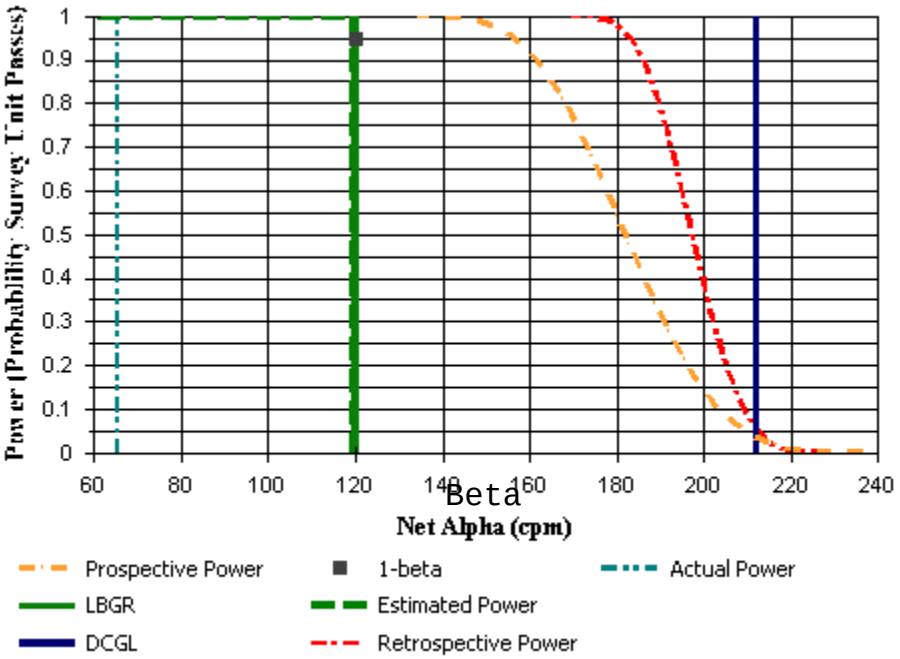
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=15
Mean (dpm/100 cm²)	55.49	N/A	120
Median (dpm/100 cm²)	56.03	N/A	N/A
Std Dev (dpm/100 cm²)	66.87	N/A	48.3
High Value (dpm/100 cm²)	182.63	N/A	N/A
Low Value (dpm/100 cm²)	-74.36	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU2.1 through 5.8 AOC 2 and 3 slag C1 SU2.3		
Report Number:	3		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
4611347, 456529	Slag	S	539
4611347, 456533	Slag	S	486
4611347, 456537	Slag	S	480
4611347, 456541	Slag	S	478
4611347, 456545	Slag	S	484
4611350, 456531	Slag	S	507
4611350, 456535	Slag	S	534
4611350, 456539	Slag	S	481
4611350, 456543	Slag	S	509
4611354, 456529	Slag	S	505
4611354, 456533	Slag	S	549
4611354, 456537	Slag	S	529
4611354, 456541	Slag	S	518
4611354, 456545	Slag	S	548

Basic Statistical Quantities Summary

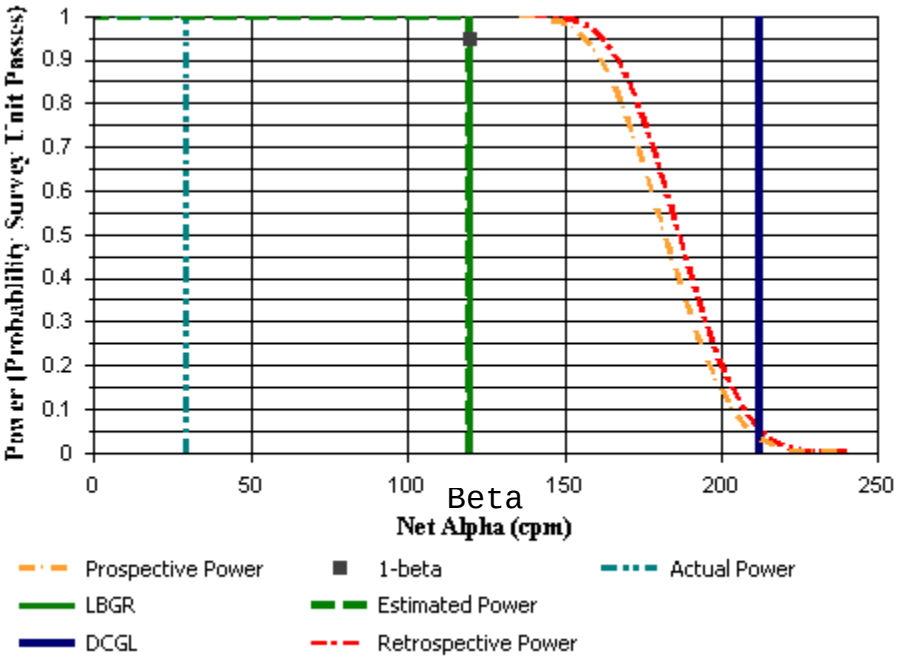
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=15
Mean (dpm/100 cm²)	70.20	N/A	120
Median (dpm/100 cm²)	65.48	N/A	N/A
Std Dev (dpm/100 cm²)	49.32	N/A	48.3
High Value (dpm/100 cm²)	142.95	N/A	N/A
Low Value (dpm/100 cm²)	8.79	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU2.1 through 5.8 AOC 2 and 3 slag C1 SU2.4		
Report Number:	4		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
4611334, 456525	Slag	S	498
4611334, 456529	Slag	S	559
4611334, 456532	Slag	S	475
4611334, 456536	Slag	S	431
4611334, 456540	Slag	S	455
4611334, 456544	Slag	S	448
4611337, 456531	Slag	S	589
4611337, 456534	Slag	S	533
4611337, 456538	Slag	S	506
4611337, 456542	Slag	S	480
4611340, 456532	Slag	S	524
4611340, 456536	Slag	S	477
4611340, 456540	Slag	S	457
4611340, 456544	Slag	S	525

Basic Statistical Quantities Summary

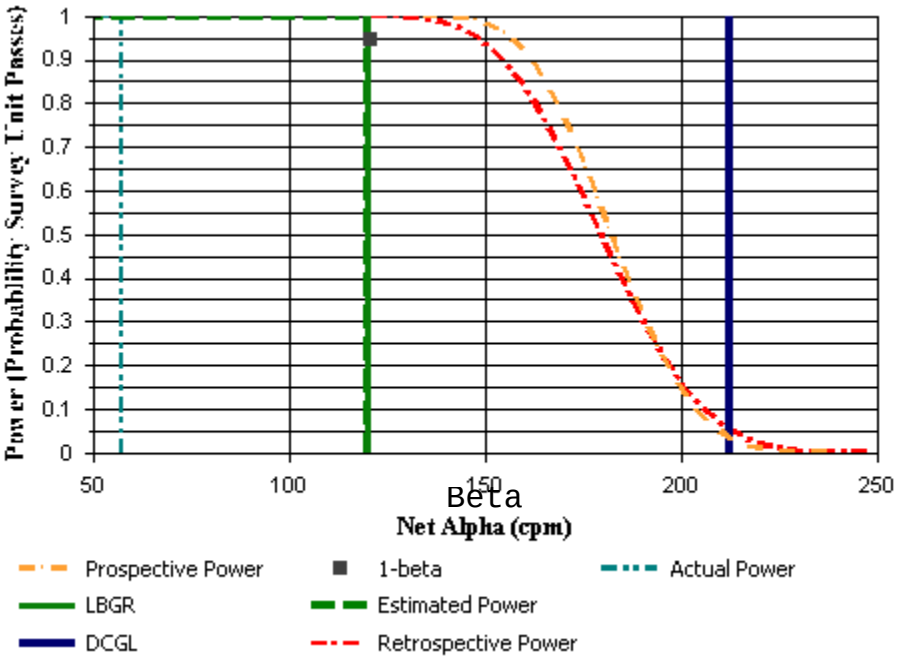
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=15
Mean (dpm/100 cm²)	44.56	N/A	120
Median (dpm/100 cm²)	29.57	N/A	N/A
Std Dev (dpm/100 cm²)	85.30	N/A	48.3
High Value (dpm/100 cm²)	218.54	N/A	N/A
Low Value (dpm/100 cm²)	-80.03	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU2.1 through 5.8 AOC 2 and 3 slag C1 SU2.5		
Report Number:	18		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
4611334, 456519	Slag	S	658
4611337, 456520	Slag	S	550
4611339, 456519	Slag	S	475
4611339, 456522	Slag	S	541
4611342, 456517	Slag	S	513
4611342, 456520	Slag	S	442
4611344, 456516	Slag	S	447
4611344, 456519	Slag	S	530
4611347, 456514	Slag	S	564
4611347, 456517	Slag	S	482
4611349, 456516	Slag	S	539
4611352, 456514	Slag	S	490
4611352, 456517	Slag	S	450
4611355, 456516	Slag	S	494

Basic Statistical Quantities Summary

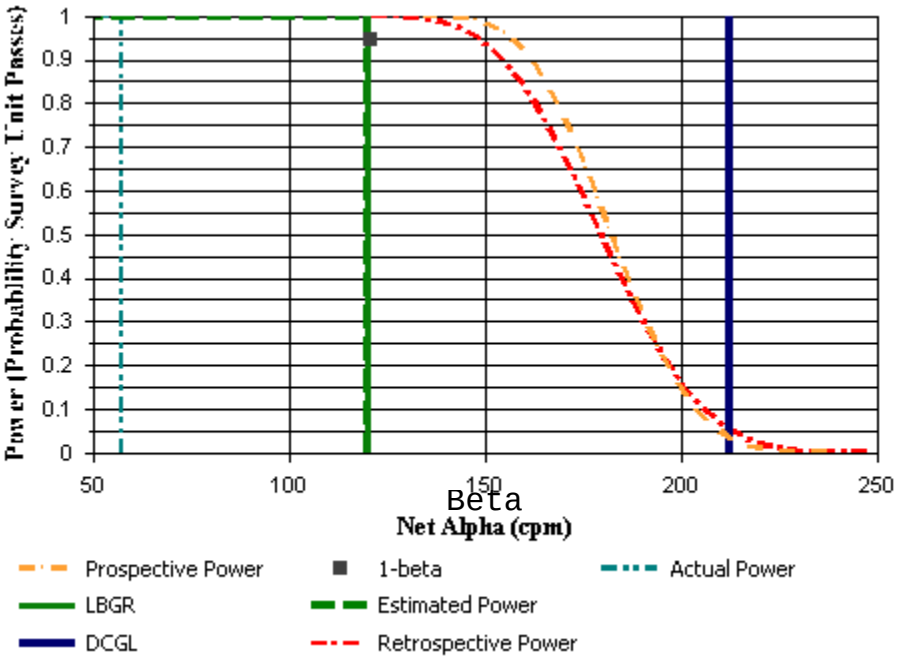
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=15
Mean (dpm/100 cm²)	73.98	N/A	120
Median (dpm/100 cm²)	56.97	N/A	N/A
Std Dev (dpm/100 cm²)	109.18	N/A	48.3
High Value (dpm/100 cm²)	348.92	N/A	N/A
Low Value (dpm/100 cm²)	-59.24	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU2.1 through 5.8 AOC 2 and 3 slag C1 SU2.6		
Report Number:	19		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
4611334, 456519	Slag	S	658
4611337, 456520	Slag	S	550
4611339, 456519	Slag	S	475
4611339, 456522	Slag	S	541
4611342, 456517	Slag	S	513
4611342, 456520	Slag	S	442
4611344, 456516	Slag	S	447
4611344, 456519	Slag	S	530
4611347, 456514	Slag	S	564
4611347, 456517	Slag	S	482
4611349, 456516	Slag	S	539
4611352, 456514	Slag	S	490
4611352, 456517	Slag	S	450
4611355, 456516	Slag	S	494

Basic Statistical Quantities Summary

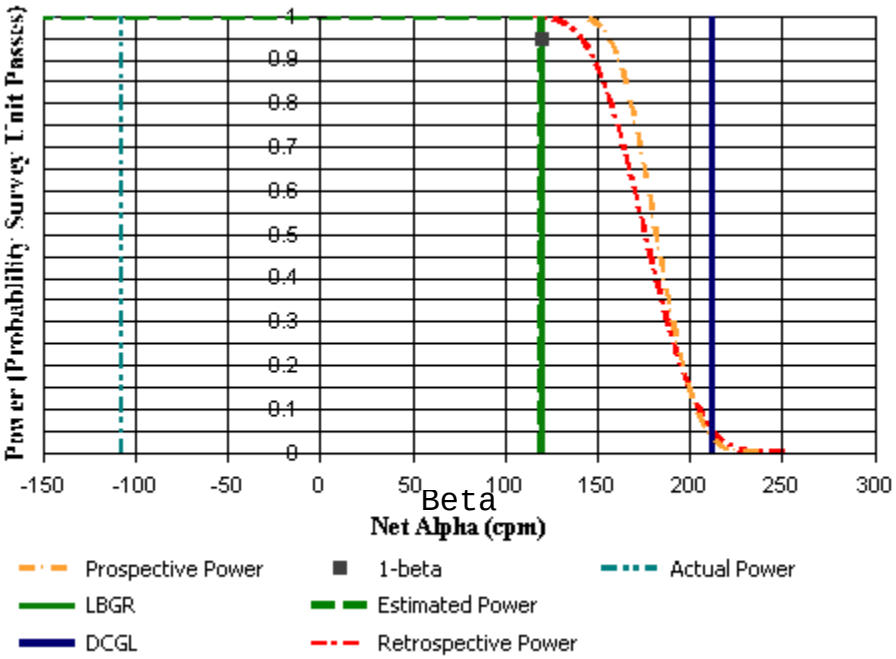
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=15
Mean (dpm/100 cm²)	73.98	N/A	120
Median (dpm/100 cm²)	56.97	N/A	N/A
Std Dev (dpm/100 cm²)	109.18	N/A	48.3
High Value (dpm/100 cm²)	348.92	N/A	N/A
Low Value (dpm/100 cm²)	-59.24	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU2.1 through 5.8 AOC 2 and 3 slag C1 SU2.7		
Report Number:	20		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
4611328, 456505	Slag	S	409
4611328, 456509	Slag	S	424
4611331, 456503	Slag	S	426
4611331, 456507	Slag	S	543
4611331, 456510	Slag	S	358
4611331, 456514	Slag	S	430
4611331, 456517	Slag	S	445
4611334, 456505	Slag	S	362
4611334, 456509	Slag	S	365
4611334, 456512	Slag	S	390
4611334, 456516	Slag	S	554
4611337, 456510	Slag	S	343
4611337, 456514	Slag	S	408
4611340, 456516	Slag	S	464

Basic Statistical Quantities Summary

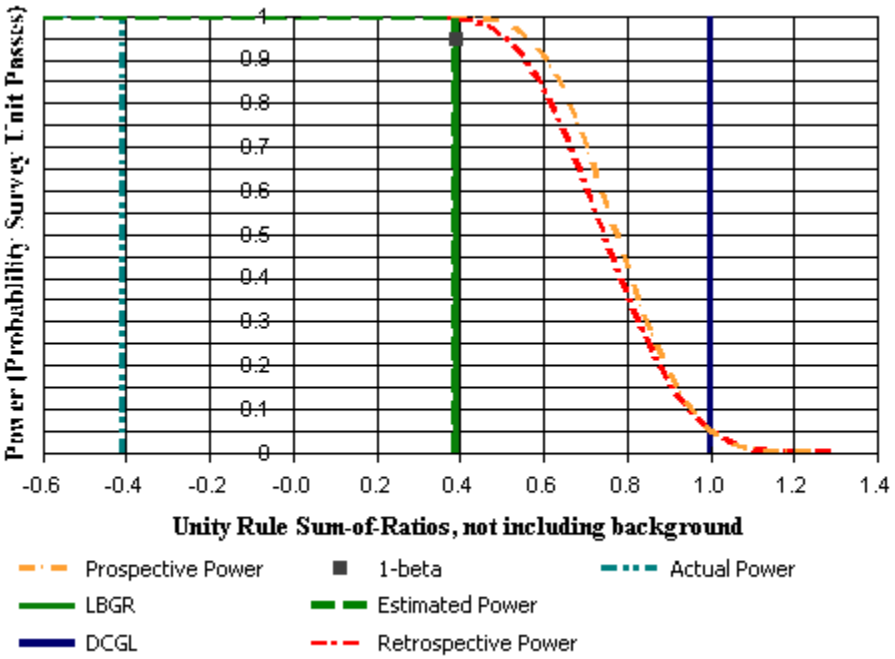
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=15
Mean (dpm/100 cm²)	-95.28	N/A	120
Median (dpm/100 cm²)	-107.43	N/A	N/A
Std Dev (dpm/100 cm²)	120.66	N/A	48.3
High Value (dpm/100 cm²)	152.40	N/A	N/A
Low Value (dpm/100 cm²)	-246.32	N/A	N/A

DQA Surface Soil Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU2, 3, 4, and 5 (AOC 1 and 2) C1 SU3		
Report Number:	2		
Survey Unit Samples:	14		
Reference Area Samples:	17		
Test Performed:	WRS	Test Result:	Pass
Judgmental Samples:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Surface Soil Report

Survey Unit Data

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Th-232 (pCi/g)	U-238 (pCi/g)
512	S	0.44	1.32
513	S	1.34	2.94
514	S	0.76	1.17
515	S	0.47	0.91
516	S	1.34	2.38
517	S	0.58	1.08
518	S	1.48	1.82
519	S	1.05	2.74
520	S	0.7	1.04
522	S	0.96	1.72
523	S	1.62	2.25
524	S	0.94	1.67
525	S	0.47	0.48
527	S	0.85	1.35
127	R	1.1	2.54
128	R	0.85	2.66
129	R	0.74	2.44
130	R	1.09	2.3
131	R	0.93	2.5
132	R	0.79	1.65
133	R	0.94	2.3
134	R	0.98	2.55
135	R	0.65	2.06
136	R	0.73	2.66
137	R	1.1	2.44
138	R	1.03	2.42
139	R	1.17	2.72
140	R	1.36	3.35
141	R	0.91	1.44
142	R	1.71	3.57
143	R	0.33	0.63

DQA Surface Soil Report

Modified Data (Unity Rule SOR)

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Sum-of-Ratios (SOR)
512	S	0.68
513	S	1.64
514	S	0.73
515	S	0.53
516	S	1.41
517	S	0.63
518	S	1.24
519	S	1.46
520	S	0.66
522	S	1.02
523	S	1.46
524	S	0.99
525	S	0.35
527	S	0.83
127	R	1.4
128	R	1.36
129	R	1.23
130	R	1.3
131	R	1.32
132	R	0.93
133	R	1.24
134	R	1.36
135	R	1.05
136	R	1.32
137	R	1.36
138	R	1.32
139	R	1.49
140	R	1.81
141	R	0.89
142	R	2.02
143	R	0.37

DQA Surface Soil Report

Basic Statistical Quantities Summary

Statistic	Survey Unit	Background	DQO Results
Sample Number	14	17	N/2=18
Mean (SOR)	0.97	1.28	0.39
Median (SOR)	0.91	1.32	N/A
Std Dev (SOR)	0.41	0.36	0.39
High Value (SOR)	1.64	2.02	N/A
Low Value (SOR)	0.35	0.37	N/A

Statistical Test Summary

Sum of Ranks:	496
Sum of Reference Ranks:	387
Critical Value:	313
Result:	Pass

Data	Type	Adjusted Data	Rank	Reference Rank
0.37	R	1.37	11	11
0.89	R	1.89	16	16
0.93	R	1.93	17	17
1.05	R	2.05	18	18
1.23	R	2.23	19	19
1.24	R	2.24	20	20
1.3	R	2.3	21	21
1.32	R	2.32	23	23
1.32	R	2.32	23	23
1.32	R	2.32	23	23
1.36	R	2.36	26	26
1.36	R	2.36	26	26
1.36	R	2.36	26	26
1.4	R	2.4	28	28
1.49	R	2.49	29	29
1.81	R	2.81	30	30
2.02	R	3.02	31	31
0.35	S	0.35	1	0
0.53	S	0.53	2	0
0.63	S	0.63	3	0
0.66	S	0.66	4	0
0.68	S	0.68	5	0
0.73	S	0.73	6	0
0.83	S	0.83	7	0
0.99	S	0.99	8	0

DQA Surface Soil Report

Statistical Test Summary

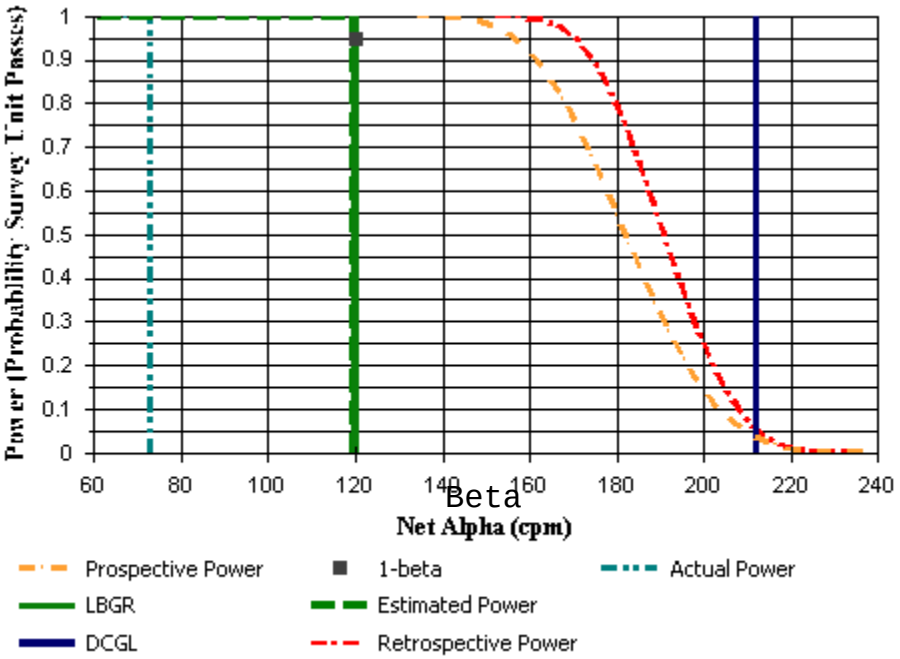
Data	Type	Adjusted Data	Rank	Reference Rank
1.02	S	1.02	9	0
1.24	S	1.24	10	0
1.41	S	1.41	12	0
1.46	S	1.46	13.5	0
1.46	S	1.46	13.5	0
1.64	S	1.64	15	0

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU2.1 through 5.8 AOC 2 and 3 slag C1 SU3.1		
Report Number:	5		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
4611321, 456503	Slag	S	450
4611321, 456507	Slag	S	589
4611321, 456511	Slag	S	511
4611321, 456513	Slag	S	565
4611321, 456520	Slag	S	463
4611324, 456505	Slag	S	518
4611324, 456509	Slag	S	511
4611324, 456514	Slag	S	509
4611324, 456518	Slag	S	534
4611324, 456522	Slag	S	539
4611328, 456511	Slag	S	507
4611328, 456516	Slag	S	479
4611328, 456520	Slag	S	549
4611332, 456522	Slag	S	513

Basic Statistical Quantities Summary

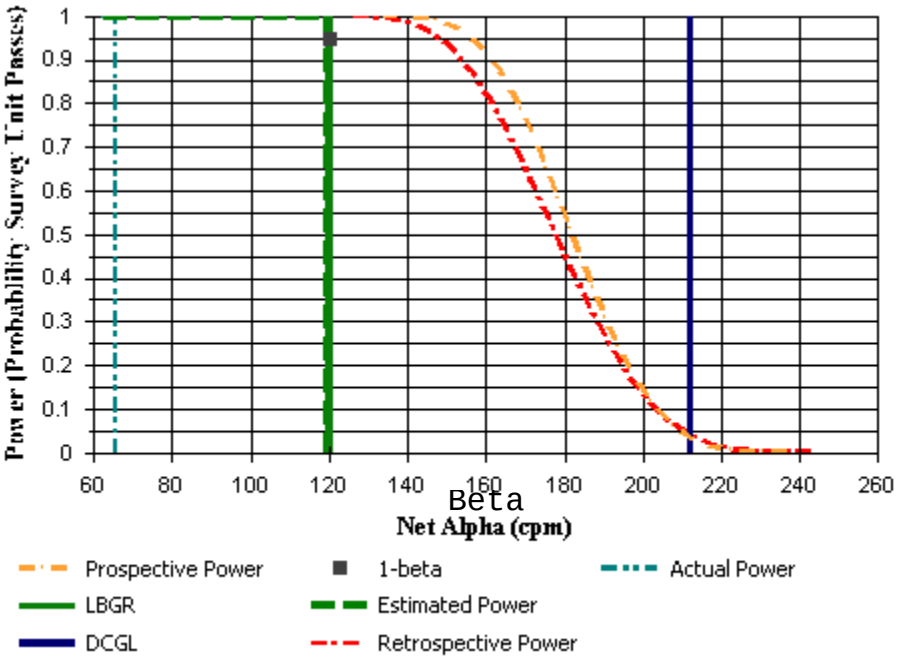
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=15
Mean (dpm/100 cm²)	82.35	N/A	120
Median (dpm/100 cm²)	73.03	N/A	N/A
Std Dev (dpm/100 cm²)	71.07	N/A	48.3
High Value (dpm/100 cm²)	218.54	N/A	N/A
Low Value (dpm/100 cm²)	-44.12	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU2.1 through 5.8 AOC 2 and 3 slag C1 SU3.2		
Report Number:	22		
Survey Unit Measurements:	12		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
4611324, 456523	Slag	S	500
4611324, 456527	Slag	S	588
4611324, 456531	Slag	S	570
4611327, 456525	Slag	S	610
4611327, 456529	Slag	S	504
4611327, 456533	Slag	S	512
4611327, 456541	Slag	S	490
4611331, 456523	Slag	S	518
4611331, 456527	Slag	S	491
4611331, 456531	Slag	S	540
4611331, 456535	Slag	S	469
4611331, 456539	Slag	S	432

Basic Statistical Quantities Summary

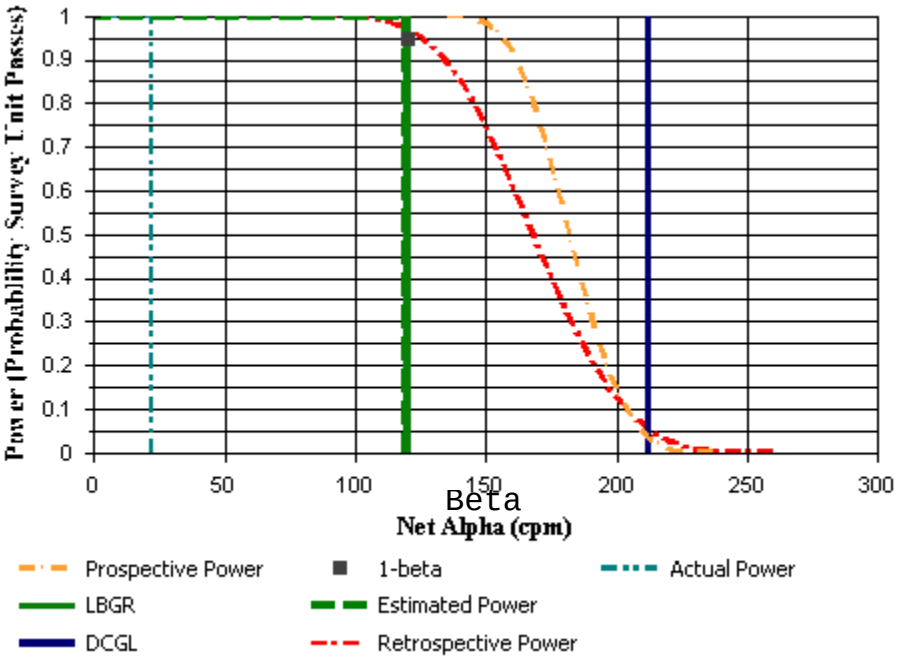
Statistic	Survey Unit	Background	DQO Results
Sample Number	12	N/A	N=15
Mean (dpm/100 cm²)	85.63	N/A	120
Median (dpm/100 cm²)	65.48	N/A	N/A
Std Dev (dpm/100 cm²)	96.04	N/A	48.3
High Value (dpm/100 cm²)	258.22	N/A	N/A
Low Value (dpm/100 cm²)	-78.14	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU2.1 through 5.8 AOC 2 and 3 slag C1 SU3.3		
Report Number:	6		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
4611310, 456502	Slag	S	585
4611310, 456507	Slag	S	481
4611310, 456512	Slag	S	489
4611310, 456516	Slag	S	385
4611310, 456521	Slag	S	498
4611314, 456504	Slag	S	563
4611314, 456509	Slag	S	393
4611314, 456514	Slag	S	476
4611314, 456519	Slag	S	368
4611318, 456502	Slag	S	633
4611318, 456507	Slag	S	547
4611318, 456512	Slag	S	466
4611318, 456516	Slag	S	447
4611318, 456521	Slag	S	542

Basic Statistical Quantities Summary

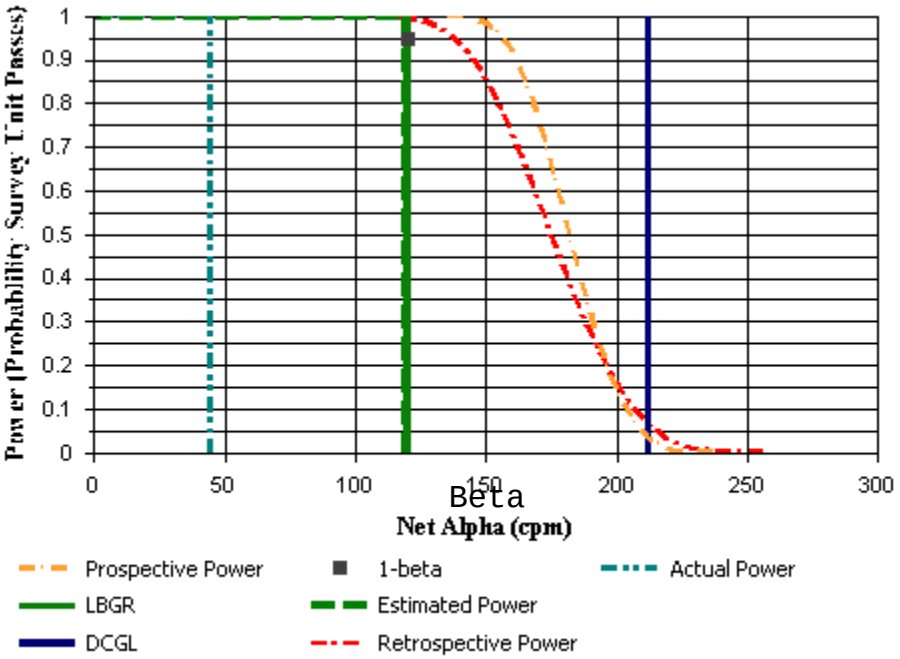
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=15
Mean (dpm/100 cm²)	33.22	N/A	120
Median (dpm/100 cm²)	22.01	N/A	N/A
Std Dev (dpm/100 cm²)	147.15	N/A	48.3
High Value (dpm/100 cm²)	301.68	N/A	N/A
Low Value (dpm/100 cm²)	-199.07	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU2.1 through 5.8 AOC 2 and 3 slag C1 SU3.4		
Report Number:	7		
Survey Unit Measurements:	11		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
4611309, 456523	Slag	S	440
4611309, 456527	Slag	S	368
4611313, 456532	Slag	S	519
4611313, 456527	Slag	S	497
4611313, 456530	Slag	S	480
4611313, 456534	Slag	S	514
4611316, 456525	Slag	S	390
4611316, 456527	Slag	S	489
4611316, 456532	Slag	S	513
4611320, 456525	Slag	S	541
4611320, 456530	Slag	S	568

Basic Statistical Quantities Summary

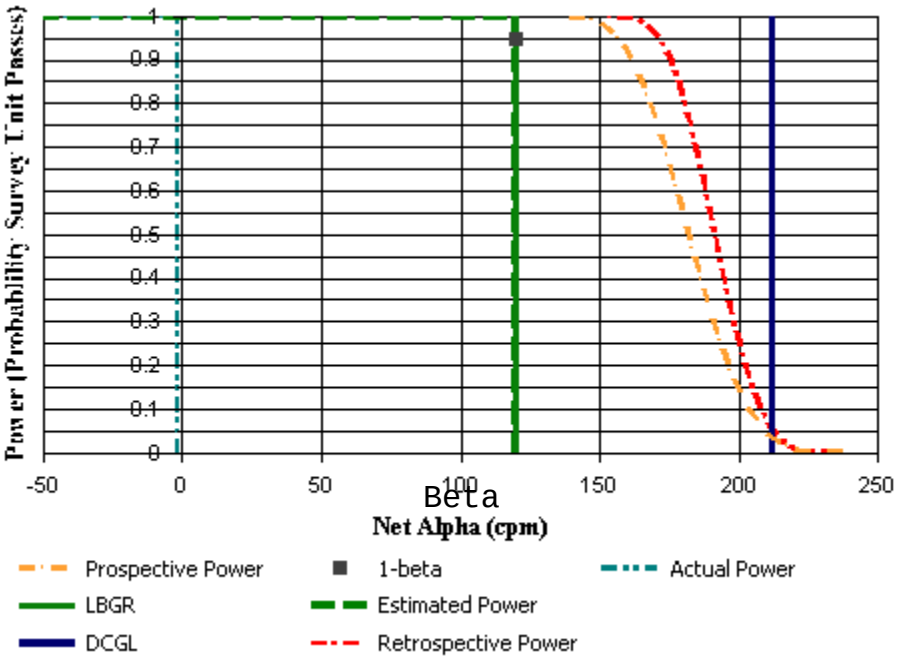
Statistic	Survey Unit	Background	DQO Results
Sample Number	11	N/A	N=15
Mean (dpm/100 cm²)	19.27	N/A	120
Median (dpm/100 cm²)	44.69	N/A	N/A
Std Dev (dpm/100 cm²)	116.04	N/A	48.3
High Value (dpm/100 cm²)	178.85	N/A	N/A
Low Value (dpm/100 cm²)	-199.07	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU2.1 through 5.8 AOC 2 and 3 slag C1 SU3.5		
Report Number:	8		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
4611301, 456506	Slag	S	479
4611301, 456510	Slag	S	517
4611301, 456514	Slag	S	424
4611301, 456518	Slag	S	409
4611304, 456504	Slag	S	501
4611304, 456508	Slag	S	441
4611304, 456512	Slag	S	458
4611304, 456516	Slag	S	466
4611304, 456520	Slag	S	423
4611307, 456502	Slag	S	523
4611307, 456506	Slag	S	506
4611307, 456510	Slag	S	480
4611307, 456514	Slag	S	464
4611307, 456518	Slag	S	502

Basic Statistical Quantities Summary

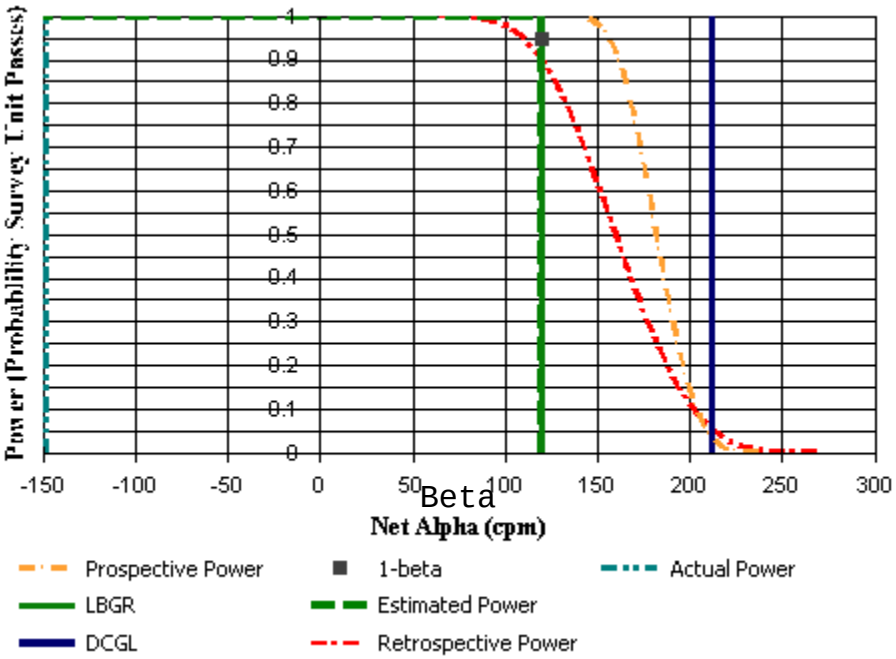
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=15
Mean (dpm/100 cm²)	-4.58	N/A	120
Median (dpm/100 cm²)	-1.61	N/A	N/A
Std Dev (dpm/100 cm²)	69.43	N/A	48.3
High Value (dpm/100 cm²)	93.82	N/A	N/A
Low Value (dpm/100 cm²)	-121.60	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU2.1 through 5.8 AOC 2 and 3 slag C1 SU3.6		
Report Number:	9		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
4611298, 456522	Slag	S	375
4611298, 456526	Slag	S	391
4611298, 456531	Slag	S	392
4611298, 456535	Slag	S	495
4611298, 456539	Slag	S	654
4611301, 456524	Slag	S	375
4611301, 456529	Slag	S	398
4611301, 456533	Slag	S	618
4611301, 456537	Slag	S	457
4611305, 456522	Slag	S	373
4611305, 456526	Slag	S	368
4611305, 456531	Slag	S	376
4611305, 456535	Slag	S	421
4611305, 456539	Slag	S	411

Basic Statistical Quantities Summary

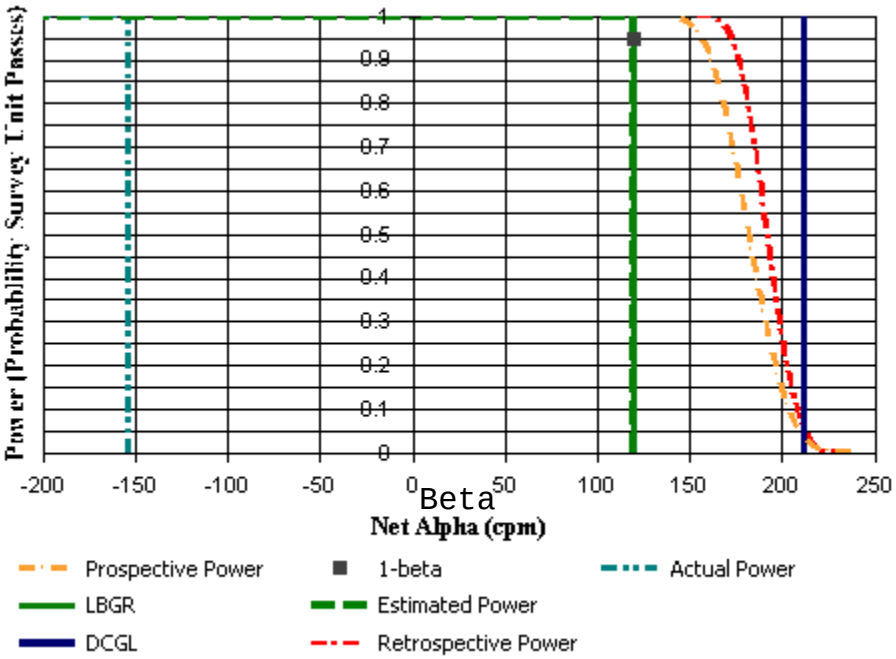
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=15
Mean (dpm/100 cm²)	-70.58	N/A	120
Median (dpm/100 cm²)	-148.05	N/A	N/A
Std Dev (dpm/100 cm²)	174.19	N/A	48.3
High Value (dpm/100 cm²)	341.36	N/A	N/A
Low Value (dpm/100 cm²)	-199.07	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU2.1 through 5.8 AOC 2 and 3 slag C1 SU3.7		
Report Number:	21		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
4611290, 456505	Slag	S	376
4611290, 456510	Slag	S	367
4611290, 456514	Slag	S	361
4611290, 456518	Slag	S	417
4611290, 456522	Slag	S	376
4611294, 456507	Slag	S	432
4611294, 456512	Slag	S	385
4611294, 456516	Slag	S	474
4611294, 456520	Slag	S	454
4611297, 456505	Slag	S	420
4611297, 456510	Slag	S	399
4611297, 456514	Slag	S	374
4611297, 456518	Slag	S	359
4611297, 456522	Slag	S	409

Basic Statistical Quantities Summary

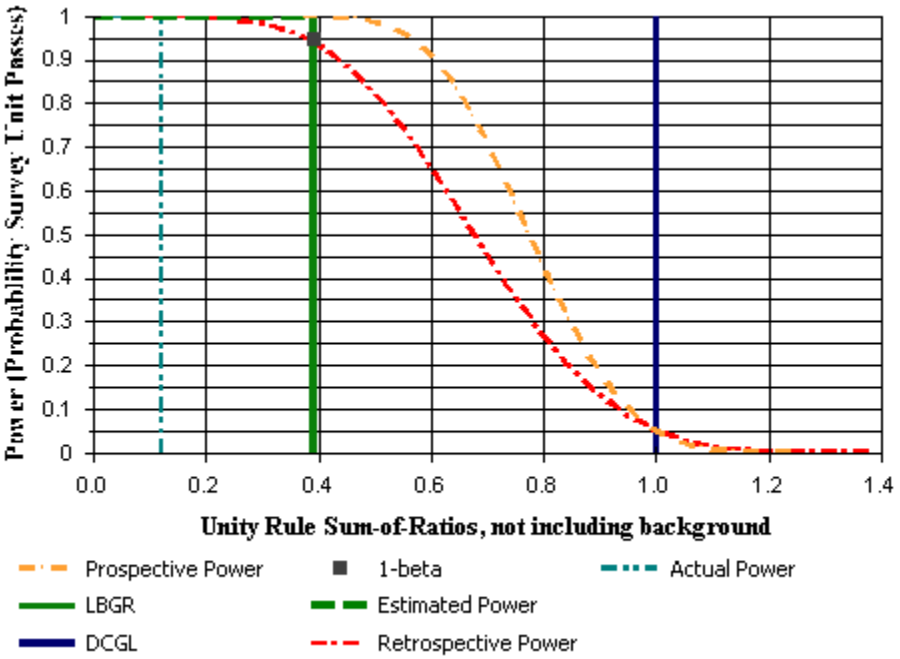
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=15
Mean (dpm/100 cm²)	-138.20	N/A	120
Median (dpm/100 cm²)	-153.72	N/A	N/A
Std Dev (dpm/100 cm²)	67.38	N/A	48.3
High Value (dpm/100 cm²)	1.23	N/A	N/A
Low Value (dpm/100 cm²)	-216.08	N/A	N/A

DQA Surface Soil Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU2, 3, 4, and 5 (AOC 1 and 2) C1 SU4		
Report Number:	3		
Survey Unit Samples:	16		
Reference Area Samples:	17		
Test Performed:	WRS	Test Result:	Pass
Judgmental Samples:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Surface Soil Report

Survey Unit Data

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Th-232 (pCi/g)	U-238 (pCi/g)
529	S	1.88	3.33
530	S	1.11	1.96
531	S	2.47	3.9 ballast
532	S	1.08	3.36
533	S	1.44	3.55
534	S	0.99	1.66
535	S	2.05	2.29
536	S	0.85	1.96
537	S	3.02	2.56
538	S	1.97	2.1
539	S	0.88	1.54
540	S	1.26	1.48
541	S	1.45	2.27
542	S	0.64	1.2
543	S	1.06	2.76
544	S	0.41	0.81
127	R	1.1	2.54
128	R	0.85	2.66
129	R	0.74	2.44
130	R	1.09	2.3
131	R	0.93	2.5
132	R	0.79	1.65
133	R	0.94	2.3
134	R	0.98	2.55
135	R	0.65	2.06
136	R	0.73	2.66
137	R	1.1	2.44
138	R	1.03	2.42
139	R	1.17	2.72
140	R	1.36	3.35
141	R	0.91	1.44
142	R	1.71	3.57
143	R	0.33	0.63

DQA Surface Soil Report

Modified Data (Unity Rule SOR)

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Sum-of-Ratios (SOR)
529	S	1.98
530	S	1.17
531	S	2.41
532	S	1.72
533	S	1.92
534	S	1.01
535	S	1.62
536	S	1.08
537	S	2.07
538	S	1.52
539	S	0.92
540	S	1.03
541	S	1.41
542	S	0.7
543	S	1.47
544	S	0.47
127	R	1.4
128	R	1.36
129	R	1.23
130	R	1.3
131	R	1.32
132	R	0.93
133	R	1.24
134	R	1.36
135	R	1.05
136	R	1.32
137	R	1.36
138	R	1.32
139	R	1.49
140	R	1.81
141	R	0.89
142	R	2.02
143	R	0.37

DQA Surface Soil Report

Basic Statistical Quantities Summary

Statistic	Survey Unit	Background	DQO Results
Sample Number	16	17	N/2=18
Mean (SOR)	1.41	1.28	0.39
Median (SOR)	1.44	1.32	N/A
Std Dev (SOR)	0.53	0.36	0.39
High Value (SOR)	2.41	2.02	N/A
Low Value (SOR)	0.47	0.37	N/A

Statistical Test Summary

Sum of Ranks:	561
Sum of Reference Ranks:	397
Critical Value:	335
Result:	Pass

Data	Type	Adjusted Data	Rank	Reference Rank
0.37	R	1.37	8	8
0.89	R	1.89	14	14
0.93	R	1.93	16	16
1.05	R	2.05	18	18
1.23	R	2.23	20	20
1.24	R	2.24	21	21
1.3	R	2.3	22	22
1.32	R	2.32	24	24
1.32	R	2.32	24	24
1.32	R	2.32	24	24
1.36	R	2.36	27	27
1.36	R	2.36	27	27
1.36	R	2.36	27	27
1.4	R	2.4	29	29
1.49	R	2.49	31	31
1.81	R	2.81	32	32
2.02	R	3.02	33	33
0.47	S	0.47	1	0
0.7	S	0.7	2	0
0.92	S	0.92	3	0
1.01	S	1.01	4	0
1.03	S	1.03	5	0
1.08	S	1.08	6	0
1.17	S	1.17	7	0
1.41	S	1.41	9	0

DQA Surface Soil Report

Statistical Test Summary

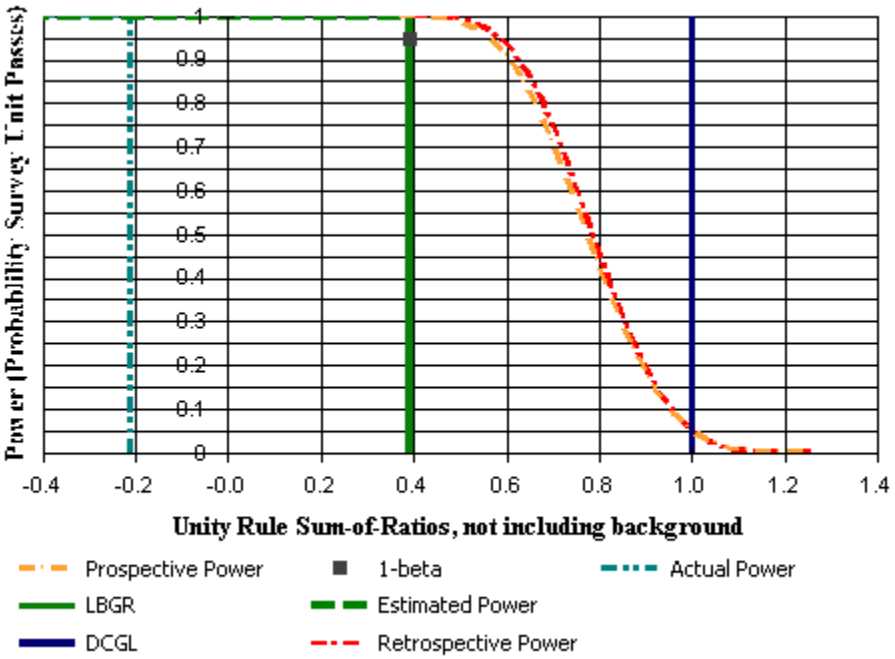
Data	Type	Adjusted Data	Rank	Reference Rank
1.47	S	1.47	10	0
1.52	S	1.52	11	0
1.62	S	1.62	12	0
1.72	S	1.72	13	0
1.92	S	1.92	15	0
1.98	S	1.98	17	0
2.07	S	2.07	19	0
2.41	S	2.41	30	0

DQA Surface Soil Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU2, 3, 4, and 5 (AOC 1 and 2) C1 SU5		
Report Number:	4		
Survey Unit Samples:	17		
Reference Area Samples:	17		
Test Performed:	WRS	Test Result:	Pass
Judgmental Samples:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Surface Soil Report

Survey Unit Data

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Th-232 (pCi/g)	U-238 (pCi/g)
545	S	1.06	2.04
546	S	1	1.56
547	S	1.06	1.87
548	S	1.24	1.46
549	S	1.01	1.09
550	S	1.42	2.06
551	S	1.12	1.11
552	S	1.28	1.48
553	S	1.42	1.98
554	S	1.32	1.61
555	S	1.48	1.51
556	S	1.22	1.6
557	S	1.47	2.21
558	S	1.4	1.58
559	S	1.13	1.54
560	S	1.68	1.85
561	S	1.52	1.65
127	R	1.1	2.54
128	R	0.85	2.66
129	R	0.74	2.44
130	R	1.09	2.3
131	R	0.93	2.5
132	R	0.79	1.65
133	R	0.94	2.3
134	R	0.98	2.55
135	R	0.65	2.06
136	R	0.73	2.66
137	R	1.1	2.44
138	R	1.03	2.42
139	R	1.17	2.72
140	R	1.36	3.35
141	R	0.91	1.44
142	R	1.71	3.57
143	R	0.33	0.63

DQA Surface Soil Report

Modified Data (Unity Rule SOR)

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Sum-of-Ratios (SOR)
545	S	1.18
546	S	0.97
547	S	1.11
548	S	1.01
549	S	0.78
550	S	1.31
551	S	0.83
552	S	1.03
553	S	1.28
554	S	1.1
555	S	1.11
556	S	1.06
557	S	1.39
558	S	1.11
559	S	1.01
560	S	1.32
561	S	1.18
127	R	1.4
128	R	1.36
129	R	1.23
130	R	1.3
131	R	1.32
132	R	0.93
133	R	1.24
134	R	1.36
135	R	1.05
136	R	1.32
137	R	1.36
138	R	1.32
139	R	1.49
140	R	1.81
141	R	0.89
142	R	2.02
143	R	0.37

DQA Surface Soil Report

Basic Statistical Quantities Summary

Statistic	Survey Unit	Background	DQO Results
Sample Number	17	17	N/2=18
Mean (SOR)	1.10	1.28	0.39
Median (SOR)	1.11	1.32	N/A
Std Dev (SOR)	0.17	0.36	0.39
High Value (SOR)	1.39	2.02	N/A
Low Value (SOR)	0.78	0.37	N/A

Statistical Test Summary

Sum of Ranks:	595
Sum of Reference Ranks:	441
Critical Value:	345
Result:	Pass

Data	Type	Adjusted Data	Rank	Reference Rank
0.37	R	1.37	17	17
0.89	R	1.89	19	19
0.93	R	1.93	20	20
1.05	R	2.05	21	21
1.23	R	2.23	22	22
1.24	R	2.24	23	23
1.3	R	2.3	24	24
1.32	R	2.32	26	26
1.32	R	2.32	26	26
1.32	R	2.32	26	26
1.36	R	2.36	29	29
1.36	R	2.36	29	29
1.36	R	2.36	29	29
1.4	R	2.4	31	31
1.49	R	2.49	32	32
1.81	R	2.81	33	33
2.02	R	3.02	34	34
0.78	S	0.78	1	0
0.83	S	0.83	2	0
0.97	S	0.97	3	0
1.01	S	1.01	4.5	0
1.01	S	1.01	4.5	0
1.03	S	1.03	6	0
1.06	S	1.06	7	0
1.1	S	1.1	8	0

DQA Surface Soil Report

Statistical Test Summary

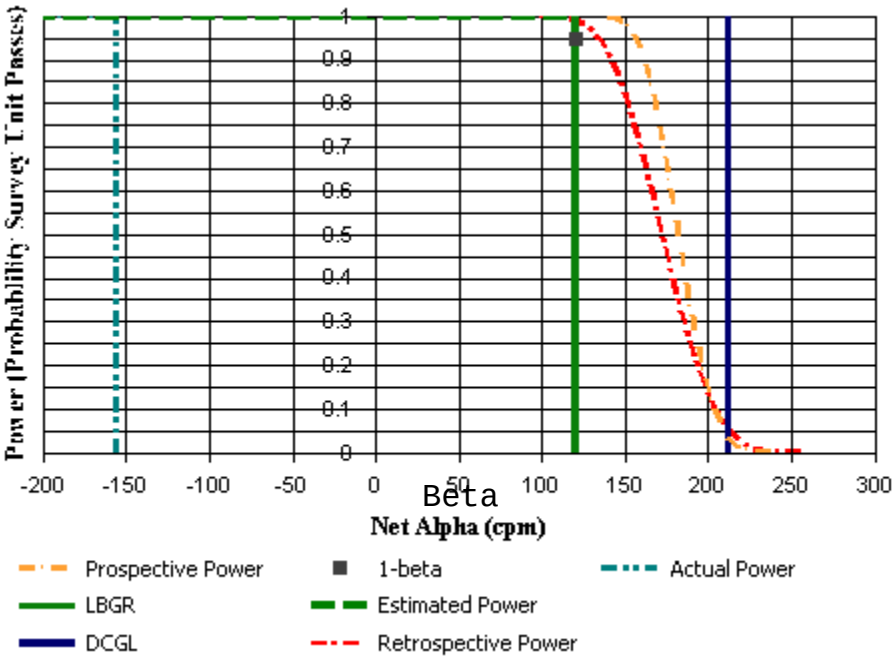
Data	Type	Adjusted Data	Rank	Reference Rank
1.11	S	1.11	10	0
1.11	S	1.11	10	0
1.11	S	1.11	10	0
1.18	S	1.18	12.5	0
1.18	S	1.18	12.5	0
1.28	S	1.28	14	0
1.31	S	1.31	15	0
1.32	S	1.32	16	0
1.39	S	1.39	18	0

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU2.1 through 5.8 AOC 2 and 3 slag C1 SU5.1		
Report Number:	10		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
4611287, 456524	Slag	S	373
4611287, 456528	Slag	S	350
4611287, 456532	Slag	S	366
4611287, 456536	Slag	S	503
4611287, 456540	Slag	S	464
4611290, 456526	Slag	S	436
4611290, 456530	Slag	S	357
4611290, 456534	Slag	S	402
4611290, 456538	Slag	S	551
4611294, 456524	Slag	S	344
4611294, 456528	Slag	S	348
4611294, 456532	Slag	S	380
4611294, 456536	Slag	S	437
4611294, 456540	Slag	S	524

Basic Statistical Quantities Summary

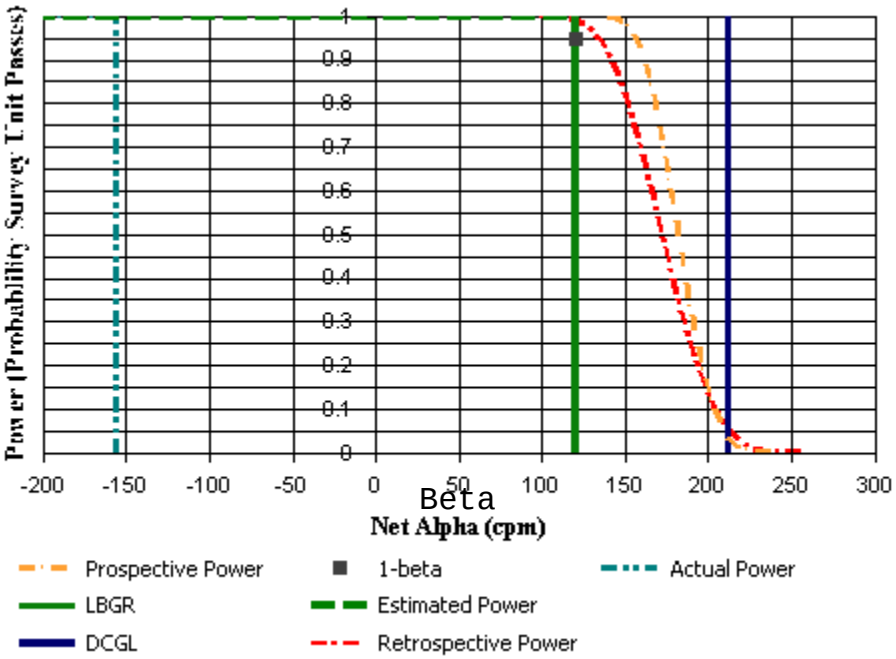
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=15
Mean (dpm/100 cm²)	-106.89	N/A	120
Median (dpm/100 cm²)	-155.61	N/A	N/A
Std Dev (dpm/100 cm²)	132.67	N/A	48.3
High Value (dpm/100 cm²)	146.73	N/A	N/A
Low Value (dpm/100 cm²)	-244.43	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU2.1 through 5.8 AOC 2 and 3 slag C1 SU5.2		
Report Number:	11		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
4611287, 456524	Slag	S	373
4611287, 456528	Slag	S	350
4611287, 456532	Slag	S	366
4611287, 456536	Slag	S	503
4611287, 456540	Slag	S	464
4611290, 456526	Slag	S	436
4611290, 456530	Slag	S	357
4611290, 456534	Slag	S	402
4611290, 456538	Slag	S	551
4611294, 456524	Slag	S	344
4611294, 456528	Slag	S	348
4611294, 456532	Slag	S	380
4611294, 456536	Slag	S	437
4611294, 456540	Slag	S	524

Basic Statistical Quantities Summary

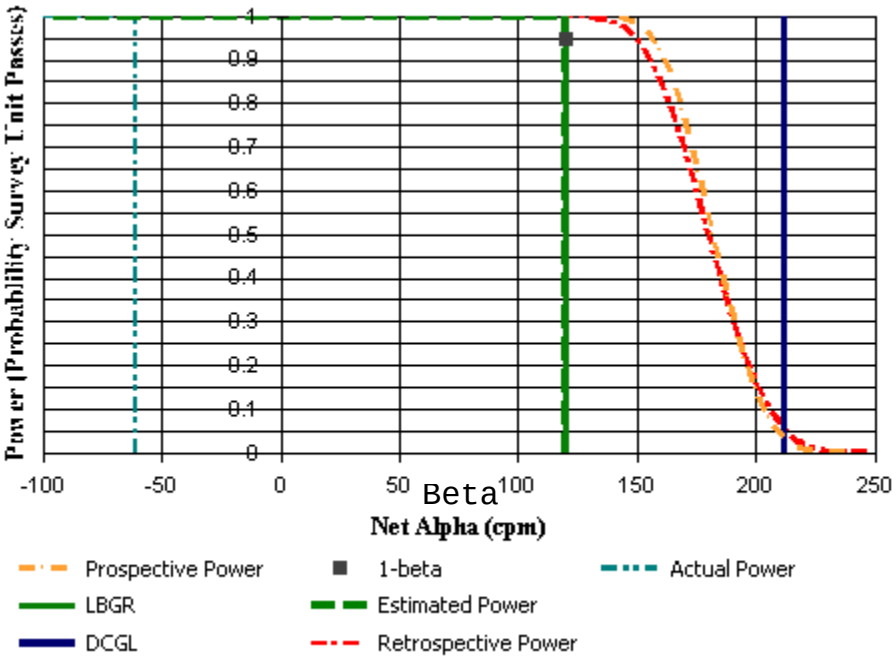
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=15
Mean (dpm/100 cm²)	-106.89	N/A	120
Median (dpm/100 cm²)	-155.61	N/A	N/A
Std Dev (dpm/100 cm²)	132.67	N/A	48.3
High Value (dpm/100 cm²)	146.73	N/A	N/A
Low Value (dpm/100 cm²)	-244.43	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU2.1 through 5.8 AOC 2 and 3 slag C1 SU5.3		
Report Number:	12		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
4611277, 456525	Slag	S	344
4611277, 456530	Slag	S	523
4611277, 456535	Slag	S	489
4611277, 456540	Slag	S	386
4611277, 456545	Slag	S	455
4611281, 456523	Slag	S	391
4611281, 456528	Slag	S	408
4611281, 456533	Slag	S	502
4611281, 456538	Slag	S	439
4611281, 456543	Slag	S	511
4611286, 456525	Slag	S	362
4611286, 456530	Slag	S	399
4611286, 456535	Slag	S	449
4611286, 456540	Slag	S	443

Basic Statistical Quantities Summary

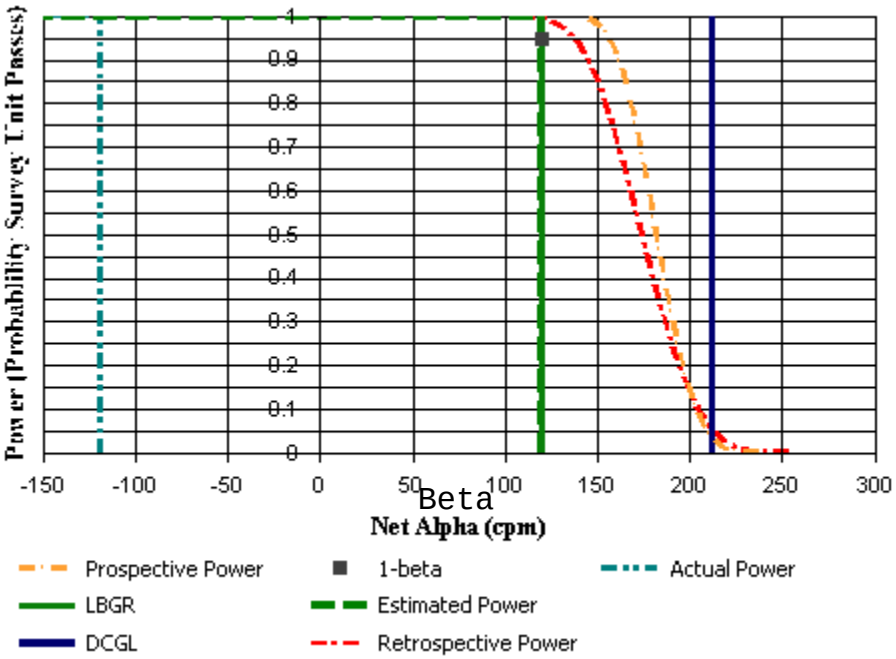
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=15
Mean (dpm/100 cm²)	-70.98	N/A	120
Median (dpm/100 cm²)	-61.13	N/A	N/A
Std Dev (dpm/100 cm²)	106.85	N/A	48.3
High Value (dpm/100 cm²)	93.82	N/A	N/A
Low Value (dpm/100 cm²)	-244.43	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU2.1 through 5.8 AOC 2 and 3 slag C1 SU5.4		
Report Number:	13		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
4611250, 456521	Slag	S	359
4611253, 456519	Slag	S	592
4611257, 456521	Slag	S	520
4611260, 456519	Slag	S	415
4611264, 456517	Slag	S	393
4611264, 456521	Slag	S	418
4611267, 456515	Slag	S	402
4611267, 456519	Slag	S	444
4611271, 456513	Slag	S	447
4611271, 456517	Slag	S	370
4611271, 456521	Slag	S	330
4611274, 456511	Slag	S	406
4611274, 456515	Slag	S	391
4611274, 456519	Slag	S	463

Basic Statistical Quantities Summary

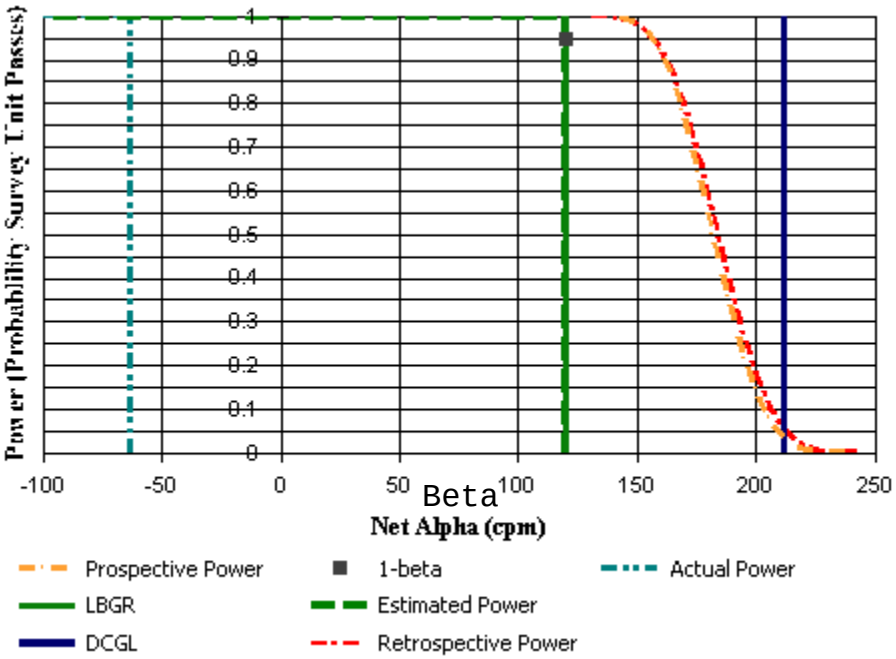
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=15
Mean (dpm/100 cm²)	-91.36	N/A	120
Median (dpm/100 cm²)	-118.76	N/A	N/A
Std Dev (dpm/100 cm²)	127.12	N/A	48.3
High Value (dpm/100 cm²)	224.21	N/A	N/A
Low Value (dpm/100 cm²)	-270.88	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU2.1 through 5.8 AOC 2 and 3 slag C1 SU5.5		
Report Number:	14		
Survey Unit Measurements:	19		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
4611268, 456523	Slag	S	388
4611268, 456527	Slag	S	434
4611268, 456532	Slag	S	458
4611268, 456536	Slag	S	563
4611268, 456540	Slag	S	447
4611268, 456545	Slag	S	396
4611268, 456549	Slag	S	380
4611272, 456525	Slag	S	358
4611272, 456529	Slag	S	440
4611272, 456534	Slag	S	524
4611272, 456538	Slag	S	427
4611272, 456542	Slag	S	477
4611272, 456547	Slag	S	462
4611276, 456523	Slag	S	412
4611276, 456527	Slag	S	387
4611276, 456532	Slag	S	509
4611276, 456536	Slag	S	558
4611276, 456540	Slag	S	440
4611276, 456545	Slag	S	471

Basic Statistical Quantities Summary

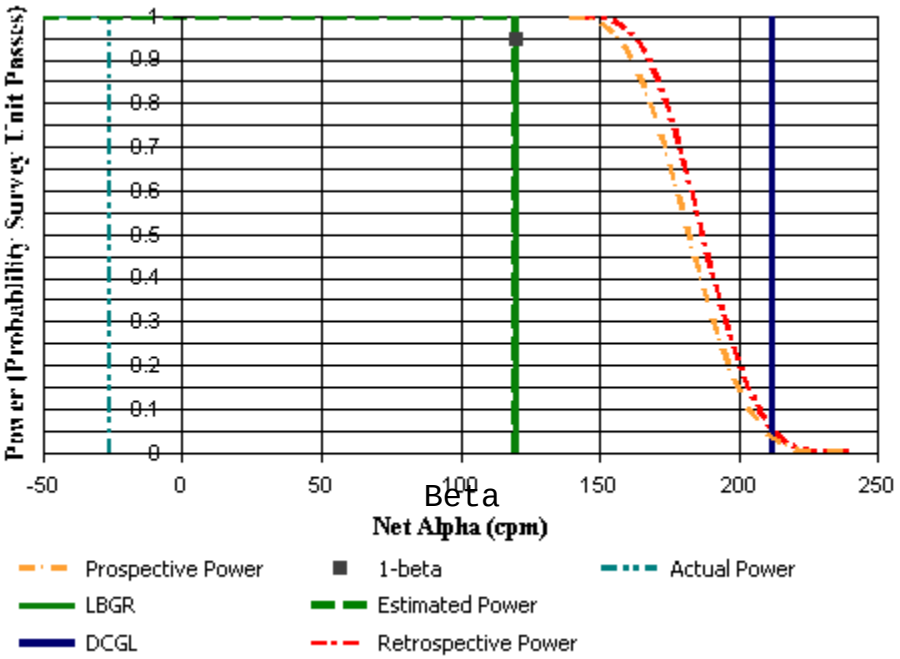
Statistic	Survey Unit	Background	DQO Results
Sample Number	19	N/A	N=15
Mean (dpm/100 cm²)	-46.01	N/A	120
Median (dpm/100 cm²)	-63.02	N/A	N/A
Std Dev (dpm/100 cm²)	110.26	N/A	48.3
High Value (dpm/100 cm²)	169.41	N/A	N/A
Low Value (dpm/100 cm²)	-217.97	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU2.1 through 5.8 AOC 2 and 3 slag C1 SU5.6		
Report Number:	15		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
4611251, 456525	Slag	S	448
4611251, 456530	Slag	S	352
4611255, 456523	Slag	S	449
4611255, 456528	Slag	S	458
4611255, 456532	Slag	S	471
4611259, 456525	Slag	S	476
4611259, 456530	Slag	S	461
4611259, 456534	Slag	S	463
4611263, 456523	Slag	S	517
4611263, 456528	Slag	S	389
4611263, 456531	Slag	S	399
4611267, 456525	Slag	S	479
4611267, 456530	Slag	S	447
4611267, 456534	Slag	S	505

Basic Statistical Quantities Summary

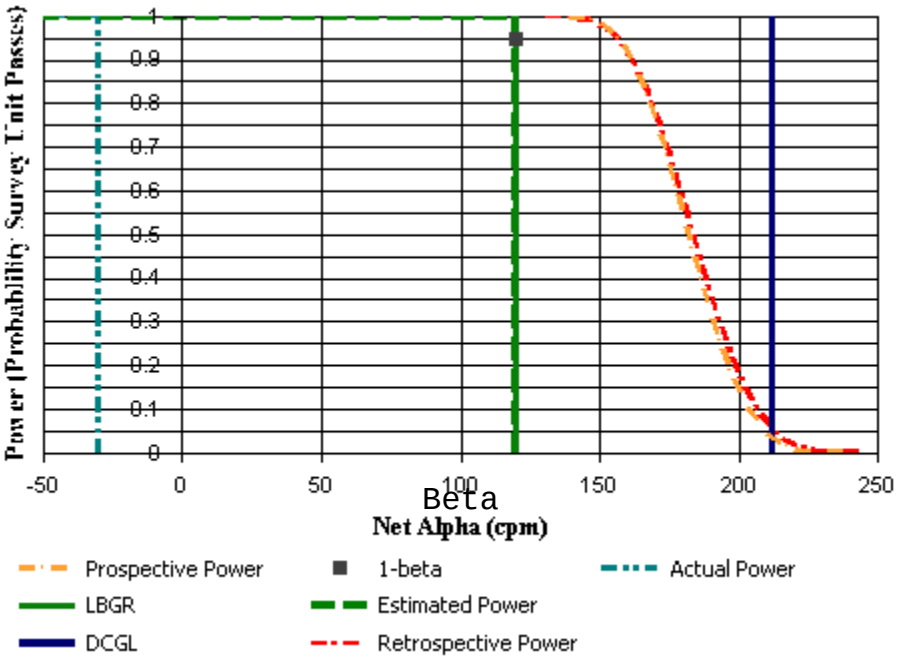
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=15
Mean (dpm/100 cm²)	-42.23	N/A	120
Median (dpm/100 cm²)	-26.17	N/A	N/A
Std Dev (dpm/100 cm²)	84.10	N/A	48.3
High Value (dpm/100 cm²)	82.48	N/A	N/A
Low Value (dpm/100 cm²)	-229.31	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU2.1 through 5.8 AOC 2 and 3 slag C1 SU5.7		
Report Number:	16		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
4611259, 456537	Slag	S	481
4611259, 456541	Slag	S	480
4611259, 456544	Slag	S	455
4611259, 456548	Slag	S	438
4611259, 456552	Slag	S	471
4611262, 456535	Slag	S	461
4611262, 456539	Slag	S	377
4611262, 456543	Slag	S	376
4611262, 456546	Slag	S	411
4611262, 456550	Slag	S	460
4611266, 456537	Slag	S	538
4611266, 456541	Slag	S	381
4611266, 456544	Slag	S	368
4611266, 456548	Slag	S	464

Basic Statistical Quantities Summary

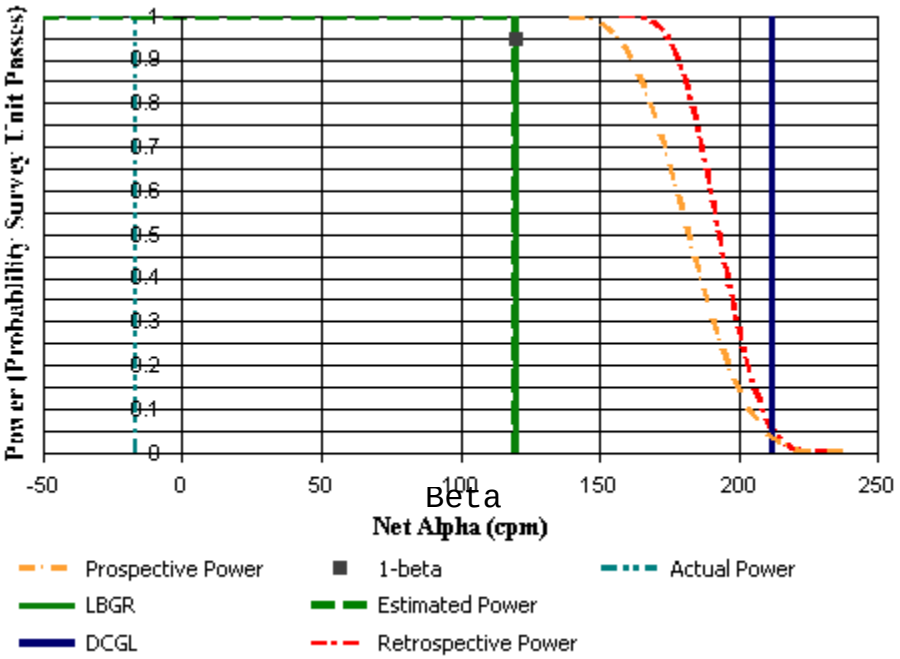
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=15
Mean (dpm/100 cm²)	-62.88	N/A	120
Median (dpm/100 cm²)	-29.95	N/A	N/A
Std Dev (dpm/100 cm²)	95.30	N/A	48.3
High Value (dpm/100 cm²)	122.17	N/A	N/A
Low Value (dpm/100 cm²)	-199.07	N/A	N/A

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU2.1 through 5.8 AOC 2 and 3 slag C1 SU5.8		
Report Number:	17		
Survey Unit Measurements:	14		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)
4611251, 456544	Slag	S	446
4611251, 456547	Slag	S	472
4611251, 456551	Slag	S	436
4611251, 456553	Slag	S	513
4611254, 456538	Slag	S	517
4611254, 456542	Slag	S	438
4611254, 456545	Slag	S	459
4611254, 456549	Slag	S	452
4611254, 456552	Slag	S	448
4611257, 456537	Slag	S	472
4611257, 456540	Slag	S	482
4611257, 456544	Slag	S	470
4611257, 456547	Slag	S	399
4611257, 456551	Slag	S	517

Basic Statistical Quantities Summary

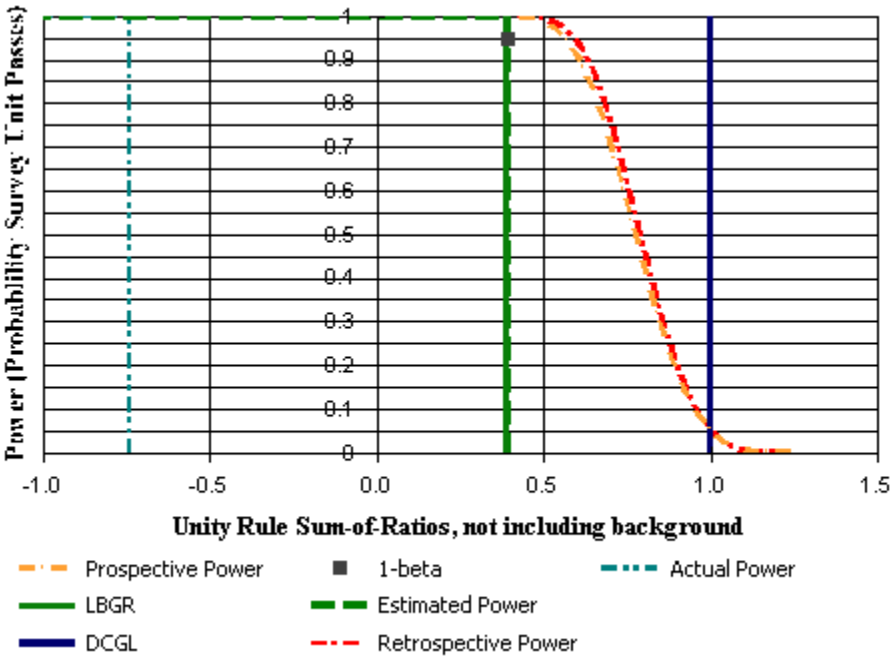
Statistic	Survey Unit	Background	DQO Results
Sample Number	14	N/A	N=15
Mean (dpm/100 cm²)	-14.29	N/A	120
Median (dpm/100 cm²)	-16.72	N/A	N/A
Std Dev (dpm/100 cm²)	63.97	N/A	48.3
High Value (dpm/100 cm²)	82.48	N/A	N/A
Low Value (dpm/100 cm²)	-140.50	N/A	N/A

DQA Surface Soil Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU6 and 7 C1 SU6		
Report Number:	1		
Survey Unit Samples:	18		
Reference Area Samples:	17		
Test Performed:	WRS	Test Result:	Pass
Judgmental Samples:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Surface Soil Report

Survey Unit Data

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Th-232 (pCi/g)	U-238 (pCi/g)
438	S	0.56	0.75
439	S	0.53	0.64
440	S	0.65	1.26
441	S	0.89	1.42
442	S	0.38	0.94
443	S	0.48	0.81
444	S	0.65	0.82
445	S	0.58	1.4
446	S	0.57	1.41
447	S	0.47	0.75
448	S	0.48	0.97
449	S	0.51	0.77
450	S	0.77	1.77
451	S	0.67	0.92
452	S	0.64	1.02
453	S	0.74	0.67
454	S	0.49	1.35
455	S	1.29	2.29
127	R	1.1	2.54
128	R	0.85	2.66
129	R	0.74	2.44
130	R	1.09	2.3
131	R	0.93	2.5
132	R	0.79	1.65
133	R	0.94	2.3
134	R	0.98	2.55
135	R	0.65	2.06
136	R	0.73	2.66
137	R	1.1	2.44
138	R	1.03	2.42
139	R	1.17	2.72
140	R	1.36	3.35
141	R	0.91	1.44
142	R	1.71	3.57
143	R	0.33	0.63

DQA Surface Soil Report

Modified Data (Unity Rule SOR)

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Sum-of-Ratios (SOR)
438	S	0.49
439	S	0.44
440	S	0.73
441	S	0.87
442	S	0.51
443	S	0.49
444	S	0.55
445	S	0.76
446	S	0.76
447	S	0.46
448	S	0.55
449	S	0.48
450	S	0.97
451	S	0.6
452	S	0.63
453	S	0.52
454	S	0.71
455	S	1.36
127	R	1.4
128	R	1.36
129	R	1.23
130	R	1.3
131	R	1.32
132	R	0.93
133	R	1.24
134	R	1.36
135	R	1.05
136	R	1.32
137	R	1.36
138	R	1.32
139	R	1.49
140	R	1.81
141	R	0.89
142	R	2.02
143	R	0.37

DQA Surface Soil Report

Basic Statistical Quantities Summary

Statistic	Survey Unit	Background	DQO Results
Sample Number	18	17	N/2=18
Mean (SOR)	0.66	1.28	0.39
Median (SOR)	0.58	1.32	N/A
Std Dev (SOR)	0.23	0.36	0.39
High Value (SOR)	1.36	2.02	N/A
Low Value (SOR)	0.44	0.37	N/A

Statistical Test Summary

Sum of Ranks:	630
Sum of Reference Ranks:	459
Critical Value:	356
Result:	Pass

Data	Type	Adjusted Data	Rank	Reference Rank
0.37	R	1.37	19	19
0.89	R	1.89	20	20
0.93	R	1.93	21	21
1.05	R	2.05	22	22
1.23	R	2.23	23	23
1.24	R	2.24	24	24
1.3	R	2.3	25	25
1.32	R	2.32	27	27
1.32	R	2.32	27	27
1.32	R	2.32	27	27
1.36	R	2.36	30	30
1.36	R	2.36	30	30
1.36	R	2.36	30	30
1.4	R	2.4	32	32
1.49	R	2.49	33	33
1.81	R	2.81	34	34
2.02	R	3.02	35	35
0.44	S	0.44	1	0
0.46	S	0.46	2	0
0.48	S	0.48	3	0
0.49	S	0.49	4.5	0
0.49	S	0.49	4.5	0
0.51	S	0.51	6	0
0.52	S	0.52	7	0
0.55	S	0.55	8.5	0

DQA Surface Soil Report

Statistical Test Summary

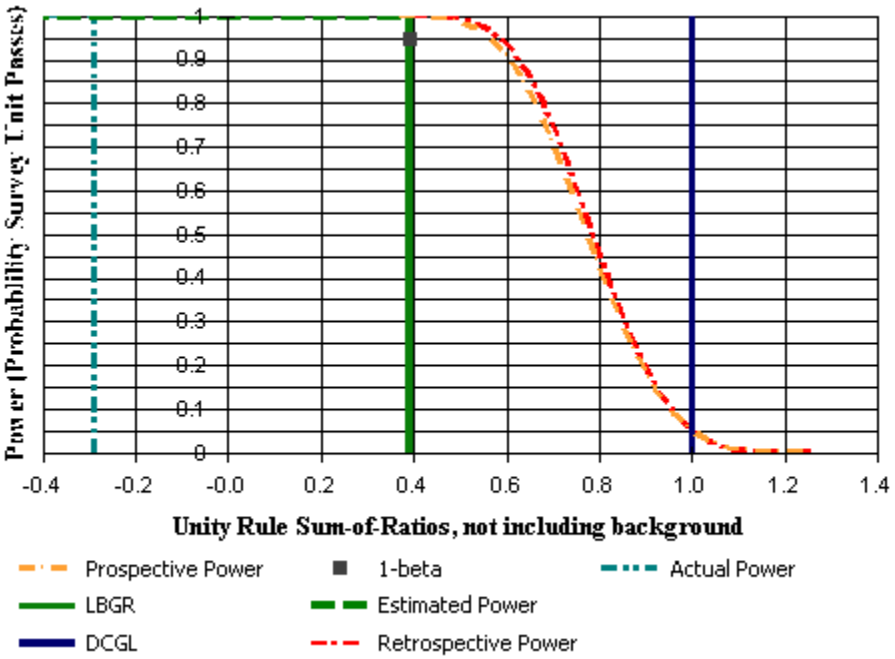
Data	Type	Adjusted Data	Rank	Reference Rank
0.55	S	0.55	8.5	0
0.6	S	0.6	10	0
0.63	S	0.63	11	0
0.71	S	0.71	12	0
0.73	S	0.73	13	0
0.76	S	0.76	14.5	0
0.76	S	0.76	14.5	0
0.87	S	0.87	16	0
0.97	S	0.97	17	0
1.36	S	1.36	18	0

DQA Surface Soil Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C1 SU6 and 7 C1 SU7		
Report Number:	2		
Survey Unit Samples:	17		
Reference Area Samples:	17		
Test Performed:	WRS	Test Result:	Pass
Judgmental Samples:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Surface Soil Report

Survey Unit Data

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Th-232 (pCi/g)	U-238 (pCi/g)
456	S	0.98	1.9
457	S	0.83	1.54
458	S	0.88	1.82
459	S	0.72	1.46
460	S	1.36	1.84
461	S	0.75	1.75
462	S	1	1.84
463	S	0.57	0.87
464	S	0.97	1.77
465	S	0.73	1.38
466	S	0.91	2.19
467	S	0.95	2.54
468	S	1.01	1.5
469	S	0.76	1.21
470	S	2.06	2.42
471	S	1.32	2.58
472	S	0.32	0.72
127	R	1.1	2.54
128	R	0.85	2.66
129	R	0.74	2.44
130	R	1.09	2.3
131	R	0.93	2.5
132	R	0.79	1.65
133	R	0.94	2.3
134	R	0.98	2.55
135	R	0.65	2.06
136	R	0.73	2.66
137	R	1.1	2.44
138	R	1.03	2.42
139	R	1.17	2.72
140	R	1.36	3.35
141	R	0.91	1.44
142	R	1.71	3.57
143	R	0.33	0.63

DQA Surface Soil Report

Modified Data (Unity Rule SOR)

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Sum-of-Ratios (SOR)
456	S	1.1
457	S	0.9
458	S	1.03
459	S	0.83
460	S	1.2
461	S	0.96
462	S	1.08
463	S	0.54
464	S	1.04
465	S	0.8
466	S	1.19
467	S	1.34
468	S	0.95
469	S	0.75
470	S	1.68
471	S	1.49
472	S	0.4
127	R	1.4
128	R	1.36
129	R	1.23
130	R	1.3
131	R	1.32
132	R	0.93
133	R	1.24
134	R	1.36
135	R	1.05
136	R	1.32
137	R	1.36
138	R	1.32
139	R	1.49
140	R	1.81
141	R	0.89
142	R	2.02
143	R	0.37

DQA Surface Soil Report

Basic Statistical Quantities Summary

Statistic	Survey Unit	Background	DQO Results
Sample Number	17	17	N/2=18
Mean (SOR)	1.02	1.28	0.39
Median (SOR)	1.03	1.32	N/A
Std Dev (SOR)	0.32	0.36	0.39
High Value (SOR)	1.68	2.02	N/A
Low Value (SOR)	0.40	0.37	N/A

Statistical Test Summary

Sum of Ranks:	595
Sum of Reference Ranks:	440
Critical Value:	345
Result:	Pass

Data	Type	Adjusted Data	Rank	Reference Rank
0.37	R	1.37	16	16
0.89	R	1.89	19	19
0.93	R	1.93	20	20
1.05	R	2.05	21	21
1.23	R	2.23	22	22
1.24	R	2.24	23	23
1.3	R	2.3	24	24
1.32	R	2.32	26	26
1.32	R	2.32	26	26
1.32	R	2.32	26	26
1.36	R	2.36	29	29
1.36	R	2.36	29	29
1.36	R	2.36	29	29
1.4	R	2.4	31	31
1.49	R	2.49	32	32
1.81	R	2.81	33	33
2.02	R	3.02	34	34
0.4	S	0.4	1	0
0.54	S	0.54	2	0
0.75	S	0.75	3	0
0.8	S	0.8	4	0
0.83	S	0.83	5	0
0.9	S	0.9	6	0
0.95	S	0.95	7	0
0.96	S	0.96	8	0

DQA Surface Soil Report

Statistical Test Summary

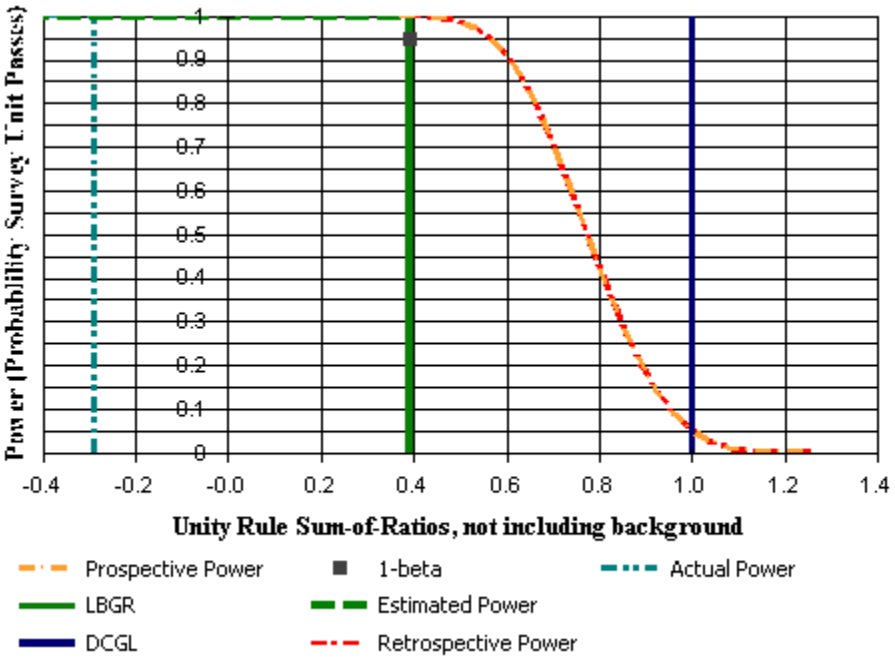
Data	Type	Adjusted Data	Rank	Reference Rank
1.03	S	1.03	9	0
1.04	S	1.04	10	0
1.08	S	1.08	11	0
1.1	S	1.1	12	0
1.19	S	1.19	13	0
1.2	S	1.2	14	0
1.34	S	1.34	15	0
1.49	S	1.49	17	0
1.68	S	1.68	18	0

DQA Surface Soil Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C2 SU1 through 12 C2 SU1		
Report Number:	1		
Survey Unit Samples:	14		
Reference Area Samples:	17		
Test Performed:	WRS	Test Result:	Pass
Judgmental Samples:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Surface Soil Report

Survey Unit Data

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Th-232 (pCi/g)	U-238 (pCi/g)
251	S	1.08	2.4
253	S	0.75	1.33
254	S	1.19	1.38
255	S	1.15	3.18
256	S	0.6	1.24
258	S	0.93	1.95
259	S	0.54	0.94
261	S	0.98	2.34
262	S	0.77	1.62
263	S	0.93	2.01
264	S	0.8	1.03
265	S	1.03	1.86
266	S	0.59	1.4
267	S	1.17	2.35
127	R	1.1	2.54
128	R	0.85	2.66
129	R	0.74	2.44
130	R	1.09	2.3
131	R	0.93	2.5
132	R	0.79	1.65
133	R	0.94	2.3
134	R	0.98	2.55
135	R	0.65	2.06
136	R	0.73	2.66
137	R	1.1	2.44
138	R	1.03	2.42
139	R	1.17	2.72
140	R	1.36	3.35
141	R	0.91	1.44
142	R	1.71	3.57
143	R	0.33	0.63

DQA Surface Soil Report

Modified Data (Unity Rule SOR)

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Sum-of-Ratios (SOR)
251	S	1.33
253	S	0.79
254	S	0.96
255	S	1.67
256	S	0.7
258	S	1.1
259	S	0.56
261	S	1.27
262	S	0.91
263	S	1.12
264	S	0.69
265	S	1.1
266	S	0.76
267	S	1.34
127	R	1.4
128	R	1.36
129	R	1.23
130	R	1.3
131	R	1.32
132	R	0.93
133	R	1.24
134	R	1.36
135	R	1.05
136	R	1.32
137	R	1.36
138	R	1.32
139	R	1.49
140	R	1.81
141	R	0.89
142	R	2.02
143	R	0.37

DQA Surface Soil Report

Basic Statistical Quantities Summary

Statistic	Survey Unit	Background	DQO Results
Sample Number	14	17	N/2=18
Mean (SOR)	1.02	1.28	0.39
Median (SOR)	1.03	1.32	N/A
Std Dev (SOR)	0.31	0.36	0.39
High Value (SOR)	1.67	2.02	N/A
Low Value (SOR)	0.56	0.37	N/A

Statistical Test Summary

Sum of Ranks:	496
Sum of Reference Ranks:	390
Critical Value:	313
Result:	Pass

Data	Type	Adjusted Data	Rank	Reference Rank
0.37	R	1.37	14	14
0.89	R	1.89	16	16
0.93	R	1.93	17	17
1.05	R	2.05	18	18
1.23	R	2.23	19	19
1.24	R	2.24	20	20
1.3	R	2.3	21	21
1.32	R	2.32	23	23
1.32	R	2.32	23	23
1.32	R	2.32	23	23
1.36	R	2.36	26	26
1.36	R	2.36	26	26
1.36	R	2.36	26	26
1.4	R	2.4	28	28
1.49	R	2.49	29	29
1.81	R	2.81	30	30
2.02	R	3.02	31	31
0.56	S	0.56	1	0
0.69	S	0.69	2	0
0.7	S	0.7	3	0
0.76	S	0.76	4	0
0.79	S	0.79	5	0
0.91	S	0.91	6	0
0.96	S	0.96	7	0
1.1	S	1.1	8.5	0

DQA Surface Soil Report

Statistical Test Summary

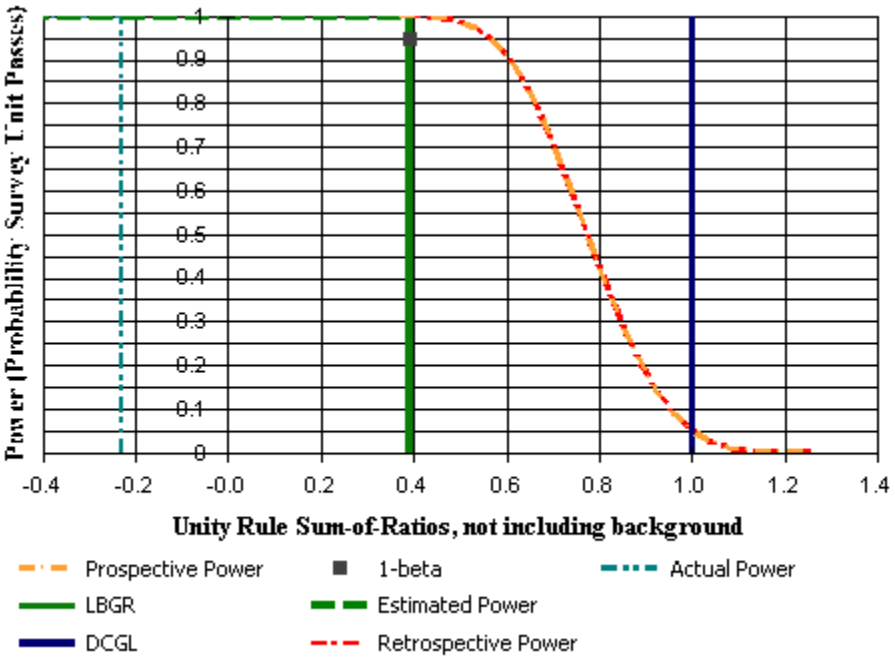
Data	Type	Adjusted Data	Rank	Reference Rank
1.1	S	1.1	8.5	0
1.12	S	1.12	10	0
1.27	S	1.27	11	0
1.33	S	1.33	12	0
1.34	S	1.34	13	0
1.67	S	1.67	15	0

DQA Surface Soil Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C2 SU1 through 12 C2 SU2		
Report Number:	2		
Survey Unit Samples:	14		
Reference Area Samples:	17		
Test Performed:	WRS	Test Result:	Pass
Judgmental Samples:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Surface Soil Report

Survey Unit Data

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Th-232 (pCi/g)	U-238 (pCi/g)
269	S	0.77	1.47
270	S	0.87	1.81
271	S	0.73	1.01
272	S	1.42	1.75
273	S	0.78	1.55
274	S	0.94	2.1
276	S	0.96	2.46
277	S	1.3	2
278	S	0.57	0.74
279	S	1.05	1.62
280	S	1.19	2.24
281	S	0.81	2.17
283	S	1.08	1.58
284	S	1.03	2.04
127	R	1.1	2.54
128	R	0.85	2.66
129	R	0.74	2.44
130	R	1.09	2.3
131	R	0.93	2.5
132	R	0.79	1.65
133	R	0.94	2.3
134	R	0.98	2.55
135	R	0.65	2.06
136	R	0.73	2.66
137	R	1.1	2.44
138	R	1.03	2.42
139	R	1.17	2.72
140	R	1.36	3.35
141	R	0.91	1.44
142	R	1.71	3.57
143	R	0.33	0.63

DQA Surface Soil Report

Modified Data (Unity Rule SOR)

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Sum-of-Ratios (SOR)
269	S	0.85
270	S	1.02
271	S	0.66
272	S	1.19
273	S	0.89
274	S	1.16
276	S	1.32
277	S	1.25
278	S	0.49
279	S	1.01
280	S	1.31
281	S	1.15
283	S	1
284	S	1.17
127	R	1.4
128	R	1.36
129	R	1.23
130	R	1.3
131	R	1.32
132	R	0.93
133	R	1.24
134	R	1.36
135	R	1.05
136	R	1.32
137	R	1.36
138	R	1.32
139	R	1.49
140	R	1.81
141	R	0.89
142	R	2.02
143	R	0.37

DQA Surface Soil Report

Basic Statistical Quantities Summary

Statistic	Survey Unit	Background	DQO Results
Sample Number	14	17	N/2=18
Mean (SOR)	1.03	1.28	0.39
Median (SOR)	1.09	1.32	N/A
Std Dev (SOR)	0.24	0.36	0.39
High Value (SOR)	1.32	2.02	N/A
Low Value (SOR)	0.49	0.37	N/A

Statistical Test Summary

Sum of Ranks:	496
Sum of Reference Ranks:	391
Critical Value:	313
Result:	Pass

Data	Type	Adjusted Data	Rank	Reference Rank
0.37	R	1.37	15	15
0.89	R	1.89	16	16
0.93	R	1.93	17	17
1.05	R	2.05	18	18
1.23	R	2.23	19	19
1.24	R	2.24	20	20
1.3	R	2.3	21	21
1.32	R	2.32	23	23
1.32	R	2.32	23	23
1.32	R	2.32	23	23
1.36	R	2.36	26	26
1.36	R	2.36	26	26
1.36	R	2.36	26	26
1.4	R	2.4	28	28
1.49	R	2.49	29	29
1.81	R	2.81	30	30
2.02	R	3.02	31	31
0.49	S	0.49	1	0
0.66	S	0.66	2	0
0.85	S	0.85	3	0
0.89	S	0.89	4	0
1	S	1	5	0
1.01	S	1.01	6	0
1.02	S	1.02	7	0
1.15	S	1.15	8	0

DQA Surface Soil Report

Statistical Test Summary

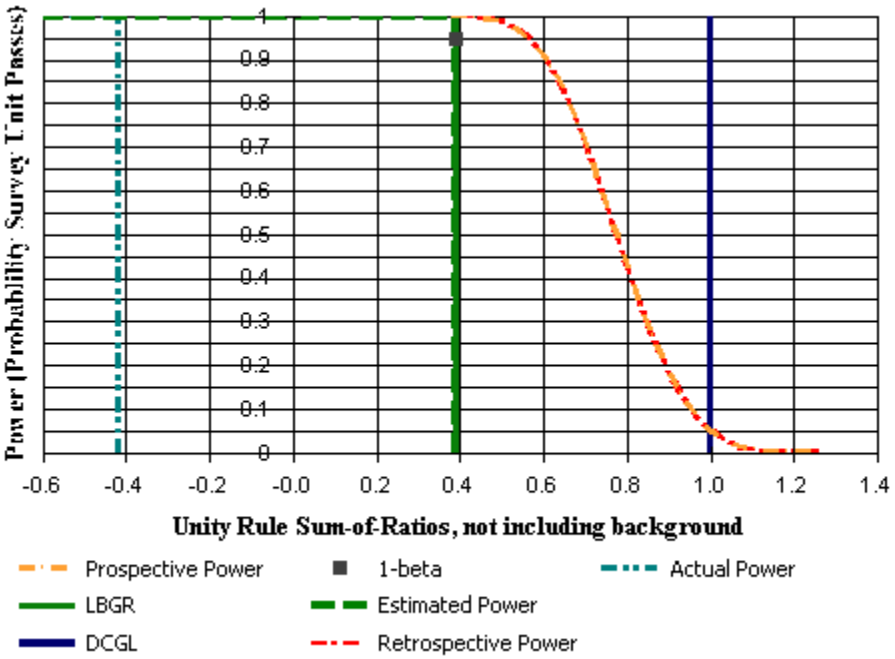
Data	Type	Adjusted Data	Rank	Reference Rank
1.16	S	1.16	9	0
1.17	S	1.17	10	0
1.19	S	1.19	11	0
1.25	S	1.25	12	0
1.31	S	1.31	13	0
1.32	S	1.32	14	0

DQA Surface Soil Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C2 SU1 through 12 C2 SU3		
Report Number:	3		
Survey Unit Samples:	14		
Reference Area Samples:	17		
Test Performed:	WRS	Test Result:	Pass
Judgmental Samples:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Surface Soil Report

Survey Unit Data

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Th-232 (pCi/g)	U-238 (pCi/g)
285	S	0.69	2.06
286	S	0.44	1.12
287	S	0.69	1.8
288	S	0.75	1.33
290	S	0.99	1.6
291	S	1.16	3.45
292	S	0.62	1.7
293	S	0.65	1.68
294	S	0.75	1.2
295	S	0.58	1.47
296	S	0.84	2.06
297	S	0.48	1.52
298	S	0.96	1.8
301	S	0.77	1.36
127	R	1.1	2.54
128	R	0.85	2.66
129	R	0.74	2.44
130	R	1.09	2.3
131	R	0.93	2.5
132	R	0.79	1.65
133	R	0.94	2.3
134	R	0.98	2.55
135	R	0.65	2.06
136	R	0.73	2.66
137	R	1.1	2.44
138	R	1.03	2.42
139	R	1.17	2.72
140	R	1.36	3.35
141	R	0.91	1.44
142	R	1.71	3.57
143	R	0.33	0.63

DQA Surface Soil Report

Modified Data (Unity Rule SOR)

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Sum-of-Ratios (SOR)
285	S	1.06
286	S	0.6
287	S	0.96
288	S	0.79
290	S	0.98
291	S	1.78
292	S	0.89
293	S	0.9
294	S	0.74
295	S	0.79
296	S	1.11
297	S	0.77
298	S	1.05
301	S	0.81
127	R	1.4
128	R	1.36
129	R	1.23
130	R	1.3
131	R	1.32
132	R	0.93
133	R	1.24
134	R	1.36
135	R	1.05
136	R	1.32
137	R	1.36
138	R	1.32
139	R	1.49
140	R	1.81
141	R	0.89
142	R	2.02
143	R	0.37

DQA Surface Soil Report

Basic Statistical Quantities Summary

Statistic	Survey Unit	Background	DQO Results
Sample Number	14	17	N/2=18
Mean (SOR)	0.95	1.28	0.39
Median (SOR)	0.90	1.32	N/A
Std Dev (SOR)	0.28	0.36	0.39
High Value (SOR)	1.78	2.02	N/A
Low Value (SOR)	0.60	0.37	N/A

Statistical Test Summary

Sum of Ranks:	496
Sum of Reference Ranks:	390
Critical Value:	313
Result:	Pass

Data	Type	Adjusted Data	Rank	Reference Rank
0.37	R	1.37	14	14
0.89	R	1.89	16	16
0.93	R	1.93	17	17
1.05	R	2.05	18	18
1.23	R	2.23	19	19
1.24	R	2.24	20	20
1.3	R	2.3	21	21
1.32	R	2.32	23	23
1.32	R	2.32	23	23
1.32	R	2.32	23	23
1.36	R	2.36	26	26
1.36	R	2.36	26	26
1.36	R	2.36	26	26
1.4	R	2.4	28	28
1.49	R	2.49	29	29
1.81	R	2.81	30	30
2.02	R	3.02	31	31
0.6	S	0.6	1	0
0.74	S	0.74	2	0
0.77	S	0.77	3	0
0.79	S	0.79	4.5	0
0.79	S	0.79	4.5	0
0.81	S	0.81	6	0
0.89	S	0.89	7	0
0.9	S	0.9	8	0

DQA Surface Soil Report

Statistical Test Summary

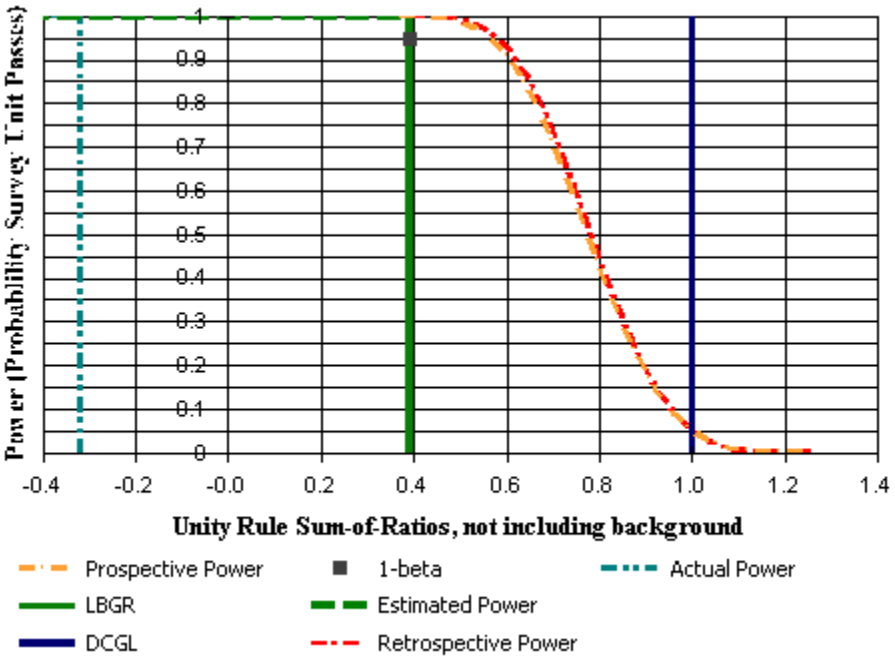
Data	Type	Adjusted Data	Rank	Reference Rank
0.96	S	0.96	9	0
0.98	S	0.98	10	0
1.05	S	1.05	11	0
1.06	S	1.06	12	0
1.11	S	1.11	13	0
1.78	S	1.78	15	0

DQA Surface Soil Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C2 SU1 through 12 C2 SU4		
Report Number:	5		
Survey Unit Samples:	16		
Reference Area Samples:	17		
Test Performed:	WRS	Test Result:	Pass
Judgmental Samples:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Surface Soil Report

Survey Unit Data

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Th-232 (pCi/g)	U-238 (pCi/g)
302	S	0.86	1.2
303	S	0.94	1.92
304	S	0.88	2.8
305	S	0.89	1.81
306	S	0.84	1.58
307	S	0.68	2.35
308	S	1.18	1.72
309	S	0.96	1.47
310	S	0.78	2.15
311	S	0.88	2.48
312	S	0.83	2
313	S	0.81	1.65
315	S	0.28	0.57
316	S	0.71	1.79
317	S	1.01	1.53
318	S	1.08	1.35
127	R	1.1	2.54
128	R	0.85	2.66
129	R	0.74	2.44
130	R	1.09	2.3
131	R	0.93	2.5
132	R	0.79	1.65
133	R	0.94	2.3
134	R	0.98	2.55
135	R	0.65	2.06
136	R	0.73	2.66
137	R	1.1	2.44
138	R	1.03	2.42
139	R	1.17	2.72
140	R	1.36	3.35
141	R	0.91	1.44
142	R	1.71	3.57
143	R	0.33	0.63

DQA Surface Soil Report

Modified Data (Unity Rule SOR)

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Sum-of-Ratios (SOR)
302	S	0.78
303	S	1.09
304	S	1.42
305	S	1.03
306	S	0.92
307	S	1.17
308	S	1.09
309	S	0.92
310	S	1.13
311	S	1.3
312	S	1.09
313	S	0.94
315	S	0.32
316	S	0.96
317	S	0.96
318	S	0.91
127	R	1.4
128	R	1.36
129	R	1.23
130	R	1.3
131	R	1.32
132	R	0.93
133	R	1.24
134	R	1.36
135	R	1.05
136	R	1.32
137	R	1.36
138	R	1.32
139	R	1.49
140	R	1.81
141	R	0.89
142	R	2.02
143	R	0.37

DQA Surface Soil Report

Basic Statistical Quantities Summary

Statistic	Survey Unit	Background	DQO Results
Sample Number	16	17	N/2=18
Mean (SOR)	1.00	1.28	0.39
Median (SOR)	1.00	1.32	N/A
Std Dev (SOR)	0.24	0.36	0.39
High Value (SOR)	1.42	2.02	N/A
Low Value (SOR)	0.32	0.37	N/A

Statistical Test Summary

Sum of Ranks:	561
Sum of Reference Ranks:	424
Critical Value:	335
Result:	Pass

Data	Type	Adjusted Data	Rank	Reference Rank
0.37	R	1.37	16	16
0.89	R	1.89	18	18
0.93	R	1.93	19	19
1.05	R	2.05	20	20
1.23	R	2.23	21	21
1.24	R	2.24	22	22
1.3	R	2.3	23	23
1.32	R	2.32	25	25
1.32	R	2.32	25	25
1.32	R	2.32	25	25
1.36	R	2.36	28	28
1.36	R	2.36	28	28
1.36	R	2.36	28	28
1.4	R	2.4	30	30
1.49	R	2.49	31	31
1.81	R	2.81	32	32
2.02	R	3.02	33	33
0.32	S	0.32	1	0
0.78	S	0.78	2	0
0.91	S	0.91	3	0
0.92	S	0.92	4.5	0
0.92	S	0.92	4.5	0
0.94	S	0.94	6	0
0.96	S	0.96	7.5	0
0.96	S	0.96	7.5	0

DQA Surface Soil Report

Statistical Test Summary

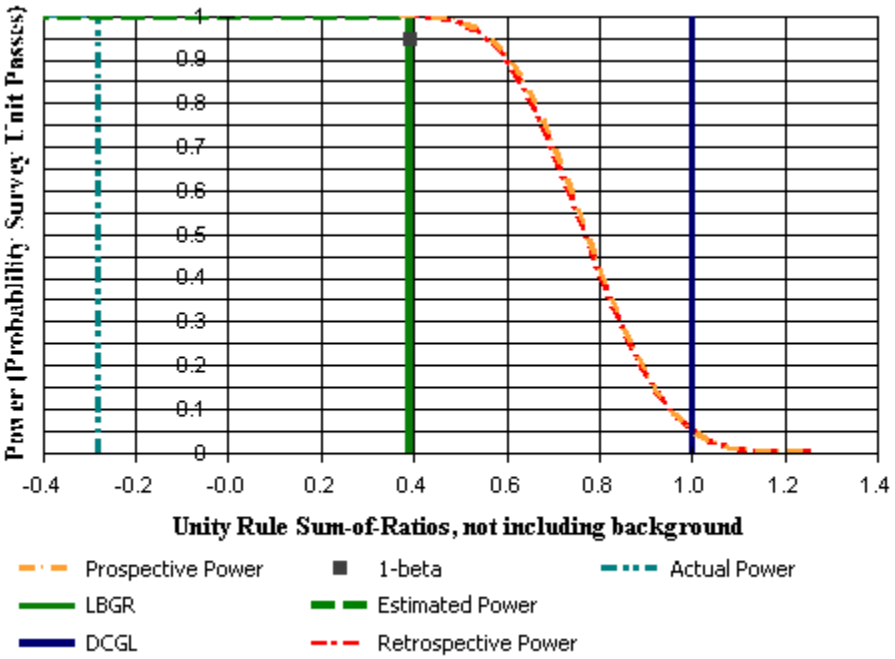
Data	Type	Adjusted Data	Rank	Reference Rank
1.03	S	1.03	9	0
1.09	S	1.09	11	0
1.09	S	1.09	11	0
1.09	S	1.09	11	0
1.13	S	1.13	13	0
1.17	S	1.17	14	0
1.3	S	1.3	15	0
1.42	S	1.42	17	0

DQA Surface Soil Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C2 SU1 through 12 C2 SU5		
Report Number:	6		
Survey Unit Samples:	13		
Reference Area Samples:	17		
Test Performed:	WRS	Test Result:	Pass
Judgmental Samples:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Surface Soil Report

Survey Unit Data

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Th-232 (pCi/g)	U-238 (pCi/g)
319	S	0.82	2
320	S	0.63	1.31
324	S	0.55	0.56
325	S	0.99	2.85
326	S	0.64	1.43
327	S	0.85	2.1
328	S	0.42	0.45
329	S	0.96	2.01
331	S	0.57	0.78
332	S	0.7	1.37
333	S	1.02	2.43
334	S	0.82	2.05
335	S	0.73	1.97
127	R	1.1	2.54
128	R	0.85	2.66
129	R	0.74	2.44
130	R	1.09	2.3
131	R	0.93	2.5
132	R	0.79	1.65
133	R	0.94	2.3
134	R	0.98	2.55
135	R	0.65	2.06
136	R	0.73	2.66
137	R	1.1	2.44
138	R	1.03	2.42
139	R	1.17	2.72
140	R	1.36	3.35
141	R	0.91	1.44
142	R	1.71	3.57
143	R	0.33	0.63

DQA Surface Soil Report

Modified Data (Unity Rule SOR)

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Sum-of-Ratios (SOR)
319	S	1.08
320	S	0.74
324	S	0.41
325	S	1.48
326	S	0.79
327	S	1.13
328	S	0.32
329	S	1.14
331	S	0.51
332	S	0.79
333	S	1.32
334	S	1.1
335	S	1.04
127	R	1.4
128	R	1.36
129	R	1.23
130	R	1.3
131	R	1.32
132	R	0.93
133	R	1.24
134	R	1.36
135	R	1.05
136	R	1.32
137	R	1.36
138	R	1.32
139	R	1.49
140	R	1.81
141	R	0.89
142	R	2.02
143	R	0.37

DQA Surface Soil Report

Basic Statistical Quantities Summary

Statistic	Survey Unit	Background	DQO Results
Sample Number	13	17	N/2=18
Mean (SOR)	0.91	1.28	0.39
Median (SOR)	1.04	1.32	N/A
Std Dev (SOR)	0.35	0.36	0.39
High Value (SOR)	1.48	2.02	N/A
Low Value (SOR)	0.32	0.37	N/A

Statistical Test Summary

Sum of Ranks:	465
Sum of Reference Ranks:	373
Critical Value:	303
Result:	Pass

Data	Type	Adjusted Data	Rank	Reference Rank
0.37	R	1.37	13	13
0.89	R	1.89	15	15
0.93	R	1.93	16	16
1.05	R	2.05	17	17
1.23	R	2.23	18	18
1.24	R	2.24	19	19
1.3	R	2.3	20	20
1.32	R	2.32	22	22
1.32	R	2.32	22	22
1.32	R	2.32	22	22
1.36	R	2.36	25	25
1.36	R	2.36	25	25
1.36	R	2.36	25	25
1.4	R	2.4	27	27
1.49	R	2.49	28	28
1.81	R	2.81	29	29
2.02	R	3.02	30	30
0.32	S	0.32	1	0
0.41	S	0.41	2	0
0.51	S	0.51	3	0
0.74	S	0.74	4	0
0.79	S	0.79	5.5	0
0.79	S	0.79	5.5	0
1.04	S	1.04	7	0
1.08	S	1.08	8	0

DQA Surface Soil Report

Statistical Test Summary

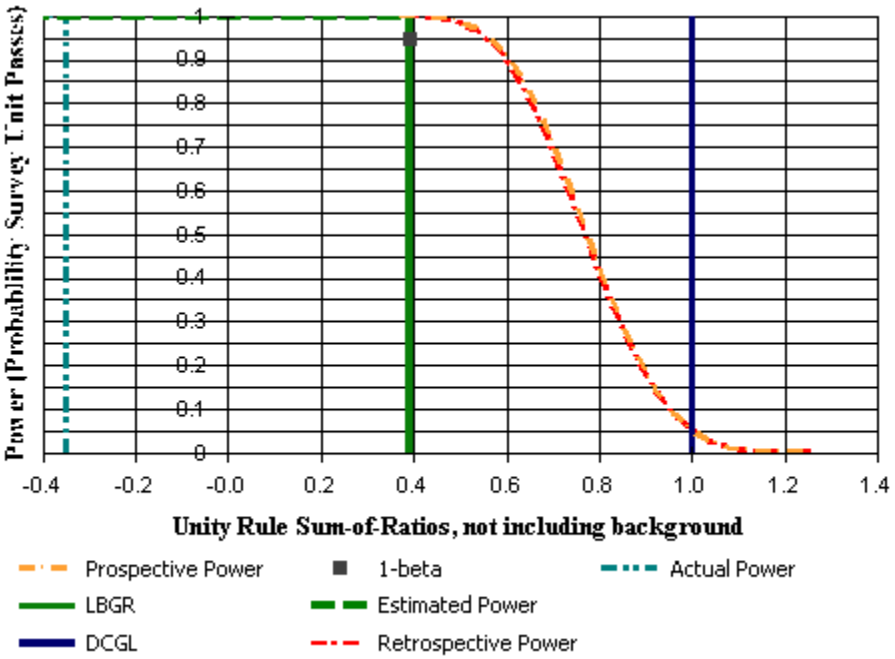
Data	Type	Adjusted Data	Rank	Reference Rank
1.1	S	1.1	9	0
1.13	S	1.13	10	0
1.14	S	1.14	11	0
1.32	S	1.32	12	0
1.48	S	1.48	14	0

DQA Surface Soil Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C2 SU1 through 12 C2 SU6		
Report Number:	4		
Survey Unit Samples:	13		
Reference Area Samples:	17		
Test Performed:	WRS	Test Result:	Pass
Judgmental Samples:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Surface Soil Report

Survey Unit Data

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Th-232 (pCi/g)	U-238 (pCi/g)
336	S	0.42	0.77
339	S	0.57	1.34
341	S	0.58	1.41
342	S	1.42	1.73
343	S	0.87	2.59
344	S	0.86	1.69
345	S	0.65	1.7
347	S	0.66	1.35
348	S	0.95	2.58
349	S	0.73	1.64
350	S	1.06	1.51
351	S	0.9	2.16
352	S	0.99	1.9
127	R	1.1	2.54
128	R	0.85	2.66
129	R	0.74	2.44
130	R	1.09	2.3
131	R	0.93	2.5
132	R	0.79	1.65
133	R	0.94	2.3
134	R	0.98	2.55
135	R	0.65	2.06
136	R	0.73	2.66
137	R	1.1	2.44
138	R	1.03	2.42
139	R	1.17	2.72
140	R	1.36	3.35
141	R	0.91	1.44
142	R	1.71	3.57
143	R	0.33	0.63

DQA Surface Soil Report

Modified Data (Unity Rule SOR)

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Sum-of-Ratios (SOR)
336	S	0.45
339	S	0.73
341	S	0.76
342	S	1.18
343	S	1.34
344	S	0.97
345	S	0.9
347	S	0.77
348	S	1.36
349	S	0.91
350	S	0.97
351	S	1.17
352	S	1.1
127	R	1.4
128	R	1.36
129	R	1.23
130	R	1.3
131	R	1.32
132	R	0.93
133	R	1.24
134	R	1.36
135	R	1.05
136	R	1.32
137	R	1.36
138	R	1.32
139	R	1.49
140	R	1.81
141	R	0.89
142	R	2.02
143	R	0.37

DQA Surface Soil Report

Basic Statistical Quantities Summary

Statistic	Survey Unit	Background	DQO Results
Sample Number	13	17	N/2=18
Mean (SOR)	0.97	1.28	0.39
Median (SOR)	0.97	1.32	N/A
Std Dev (SOR)	0.26	0.36	0.39
High Value (SOR)	1.36	2.02	N/A
Low Value (SOR)	0.45	0.37	N/A

Statistical Test Summary

Sum of Ranks:	465
Sum of Reference Ranks:	374
Critical Value:	303
Result:	Pass

Data	Type	Adjusted Data	Rank	Reference Rank
0.37	R	1.37	14	14
0.89	R	1.89	15	15
0.93	R	1.93	16	16
1.05	R	2.05	17	17
1.23	R	2.23	18	18
1.24	R	2.24	19	19
1.3	R	2.3	20	20
1.32	R	2.32	22	22
1.32	R	2.32	22	22
1.32	R	2.32	22	22
1.36	R	2.36	25	25
1.36	R	2.36	25	25
1.36	R	2.36	25	25
1.4	R	2.4	27	27
1.49	R	2.49	28	28
1.81	R	2.81	29	29
2.02	R	3.02	30	30
0.45	S	0.45	1	0
0.73	S	0.73	2	0
0.76	S	0.76	3	0
0.77	S	0.77	4	0
0.9	S	0.9	5	0
0.91	S	0.91	6	0
0.97	S	0.97	7.5	0
0.97	S	0.97	7.5	0

DQA Surface Soil Report

Statistical Test Summary

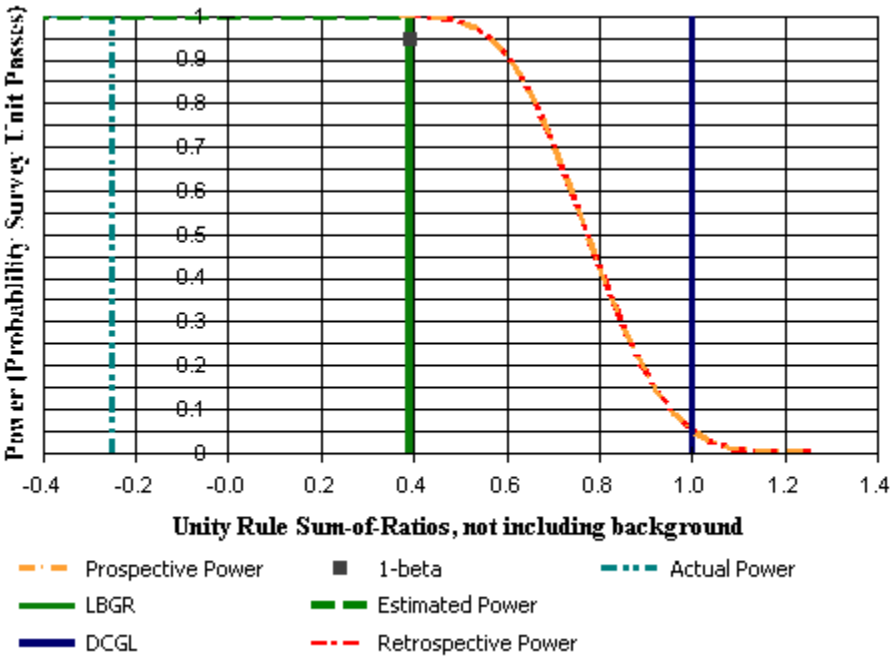
Data	Type	Adjusted Data	Rank	Reference Rank
1.1	S	1.1	9	0
1.17	S	1.17	10	0
1.18	S	1.18	11	0
1.34	S	1.34	12	0
1.36	S	1.36	13	0

DQA Surface Soil Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C2 SU1 through 12 C2 SU7		
Report Number:	11		
Survey Unit Samples:	14		
Reference Area Samples:	17		
Test Performed:	WRS	Test Result:	Pass
Judgmental Samples:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Surface Soil Report

Survey Unit Data

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Th-232 (pCi/g)	U-238 (pCi/g)
353	S	0.67	1.58
356	S	0.84	1.14
357	S	1.23	2.16
359	S	1	1.78
360	S	1.05	1.96
361	S	1.11	3.07
362	S	0.45	0.93
363	S	1.09	2.28
364	S	0.98	2.26
365	S	0.94	1.89
366	S	0.96	3.35
367	S	0.78	1.28
368	S	0.75	1.75
369	S	1.03	1.72
127	R	1.1	2.54
128	R	0.85	2.66
129	R	0.74	2.44
130	R	1.09	2.3
131	R	0.93	2.5
132	R	0.79	1.65
133	R	0.94	2.3
134	R	0.98	2.55
135	R	0.65	2.06
136	R	0.73	2.66
137	R	1.1	2.44
138	R	1.03	2.42
139	R	1.17	2.72
140	R	1.36	3.35
141	R	0.91	1.44
142	R	1.71	3.57
143	R	0.33	0.63

DQA Surface Soil Report

Modified Data (Unity Rule SOR)

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Sum-of-Ratios (SOR)
353	S	0.86
356	S	0.75
357	S	1.29
359	S	1.06
360	S	1.15
361	S	1.61
362	S	0.53
363	S	1.29
364	S	1.24
365	S	1.08
366	S	1.67
367	S	0.78
368	S	0.96
369	S	1.04
127	R	1.4
128	R	1.36
129	R	1.23
130	R	1.3
131	R	1.32
132	R	0.93
133	R	1.24
134	R	1.36
135	R	1.05
136	R	1.32
137	R	1.36
138	R	1.32
139	R	1.49
140	R	1.81
141	R	0.89
142	R	2.02
143	R	0.37

DQA Surface Soil Report

Basic Statistical Quantities Summary

Statistic	Survey Unit	Background	DQO Results
Sample Number	14	17	N/2=18
Mean (SOR)	1.09	1.28	0.39
Median (SOR)	1.07	1.32	N/A
Std Dev (SOR)	0.32	0.36	0.39
High Value (SOR)	1.67	2.02	N/A
Low Value (SOR)	0.53	0.37	N/A

Statistical Test Summary

Sum of Ranks:	496
Sum of Reference Ranks:	389
Critical Value:	313
Result:	Pass

Data	Type	Adjusted Data	Rank	Reference Rank
0.37	R	1.37	13	13
0.89	R	1.89	16	16
0.93	R	1.93	17	17
1.05	R	2.05	18	18
1.23	R	2.23	19	19
1.24	R	2.24	20	20
1.3	R	2.3	21	21
1.32	R	2.32	23	23
1.32	R	2.32	23	23
1.32	R	2.32	23	23
1.36	R	2.36	26	26
1.36	R	2.36	26	26
1.36	R	2.36	26	26
1.4	R	2.4	28	28
1.49	R	2.49	29	29
1.81	R	2.81	30	30
2.02	R	3.02	31	31
0.53	S	0.53	1	0
0.75	S	0.75	2	0
0.78	S	0.78	3	0
0.86	S	0.86	4	0
0.96	S	0.96	5	0
1.04	S	1.04	6	0
1.06	S	1.06	7	0
1.08	S	1.08	8	0

DQA Surface Soil Report

Statistical Test Summary

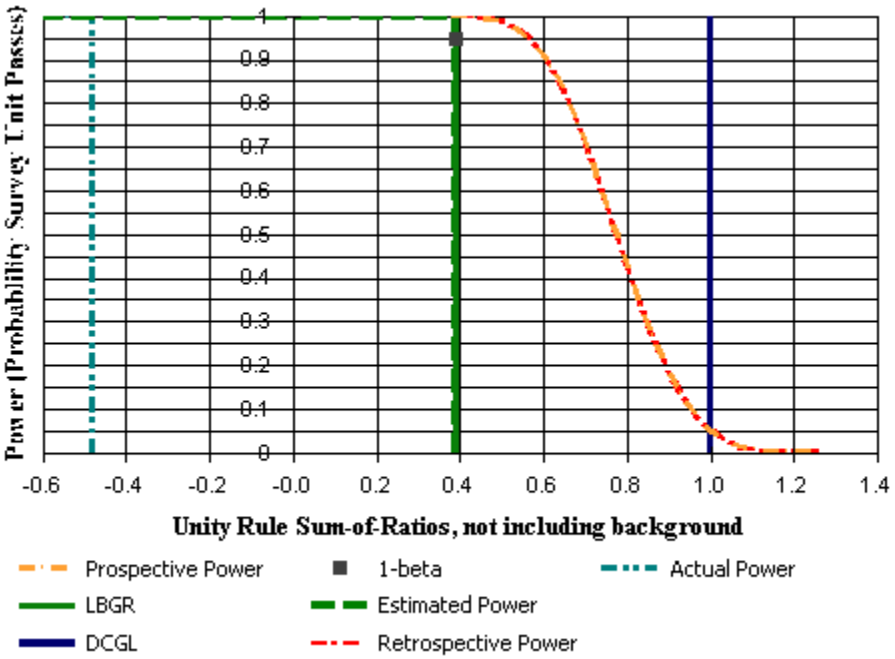
Data	Type	Adjusted Data	Rank	Reference Rank
1.15	S	1.15	9	0
1.24	S	1.24	10	0
1.29	S	1.29	11.5	0
1.29	S	1.29	11.5	0
1.61	S	1.61	14	0
1.67	S	1.67	15	0

DQA Surface Soil Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C2 SU1 through 12 C2 SU8		
Report Number:	7		
Survey Unit Samples:	14		
Reference Area Samples:	17		
Test Performed:	WRS	Test Result:	Pass
Judgmental Samples:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Surface Soil Report

Survey Unit Data

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Th-232 (pCi/g)	U-238 (pCi/g)
370	S	0.76	1.54
371	S	0.53	0.98
372	S	0.45	0.78
373	S	0.98	1.5
374	S	0.88	1.27
376	S	0.86	2.13
377	S	0.48	0.49
379	S	0.98	1.52
380	S	0.69	1.31
381	S	0.56	1.17
382	S	1.31	1.39
384	S	0.69	1.24
385	S	0.79	1.85
386	S	0.58	1.64
127	R	1.1	2.54
128	R	0.85	2.66
129	R	0.74	2.44
130	R	1.09	2.3
131	R	0.93	2.5
132	R	0.79	1.65
133	R	0.94	2.3
134	R	0.98	2.55
135	R	0.65	2.06
136	R	0.73	2.66
137	R	1.1	2.44
138	R	1.03	2.42
139	R	1.17	2.72
140	R	1.36	3.35
141	R	0.91	1.44
142	R	1.71	3.57
143	R	0.33	0.63

DQA Surface Soil Report

Modified Data (Unity Rule SOR)

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Sum-of-Ratios (SOR)
370	S	0.88
371	S	0.57
372	S	0.47
373	S	0.94
374	S	0.81
376	S	1.15
377	S	0.36
379	S	0.95
380	S	0.76
381	S	0.66
382	S	1.01
384	S	0.73
385	S	1.01
386	S	0.86
127	R	1.4
128	R	1.36
129	R	1.23
130	R	1.3
131	R	1.32
132	R	0.93
133	R	1.24
134	R	1.36
135	R	1.05
136	R	1.32
137	R	1.36
138	R	1.32
139	R	1.49
140	R	1.81
141	R	0.89
142	R	2.02
143	R	0.37

DQA Surface Soil Report

Basic Statistical Quantities Summary

Statistic	Survey Unit	Background	DQO Results
Sample Number	14	17	N/2=18
Mean (SOR)	0.80	1.28	0.39
Median (SOR)	0.84	1.32	N/A
Std Dev (SOR)	0.22	0.36	0.39
High Value (SOR)	1.15	2.02	N/A
Low Value (SOR)	0.36	0.37	N/A

Statistical Test Summary

Sum of Ranks:	496
Sum of Reference Ranks:	391
Critical Value:	313
Result:	Pass

Data	Type	Adjusted Data	Rank	Reference Rank
0.37	R	1.37	15	15
0.89	R	1.89	16	16
0.93	R	1.93	17	17
1.05	R	2.05	18	18
1.23	R	2.23	19	19
1.24	R	2.24	20	20
1.3	R	2.3	21	21
1.32	R	2.32	23	23
1.32	R	2.32	23	23
1.32	R	2.32	23	23
1.36	R	2.36	26	26
1.36	R	2.36	26	26
1.36	R	2.36	26	26
1.4	R	2.4	28	28
1.49	R	2.49	29	29
1.81	R	2.81	30	30
2.02	R	3.02	31	31
0.36	S	0.36	1	0
0.47	S	0.47	2	0
0.57	S	0.57	3	0
0.66	S	0.66	4	0
0.73	S	0.73	5	0
0.76	S	0.76	6	0
0.81	S	0.81	7	0
0.86	S	0.86	8	0

DQA Surface Soil Report

Statistical Test Summary

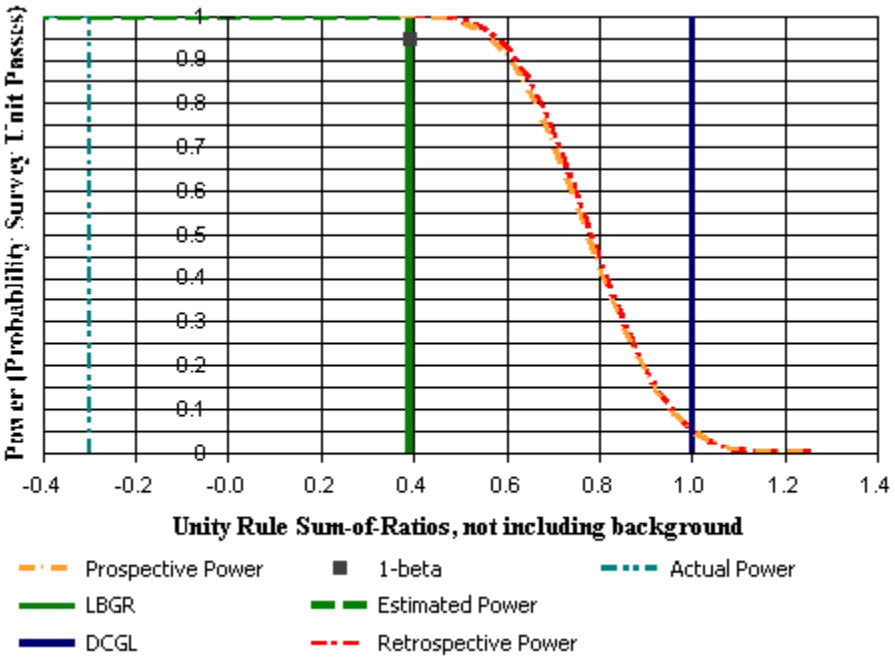
Data	Type	Adjusted Data	Rank	Reference Rank
0.88	S	0.88	9	0
0.94	S	0.94	10	0
0.95	S	0.95	11	0
1.01	S	1.01	12.5	0
1.01	S	1.01	12.5	0
1.15	S	1.15	14	0

DQA Surface Soil Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C2 SU1 through 12 C2 SU9		
Report Number:	8		
Survey Unit Samples:	16		
Reference Area Samples:	17		
Test Performed:	WRS	Test Result:	Pass
Judgmental Samples:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Surface Soil Report

Survey Unit Data

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Th-232 (pCi/g)	U-238 (pCi/g)
387	S	0.79	1.61
388	S	1.02	1.93
389	S	0.8	1.54
390	S	0.56	0.84
391	S	1.02	2.1
392	S	0.97	1.14
393	S	0.91	2.55
394	S	0.63	1.08
395	S	0.99	2.17
396	S	0.8	1.9
397	S	0.94	2.34
399	S	1	1.76
400	S	0.97	1.39
401	S	0.86	1.93
402	S	0.82	1.78
403	S	0.65	0.98
127	R	1.1	2.54
128	R	0.85	2.66
129	R	0.74	2.44
130	R	1.09	2.3
131	R	0.93	2.5
132	R	0.79	1.65
133	R	0.94	2.3
134	R	0.98	2.55
135	R	0.65	2.06
136	R	0.73	2.66
137	R	1.1	2.44
138	R	1.03	2.42
139	R	1.17	2.72
140	R	1.36	3.35
141	R	0.91	1.44
142	R	1.71	3.57
143	R	0.33	0.63

DQA Surface Soil Report

Modified Data (Unity Rule SOR)

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Sum-of-Ratios (SOR)
387	S	0.92
388	S	1.12
389	S	0.89
390	S	0.53
391	S	1.19
392	S	0.79
393	S	1.33
394	S	0.65
395	S	1.21
396	S	1.04
397	S	1.26
399	S	1.05
400	S	0.89
401	S	1.07
402	S	0.99
403	S	0.62
127	R	1.4
128	R	1.36
129	R	1.23
130	R	1.3
131	R	1.32
132	R	0.93
133	R	1.24
134	R	1.36
135	R	1.05
136	R	1.32
137	R	1.36
138	R	1.32
139	R	1.49
140	R	1.81
141	R	0.89
142	R	2.02
143	R	0.37

DQA Surface Soil Report

Basic Statistical Quantities Summary

Statistic	Survey Unit	Background	DQO Results
Sample Number	16	17	N/2=18
Mean (SOR)	0.97	1.28	0.39
Median (SOR)	1.02	1.32	N/A
Std Dev (SOR)	0.24	0.36	0.39
High Value (SOR)	1.33	2.02	N/A
Low Value (SOR)	0.53	0.37	N/A

Statistical Test Summary

Sum of Ranks:	561
Sum of Reference Ranks:	425
Critical Value:	335
Result:	Pass

Data	Type	Adjusted Data	Rank	Reference Rank
0.37	R	1.37	17	17
0.89	R	1.89	18	18
0.93	R	1.93	19	19
1.05	R	2.05	20	20
1.23	R	2.23	21	21
1.24	R	2.24	22	22
1.3	R	2.3	23	23
1.32	R	2.32	25	25
1.32	R	2.32	25	25
1.32	R	2.32	25	25
1.36	R	2.36	28	28
1.36	R	2.36	28	28
1.36	R	2.36	28	28
1.4	R	2.4	30	30
1.49	R	2.49	31	31
1.81	R	2.81	32	32
2.02	R	3.02	33	33
0.53	S	0.53	1	0
0.62	S	0.62	2	0
0.65	S	0.65	3	0
0.79	S	0.79	4	0
0.89	S	0.89	5.5	0
0.89	S	0.89	5.5	0
0.92	S	0.92	7	0
0.99	S	0.99	8	0

DQA Surface Soil Report

Statistical Test Summary

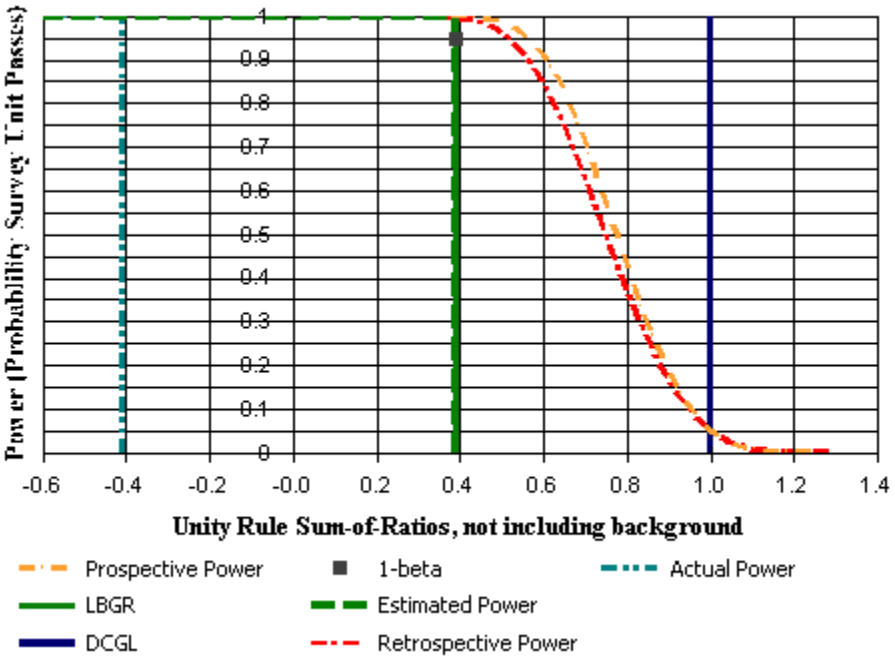
Data	Type	Adjusted Data	Rank	Reference Rank
1.04	S	1.04	9	0
1.05	S	1.05	10	0
1.07	S	1.07	11	0
1.12	S	1.12	12	0
1.19	S	1.19	13	0
1.21	S	1.21	14	0
1.26	S	1.26	15	0
1.33	S	1.33	16	0

DQA Surface Soil Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C2 SU1 through 12 C2 SU10		
Report Number:	9		
Survey Unit Samples:	14		
Reference Area Samples:	17		
Test Performed:	WRS	Test Result:	Pass
Judgmental Samples:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Surface Soil Report

Survey Unit Data

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Th-232 (pCi/g)	U-238 (pCi/g)
405	S	0.33	0.87
407	S	1.09	2.22
408	S	0.56	1.14
409	S	0.49	0.82
410	S	0.59	1.1
411	S	0.33	0.43
412	S	1.13	2.62
414	S	0.97	2.35
415	S	0.71	1.13
416	S	0.99	1.92
417	S	0.81	2.68
418	S	0.61	1.11
419	S	1.01	2.63
420	S	0.74	2.29
127	R	1.1	2.54
128	R	0.85	2.66
129	R	0.74	2.44
130	R	1.09	2.3
131	R	0.93	2.5
132	R	0.79	1.65
133	R	0.94	2.3
134	R	0.98	2.55
135	R	0.65	2.06
136	R	0.73	2.66
137	R	1.1	2.44
138	R	1.03	2.42
139	R	1.17	2.72
140	R	1.36	3.35
141	R	0.91	1.44
142	R	1.71	3.57
143	R	0.33	0.63

DQA Surface Soil Report

Modified Data (Unity Rule SOR)

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Sum-of-Ratios (SOR)
405	S	0.46
407	S	1.26
408	S	0.65
409	S	0.5
410	S	0.64
411	S	0.29
412	S	1.44
414	S	1.27
415	S	0.7
416	S	1.11
417	S	1.35
418	S	0.65
419	S	1.4
420	S	1.17
127	R	1.4
128	R	1.36
129	R	1.23
130	R	1.3
131	R	1.32
132	R	0.93
133	R	1.24
134	R	1.36
135	R	1.05
136	R	1.32
137	R	1.36
138	R	1.32
139	R	1.49
140	R	1.81
141	R	0.89
142	R	2.02
143	R	0.37

DQA Surface Soil Report

Basic Statistical Quantities Summary

Statistic	Survey Unit	Background	DQO Results
Sample Number	14	17	N/2=18
Mean (SOR)	0.92	1.28	0.39
Median (SOR)	0.91	1.32	N/A
Std Dev (SOR)	0.40	0.36	0.39
High Value (SOR)	1.44	2.02	N/A
Low Value (SOR)	0.29	0.37	N/A

Statistical Test Summary

Sum of Ranks:	496
Sum of Reference Ranks:	389
Critical Value:	313
Result:	Pass

Data	Type	Adjusted Data	Rank	Reference Rank
0.37	R	1.37	13	13
0.89	R	1.89	16	16
0.93	R	1.93	17	17
1.05	R	2.05	18	18
1.23	R	2.23	19	19
1.24	R	2.24	20	20
1.3	R	2.3	21	21
1.32	R	2.32	23	23
1.32	R	2.32	23	23
1.32	R	2.32	23	23
1.36	R	2.36	26	26
1.36	R	2.36	26	26
1.36	R	2.36	26	26
1.4	R	2.4	28	28
1.49	R	2.49	29	29
1.81	R	2.81	30	30
2.02	R	3.02	31	31
0.29	S	0.29	1	0
0.46	S	0.46	2	0
0.5	S	0.5	3	0
0.64	S	0.64	4	0
0.65	S	0.65	5.5	0
0.65	S	0.65	5.5	0
0.7	S	0.7	7	0
1.11	S	1.11	8	0

DQA Surface Soil Report

Statistical Test Summary

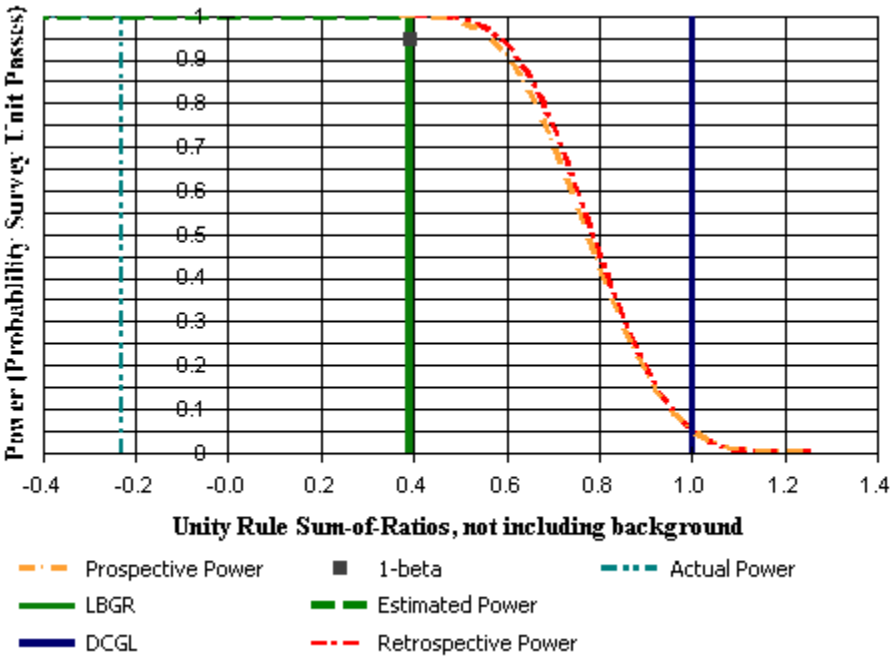
Data	Type	Adjusted Data	Rank	Reference Rank
1.17	S	1.17	9	0
1.26	S	1.26	10	0
1.27	S	1.27	11	0
1.35	S	1.35	12	0
1.4	S	1.4	14	0
1.44	S	1.44	15	0

DQA Surface Soil Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C2 SU1 through 12 C2 SU11		
Report Number:	10		
Survey Unit Samples:	17		
Reference Area Samples:	17		
Test Performed:	WRS	Test Result:	Pass
Judgmental Samples:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Surface Soil Report

Survey Unit Data

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Th-232 (pCi/g)	U-238 (pCi/g)
421	S	0.98	2.15
422	S	1.09	2.28
423	S	0.95	1.73
424	S	0.68	1.72
425	S	1.31	1.74
426	S	1.26	1.61
427	S	1.14	2.01
428	S	0.62	1.63
429	S	0.75	2.29
430	S	0.82	1.67
431	S	1.05	1.83
432	S	0.77	2.24
433	S	1.01	1.76
434	S	0.96	2.82
435	S	1.21	2.66
436	S	1.02	1.33
437	S	0.87	1.39
127	R	1.1	2.54
128	R	0.85	2.66
129	R	0.74	2.44
130	R	1.09	2.3
131	R	0.93	2.5
132	R	0.79	1.65
133	R	0.94	2.3
134	R	0.98	2.55
135	R	0.65	2.06
136	R	0.73	2.66
137	R	1.1	2.44
138	R	1.03	2.42
139	R	1.17	2.72
140	R	1.36	3.35
141	R	0.91	1.44
142	R	1.71	3.57
143	R	0.33	0.63

DQA Surface Soil Report

Modified Data (Unity Rule SOR)

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Sum-of-Ratios (SOR)
421	S	1.2
422	S	1.29
423	S	1.02
424	S	0.92
425	S	1.15
426	S	1.08
427	S	1.2
428	S	0.87
429	S	1.17
430	S	0.95
431	S	1.09
432	S	1.16
433	S	1.05
434	S	1.46
435	S	1.48
436	S	0.88
437	S	0.86
127	R	1.4
128	R	1.36
129	R	1.23
130	R	1.3
131	R	1.32
132	R	0.93
133	R	1.24
134	R	1.36
135	R	1.05
136	R	1.32
137	R	1.36
138	R	1.32
139	R	1.49
140	R	1.81
141	R	0.89
142	R	2.02
143	R	0.37

DQA Surface Soil Report

Basic Statistical Quantities Summary

Statistic	Survey Unit	Background	DQO Results
Sample Number	17	17	N/2=18
Mean (SOR)	1.11	1.28	0.39
Median (SOR)	1.09	1.32	N/A
Std Dev (SOR)	0.19	0.36	0.39
High Value (SOR)	1.48	2.02	N/A
Low Value (SOR)	0.86	0.37	N/A

Statistical Test Summary

Sum of Ranks:	595
Sum of Reference Ranks:	440
Critical Value:	345
Result:	Pass

Data	Type	Adjusted Data	Rank	Reference Rank
0.37	R	1.37	16	16
0.89	R	1.89	19	19
0.93	R	1.93	20	20
1.05	R	2.05	21	21
1.23	R	2.23	22	22
1.24	R	2.24	23	23
1.3	R	2.3	24	24
1.32	R	2.32	26	26
1.32	R	2.32	26	26
1.32	R	2.32	26	26
1.36	R	2.36	29	29
1.36	R	2.36	29	29
1.36	R	2.36	29	29
1.4	R	2.4	31	31
1.49	R	2.49	32	32
1.81	R	2.81	33	33
2.02	R	3.02	34	34
0.86	S	0.86	1	0
0.87	S	0.87	2	0
0.88	S	0.88	3	0
0.92	S	0.92	4	0
0.95	S	0.95	5	0
1.02	S	1.02	6	0
1.05	S	1.05	7	0
1.08	S	1.08	8	0

DQA Surface Soil Report

Statistical Test Summary

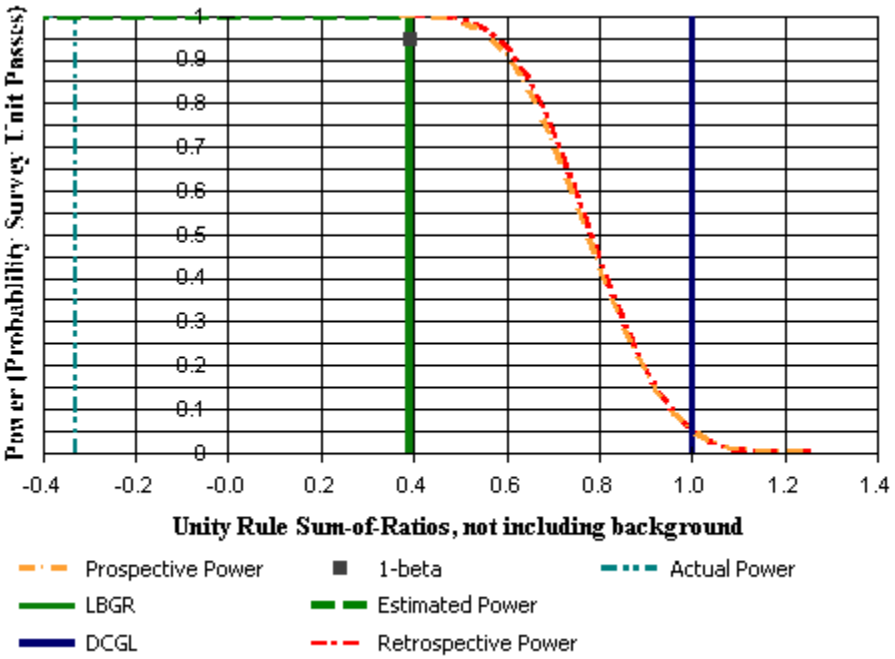
Data	Type	Adjusted Data	Rank	Reference Rank
1.09	S	1.09	9	0
1.15	S	1.15	10	0
1.16	S	1.16	11	0
1.17	S	1.17	12	0
1.2	S	1.2	13.5	0
1.2	S	1.2	13.5	0
1.29	S	1.29	15	0
1.46	S	1.46	17	0
1.48	S	1.48	18	0

DQA Surface Soil Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C2 SU1 through 12 C2 SU12		
Report Number:	12		
Survey Unit Samples:	16		
Reference Area Samples:	17		
Test Performed:	WRS	Test Result:	Pass
Judgmental Samples:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Surface Soil Report

Survey Unit Data

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Th-232 (pCi/g)	U-238 (pCi/g)
478	S	0.71	2.06
479	S	0.77	2.01
480	S	0.67	1.04
481	S	0.91	1.54
482	S	0.78	1.81
483	S	0.56	1.15
484	S	0.76	1.4
485	S	0.75	1.8
486	S	0.77	1.56
487	S	0.9	1.93
488	S	0.77	1.79
489	S	1.36	2.11
490	S	2.31	2.74
491	S	1.43	2.56
492	S	0.87	1.59
493	S	1.5	2.34
127	R	1.1	2.54
128	R	0.85	2.66
129	R	0.74	2.44
130	R	1.09	2.3
131	R	0.93	2.5
132	R	0.79	1.65
133	R	0.94	2.3
134	R	0.98	2.55
135	R	0.65	2.06
136	R	0.73	2.66
137	R	1.1	2.44
138	R	1.03	2.42
139	R	1.17	2.72
140	R	1.36	3.35
141	R	0.91	1.44
142	R	1.71	3.57
143	R	0.33	0.63

DQA Surface Soil Report

Modified Data (Unity Rule SOR)

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Sum-of-Ratios (SOR)
478	S	1.07
479	S	1.07
480	S	0.65
481	S	0.93
482	S	0.99
483	S	0.65
484	S	0.82
485	S	0.98
486	S	0.89
487	S	1.08
488	S	0.98
489	S	1.31
490	S	1.89
491	S	1.52
492	S	0.94
493	S	1.45
127	R	1.4
128	R	1.36
129	R	1.23
130	R	1.3
131	R	1.32
132	R	0.93
133	R	1.24
134	R	1.36
135	R	1.05
136	R	1.32
137	R	1.36
138	R	1.32
139	R	1.49
140	R	1.81
141	R	0.89
142	R	2.02
143	R	0.37

DQA Surface Soil Report

Basic Statistical Quantities Summary

Statistic	Survey Unit	Background	DQO Results
Sample Number	16	17	N/2=18
Mean (SOR)	1.08	1.28	0.39
Median (SOR)	0.99	1.32	N/A
Std Dev (SOR)	0.32	0.36	0.39
High Value (SOR)	1.89	2.02	N/A
Low Value (SOR)	0.65	0.37	N/A

Statistical Test Summary

Sum of Ranks:	561
Sum of Reference Ranks:	422
Critical Value:	335
Result:	Pass

Data	Type	Adjusted Data	Rank	Reference Rank
0.37	R	1.37	14	14
0.89	R	1.89	18	18
0.93	R	1.93	19	19
1.05	R	2.05	20	20
1.23	R	2.23	21	21
1.24	R	2.24	22	22
1.3	R	2.3	23	23
1.32	R	2.32	25	25
1.32	R	2.32	25	25
1.32	R	2.32	25	25
1.36	R	2.36	28	28
1.36	R	2.36	28	28
1.36	R	2.36	28	28
1.4	R	2.4	30	30
1.49	R	2.49	31	31
1.81	R	2.81	32	32
2.02	R	3.02	33	33
0.65	S	0.65	1.5	0
0.65	S	0.65	1.5	0
0.82	S	0.82	3	0
0.89	S	0.89	4	0
0.93	S	0.93	5	0
0.94	S	0.94	6	0
0.98	S	0.98	7.5	0
0.98	S	0.98	7.5	0

DQA Surface Soil Report

Statistical Test Summary

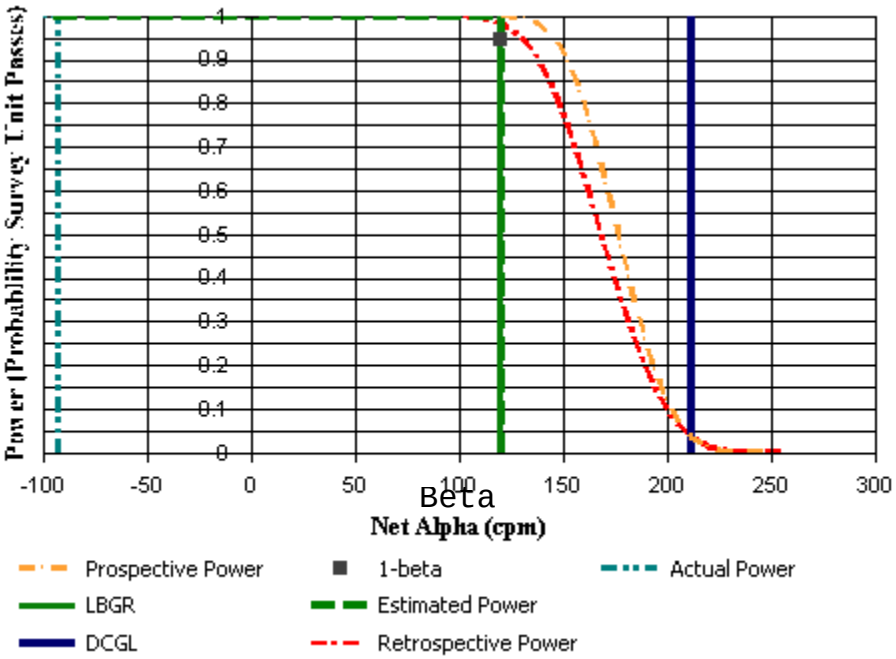
Data	Type	Adjusted Data	Rank	Reference Rank
0.99	S	0.99	9	0
1.07	S	1.07	10.5	0
1.07	S	1.07	10.5	0
1.08	S	1.08	12	0
1.31	S	1.31	13	0
1.45	S	1.45	15	0
1.52	S	1.52	16	0
1.89	S	1.89	17	0

DQA Building Surface Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C2 SU12 Debris Pile DM Rev. 1		
Report Number:	1		
Survey Unit Measurements:	20		
Reference Area Measurements:	0		
Test Performed:	Sign	Test Result:	Pass
Judgmental Areas:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Building Surface Report

Survey Unit Data

NOTE: Type = "S" indicates survey measurement.
Type = "R" indicates reference measurement.

Measurement	Material	Type	Beta Gross Alpha (cpm)	
456512, 4611391	Concrete	S	378	
456510, 4611395	Unpainted Cinder Block	S	303	
456507, 4611399	Slag	S	454	
456505, 4611404	Concrete	S	319	
456515, 4611404	Slag	S	495	
456502, 4611408	Slag	S	410	
456512, 4611408	Small Brick	S	619	
456500, 4611412	Unpainted Cinder Block	S	313	
456510, 4611412	Slag	S	399	
456510, 4611421	Slag	S	405	
456522, 4611425	Unpainted Cinder Block	S	318	
456527, 4611425	Slag	S	365	
456520, 4611430	Slag	S	455	
456525, 4611430	Small Brick	S	793	Location investigated, piece of fire brick
456525, 4611438	Slag	S	369	with background higher due to natural U/Th
456530, 4611447	Slag	S	381	
456522, 4611452	Small Brick	S	574	
456527, 4611452	Slag	S	439	
456525, 4611456	Unpainted Cinder Block	S	365	
456530, 4611456	Slag	S	470	

Basic Statistical Quantities Summary

Statistic	Survey Unit	Background	DQO Results
Sample Number	20	N/A	N=20
Mean (dpm/100 cm²)	-73.51	N/A	120
Median (dpm/100 cm²)	-92.31	N/A	N/A
Std Dev (dpm/100 cm²)	156.70	N/A	67.3
High Value (dpm/100 cm²)	408.16	N/A	N/A
Low Value (dpm/100 cm²)	-273.43	N/A	N/A

DQA Building Surface Report

Statistical Test Summary

S+:	19
Critical Value:	14
Result:	Pass

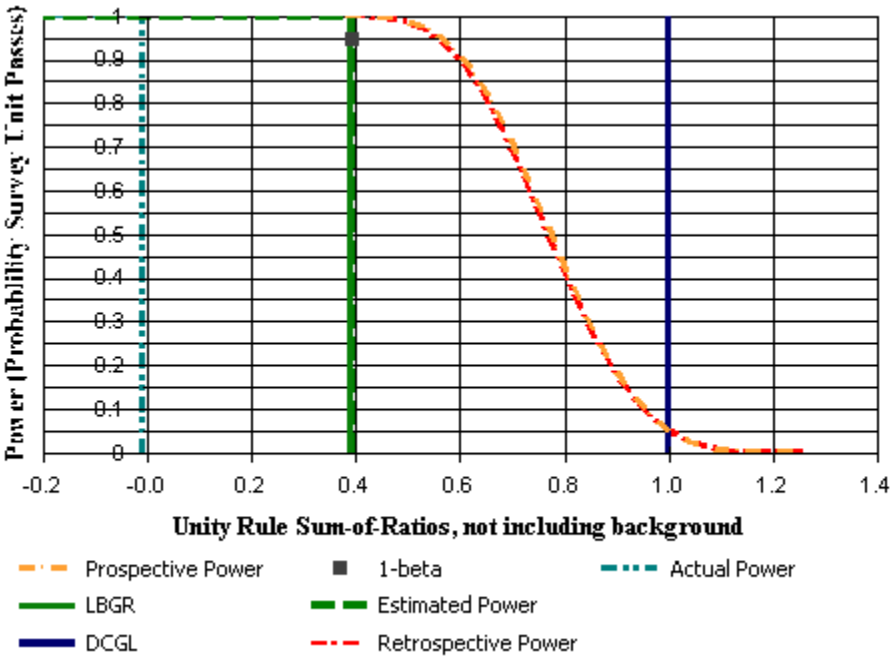
Data	DCGLw - Data	Sign
41.3	170.70	+
-144.7	356.70	+
-19.35	231.35	+
-17.7	229.70	+
21.65	190.35	+
-63.35	275.35	+
42	170.00	+
-134.7	346.70	+
-74.35	286.35	+
-68.35	280.35	+
-129.7	341.70	+
-108.35	320.35	+
-18.35	230.35	+
216	-4.00	-
-104.35	316.35	+
-92.35	304.35	+
-3	215.00	+
-34.35	246.35	+
-82.7	294.70	+
-3.35000000000002	215.35	+

DQA Surface Soil Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C3 SU1 through 5 C3 SU1		
Report Number:	1		
Survey Unit Samples:	13		
Reference Area Samples:	17		
Test Performed:	WRS	Test Result:	Pass
Judgmental Samples:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Surface Soil Report

Survey Unit Data

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Th-232 (pCi/g)	U-238 (pCi/g)
144	S	0.77	2.3
145	S	0.95	2.6
147	S	0.94	2.46
148	S	1.1	2.9
149	S	0.9	2.4
151	S	0.67	2.68
153	S	1.02	2.66
154	S	1.1	2.81
155	S	0.8	1.96
156	S	1.43	1.84
157	S	0.88	2.85
158	S	0.89	1.4
160	S	1.13	3.31
127	R	1.1	2.54
128	R	0.85	2.66
129	R	0.74	2.44
130	R	1.09	2.3
131	R	0.93	2.5
132	R	0.79	1.65
133	R	0.94	2.3
134	R	0.98	2.55
135	R	0.65	2.06
136	R	0.73	2.66
137	R	1.1	2.44
138	R	1.03	2.42
139	R	1.17	2.72
140	R	1.36	3.35
141	R	0.91	1.44
142	R	1.71	3.57
143	R	0.33	0.63

DQA Surface Soil Report

Modified Data (Unity Rule SOR)

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Sum-of-Ratios (SOR)
144	S	1.19
145	S	1.37
147	S	1.31
148	S	1.54
149	S	1.27
151	S	1.3
153	S	1.42
154	S	1.5
155	S	1.06
156	S	1.23
157	S	1.44
158	S	0.87
160	S	1.71
127	R	1.4
128	R	1.36
129	R	1.23
130	R	1.3
131	R	1.32
132	R	0.93
133	R	1.24
134	R	1.36
135	R	1.05
136	R	1.32
137	R	1.36
138	R	1.32
139	R	1.49
140	R	1.81
141	R	0.89
142	R	2.02
143	R	0.37

DQA Surface Soil Report

Basic Statistical Quantities Summary

Statistic	Survey Unit	Background	DQO Results
Sample Number	13	17	N/2=18
Mean (SOR)	1.32	1.28	0.39
Median (SOR)	1.31	1.32	N/A
Std Dev (SOR)	0.22	0.36	0.39
High Value (SOR)	1.71	2.02	N/A
Low Value (SOR)	0.87	0.37	N/A

Statistical Test Summary

Sum of Ranks:	465
Sum of Reference Ranks:	368
Critical Value:	303
Result:	Pass

Data	Type	Adjusted Data	Rank	Reference Rank
0.37	R	1.37	8	8
0.89	R	1.89	15	15
0.93	R	1.93	16	16
1.05	R	2.05	17	17
1.23	R	2.23	18	18
1.24	R	2.24	19	19
1.3	R	2.3	20	20
1.32	R	2.32	22	22
1.32	R	2.32	22	22
1.32	R	2.32	22	22
1.36	R	2.36	25	25
1.36	R	2.36	25	25
1.36	R	2.36	25	25
1.4	R	2.4	27	27
1.49	R	2.49	28	28
1.81	R	2.81	29	29
2.02	R	3.02	30	30
0.87	S	0.87	1	0
1.06	S	1.06	2	0
1.19	S	1.19	3	0
1.23	S	1.23	4	0
1.27	S	1.27	5	0
1.3	S	1.3	6	0
1.31	S	1.31	7	0
1.37	S	1.37	9	0

DQA Surface Soil Report

Statistical Test Summary

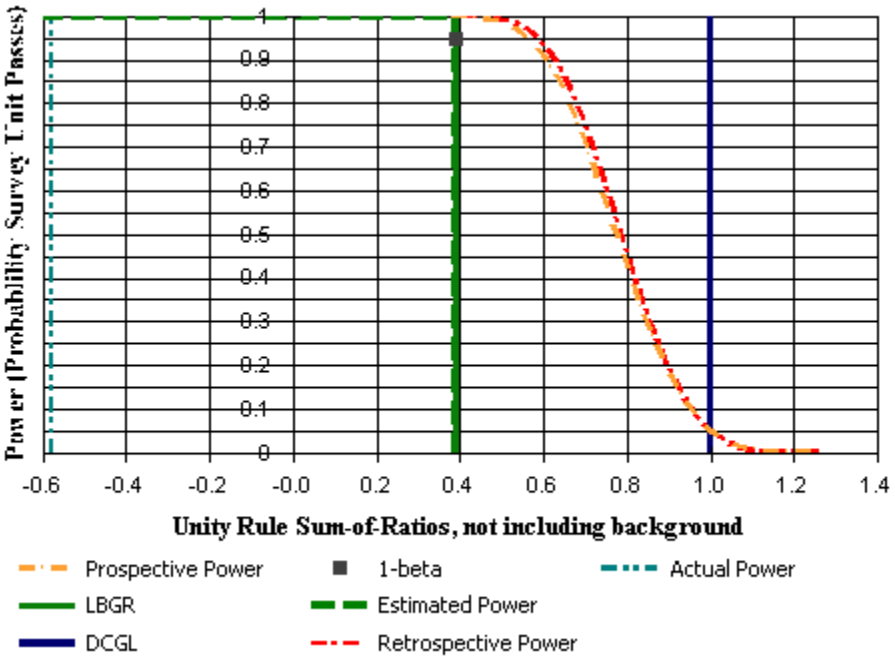
Data	Type	Adjusted Data	Rank	Reference Rank
1.42	S	1.42	10	0
1.44	S	1.44	11	0
1.5	S	1.5	12	0
1.54	S	1.54	13	0
1.71	S	1.71	14	0

DQA Surface Soil Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C3 SU1 through 5 C3 SU2		
Report Number:	2		
Survey Unit Samples:	17		
Reference Area Samples:	17		
Test Performed:	WRS	Test Result:	Pass
Judgmental Samples:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Surface Soil Report

Survey Unit Data

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Th-232 (pCi/g)	U-238 (pCi/g)
161	S	0.82	1.6
163	S	0.47	1.34
164	S	0.61	1.2
165	S	0.64	1.39
166	S	0.68	1.6
167	S	0.7	1.08
168	S	0.5	0.66
169	S	0.81	1.19
170	S	0.72	1.83
171	S	0.77	1.06
172	S	0.58	0.99
173	S	0.77	1.19
174	S	0.7	1.46
175	S	0.6	0.86
176	S	0.29	0.62
177	S	0.86	1.54
178	S	0.99	2.16
127	R	1.1	2.54
128	R	0.85	2.66
129	R	0.74	2.44
130	R	1.09	2.3
131	R	0.93	2.5
132	R	0.79	1.65
133	R	0.94	2.3
134	R	0.98	2.55
135	R	0.65	2.06
136	R	0.73	2.66
137	R	1.1	2.44
138	R	1.03	2.42
139	R	1.17	2.72
140	R	1.36	3.35
141	R	0.91	1.44
142	R	1.71	3.57
143	R	0.33	0.63

DQA Surface Soil Report

Modified Data (Unity Rule SOR)

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Sum-of-Ratios (SOR)
161	S	0.92
163	S	0.7
164	S	0.69
165	S	0.78
166	S	0.87
167	S	0.67
168	S	0.44
169	S	0.76
170	S	0.98
171	S	0.69
172	S	0.6
173	S	0.74
174	S	0.83
175	S	0.55
176	S	0.35
177	S	0.91
178	S	1.21
127	R	1.4
128	R	1.36
129	R	1.23
130	R	1.3
131	R	1.32
132	R	0.93
133	R	1.24
134	R	1.36
135	R	1.05
136	R	1.32
137	R	1.36
138	R	1.32
139	R	1.49
140	R	1.81
141	R	0.89
142	R	2.02
143	R	0.37

DQA Surface Soil Report

Basic Statistical Quantities Summary

Statistic	Survey Unit	Background	DQO Results
Sample Number	17	17	N/2=18
Mean (SOR)	0.75	1.28	0.39
Median (SOR)	0.74	1.32	N/A
Std Dev (SOR)	0.21	0.36	0.39
High Value (SOR)	1.21	2.02	N/A
Low Value (SOR)	0.35	0.37	N/A

Statistical Test Summary

Sum of Ranks:	595
Sum of Reference Ranks:	442
Critical Value:	345
Result:	Pass

Data	Type	Adjusted Data	Rank	Reference Rank
0.37	R	1.37	18	18
0.89	R	1.89	19	19
0.93	R	1.93	20	20
1.05	R	2.05	21	21
1.23	R	2.23	22	22
1.24	R	2.24	23	23
1.3	R	2.3	24	24
1.32	R	2.32	26	26
1.32	R	2.32	26	26
1.32	R	2.32	26	26
1.36	R	2.36	29	29
1.36	R	2.36	29	29
1.36	R	2.36	29	29
1.4	R	2.4	31	31
1.49	R	2.49	32	32
1.81	R	2.81	33	33
2.02	R	3.02	34	34
0.35	S	0.35	1	0
0.44	S	0.44	2	0
0.55	S	0.55	3	0
0.6	S	0.6	4	0
0.67	S	0.67	5	0
0.69	S	0.69	6.5	0
0.69	S	0.69	6.5	0
0.7	S	0.7	8	0

DQA Surface Soil Report

Statistical Test Summary

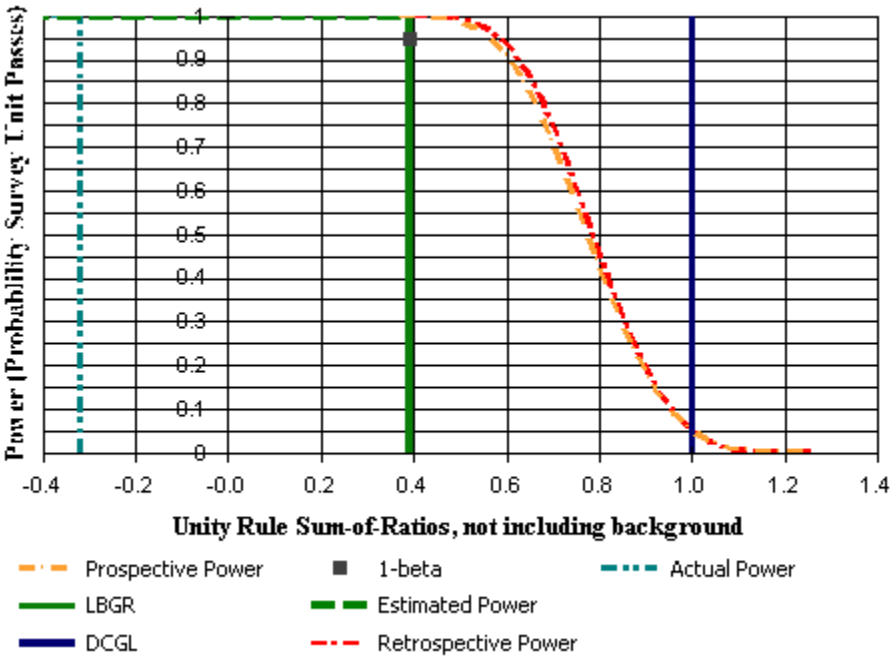
Data	Type	Adjusted Data	Rank	Reference Rank
0.74	S	0.74	9	0
0.76	S	0.76	10	0
0.78	S	0.78	11	0
0.83	S	0.83	12	0
0.87	S	0.87	13	0
0.91	S	0.91	14	0
0.92	S	0.92	15	0
0.98	S	0.98	16	0
1.21	S	1.21	17	0

DQA Surface Soil Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C3 SU1 through 5 C3 SU3		
Report Number:	3		
Survey Unit Samples:	17		
Reference Area Samples:	17		
Test Performed:	WRS	Test Result:	Pass
Judgmental Samples:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Surface Soil Report

Survey Unit Data

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Th-232 (pCi/g)	U-238 (pCi/g)
179	S	0.88	1.74
180	S	0.44	1.37
181	S	0.89	1.53
182	S	1.06	2.78
183	S	1.05	1.6
184	S	0.66	1.59
185	S	0.36	0.69
186	S	0.87	1.37
187	S	0.82	1.82
188	S	1.15	2.43
189	S	0.88	1.18
190	S	1.2	2.24
191	S	0.76	2.22
192	S	0.86	2.31
193	S	0.74	2.39
194	S	1.02	1.82
195	S	0.39	0.97
127	R	1.1	2.54
128	R	0.85	2.66
129	R	0.74	2.44
130	R	1.09	2.3
131	R	0.93	2.5
132	R	0.79	1.65
133	R	0.94	2.3
134	R	0.98	2.55
135	R	0.65	2.06
136	R	0.73	2.66
137	R	1.1	2.44
138	R	1.03	2.42
139	R	1.17	2.72
140	R	1.36	3.35
141	R	0.91	1.44
142	R	1.71	3.57
143	R	0.33	0.63

DQA Surface Soil Report

Modified Data (Unity Rule SOR)

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Sum-of-Ratios (SOR)
179	S	1
180	S	0.7
181	S	0.92
182	S	1.48
183	S	1
184	S	0.86
185	S	0.4
186	S	0.85
187	S	1.01
188	S	1.37
189	S	0.78
190	S	1.31
191	S	1.15
192	S	1.22
193	S	1.21
194	S	1.08
195	S	0.52
127	R	1.4
128	R	1.36
129	R	1.23
130	R	1.3
131	R	1.32
132	R	0.93
133	R	1.24
134	R	1.36
135	R	1.05
136	R	1.32
137	R	1.36
138	R	1.32
139	R	1.49
140	R	1.81
141	R	0.89
142	R	2.02
143	R	0.37

DQA Surface Soil Report

Basic Statistical Quantities Summary

Statistic	Survey Unit	Background	DQO Results
Sample Number	17	17	N/2=18
Mean (SOR)	0.99	1.28	0.39
Median (SOR)	1.00	1.32	N/A
Std Dev (SOR)	0.29	0.36	0.39
High Value (SOR)	1.48	2.02	N/A
Low Value (SOR)	0.40	0.37	N/A

Statistical Test Summary

Sum of Ranks:	595
Sum of Reference Ranks:	440
Critical Value:	345
Result:	Pass

Data	Type	Adjusted Data	Rank	Reference Rank
0.37	R	1.37	16	16
0.89	R	1.89	19	19
0.93	R	1.93	20	20
1.05	R	2.05	21	21
1.23	R	2.23	22	22
1.24	R	2.24	23	23
1.3	R	2.3	24	24
1.32	R	2.32	26	26
1.32	R	2.32	26	26
1.32	R	2.32	26	26
1.36	R	2.36	29	29
1.36	R	2.36	29	29
1.36	R	2.36	29	29
1.4	R	2.4	31	31
1.49	R	2.49	32	32
1.81	R	2.81	33	33
2.02	R	3.02	34	34
0.4	S	0.4	1	0
0.52	S	0.52	2	0
0.7	S	0.7	3	0
0.78	S	0.78	4	0
0.85	S	0.85	5	0
0.86	S	0.86	6	0
0.92	S	0.92	7	0
1	S	1	8.5	0

DQA Surface Soil Report

Statistical Test Summary

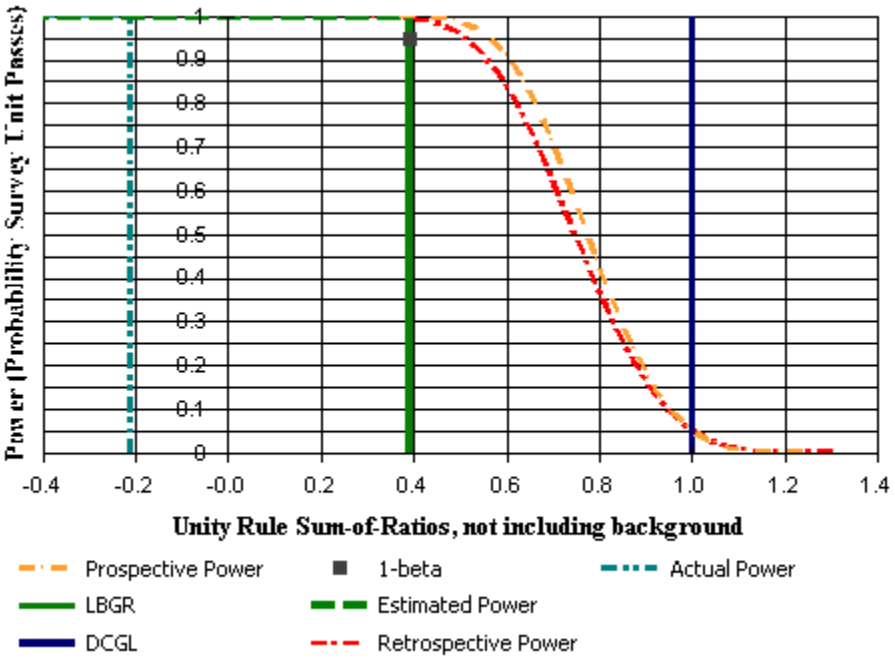
Data	Type	Adjusted Data	Rank	Reference Rank
1	S	1	8.5	0
1.01	S	1.01	10	0
1.08	S	1.08	11	0
1.15	S	1.15	12	0
1.21	S	1.21	13	0
1.22	S	1.22	14	0
1.31	S	1.31	15	0
1.37	S	1.37	17	0
1.48	S	1.48	18	0

DQA Surface Soil Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C3 SU1 through 5 C3 SU4		
Report Number:	4		
Survey Unit Samples:	17		
Reference Area Samples:	17		
Test Performed:	WRS	Test Result:	Pass
Judgmental Samples:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Surface Soil Report

Survey Unit Data

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Th-232 (pCi/g)	U-238 (pCi/g)
215	S	1.4	3.7
216	S	1.66	2.63
217	S	1.19	1.88
218	S	1.01	1.24
219	S	1.53	2.3
220	S	1.55	2.16
221	S	1.38	2.34
222	S	1.5	2.31
223	S	0.9	2.01
224	S	1.04	1.72
225	S	1.44	2.3
226	S	1.24	1.65
227	S	1.09	1.39
228	S	0.96	1.94
229	S	0.47	0.6
230	S	0.41	0.74
231	S	0.53	0.85
127	R	1.1	2.54
128	R	0.85	2.66
129	R	0.74	2.44
130	R	1.09	2.3
131	R	0.93	2.5
132	R	0.79	1.65
133	R	0.94	2.3
134	R	0.98	2.55
135	R	0.65	2.06
136	R	0.73	2.66
137	R	1.1	2.44
138	R	1.03	2.42
139	R	1.17	2.72
140	R	1.36	3.35
141	R	0.91	1.44
142	R	1.71	3.57
143	R	0.33	0.63

DQA Surface Soil Report

Modified Data (Unity Rule SOR)

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Sum-of-Ratios (SOR)
215	S	1.96
216	S	1.62
217	S	1.16
218	S	0.84
219	S	1.45
220	S	1.4
221	S	1.41
222	S	1.44
223	S	1.11
224	S	1.05
225	S	1.42
226	S	1.09
227	S	0.93
228	S	1.11
229	S	0.4
230	S	0.44
231	S	0.52
127	R	1.4
128	R	1.36
129	R	1.23
130	R	1.3
131	R	1.32
132	R	0.93
133	R	1.24
134	R	1.36
135	R	1.05
136	R	1.32
137	R	1.36
138	R	1.32
139	R	1.49
140	R	1.81
141	R	0.89
142	R	2.02
143	R	0.37

DQA Surface Soil Report

Basic Statistical Quantities Summary

Statistic	Survey Unit	Background	DQO Results
Sample Number	17	17	N/2=18
Mean (SOR)	1.14	1.28	0.39
Median (SOR)	1.11	1.32	N/A
Std Dev (SOR)	0.42	0.36	0.39
High Value (SOR)	1.96	2.02	N/A
Low Value (SOR)	0.40	0.37	N/A

Statistical Test Summary

Sum of Ranks:	595
Sum of Reference Ranks:	433
Critical Value:	345
Result:	Pass

Data	Type	Adjusted Data	Rank	Reference Rank
0.37	R	1.37	11	11
0.89	R	1.89	18	18
0.93	R	1.93	19	19
1.05	R	2.05	21	21
1.23	R	2.23	22	22
1.24	R	2.24	23	23
1.3	R	2.3	24	24
1.32	R	2.32	26	26
1.32	R	2.32	26	26
1.32	R	2.32	26	26
1.36	R	2.36	29	29
1.36	R	2.36	29	29
1.36	R	2.36	29	29
1.4	R	2.4	31	31
1.49	R	2.49	32	32
1.81	R	2.81	33	33
2.02	R	3.02	34	34
0.4	S	0.4	1	0
0.44	S	0.44	2	0
0.52	S	0.52	3	0
0.84	S	0.84	4	0
0.93	S	0.93	5	0
1.05	S	1.05	6	0
1.09	S	1.09	7	0
1.11	S	1.11	8.5	0

DQA Surface Soil Report

Statistical Test Summary

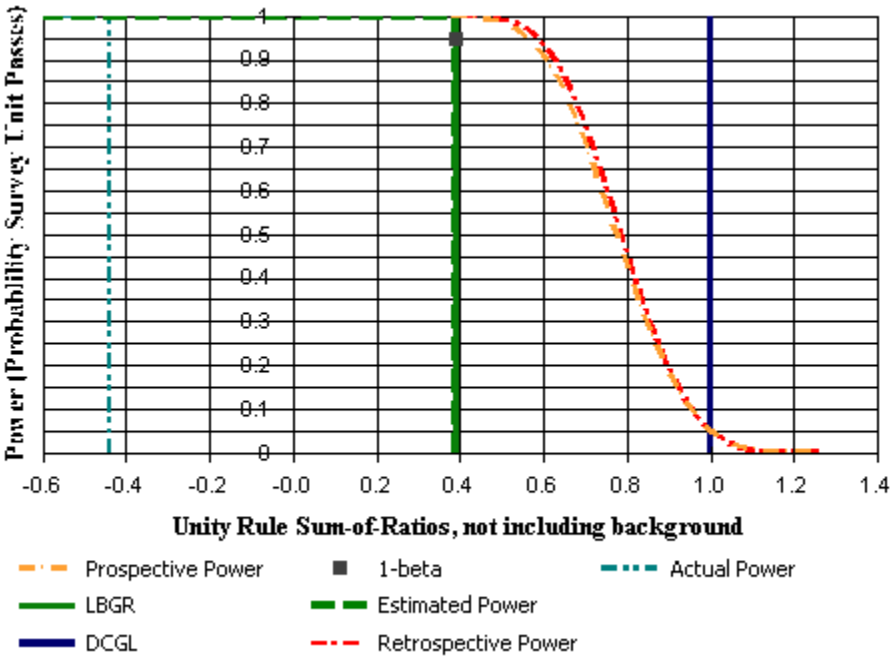
Data	Type	Adjusted Data	Rank	Reference Rank
1.11	S	1.11	8.5	0
1.16	S	1.16	10	0
1.4	S	1.4	12	0
1.41	S	1.41	13	0
1.42	S	1.42	14	0
1.44	S	1.44	15	0
1.45	S	1.45	16	0
1.62	S	1.62	17	0
1.96	S	1.96	20	0

DQA Surface Soil Report

Assessment Summary

Site:	Hammond Depot FSS Planner		
Planner(s):	Vitkus		
Survey Unit Name:	C3 SU1 through 5 C3 SU5		
Report Number:	5		
Survey Unit Samples:	17		
Reference Area Samples:	17		
Test Performed:	WRS	Test Result:	Pass
Judgmental Samples:	0	EMC Result:	Not Performed
Assessment Conclusion:	***Reject Null Hypothesis (Survey Unit PASSES)***		

Retrospective Power Curve



DQA Surface Soil Report

Survey Unit Data

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Th-232 (pCi/g)	U-238 (pCi/g)
233	S	1.21	1.15
234	S	1.18	1.72
235	S	0.99	1.6
236	S	1.45	1.94
237	S	0.38	0.6
238	S	0.99	1.67
239	S	0.36	0.63
240	S	0.87	1.55
241	S	1.35	2.42
242	S	0.63	0.84
243	S	0.88	1.43
244	S	0.75	0.91
245	S	0.59	1.14
246	S	0.76	1.62
247	S	0.38	0.65
248	S	0.64	1.48
249	S	0.58	1.25
127	R	1.1	2.54
128	R	0.85	2.66
129	R	0.74	2.44
130	R	1.09	2.3
131	R	0.93	2.5
132	R	0.79	1.65
133	R	0.94	2.3
134	R	0.98	2.55
135	R	0.65	2.06
136	R	0.73	2.66
137	R	1.1	2.44
138	R	1.03	2.42
139	R	1.17	2.72
140	R	1.36	3.35
141	R	0.91	1.44
142	R	1.71	3.57
143	R	0.33	0.63

DQA Surface Soil Report

Modified Data (Unity Rule SOR)

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Sum-of-Ratios (SOR)
233	S	0.88
234	S	1.09
235	S	0.98
236	S	1.28
237	S	0.37
238	S	1.01
239	S	0.38
240	S	0.92
241	S	1.43
242	S	0.55
243	S	0.88
244	S	0.62
245	S	0.66
246	S	0.91
247	S	0.39
248	S	0.81
249	S	0.7
127	R	1.4
128	R	1.36
129	R	1.23
130	R	1.3
131	R	1.32
132	R	0.93
133	R	1.24
134	R	1.36
135	R	1.05
136	R	1.32
137	R	1.36
138	R	1.32
139	R	1.49
140	R	1.81
141	R	0.89
142	R	2.02
143	R	0.37

DQA Surface Soil Report

Basic Statistical Quantities Summary

Statistic	Survey Unit	Background	DQO Results
Sample Number	17	17	N/2=18
Mean (SOR)	0.82	1.28	0.39
Median (SOR)	0.88	1.32	N/A
Std Dev (SOR)	0.30	0.36	0.39
High Value (SOR)	1.43	2.02	N/A
Low Value (SOR)	0.37	0.37	N/A

Statistical Test Summary

Sum of Ranks:	595
Sum of Reference Ranks:	441
Critical Value:	345
Result:	Pass

Data	Type	Adjusted Data	Rank	Reference Rank
0.37	R	1.37	17	17
0.89	R	1.89	19	19
0.93	R	1.93	20	20
1.05	R	2.05	21	21
1.23	R	2.23	22	22
1.24	R	2.24	23	23
1.3	R	2.3	24	24
1.32	R	2.32	26	26
1.32	R	2.32	26	26
1.32	R	2.32	26	26
1.36	R	2.36	29	29
1.36	R	2.36	29	29
1.36	R	2.36	29	29
1.4	R	2.4	31	31
1.49	R	2.49	32	32
1.81	R	2.81	33	33
2.02	R	3.02	34	34
0.37	S	0.37	1	0
0.38	S	0.38	2	0
0.39	S	0.39	3	0
0.55	S	0.55	4	0
0.62	S	0.62	5	0
0.66	S	0.66	6	0
0.7	S	0.7	7	0
0.81	S	0.81	8	0

DQA Surface Soil Report

Statistical Test Summary

Data	Type	Adjusted Data	Rank	Reference Rank
0.88	S	0.88	9.5	0
0.88	S	0.88	9.5	0
0.91	S	0.91	11	0
0.92	S	0.92	12	0
0.98	S	0.98	13	0
1.01	S	1.01	14	0
1.09	S	1.09	15	0
1.28	S	1.28	16	0
1.43	S	1.43	18	0