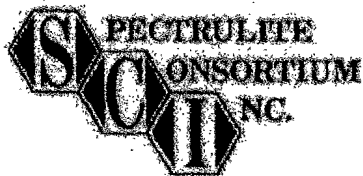


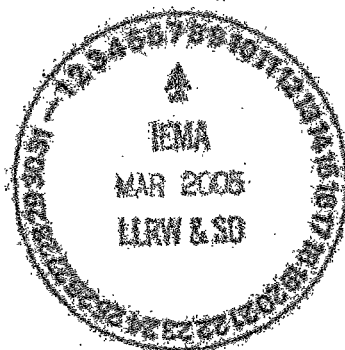
**FINAL RADIOLOGICAL
CHARACTERIZATION REPORT
ON THE
SPECTRULITE CONSORTIUM INC.
MADISON, IL FACILITY**



**PREPARED FOR:
SPECTRULITE CONSORTIUM INC
1001 COLLEGE STREET
P.O. BOX 258
MADISON, IL 62060**



**PREPARED BY:
PANGEA GROUP
2604 SOUTH JEFFERSON AVENUE
ST. LOUIS, MISSOURI 63118-1505
314-333-0600**



Radiological Characterization Report for the Spectrulite Consortium Inc. Madison, IL Facility

FINAL

March 2005

Prepared by

Pangea Group
2604 S. Jefferson
St. Louis, Missouri 63118

For the

Spectrulite Consortium, Inc.
1001 College Street
P.O. Box 258
Madison, IL 62060

Pangea Group
Radiological Characterization Report

Summary of Changes

This *Project Closure Report* is a final version. Any changed sections of future versions will be identified in the text.

Addendum Number	Date	Comments
Draft Version	02/03/2005	New Document
Revision 0, Final	03/04/2005	Format updated, additional maps added to Appendix D

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Signature Sheet



DOCUMENT TITLE:

**Radiological Characterization Report for the
Spectrulite Consortium Inc. Madison, IL Facility**

FINAL

March 2005

APPROVALS

Matthew Cushman

Matthew Cushman (Author)

03/04/05

Date

D. Hoffman

Daniel Hoffman, ZHP, CIH, CSP, CHMM, EH&S Manager

03/04/05

Date

1. Introduction and Purpose

This document provides the results of the radiological characterization of the Spectrulite Consortium Inc. (SCI) facility located in Madison, Illinois. Characterization of the facility was performed in accordance with the Final Radiological Characterization Survey Plan for the Spectrulite Consortium Inc. Madison, IL Facility (Ref 1), which was submitted to the IEMA, Nuclear Safety Division on April 30th, 2004.

The goal of the characterization effort was to provide an accurate evaluation of the radiological status of the SCI facility. The results of the measurements and sampling data have been used to evaluate the residual radiological contamination with respect to the Decontamination Guidelines contained in Illinois Administrative Code Title 32, Chapter II, Section 340, Appendix A (Ref.2), hereafter referred to as "decontamination guidelines". These decontamination guidelines have been included in this report as Appendix A.

This radiological investigation methodology used during the characterization effort was based on two primary guidance documents:

1. NUREG-1575, Multi-Agency Radiation Survey and Site Investigation Manual, (MARSSIM), Rev. 1, August 2000 (Ref. 3).
2. Draft NUREG/CR-5849, Manual for Conducting Radiological Surveys in Support of License Termination, June 1992 (Ref. 4).

The characterization effort was conducted in support of SCI's intention to terminate its Radioactive Materials License, number IL-01750-01. This report identifies radiologically impacted areas of the facility that will require remediation and/or further evaluation prior to the eventual termination of SCI's Radioactive Material's license.

2. Site History

The SCI site consists of a large, multi-sectional complex of ten interconnecting buildings with a total under-roof surface area of approximately 1.4 million square feet (32 acres). The plant is located at 1001 College Street on an 81-acre parcel of land located near the intersection of College and Weaver Streets in Madison, Illinois. SCI is the current owner of the buildings and property described above. In August 2003 Magnesium Elektron, Inc. (MEL) took ownership of the production operations at the facility. MEL is currently engaged in magnesium production activities at the site; however SCI retains ownership of the buildings and is the entity with responsibility for the radioactive materials license. A vicinity map is provided in Figure 1-1 and a site map is provided in Figure 1-2. Figure 1-2 includes building designation numbers for facilities at the site.

The U.S. War Services Administration originally constructed the facilities in the early 1940's for production of steel tank turrets to support WWII operations. Steel manufacturing operations ceased in 1945, at the conclusion of the war. Dow Chemical Company subsequently purchased the plant in 1951 and operated the facilities for the manufacture of aluminum and magnesium products until 1969, at which time the facilities were sold on a lease-purchase agreement to

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another firm. During the operation of the facility by Dow Chemical, a thorium-based hardener was used in magnesium alloys under a U.S. Atomic Energy Commission (AEC) license that dated from January 1, 1958.

During the late 1950s and early 1960s, the facility was also used for extrusion of uranium metal and straightening of extruded uranium rods for the AEC, predecessor of the current U.S. Department of Energy (DOE). Dow Chemical Company conducted this work under subcontract to the Uranium Division of the Mallinckrodt Chemical Works.

Remediation of uranium contamination was completed in 2000 under the Formerly Utilized Site Remedial Action Program (FUSRAP). The cleanup involved removal of residual contaminated dust from overhead beams that exceeded 20 pCi/g total uranium. Further, a limit of 300 pCi/g total uranium was established for difficult-to-access overhead surfaces.

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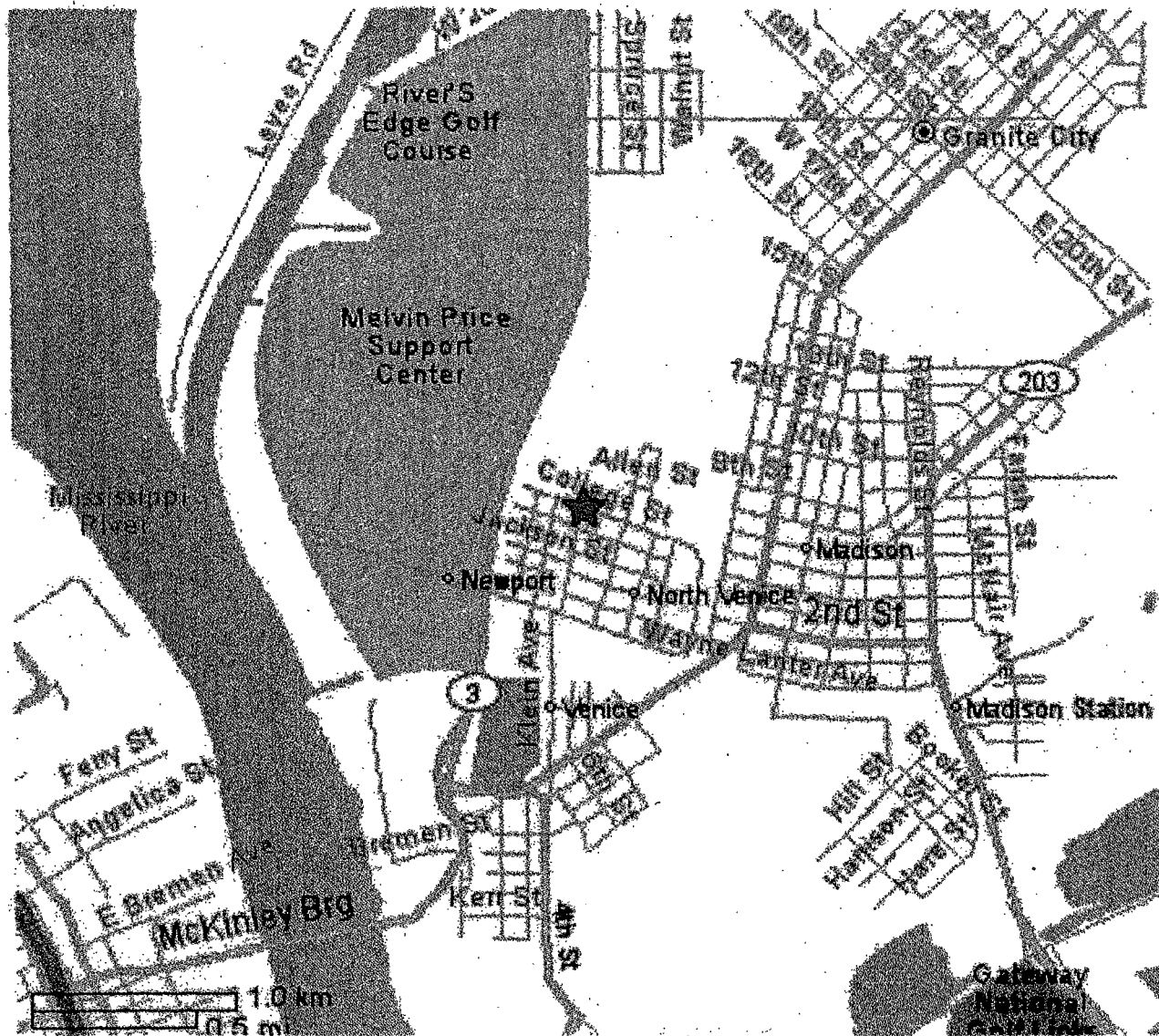


Figure 2-1
Vicinity Map

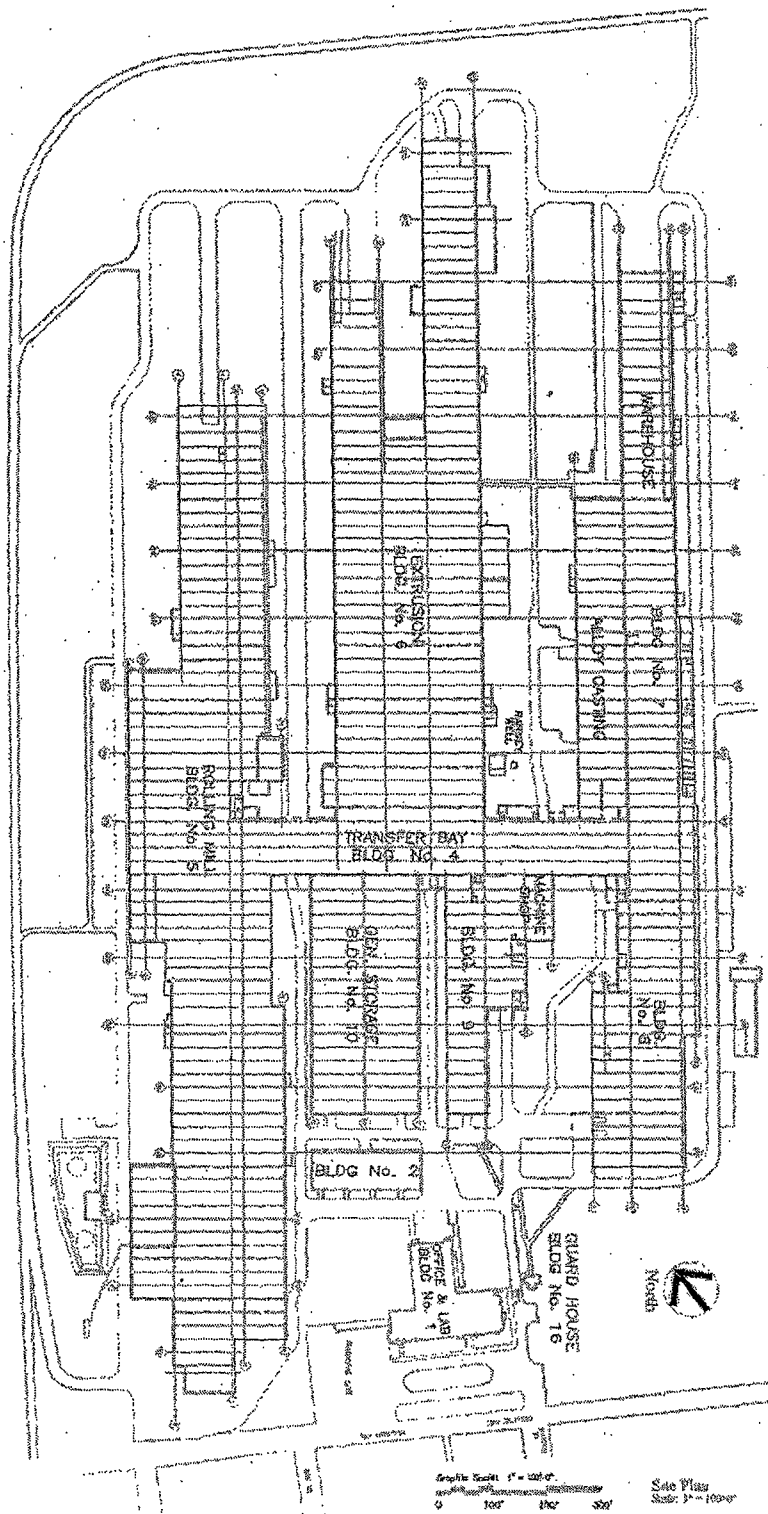


Figure 2-2
Facility Map

3. Prior Radiological Investigations

The SCI facility has been the subject of various radiological characterization efforts in the past. The results of the prior characterization activities are provided in the.

- 1998 Stan A. Huber Consultants, Inc. – Investigated Building 7 Dross Storage Room after removal of leaking barrels. Soil sampling immediately adjacent to room yields soil samples with 4.6 pCi/g or less. The report states that the elevated exposure readings (20 – 50 μ R/hr in the Building 7 Casting Area) are attributable to naturally occurring radionuclides in the brick.
- 1989 Oak Ridge National Laboratory (DOE) – Investigated floor and overhead beams of Building 6 for uranium contamination. Uranium content up to 360 pCi/g. Thorium 232 up to 7 pCi/g. (Ref 5)
- 2000 USACE – Remedial Investigation of Building 6, continuation of 1989 study under the FUSRAP. Gamma Exposure rates considered to be representative of normal levels. (Ref 6)
- 2003 – Pangea Inc. conducted a *Radiological Scoping Survey Report, Rev. 0* dated July 2003 (Ref. 7)
- 2004 – Prior to beginning the characterization effort, Pangea Inc. conducted sampling of an example piece of the Mg-Th product. The sampling yielded 15.2 pCi/g of Th-232 and 152 pCi/g of Th-230. Activity levels of Th-232 daughter products were 1-2 orders of magnitude above those of Th-232. The results of this sampling have been included as Appendix D.

A summary of the conclusions from the latter (Scoping Survey) report is provided below.

1. Elevated removable contamination and gamma flux rates were noted on the floors and walls of the Thorium Dross Storage Room located in Building 7.
2. Gamma flux rates of up to five times background were observed near soils from the “wash-out” area. Several pieces of Mg-Th product were identified from gamma flux monitoring.
3. Isolated areas that exhibited significantly elevated gamma count rates that were found to be attributable to the presence of items containing or manufactured from Mg-Th metal. These items have been subsequently collected and consolidated into a Mg-Th storage area in Building 6.
4. Gamma walkover surveys conducted on the floor surfaces within the buildings indicated elevated gamma count rates in isolated locations, particularly where refractory brick was present, in Buildings 5 and 7. The gamma count rates associated with refractory brick were typically in the range of 25,000 cpm, as compared to typical indoor background count rates of approximately 4,000 to 7,000 cpm. This gamma fluence rate equates to an estimated exposure rate of approximately 30 μ R/hr on contact, which is well below the Illinois Decontamination Guidelines, which identify a gamma dose rate limit of 250

$\mu\text{R/hr}$ at 1 cm. It was determined that further investigations would be necessary to evaluate the impact of the naturally occurring radionuclides in the refractory brick and to verify that the presence of radioactivity in those areas is not associated with previous Mg-Th operations.

5. All direct alpha measurements were found to be well below the surface contamination guideline levels (1000 dpm/100 cm² average and 5000 dpm/100cm² maximum) identified in the Illinois Decontamination Guidelines. Removable alpha activity measurements were also shown to be below the State criteria of 33 dpm/100cm² (average) and 100 dpm/100cm² (maximum), except in the dress storage room located in Building 5, where the maximum removable alpha activity was 264 dpm/100cm².
6. One hundred percent of the dust samples collected from the overhead beams in Buildings 4, 7 and 8 indicated the Th-232 concentration were less than 5 pCi/g above background. In Building 5, however, eight of the ten of the dust samples collected from the overhead beams contained Th-232 at concentrations above 5 pCi/g. The presence of higher contamination levels may be attributable to the fact that cutting operations of Mg-Th alloys previously took place within this building.
7. The sampling conducted on the overhead beams did not evaluate the total surface activity per unit area. Additional sampling was therefore required to determine surface activity levels in comparison to the Illinois Decontamination Guidelines.
8. Soil sampling indicated that a typical background soil concentration is approximately 1 pCi/g Th-232. Sampling results also indicated that Th-232 concentrations are present at the site in concentrations that exceed the State of Illinois Decontamination Guidelines. The primary area of contamination is located adjacent to and west of Building 7. The highest Th-232 soil concentration, approximately 1200 pCi/g, was measured in this area. A smaller area of contamination is located west of Building 5.

4. Building Interior Survey Methods and Results

The characterization of the Madison, IL facilities was focused on two main areas of interest, i.e., characterization of building interiors and characterization of exterior (soil contamination) areas. This section describes the methodologies used in the characterization of the internal areas, and the results of that investigation. Interior surveys included static measurements of alpha and beta radioactivity on floor and wall areas, scanning of floor areas and collection of debris/dust scraping from the overhead beams. Characterization of external areas is discussed in Section 5 of this report.

4.1 Classification of Building Interior Areas

As described in Characterization Survey Plan (Ref 1), areas to be investigated were separated into survey units using the protocol suggested by MARSSIM. All Survey Units were subjected to at least 30 direct alpha/beta measurements in static locations determined by using a triangular distribution with a randomized starting point. If alpha activity levels of any static scan were

determined to be higher than 100 dpm/100 cm², the area was subject to additional survey for removable activity via cloth smears. Class 1 and 2 Survey Units were subject to a scan with either a gas flow proportional counter or a ZnS based Scintillator probe sensitive to alpha and beta emissions. Scan rates were sufficiently slow to allow minimum detectable activities (MDAs) of no more than 200 dpm/100 cm², or 20% of the applicable decontamination guidelines of 1000 dpm/1000 cm². (Ref 2).

Two areas were determined to meet the Class 1 criteria, i.e. "Areas that have, or had prior to remediation, a potential for radioactive contamination (based on site operating history) or known contamination (based on previous radiation surveys) above the [cleanup limit]". The two areas, The Non-destructive Testing room in Building 8 and the Dross Storage Room in Building 7, were each treated as a single survey unit and subjected to a 100% scan. Both survey units included walls and ceilings (up to 8 feet) and contained less than 100 m² of surface area.

Two areas were determined to meet the Class 2 criteria, i.e. "Areas that have, or had prior to remediation, a potential for radioactive contamination, but are not expected to exceed the [cleanup limit]". The two areas, Building 5 and the Building 7 Casting Area, were separated into forty-two (42) Class 2 survey units consisting on no more than 1000 m² of surface area. All of the floors within the Class 2 survey units were subject to 10% scans. Due to the height of the ceilings and horizontal construction members and the high density of the wastes derived from cutting and shearing operations, there is little reason to suspect significant adherence to vertical surfaces. Therefore, no walls or ceilings were included within the Class 2 survey units.

4.2 Building Interior Static Measurement Results

Static surveys were conducted using a Ludlum 43-93 alpha/beta scintillation probe. Instruments were response checked before use and daily backgrounds were generated using five selected non-impacted areas in Building 9. These same five background generation areas were used throughout the characterization effort. Example response check and background generation records have been included in Appendix E.

4.2.1 Building 5 Static Survey Results

Building 5 was separated into thirty-seven (37) Class 2 Units for radiological survey. All static measurements, both fixed and removable, were found to be below the alpha decontamination guidelines of 1000 dpm/100 cm² and the beta decontamination guidelines of 1200 dpm/100 cm². Results of all static surveys have been included as Appendix B. Maps of the 37 Class 2 survey units have been included as Figure 4-1, *Building 5 Southern Survey Units* and Figure 4-2, *Building 5 Northern Survey Units*. The concept of "Plant North" was used in the design of all building interior survey units, to simplify recording of results and the replication of figures. The coordinate system used at the SCI plant has been replicated within the Class 2 survey units to simplify demarcations and because most of the support columns used in the plant's construction are spaced at 25-foot intervals, forming a natural grid. Grids lines running from the south to the north (plant north) are numbered, while the grid lines running from west to east are lettered. Table 4-1, *Building 5 Static Survey Results*, has been included to show the size of the individual survey units and their maximum measured activity levels.

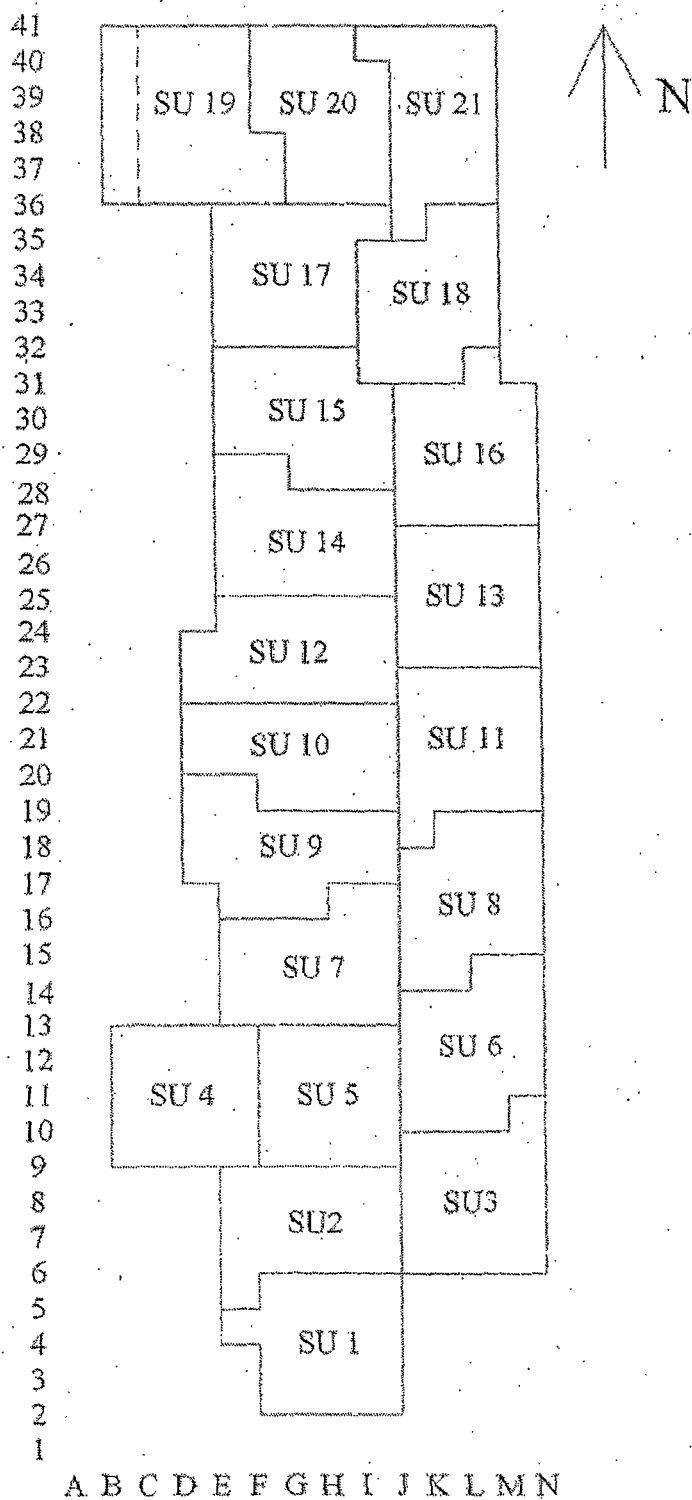


Figure 4-1
Building 5 Southern Survey Units

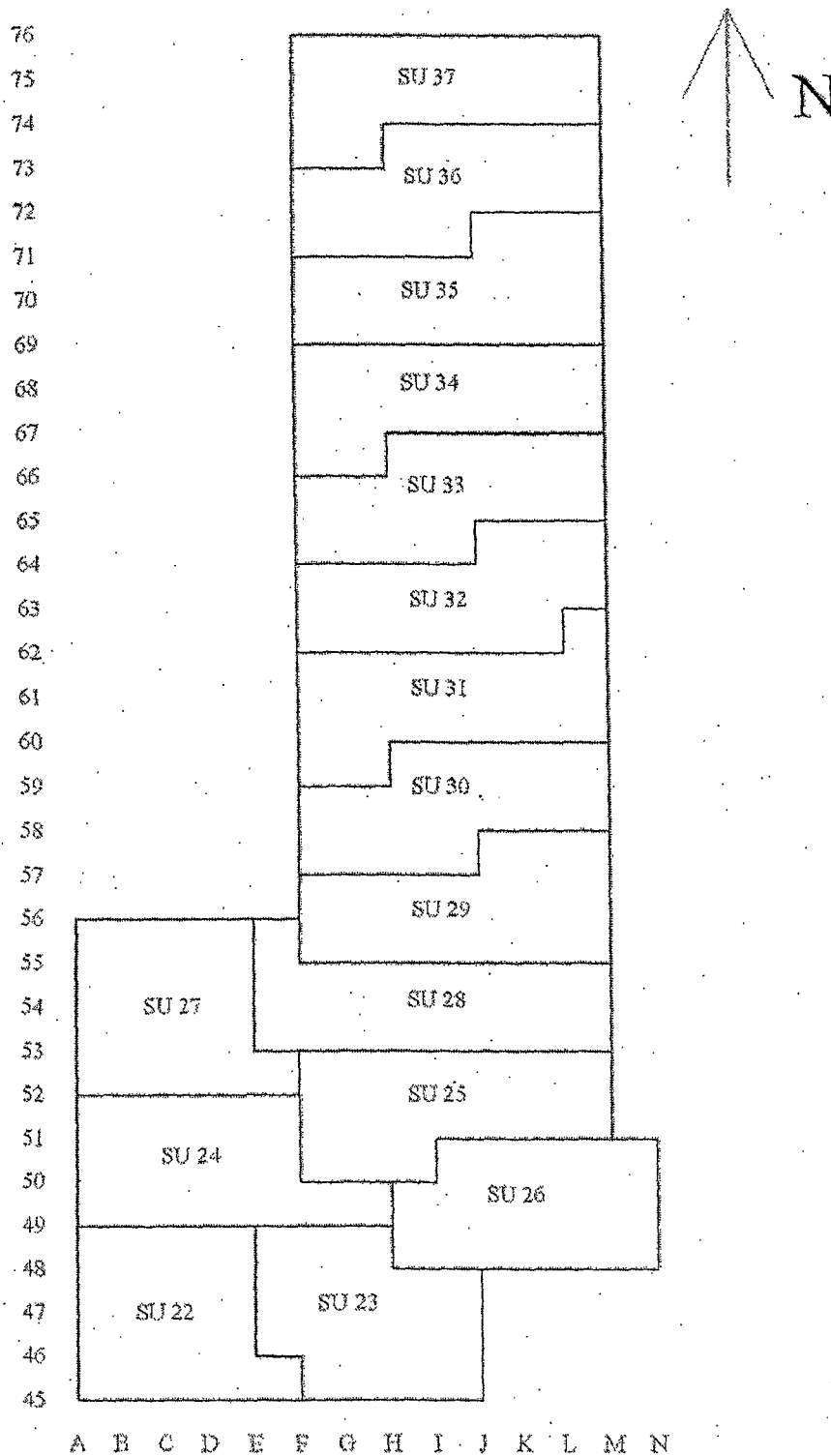


Figure 4-2
Building 5 Northern Survey Units

Survey Unit	Surface Area (m ²)	Maximum Activity (dpm/100cm ²)	
		Alpha	Beta
SU 1	987	43	135
SU 2	929	49	168
SU 3	987	81	210
SU 4	929	63	99
SU 5	929	52	201
SU 6	987	52	429
SU 7	987	79	363
SU 8	987	212	639
SU 9	987	120	270
SU 10	929	63	303
SU 11	987	110	369
SU 12	987	85	684
SU 13	929	85	228
SU 14	987	50	501
SU 15	987	39	387
SU 16	987	31	273
SU 17	987	60	273
SU 18	987	50	588
SU 19	987	84	138

Survey Unit	Surface Area (m ²)	Maximum Activity (dpm/100cm ²)	
		Alpha	Beta
SU 20	987	100	189
SU 21	987	78	333
SU 22	987	127	357
SU 23	987	62	144
SU 24	987	99	192
SU 25	987	531	84
SU 26	987	77	90
SU 27	987	104	279
SU 28	987	131	210
SU 29	987	43	270
SU 30	929	76	189
SU 31	987	65	150
SU 32	929	421	522
SU 33	929	54	165
SU 34	929	227	126
SU 35	987	32	111
SU 36	929	32	78
SU 37	929	27	135

Table 4-1
Building 5 Static Survey Results

4.2.2 Building 7 Static Survey Results

Building 7 contained 6 survey units, five (5) Class 2 survey units in the Casting Area, and one (1) Class 1 survey unit in the Dross Storage Room. Maps of the five Class 2 survey units have been included as Figure 4-3, *Building 7 Casting Area Survey Units*. While multiple beta/gamma measurements were found to be elevated (above background), all static measurements taken in the Class 2 survey units were found to have activity levels below decontamination guidelines. Static measurements taken on refractory brick show considerable difference between measured beta/gamma and alpha activity levels.

Multiple static measurements taken in the Dross Storage Room Class 1 area (SU 44) were found to exceed decontamination guidelines. Contamination levels were found to be highest on the floor, exceeding the decontamination guidelines by an order of magnitude. Measurements on the west, north, and south walls were also found to exceed decontamination guidelines. Table 4-2, *Building 7 Static Survey Results*, has been included to show the size of the individual survey units and their maximum measured activity levels.

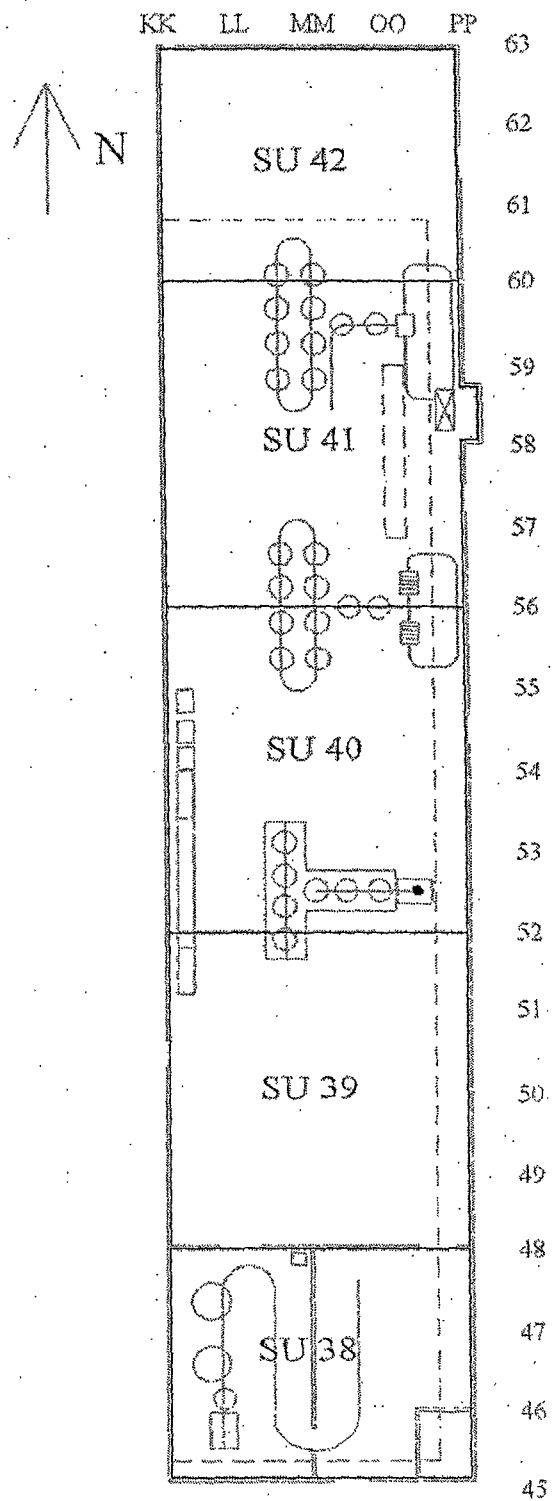


Figure 4-3
Building 7 Casting Area Survey Units

Survey Unit	Surface Area (m ²)	Maximum Activity (dpm/100cm ²)	
		Alpha	Beta
SU 38	554	48	1548
SU 39	779	22	1413
SU 40	852	81	1251

Survey Unit	Surface Area (m ²)	Maximum Activity (dpm/100cm ²)	
		Alpha	Beta
SU 41	836	53	1047
SU 42	586	53	1206
SU 44	52	2705	5484

Table 4-2
Building 7 Static Survey Results

4.2.3 Building 8 Static Survey Results

Building 8 Contained one (1) Class 1 survey unit, the Non-Destructive Testing (NDT) Room. All static measurements taken in the NDT room were found to be below the decontamination guidelines. The highest measured levels within the NDT room (SU 43) were 50 dpm/100 cm² of alpha activity and 492 dpm/100 cm² of beta activity.

4.2.4 Static Survey Quality Control Results

Approximately 11% of all static survey results were duplicated to ensure quality control goals were met. The average absolute difference for alpha measurements was 25%. The maximum absolute difference for alpha measurements was 157%, which is calculated as a difference of 54 dpm/100 cm². The average absolute difference for beta measurements was 7%. The maximum absolute difference for beta measurements was 36%, which is calculated as a difference of 225 dpm/100 cm².

4.3 Scanning Survey Results

Scanning surveys were conducted using a Ludlum 43-37 gas flow proportional detector that can detect both alpha and beta radiation for floors and a 43-37 or 43-93 alpha/beta scintillation probe for walls. The 43-37 was allowed to purge for no less than 60 minutes before use. Instruments were response checked before use and daily backgrounds were generated using five selected non-impacted areas in Building 9. The 43-37 was used in two configurations: 1) as part of horizontally mounted, cart-based system, and 2) as an independent probe for scanning wall sections. If a wall section was inaccessible due to the size of the 43-37 probe or the limitations of the gas delivery system, an α/β scintillator was used. At least 10% of all scanning survey results were duplicated to ensure quality control goals were met.

4.3.1 Building 5 Floor Scan Results

All survey units within Building 5 were classified as Class 2 survey units, and were subjected to survey of at least 10% of the floor area. Table 4-3, *Building 5 Static Survey Results*, has been

included to show the size of the individual survey units and their maximum measured activity levels.

Survey Unit	Surface Area (m ²)	Maximum Activity (dpm/100cm ²)	Survey Unit	Surface Area (m ²)	Maximum Activity (dpm/100cm ²)
SU 1	987	292	SU 20	987	483
SU 2	929	402	SU 21	987	333
SU 3	987	259	SU 22	987	383
SU 4	929	317	SU 23	987	321
SU 5	929	343	SU 24	987	513
SU 6	987	486	SU 25	987	291
SU 7	987	422	SU 26	987	303
SU 8	987	1504	SU 27	987	281
SU 9	987	486	SU 28	987	385
SU 10	929	446	SU 29	987	301
SU 11	987	388	SU 30	929	261
SU 12	987	536	SU 31	987	611
SU 13	929	512	SU 32	929	1133
SU 14	987	438	SU 33	929	223
SU 15	987	409	SU 34	929	287
SU 16	987	539	SU 35	987	299
SU 17	987	365	SU 36	929	251
SU 18	987	409	SU 37	929	215
SU 19	987	469			

Table 4-3
Building 5 Scanning Survey Results

In thirty-six (36) of 37 survey units, all scanning measurements were below the decontamination guideline of 1000 dpm/100 cm² established for alpha surface activity. Results of the scanning surveys have been included as Appendix C. Only two survey units, SU 8 and SU 32, were found to exhibit activity above 1000 dpm/100 cm². An annealing oven in SU 8 contains refractory brick that impacted the measurements in a localized area around the oven. The remainder of SU 8 exhibits more typical (near or at background) activity levels. Static measurements near the oven exhibit elevated activity levels, but all measurements were below decontamination guidelines.

SU 32 was the former location of a pickling line, which had been removed from the site prior to the characterization effort. Elevated activity was found in only one location in SU34, a drain. The drain in question is located near the western wall of Building 5, approximately twenty (20) feet from an area of elevated activity outside of Building 5. The area west of Building 5 was the subject of gamma walkover surveys and soil sampling discussed in Section 5 of this report.

4.3.2 Building 7 Floor Scan Results

The six (6) Class 2 survey units in the Building 7 Casting Area were subject to a scanning survey that encompassed 10% of the surface area. The results of the scanning surveys of Building 7 show elevated (above background) activity levels in most of the Class 2 survey units. Elevated activity level measurements within the Building 7 Casting Area are believed to be directly attributable to the naturally occurring radioisotopes found in the refractory brick that forms much of the area's flooring. Both the isotopic analysis of the refractory bricks and the disparity between alpha and beta activity levels found in the static measurements support this hypothesis. Further discussion of the composition of the refractory brick can be found in Section 4.4 of this report.

As a Class 1 survey unit, the Dross Storage Room (SU 44) was subject to a 100% survey. Measurements taken during the survey of the SU 44 indicate activity levels above decontamination guidelines. Table 4-4, *Building 7 Scanning Survey Results*, has been included to show the size of the individual survey units and their maximum measured activity levels.

Survey Unit	Surface Area (m ²)	Maximum Activity (dpm/100cm ²)
SU 38	554	1663
SU 39	799	1707
SU 40	852	1153

Survey Unit	Surface Area (m ²)	Maximum Activity (dpm/100cm ²)
SU 41	836	1137
SU 42	586	908
SU 44	52	35,879

Table 4-4
Building 7 Scanning Survey Results

4.3.3 Building 8 Scanning Survey Results

As a class 1 survey unit, the Non-destruction Testing (NDT) Room (SU 43) was subject to a scanning survey that encompasses 100% of the surface area of the room. While some measurements indicated elevated activity (above background), all measurements taken in the NDT Room were found to be below the decontamination guidelines. The highest measured activity level within the NDT Room (SU 43) was a beta emission of 1163 dpm/100 cm².

4.4 Rafter Sampling

Results of the 2003 Scoping Survey indicate elevated activity in dust found on the overhead beams (rafters) of Building 5. However, the methodology used in 2003 Scoping Survey did not quantify surface activity levels. In an attempt to address that issue, all rafter samples collected during this characterization effort were taken from a uniform area size, a 5" x 5" (161 cm²) square. The uniformity of sample area did not result in uniform sample mass, however, as the amount of materials settled onto the rafters varied greatly from building to building. The smallest sample was 2.4 grams (Building 4) and the largest sample was 576 grams (Building 7 Casting Area). Table 4-5 has been included to show the average sample weight, and average

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activity concentrations. Prior to sample collection, the samples areas were surveyed with a Ludlum 43-93 alpha/beta scintillator. The samples were then containerized and sent to the lab for analysis for gross alpha/beta activity. The results of the lab analysis indicate activity levels above applicable surface decontamination guidelines for both alpha and beta emissions. The activity concentrations measured via gross alpha/beta analysis are, on average, significantly higher than the earlier activity concentrations measured by the 2003 scoping survey via isotopic Thorium analysis. The gamma spectroscopy analysis indicates that the activity contribution of Thorium 232 and its daughter products is variable and in some samples accounts for as low as 25% of the total activity measured via the gross alpha/beta analysis. Due to the low activity contribution of Thorium to the activity levels measured, application of the decontamination guidelines to the gross alpha/beta results may not be appropriate. Complete results of the Rafter Sampling, including results of the direct alpha/beta survey, have been included in Appendix F.

Sampling Area	Average Sample Mass (g)	Average Gross Alpha Activity Concentration (pCi/g)	Average Gross Beta Activity Concentration (pCi/g)	Average Alpha Surface Activity Levels (dpm / 100 cm ²)	Average Beta Surface Activity Levels (dpm / 100 cm ²)
B4	153	57.7	33.3	12,100	7000
B5	61	19.5	21.3	1600	1800
B6	142	21.8	24.2	4200	4700
B7	239	33.9	31.7	11,100	10,400
B7 Casting	432	32.5	39.7	19,200	23,400
B8	307	16.2	25.9	6800	10,900

Table 4-5
Average Rafter Sampling Results

4.5 Refractory Brick Sampling

Refractory bricks can be found in several buildings of the SCI facility, most notably in the Building 7 Casting Area, the heat treatment oven of Building 5, and in the storage areas of Building 4. During the scoping survey of 2003, it was noted that elevated activity measurements in several areas were likely due to naturally occurring radiation emitted by nearby refractory bricks. As a part of this characterization effort, a representative sampling of the refractory bricks found on site were sent to the lab for analysis. Four types of refractory bricks were found in the SCI Facility: 1) New Flat Rectangular Bricks, 2) Used Brick from the Building 7 Casting Area, 3) Excess Oven Bricks from Building 5 and 10, and 4) Interlocking Oven Bricks from Building 5. All the samples collected were visibly free of product, and none evidenced elevated removable activity. The refractory brick samples were subjected to gamma spectroscopy and isotopic thorium laboratory analysis. Results of the sampling (in pCi/g) have been included as Table 4-6, *Refractory Brick Sampling Results* and Table 4-7, *Refractory Brick Isotopic Summary*. Lab analysis indicates that the refractory bricks contain elevated levels of radioactive isotopes, mostly from the Thorium-232 and Uranium-238 decay chains. The levels of activity indicated would be sufficient to register as elevated beta or gamma activity on any radiological survey performed in an area that contained or was near refractory bricks. In areas where the flooring is

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made of refractory bricks, such as the Building 7 Casting Area, the background activity levels would be much higher than in areas where these materials are not present.

Brick Type	Sample Number	Ac 228	Bi 212	Bi 214	Pb 210	Pb 212	Pb 214	K 40
1	SCI-RB-N-FR	3.6		2.90	4.3	2.95	3.32	
2	SCI-RB-V-C	2.14		1.59		3.16	1.75	9.5
3	SCI-RB-V-B5B10	2.32	0.7	1.73		2.25	1.68	7.5
4	SCI-RB-INTER-B5	3.4	2.0	2.61		3.92	2.49	6.7
Brick Type	Sample Number	Ra 228	Tl 208	Th 228	Th 230	Th 232	Th 234	U 238
1	SCI-RB-N-FR	3.58	0.95	3.79	3.63	3.58		
2	SCI-RB-V-C	2.14	1.18	2.70	1.73	2.14		
3	SCI-RB-V-B5B10	2.32	0.78	1.84	1.54	2.32		
4	SCI-RB-INTER-B5	3.42	1.01	3.68	3.51	3.42	4.53	4.53

Table 4-6
Refractory Brick Sampling Results

Brick Type	Sample Number	Total Activity Concentration	Th-232 + Daughters Activity Contribution	Percent Contribution
1	SCI-RB-N-FR	32.6	18.45	57%
2	SCI-RB-V-C	28.03	13.46	48%
3	SCI-RB-V-B5B10	24.98	12.53	50%
4	SCI-RB-INTER-B5	45.22	20.85	46%

Table 4-7
Refractory Brick Isotopic Summary

5. Building Exterior Characterization Methods and Results

Based on the results of the Scoping Survey, two exterior areas were identified that exhibited elevated radioactivity. The first area is located North of Building 4 bound by the west wall of Building 7 and the east Building 6. The second, a much smaller area, is located directly west of the location of a former pickling operation inside Building 5. Using the data obtained during gamma walkover surveys, the areas were classified for further investigation per the MARSSIM protocol. The large area north of Building 4 was separated into five (5) Class 1 survey units, and one (1) Class 2 survey unit. The area west of Building 5 was determined to meet the Class 1 criteria, and was small enough to require only one survey unit. The location of the two areas has been indicated in Figure 5-1, *Locations of Exterior Survey Units*.

5.1 Gamma Walkover Methodology

Gamma walkover surveys were performed using a Ludlum 44-10 2" x 2" NaI detector tasked to a Ludlum 2221 meter. Whenever possible, the data from the gamma walkover surveys was captured using a Trimble XT handheld GPS/datalogger. The GPS/datalogger made it possible to record measurements once per second with both sensor data and location. During post-

processing, the data was used to create detailed activity level maps to aid in the evaluation of areas for characterization and eventual remediation. The activity level map of the area north of Building 4 has been included as Figure 5-3, *Gamma Walkover Survey Measurements*.

GPS-based walkover survey methods are capable of providing excellent information about the spatial distribution of contamination in a survey area; however, such systems rely on signals from a network of constantly moving satellites. As such, there are limitations in close proximity to tall structures, causing decreased accuracy, or even entirely disabling the ability of GPS system to determine position. In those portions of the outdoor survey unit areas where the GPS signal was not reliable, data was recorded manually.

5.2 Gamma Walkover Survey Results

Gamma walkover surveys of the area north of Building 4 were performed using the GPS data-logging methodology described above. While activity levels near the "pot wash" area in the southeast portion of this area were above the decontamination guidelines, most of the locations exhibited activity levels at or near background. Two potential hot spots were located outside of the "pot wash" area along the roadway to the north. These elevated activity levels required separating most of the area into five (SU 1 - 5) Class 1 survey units. The remainder of the area was captured in a Class 2 survey unit, SU 6. A figure showing the setup of the survey units has been included as Figure 5-2, *Location of Survey Units 1 -6*. A figure showing the results of the GPS walkover survey has been included as Figure 5-3, *Gamma Walkover Survey Measurements*. Color temperature indicates activity levels. Greens indicate background or near background activity levels, yellow indicates levels at least 1.5 times background, orange indicates levels at least 3 times background, and red indicates levels greater than 5 times background.

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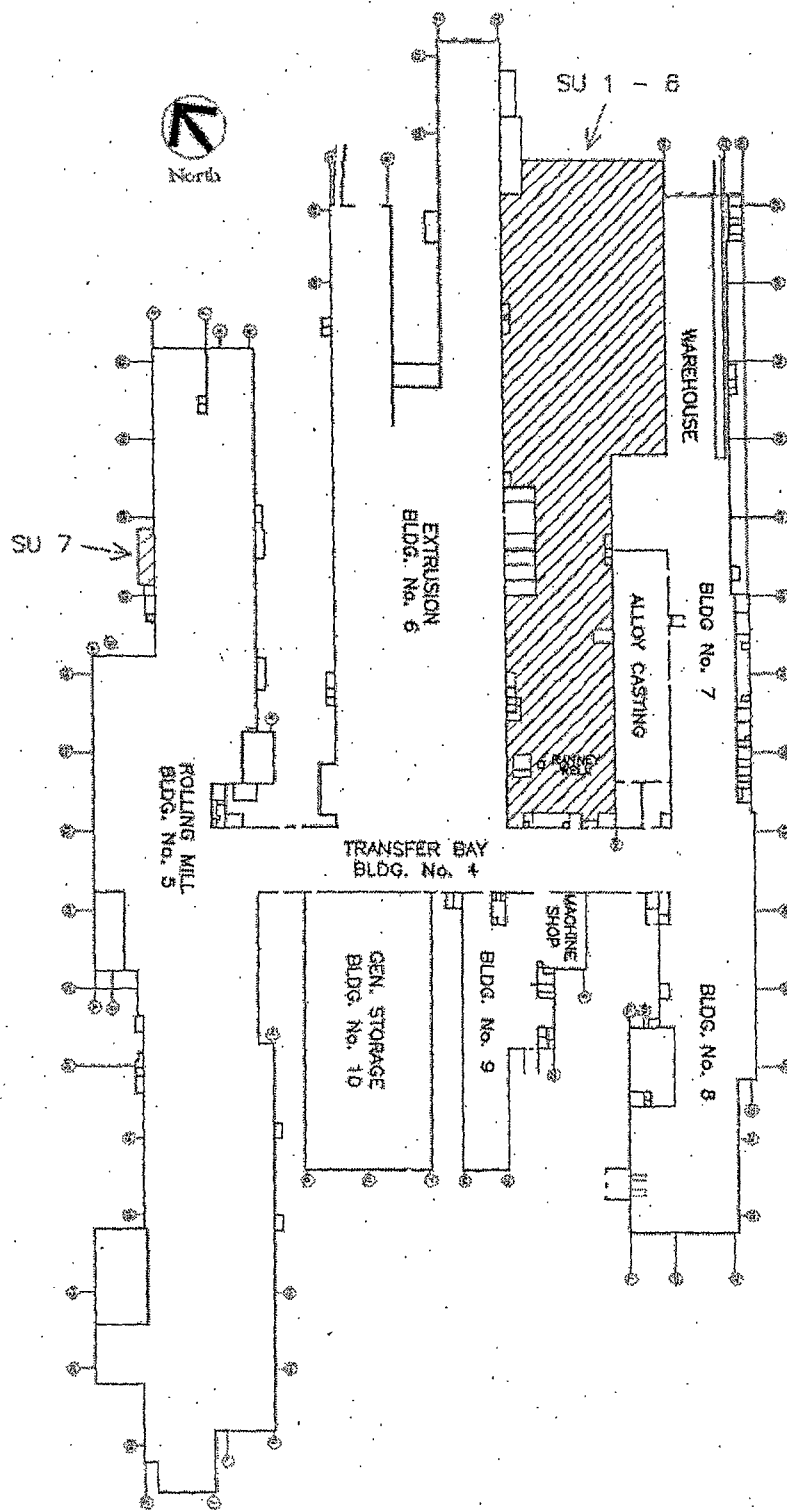


Figure 5-1
Locations of Exterior Survey Units

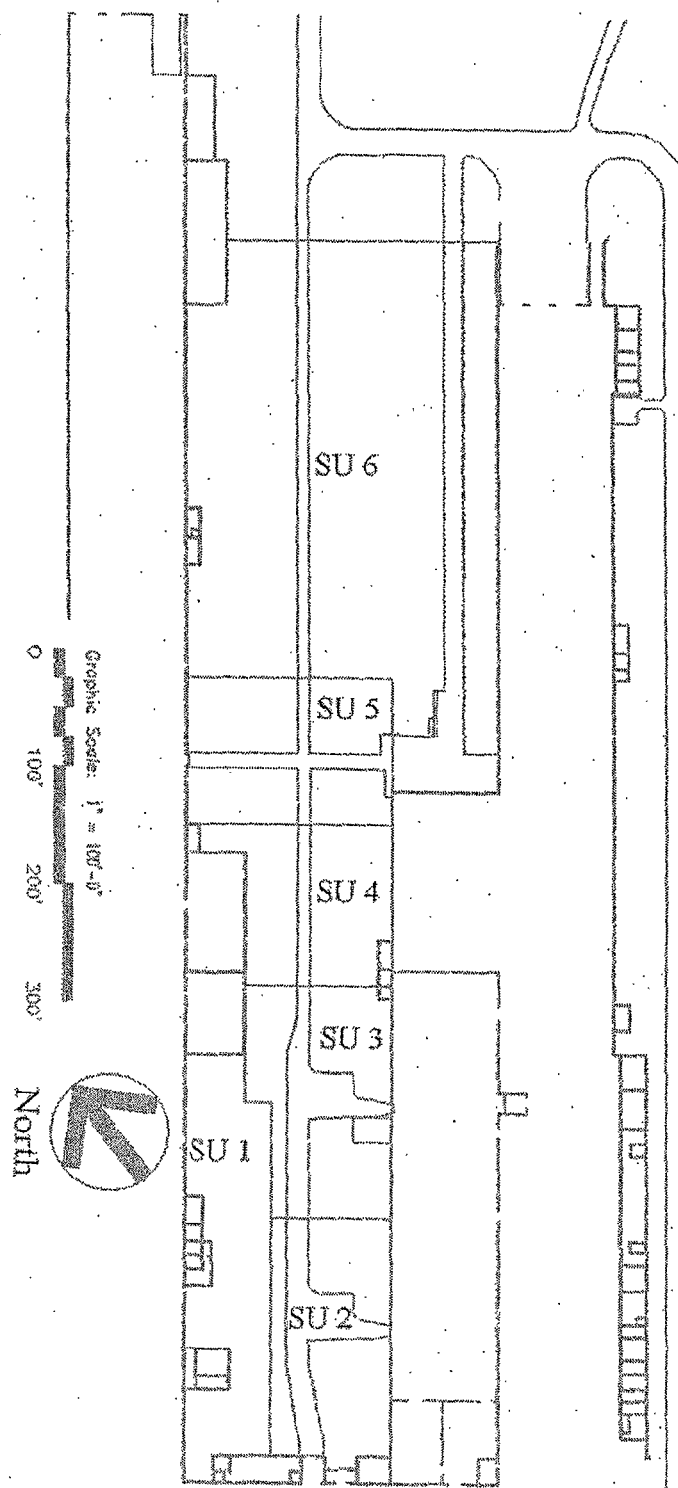
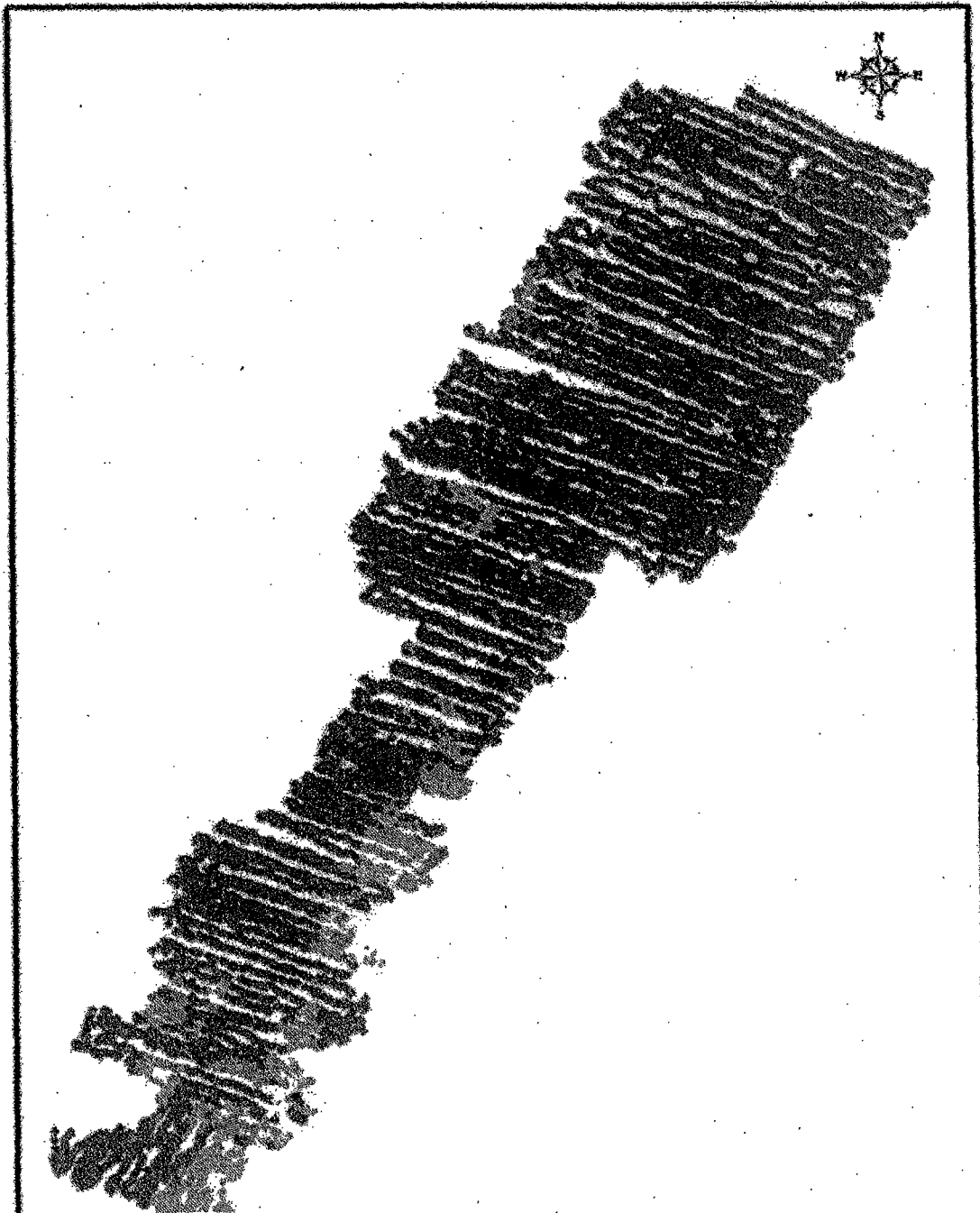


Figure 5-2
Location of Survey Units 1 -6

Pangea Group
Radiological Characterization Report



The gamma walkover survey of the area west of building 5 (SU 7) was completed without using the GPS walkover methodology. Due to the proximity of the contaminated soils to the western wall of Building 5 (approximately 8.5 feet), satellite signals were masked preventing the use of the GPS datalogger. The gamma walkover survey was performed manually, and indicated that the only area of elevated activity was that of a hot spot located during the 2003 scoping survey. The position of the elevated activity levels in SU 7 is very near that of drain with elevated activity level inside of Building 5 (SU 32). The elevated activity levels in SU 7 would appear to be directly related to the pickling line formerly located in Building 5.

5.3 Soil Sampling Methods and Results

Sampling was accomplished using a truck mounted, direct-push, soil sampling rig driving two-inch wide, four foot long (2" x 48") macrocores. The soil captured within the polyester tubes was measured and split into eight (8) sections to correspond to the six-inch (6") intervals that were necessarily compressed within the core sample. The core sections were then homogenized and screened using a Ludlum 44-9 Geiger-Mueller detector. The first two samples from every core, corresponding to the top twelve inches (12"), were sent to the lab for analysis, along with any samples that evidenced activity levels at or higher than twice background. In addition, any samples "above" the elevated sample were sent to lab along with the sample directly below the elevated sample. Every tenth sample was split to ensure that quality control goals were met. Soil colors and types were logged, and all samples were archived for later retrieval.

Soil sampling locations were initially laid out using a triangular pattern without bias to utilities or the limitations of sampling equipment. The individual positions were then adjusted to allow for sample acquisition. Underground utilities servicing Buildings 4, 5, and 6 are extensive and any future sampling or remediation efforts should account for the profusion of buried lines.

Results of the sampling have been included as Figure 5-4, *Soil Sampling Results* and Figure 5-5, *SU 7 Soil Sampling Results*. Color temperature indicates the depth of soils found to have activity levels higher than 5 pCi/g. Full sampling results have been included as Appendix G. Locations of elevated activity found during soil sampling correspond to locations of elevated activity found during the GPS walkover survey. The isotope most commonly found to have elevated activity levels during lab analysis of the soil samples was Potassium-40. K-40 was detected in multiple samples in concentrations above 5 pCi/g. These concentrations are representative of normal background concentrations for common soil types in this region. For this reason, K-40 data is not included in Figures 5-4 or 5-5.

No soils found in SU 6 had activity levels above decontamination guidelines. Only one soil sample in SU 5 was found to have activity levels above decontamination guidelines, 7.52 pCi/g at 6" of depth. SU 1 contained 5 samples with activity levels above decontamination guidelines, none deeper than 12" or higher than 11.9 pCi/g. Activity levels in these areas are consistent with earlier soil sampling results from the 2003 Scoping survey.

Soils with activity level in excess of the decontamination guidelines were found at 18 – 24 inches in SU 2, SU 3, SU 4, and SU 7. SU 2 has activity levels as high as 208 pCi/g and activity levels above decontamination guidelines in 17/35 locations. SU 3 has activity levels as high as 397

Pangea Group
Radiological Characterization Report

pCi/g and activity levels above decontamination guidelines in 12/34 locations. SU 4 has activity levels as high as 648 pCi/g and activity levels above decontamination guidelines in 7/30 locations. SU 7 has activity levels as high as 43.6 pCi/g and activity levels above decontamination guidelines in 3/30 locations. Discounting the highest of the biased soil sampling results, activity levels in these areas are analogous to those taken during the scoping survey, whose average biased sample results were approximately 81 pCi/g. None of the samples taken from the unbiased sampling grid during the exterior characterization effort was found to have activity levels at or above the 1220 pCi/g found during the biased sampling of the scoping survey.

Survey Unit	Number of Samples	Number of Samples w/ Activity above	Max Depth of Elevated Activity	Max Th-230 Activity	Max Th-232 Activity
SU 1	30	5	12"	11.9	3.7
SU 2	35	17	18"	208	25.5
SU 3	34	12	18"	397	34.9
SU 4	30	7	18"	648	157
SU 5	34	1	6"	7.5	1.8
SU 6	33	0	N/A	2.8	1.6
SU 7	30	3	24"	43.6	25.2

Table 5-1
Soil Sampling Results

Impacted soils with activity levels exceeding the decontamination guidelines cover approximately 18,000 square feet, mostly from survey units north of Building 4. Volume estimates for soil requiring remediation, assuming removal of 12-24 inches of soil, approach 20,000 cubic feet. In SU 2 and SU 3, the activity levels of Th-230 are an order of magnitude higher than those of Th-232, which matches the activity level found in the sampled Mg-Th material mentioned in Section 3.0

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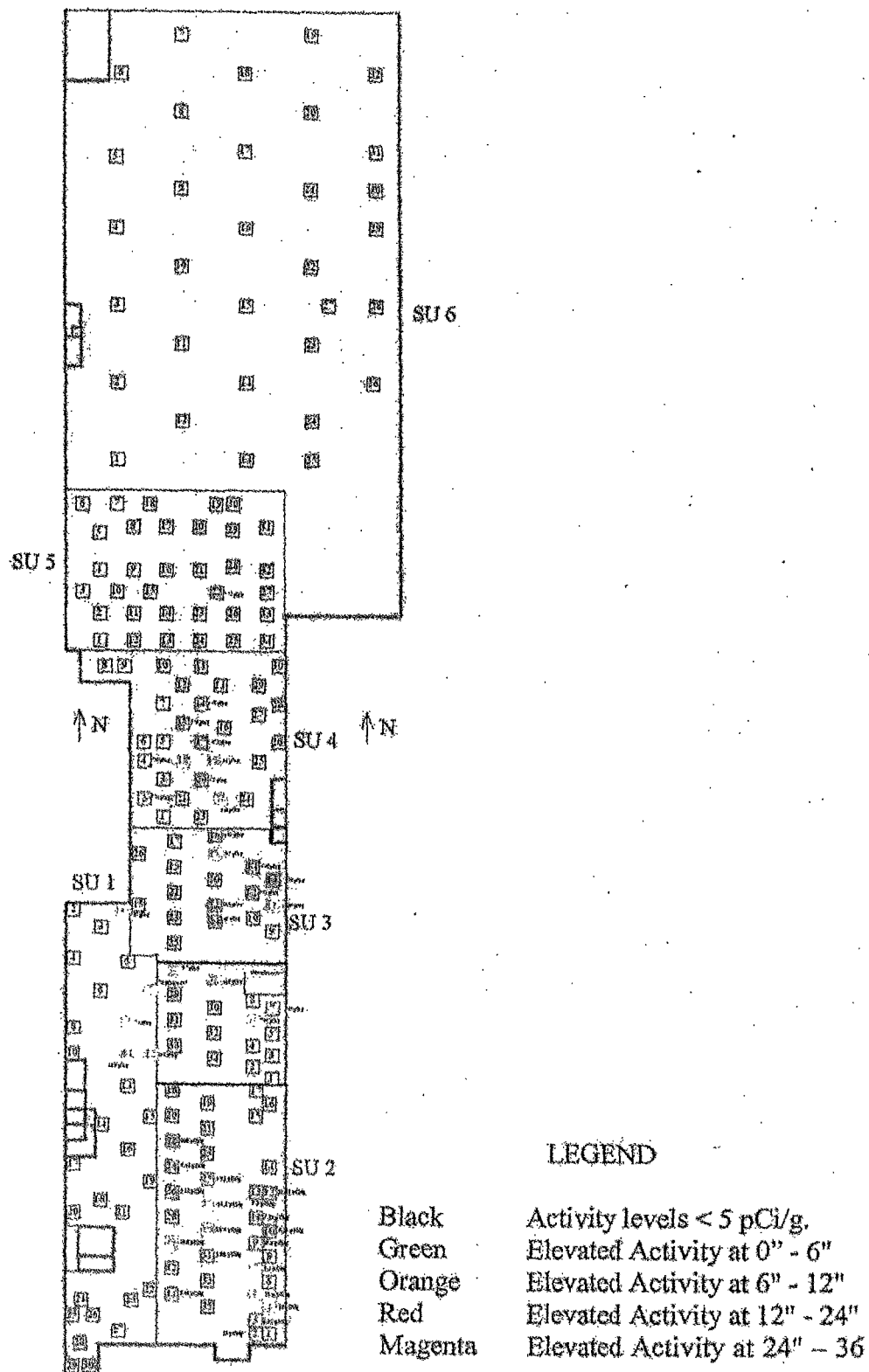


Figure 5-4.
Soil Sampling Results

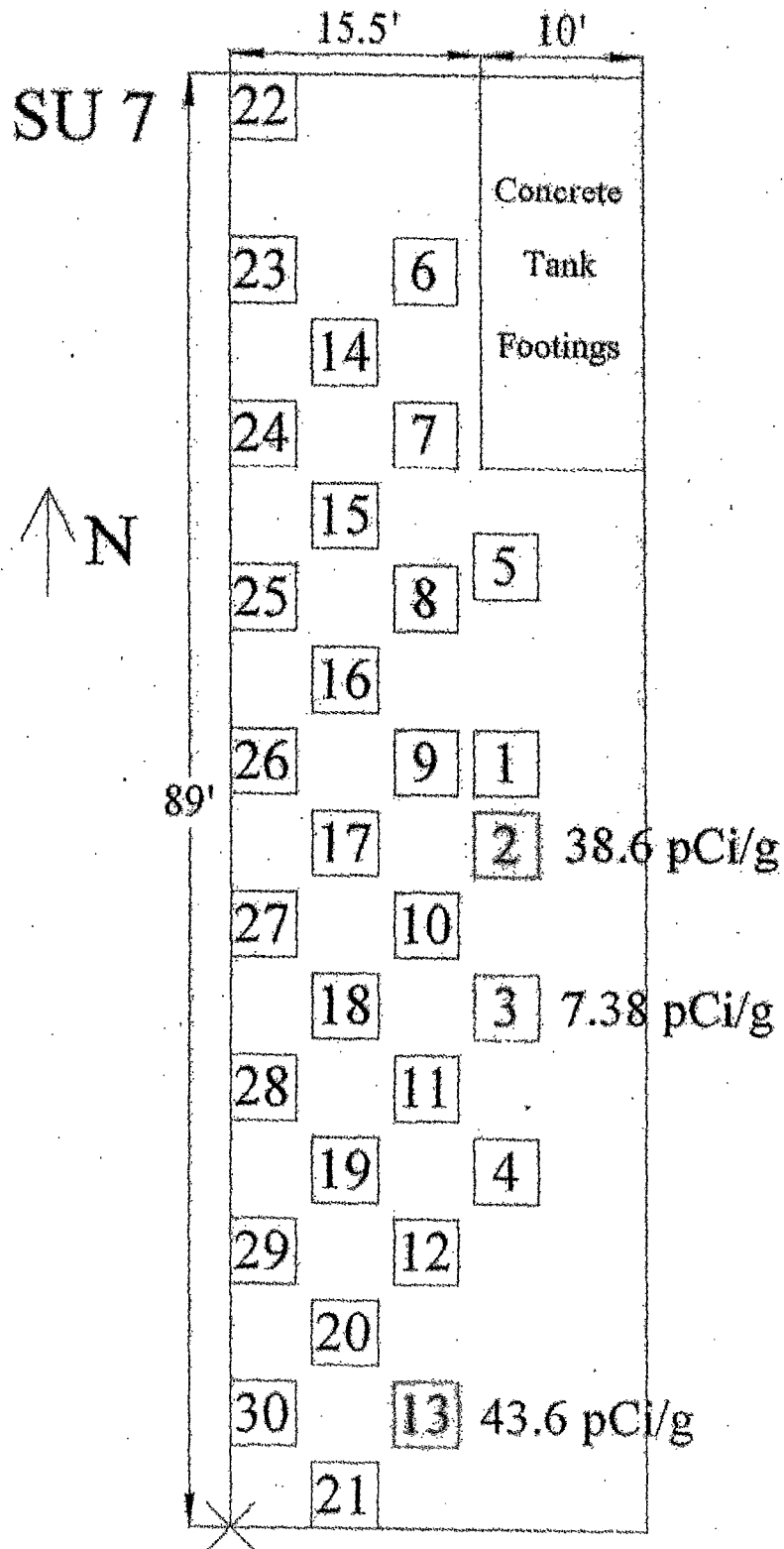


Figure 5-5
SU7 Soil Sampling Results

6. Summary and Conclusions

The purpose of the radiological characterization of the SCI Madison, IL Facility was to gather data on the radiological conditions of the Madison Plant in sufficient detail to determine the status of the facility with respect to the Decontamination Guidelines promulgated under the State of Illinois. The data will be used to support remediation and eventual termination of the SCI Radioactive Materials License, License No. IL-01750-01. More specifically, the characterization effort was conducted to determine the radiological condition of previously identified areas in Building 5, 7, and 8 and quantify any elevated activity levels or residual materials. This was done through the use of static surveys capable of detecting and quantifying alpha and beta emissions and floor scans using a gas flow floor scanners also capable of detecting both alpha and beta emissions. A total of 44 interior Class 1 and Class 2 survey units were subjected to static and scanning surveys. Rafters throughout Buildings 4, 5, 6, 7, and 8 were surveyed for elevated activity levels and samples of accumulated dust were analyzed for radiological content.

Exterior areas were also characterized via gamma walkover surveys and subsequent soil sampling. A total of 226 soil cores were removed, evaluated, separated, scanned, and placed into a total of 1854 sample jars. A total of 549 samples were sent off-site for laboratory analysis. The remainder were archived for retained for possible future analysis.

Conclusions

1. The Building 7 Dross Storage Room floor and portions of the lower wall areas exceed the State of Illinois decontamination guidelines.
2. Soils located north of Building 4 and west of Building 5 (up to a depth of 24") are significantly above the State of Illinois decontamination guideline of 5 pCi/g for Thorium-232.
3. Soils located north of Building 4 and west of Building 5 (up to a depth of 24") are significantly above the State of Illinois decontamination guideline of 5 pCi/g for thorium.
4. Elevated surface activity levels found in the Building 7 Casting Area and SU 8 in Building 5 are directly attributable to naturally occurring radioactive material found in refractory brick.
5. Elevated activity levels found in the rafter samples exceed the surface activity decontamination guidelines. It should be noted that other naturally occurring radionuclides are present in the rafter dust in addition to Th-232 and its daughter products.

7. References

1. Pangea Inc., *Final Radiological Characterization Survey Plan for the Spectrulite Consortium Inc. Facility*, Rev. 0, April 2004.
2. 32 Ill. Adm. Code, Chapter II, Section 340, Appendix A, *Decontamination Guidelines*.
3. NUREG-1575, USEPA, NRC, DOD, and DOE, *Multi-Agency Radiation Survey and Site Investigation Manual*, (MARSSIM), Rev. 1, August 2000.
4. Draft NUREG/CR-5849, *Manual for Conducting Radiological Surveys in Support of License Termination*, June 1992.
5. Oak Ridge National Laboratory, *Preliminary Results of the Radiological Survey at the Former Dow Chemical Company Site, Madison, Illinois*, ORNL/TM-11552, December 1990.
6. U.S. Army Corps of Engineers, St. Louis District Office, *Remedial Investigation Report for the Madison Site, Madison, Illinois*, January 2000.

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Appendix A

State of Illinois Decontamination Guidelines

TITLE 32: ENERGY
CHAPTER II: ILLINOIS EMERGENCY MANAGEMENT AGENCY
PART 340 STANDARDS FOR PROTECTION AGAINST RADIATION
SECTION 340.APPENDIX A DECONTAMINATION GUIDELINES

Section 340.APPENDIX A Decontamination Guidelines

a) Surface Contamination Guide

Alpha Emitters:

Removable	555 mBq per 100 cm ² = 15 pCi per 100 cm ² = 33 dmp per 100 cm ²	average over any one surface
	1.67 Bq per 100 cm ² = 45 pCi per 100 cm ² = 100 dpm per 100 cm ²	maximum
Total (fixed)	16.7 Bq per 100 cm ² = 450 pCi per 100 cm ² = 1,000 dpm per 100 cm ²	average over any one surface
	83.3 Bq per 100 cm ² = 2,250 pCi per 100 cm ² = 5,000 dpm per 100 cm ²	maximum

2.5 microSv per hour at 1 cm from surface =
250 microrem per hour at 1 cm from surface

Beta-Gamma Emitters:

Removable (all beta- gamma emitters except hydrogen-3)	3.7 Bq per 100 cm ² = 100 pCi per 100 cm ²	average over any one surface
	18.5 Bq per 100 cm ² = 500 pCi per 100 cm ²	maximum
Removable (hydrogen- 3)	37 Bq per 100 cm ² = 1,000 pCi per 100 cm ²	average over any one surface
	185 Bq per 100 cm ² = 5,000 pCi per 100 cm ²	maximum

Total 2.5 microSv per hour at 1 cm from surface =
(fixed) 250 microrem per hour at 1 cm from surface

b) Concentration in air and water: Appendix B, Table I and II of 10 CFR 20.

- c) Concentrations in soil and other materials except water:
- 1) Radioactive material except source material and radium: Column II of 32 Ill. Adm. Code 330. Appendix A.
 - 2) Source material and radium: Concentration of radionuclides above background concentrations for total radium, averaged over areas of 100 square meters, shall not exceed:
 - A) 185 mBq (5 pCi) per gram of dry soil, averaged over the first 15 centimeters below the surface; and
 - B) 185 mBq (5 pCi) per gram of dry soil, averaged over layers of 15 centimeters thickness more than 15 centimeters below the surface.
- d) The level of gamma radiation measured at a distance of 100 centimeters from the surface shall not exceed background.

AGENCY NOTE: This Appendix shall be used only as a guide. The Department may require lower values in specific instances, depending upon radionuclides, type of surface, intended present and future use, etc.

Appendix B

Static Survey Results

Exhibit A
Radiological Survey Report Form

Page 1 of 3

Description: Characterization Survey - Survey Unit 1										
Date:	07/26/2007	Time:	1200	Survey No:	CR-002401-21	Ref No:	N/A			
Purpose of Survey (For Release Surveys Include Reason(s))						Status Measurements in SU 1				
Instrument Data Instrument Manufacturer: ☐ Dose ☐ Dose Rate ☐ LDR ☐ ☐ ☐										
Reader Type	Detector ID	Detector Cal Due	Model Type	Year Bt	Year Cal Due	Serial No.	Range Type	Operating Rate	MRA (dpm)	
43-10-1	PH070114	02/2005	2229	1999-1	09/2005	4	0-42	2.9	53	
						15	0-1.2	1.3	56.5	
43-98	PH000112	02/2005	2229	1999-1	09/2005	6	15	3.4	71.5	
						15	0-1.2	1.4	77.5	
44-9	PH000115	02/2004	3	1972-1	02/2004	15-0000	0-1	39	71.5	
N/A	N/A	N/A	Model 19	2073	04/2005	Range 0-1	N/A	N/A	100	
Survey Results		Scalable Reader				Direct Readings				
Sample Number	Description/Location	Gross R. (CPM)	Net R. (CPM)	Gross R. (CPM)	Net R. (CPM)	Gross R. (CPM)	Dose Rate (mR/hr)	Time by CPM	Net R. (CPM)	Exposure Rate (mR/hr)
1	sample location (see map)					24	0.2	210	0.1	N/A
2						7	0.1	140	0.05	
3						21	0.2	210	0.1	
4						14	0.1	140	0.1	
5						12	0.1	120	0.1	
6						17	0.1	170	0.1	
7						14	0.1	140	0.1	
8						15	0.1	150	0.1	
9						21	0.2	210	0.1	
10						4	0.04	40	0.05	
11						16	0.1	160	0.1	
12						10	0.1	100	0.1	
13						11	0.1	110	0.1	
14						16	0.1	160	0.1	
15						12	0.1	120	0.1	
Remarks: Field Data for 43-92 generated on 5/26/04 TSP - No Contamination Found in SU 1										
Distribution (Signature/Date): <u>OS, LGE</u> <u>10/26/07</u>						N/A				
Project Review: <u>W. J. L. L.</u> <u>10/26/07</u>						N/A				

Description: Characterization Survey - Survey Unit 1										
Date: 08/24/2004		Time: 1000		Survey No: CH-00240-01		RWY No: N/A				
Survey Results		Stereocable Results				Direct Readings				
Sample Number	Description/Remarks	Count & Percentage CPM	Peak & Percentage Count Rate	Count & Percentage CPM	Net & Percentage Count Rate	Count CPM	Net Count DPM	Count CPM	Net Count DPM	Remarks
15						10	27	23	35	
16						15	6	22	25	
18						10	27	205	125	
19						22	28	245	42	
20						14	22	274	42	
21						18	0	258	4	
22						13	41	150	30	
23						18	41	200	90	
24						10	27	262	4	
25						16	2	203	29	
26						18	0	242	24	
27						18	27	272	35	N/A
28						12	16	271	23	
29						14	5	268	24	
30						12	16	249	25	
31	Duplicate Count for 24					14	16	269	24	
32	Duplicate Count for 25					12	5	272	29	
33	Duplicate Count for 26					20	22	268	24	
34	Duplicate Count for 27					11	22	239	3	
35										
36										
37										
38										
39										

Remarks: Field Book Entries for 45-49 generated on 8/25/04

Inspector's Signature: [Signature] 13:34 N/A

Project Review: [Signature] 14:05 N/A

Exhibit C
 Radiological Survey Report Form

Page 3 of 3

Description: <u>Chemical Detection Survey - Facility Unit 1</u>			
Date: <u>08/26/2004</u>	Time: <u>1000</u>	Survey No: <u>CH-000004-01</u>	RVP No: <u>NA</u>

Survey Diagram:

Legend: (1) Fixed/Removable Location (2) Original Survey Location (3) Found Asset Boundary

Remarks: NA

Technician(s) Signature/Date: <u>[Signature]</u> / <u>8/26/04</u>	NA
Project Review: <u>[Signature]</u> / <u>8/26/04</u>	NA

Exhibit A
Radiological Survey Report Form

Description: Characterization Survey - Survey Unit 1									
Date: 08/27/2004	Time: 07:30	Survey No: CA-082704-01	RWP No: N/A						
Purpose of Survey (For Release Surveys Include Recipient): State Measurements in SLL 2									
Instrument Data: ☐ Scintillation Counter ☐ Plastic ☐ Ionization ☐									
Source Type	Isotope(s)	Source Cat. No.	Lot #	Serial #	Model Cat. No.	Manufacturer	Cal. Exp.	Calibration Date	Cal. Type
75-70-1	FR-177000	427000	2075	700015	200000	0	002	20	01
						0	002	20	002
75-70	FR-177000	427000	2075	700015	200000	0	002	20	002
						0	002	20	002
402	FR-177000	427000	1	171001	001201	FR-177000	07	20	703
001	N/A	N/A	Serial 17	001	400000	000000	000	000	000
Survey Results		Scintillation Results				Direct Readings			
Sample Number	Description/Location	Count Rate (cps)	Net Count Rate (cps)	Count Rate (cps)	Net Count Rate (cps)	Count Rate (cps)	Net Count Rate (cps)	Count Rate (cps)	Net Count Rate (cps)
1	Sample Location (see map)					14	11	305	31
2						16	22	302	135
3						12	0	224	-90
4						10	43	205	80
5						14	11	214	30
6						10	10	205	1
7						10	7	204	111
8						10	16	204	33
9						14	11	236	33
10						0	32	207	120
11						15	16	223	102
12						10	22	205	114
13						12	0	205	27
14						16	22	204	4
15						0	11	222	61
Remarks: Field Backgrounds for 15-40 percent on 8/27/04									
*RWP = No Comparison Data, for RWP									
Radiologist(s) Signature: [Signature] 182201 N/A Project Number: [Signature] 182201 N/A									

Exhibit B
 Radiological Survey Report Form

Page 2 of 3

Description: Characterization Survey - Survey Unit 2										
Date: 08/27/2004		Time: 07:30		Survey No: EH-002-01-01		RWI No:		N/A		
Survey Details		Sample Results				Direct Readings				
Sample Number	Description/Region	Alpha Background CPM	Beta Background CPM	Gamma Background CPM	Net Alpha Background CPM	Alpha CPM	Beta CPM	Gamma CPM	Net Alpha CPM	Remarks
16	Sample Location (see map)					21	40	272	41	
17						19	8	265	74	
18						15	35	245	144	
19						16	22	221	146	
20						16	21	268	9	
21						11	5	259	6	
22						8	10	167	38	
23						20	32	267	100	
24						17	27	302	168	
25						8	15	115	165	
26						18	20	242	420	
27						11	5	241	51	SW
28						19	18	205	150	
29						12	8	268	27	
30						12	6	276	39	
31						13	5	248	28	
32	Duplicate Counts for #6					12	8	265	150	
33	Duplicate Counts for #16					12	10	256	9	
34	Duplicate Counts for #17					10	11	251	9	
35	Duplicate Counts for #26					18	15	250	41	
36										
37										
38										
39										

Remarks: Field Backgrounds for 45-45 measured on 08/27/04

Technician(s) Signature / Date:	PSW	10/2/04	N/A	1
Project Review:	WMA	10/2/04	Chief Engineer	1

Exhibit C
 Radiological Survey Report Form

Page 1 of 1

Description: Characterization Survey - Survey Unit 3			
Date: 08/27/2004	Time: 0730	Survey No: CH-052704-01	RWF No: NA
Survey Diagram			

Legend: (1) Radiological Contamination (2) Exposure Indicator (3) Point Area Boundary

Remarks: The layout of Survey Unit 3 (see Fig. C-1) is shown by N in the north direction of the SU.

Technician(s) Signature(s): <i>Diane Shukla</i>	Date: <i>10/01/04</i>	NA:	/
Program Review: <i>[Signature]</i>	Date: <i>10/01/04</i>	NA:	/

Section A
Radiological Survey Report Form

Description: Characterization Survey - Survey Unit 3										
Date:	08/27/2014	Time:	0950	Survey No:	CIL-082704-00	RWP No:	N/A			
Purpose of Survey (For Release Surveys Include Reason(s)): State Measurements in SL-1										
Instrument Data: ☐ Surveyor: ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐										
Instrument Type	Detector ID	Detector Cal Due	Model Type	Serial #	Reset Cal Due	Manufacturer	Height (m)	Geometry Factor	Units (dpm)	
GC-10-1	PR179134	08/20/14	2224	190612	08/20/14	GA	0.43	1.0	1.1	
						GA	0.43	1.0	1.1	
GC-10-2	PR209112	08/20/14	2224	700020	08/20/14	GA	1.1	1.0	0.2	
						GA	1.1	1.0	0.2	
GC-10-3	PR209112	08/20/14	3	171234	08/20/14	GA(CAL)	0.7	1.0	0.3	
N/A	N/A	N/A	Model 15	8376	08/20/14	Episcor	N/A	1.0	N/A	
Survey Results		Scatter Results				Direct Readings				
Sample Number	Geographic Location	Geometry	Count Rate (CPM)	Count Rate (dpm/100 cm ²)	Geometry	Count Rate (CPM)	Count Rate (dpm/100 cm ²)	Area (m ²)	Count Rate (dpm/100 cm ²)	Exposure Rate (mR/hr)
1	Sample Location (no map)					12	0	205	21	N/A
2						12	0	204	20	
3						14	22	207	13	
4						13	22	201	102	
5						10	11	208	32	
6						10	22	214	120	
7						16	22	203	108	
8						11	9	204	31	
9						10	11	313	168	
10						14	17	203	72	
11						14	11	502	157	
12						15	16	201	0	
13						12	0	204	20	
14						20	11	207	120	
15						12	0	207	100	
Note: Field Readings for GC-10 generated on 8/27/14 TREC Form Conversion Document ID: 10002										
Technician's Signature/Title		[Signature]				N/A				
Project/Release		[Signature]				N/A				

Exhibit II
Radiological Survey Report Form

Description: Characterization Survey - Survey Unit 3										
Date: 08/27/2004		Time: 0900		Survey No: CH-032104-02		RA/P No:		NA		
Survey Results		Background Results				Direct Readings				
Sample Number	Direction/Range	Count Rate (CPM)	Rate (mR/hr)	Count Rate (CPM)	Rate (mR/hr)	Count Rate (CPM)	Rate (mR/hr)	Count Rate (CPM)	Rate (mR/hr)	Remarks
16	Sample Location (see map)					7	21	271	82	
17						16	23	391	102	
18						8	40	319	188	
19						11	4	265	28	
20						13	4	188	23	
21						19	34	227	216	
22						8	5	072	45	
23						19	21	280	27	
24						13	3	271	45	
25						10	3	300	7	
26						22	24	287	27	
27						14	11	137	20	NA
28						9	3	271	45	
29						16	22	285	26	
30						13	0	104	126	
31	Duplicate Counts for #3					12	0	204	142	
32	Duplicate Counts for #4					15	15	243	43	
33	Duplicate Counts for #16					10	41	271	45	
34	Duplicate Counts for #21					10	11	301	133	
35	Duplicate Counts for #30					13	3	250	6	
36										
37	NA									
38										
39										

Remarks: Field Readings for 08/27/2004 are 0.17 mR/hr

Inspector(s) Signature/Date: OSI / 8/29/04 NA

Prepared By: WMA / 8/29/04 NA

Project No. 04
 Level
 Date 10/1/13

Exhibit C
 Radiological Survey Report Form

Description: Characterization Survey - Survey Unit 3			
Date: 08/21/2004	Time: 0900	Survey No: CH-052704-02	Form No: 104

SU3

M-11
N-11

J-10

↑

N

						30
						29
25		26		27		28
	22		23		24	
18		19		20		21
	15		16		17	
11		12		13		14
	8		9		10	
4		5		6		7
	1		2		3	

J-6

X

N-6

Legend: (X) Fixed Sample Location (•) Fixed Sample Location (—) Sample Area Boundary

Remarks: The center of Survey Unit 3 is located 100 feet North (measured by 2) in the southeast corner of the cell.

Technician(s) Signature / Date:	<i>[Signature]</i> / 10/1/13	Title: <i>[Signature]</i>	Date: <i>[Signature]</i>
Project Number:	<i>04-052704-02</i>	Client Name:	<i>USA</i>

Radiological Survey Report Form

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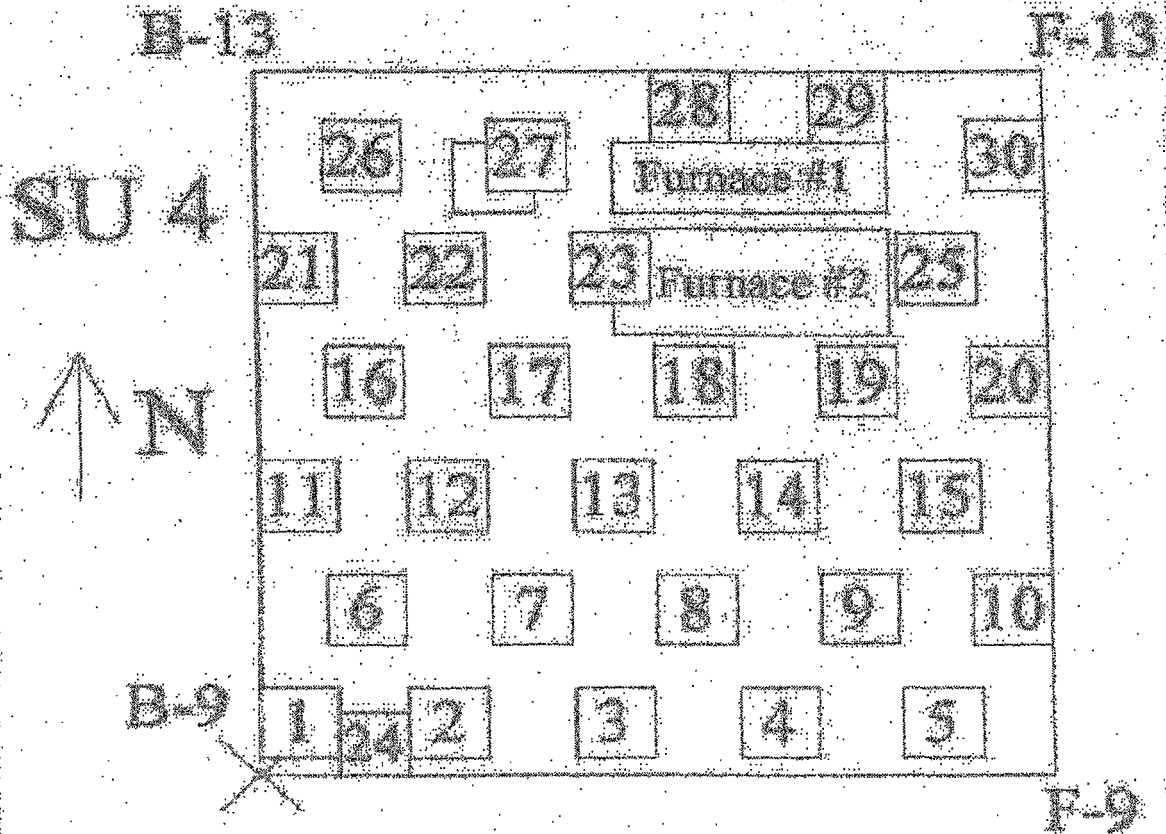
Description: Characterization Survey - Survey Unit 4										
Date: 08/30/2004	Time: 0700	Survey No: C180300401	RW2 No: N/A							
Purpose of Survey (For Release Surveys include Facility): Radio Measurements in SJA										
Instrument Data Instrument Manufacturer: ☐ Fluke ☐ Lutron ☐ ☐										
Sample ID	Sample ID	Detector Cal Date	Model Type	Serial No	Model Cal Date	Count Rate	Net Count	Count Rate	MVA (cpm)	
01-01	00170024	02/05/05	2020	150002	02/05/04	10	100	10	9.1	
						10	100	10	9.1	
01-02	00170013	02/02/05	2024	100000	02/12/05	10	110	10	9.2	
						10	110	10	9.2	
01-03	00170025	02/05/05	1	171004	02/10/04	100000	10	10	9.1	
N/A	N/A	N/A	Model 10	0010	02/05/05	Exposure	N/A	N/A	N/A	
Survey Results		Significant Results				Direct Readings				
Sample Number	Detector Model	Detector Cal Date	Model Type	Serial No	Model Cal Date	Count Rate	Net Count	Count Rate	Net Count	Exposure Time (hr)
1	Sample Location (see map)					10	10	10	10	N/A
2						10	10	10	10	
3						10	10	10	10	
4						10	10	10	10	
5						10	10	10	10	
6						10	10	10	10	
7						10	10	10	10	
8						10	10	10	10	
9						10	10	10	10	
10						10	10	10	10	
11						10	10	10	10	
12						10	10	10	10	
13						10	10	10	10	
14						10	10	10	10	
15						10	10	10	10	
16						10	10	10	10	
17						10	10	10	10	
18						10	10	10	10	
Remarks: Field Background for 10.00 minutes on 08/30/04										
Technician Signature/Date: <i>[Signature]</i> 12/30/04 Project Supervisor: <i>[Signature]</i> 12/30/04										

Exhibit C
 Radiological Survey Report Form

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Description: Characterization Survey - Survey Unit 4
 Date: 08/30/2001 Time: 1700 Survey No: CH-003004-01 RWP: NA

Survey Diagram:



Legend: ⑤ Exact Reference Location, A, Exposure Rate (mR/hr), 24, 25, 26, Exact Area Boundary
 Remarks: The Origin of Survey Unit (SU 4) is marked by X in the SW corner of B-9. Due to the large size of the survey area, the location of the survey unit was moved to a central location. Points 24, 25, and 26 were displaced 10 ft north.
 Technician's Signature: [Signature] Date: 8/30/01
 Supervisor: [Signature] Date: 8/30/01

Neurological Surgery Report Form

Description: Characterization Survey - Energy Unit 1										
Date: 18/10/2018		Time: 0830		Survey No: CH-083001-02		RWE No:		R/A		
Purpose of Survey (For Release Survey/Initial Response):						State Measurements in SUI's				
Instrument Data Instrument Manufacturer: ☐ Sonar ☐ Laser ☐ ☐										
Reading Type	Device ID#	Measurement Date	Water Type	Water ID#	Measurement Date	Reading Type	Water Type	Measurement Date	Water ID#	
13-114	P0177001	02/03/09	200	170002	05/05/09	1	0-00	10	01	
						2	0-00	20	02	
43-95	P0177002	02/03/09	200	190200	02/12/09	1	113	54	01.3	
						2	200	10	100	
44-2	P0177003	02/12/09	1	171234	03/12/09	20 (000)	07	30	715	
N/A	N/A	N/A	Measurement	0070	02/09/09	Deployment	004	N/A	N/A	
Survey Results			Seismicity Results			Energy Readings				
Sample Reading	Description Results	Ground Response Class	Max. Response (100 ms)	Class D1 Response Class	Max. Response (100 ms)	Ground Class	Max. Peak (100 ms)	Class D1 Class	Max. Peak (100 ms)	Response Class
1	Sample Location (see map)					10	4	230	112	004
2						10	20	205	100	
3						11	3	270	30	
4						10	4	240	45	
5						10	9	277	51	
6						10	20	230	45	
7						12	4	260	87	
8						10	21	200	80	
9						10	31	243	80	
10						10	31	252	124	
11						11	4	265	76	
12						10	20	240	41	
13						10	5	247	51	
14						9	12	200	50	
15						9	20	270	20	
Remarks: Field Data only for 0-11 seconds in SUI's										
Collector's Signature / Date: <u>ASL LBL</u> / <u>18/10/18</u>										
Project Review: <u>W. M. A.</u> / <u>18/10/18</u>										

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June 1997

Table B
Radiological Survey Report Form

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Description: Characterization Survey - Survey Unit 3										
Date:	Time:	Survey No:	RIPT No:							
Survey Results		Statistical Results				Error Readings				
Sample Number	Position/Depth	Group 1 Mean CPM	Group 2 Mean CPM	Group 3 Mean CPM	Group 4 Mean CPM	Group 5 Mean CPM	Group 6 Mean CPM	Group 7 Mean CPM	Group 8 Mean CPM	Group 9 Mean CPM
16	Sample Location (see map)									
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										
31	Duplicate Count for #25									
32	Duplicate Count for #12									
33	Duplicate Count for #15									
34	Duplicate Count for #22									
35	Duplicate Count for #28									
36										
37										
38										
39										

Comments: Field Readings only for RIPTs performed on 06/04/04

Investigator's Signature / Date: *[Signature]* 06-30-04

Project Reviewer: *[Signature]* 07-01-04

QA: *[Signature]*

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Rahula C.
Radiological Survey Report Form

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Description: Characterization Survey - Survey Unit 3																																			
Date: 03/20/2004	Time: 0830	Survey No: CH-03004-02	KWT No: N/A																																
Survey Diagram:																																			
F-13 J-13 SU 5 ↑ N <table border="1" style="margin: auto;"><tr><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td></tr><tr><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td></tr><tr><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td></tr><tr><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td></tr><tr><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr></table> F-9 J-9						26	27	28	29	30	21	22	23	24	25	16	17	18	19	20	11	12	13	14	15	6	7	8	9	10	1	2	3	4	5
26	27	28	29	30																															
21	22	23	24	25																															
16	17	18	19	20																															
11	12	13	14	15																															
6	7	8	9	10																															
1	2	3	4	5																															
Legend: ☒ Point Contamination Indicator ☐ Area Contamination Indicator ☐ Point Area Indicator																																			
Remarks: The location of Survey Unit 3 (SU 3, 4 & 5) is marked by X in the SW corner of the PCL.																																			
Technician's Signature/Date: <u>OS. 101</u> <u>10/20/04</u> <u>100</u> <u>1</u>																																			
Request Review: <u>W. J. 101</u> <u>10/20/04</u> <u>100</u> <u>1</u>																																			

Description: <u>Chattahoochee Survey - Survey Unit 3</u>									
Date: <u>05/30/2004</u>		Time: <u>1000</u>		Survey No: <u>CH-03004-03</u>		RWP No: <u>N/A</u>		N/A	
Purpose of Survey: <u>For Release Survey for Data Collection</u>						State: <u>Mississippi</u> <u>US</u>			
Instrument Data: <u>Leica Total Station</u> ☐ <u>Leica</u> ☐ <u>Leica</u> ☐ <u>Leica</u> ☐									
Station Type	Station ID	Station Name	Station Type	Station ID	Station Name	Station Type	Station ID	Station Name	Station Type
4-10-1	PR00101	000001	1000	10001	000001	1000	10001	000001	1000
4-10-2	PR00102	000002	1000	10002	000002	1000	10002	000002	1000
4-10-3	PR00103	000003	1000	10003	000003	1000	10003	000003	1000
4-10-4	PR00104	000004	1000	10004	000004	1000	10004	000004	1000
4-10-5	PR00105	000005	1000	10005	000005	1000	10005	000005	1000
4-10-6	PR00106	000006	1000	10006	000006	1000	10006	000006	1000
4-10-7	PR00107	000007	1000	10007	000007	1000	10007	000007	1000
4-10-8	PR00108	000008	1000	10008	000008	1000	10008	000008	1000
4-10-9	PR00109	000009	1000	10009	000009	1000	10009	000009	1000
4-10-10	PR00110	000010	1000	10010	000010	1000	10010	000010	1000
4-10-11	PR00111	000011	1000	10011	000011	1000	10011	000011	1000
4-10-12	PR00112	000012	1000	10012	000012	1000	10012	000012	1000
4-10-13	PR00113	000013	1000	10013	000013	1000	10013	000013	1000
4-10-14	PR00114	000014	1000	10014	000014	1000	10014	000014	1000
4-10-15	PR00115	000015	1000	10015	000015	1000	10015	000015	1000
4-10-16	PR00116	000016	1000	10016	000016	1000	10016	000016	1000
4-10-17	PR00117	000017	1000	10017	000017	1000	10017	000017	1000
4-10-18	PR00118	000018	1000	10018	000018	1000	10018	000018	1000
4-10-19	PR00119	000019	1000	10019	000019	1000	10019	000019	1000
4-10-20	PR00120	000020	1000	10020	000020	1000	10020	000020	1000
4-10-21	PR00121	000021	1000	10021	000021	1000	10021	000021	1000
4-10-22	PR00122	000022	1000	10022	000022	1000	10022	000022	1000
4-10-23	PR00123	000023	1000	10023	000023	1000	10023	000023	1000
4-10-24	PR00124	000024	1000	10024	000024	1000	10024	000024	1000
4-10-25	PR00125	000025	1000	10025	000025	1000	10025	000025	1000
4-10-26	PR00126	000026	1000	10026	000026	1000	10026	000026	1000
4-10-27	PR00127	000027	1000	10027	000027	1000	10027	000027	1000
4-10-28	PR00128	000028	1000	10028	000028	1000	10028	000028	1000
4-10-29	PR00129	000029	1000	10029	000029	1000	10029	000029	1000
4-10-30	PR00130	000030	1000	10030	000030	1000	10030	000030	1000
4-10-31	PR00131	000031	1000	10031	000031	1000	10031	000031	1000

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Radiological Survey Report Form

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Description: Characterization Survey - Survey Unit 5										
Date: 08/10/2004		Time: 1000		Survey No: CH-04-004-01		RWP No:		NA		
Survey Results		Sample Results				Direct Readings				
Sample Number	Description/Remarks	General Background CPM	Peak Background CPM	Sample Background CPM	Net Sample CPM	General CPM	Net Sample CPM	Sample by CPM	Net Sample CPM	Remarks
16	Sample Location (see map)					10	31	305	121	
17						11	15	290	10	
18						10	5	285	23	
19						10	20	310	111	
20						11	2	285	27	
21						12	31	281	15	
22						8	12	274	13	
23						10	7	277	40	
24						8	12	267	31	
25						11	6	282	15	
26						10	11	297	21	
27						10	7	285	122	NA
28						11	20	298	141	
29						11	13	271	415	
30						12	26	285	523	
31	Duplicate Counts for #3					7	12	292	111	
32	Duplicate Counts for #4					11	13	284	102	
33	Duplicate Counts for #15					10	12	285	128	
34	Duplicate Counts for #20					11	15	301	5	
35	Duplicate Counts for #30					15	20	290	200	
36										
37										
38										
39										
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96										
97										
98										
99										
100										

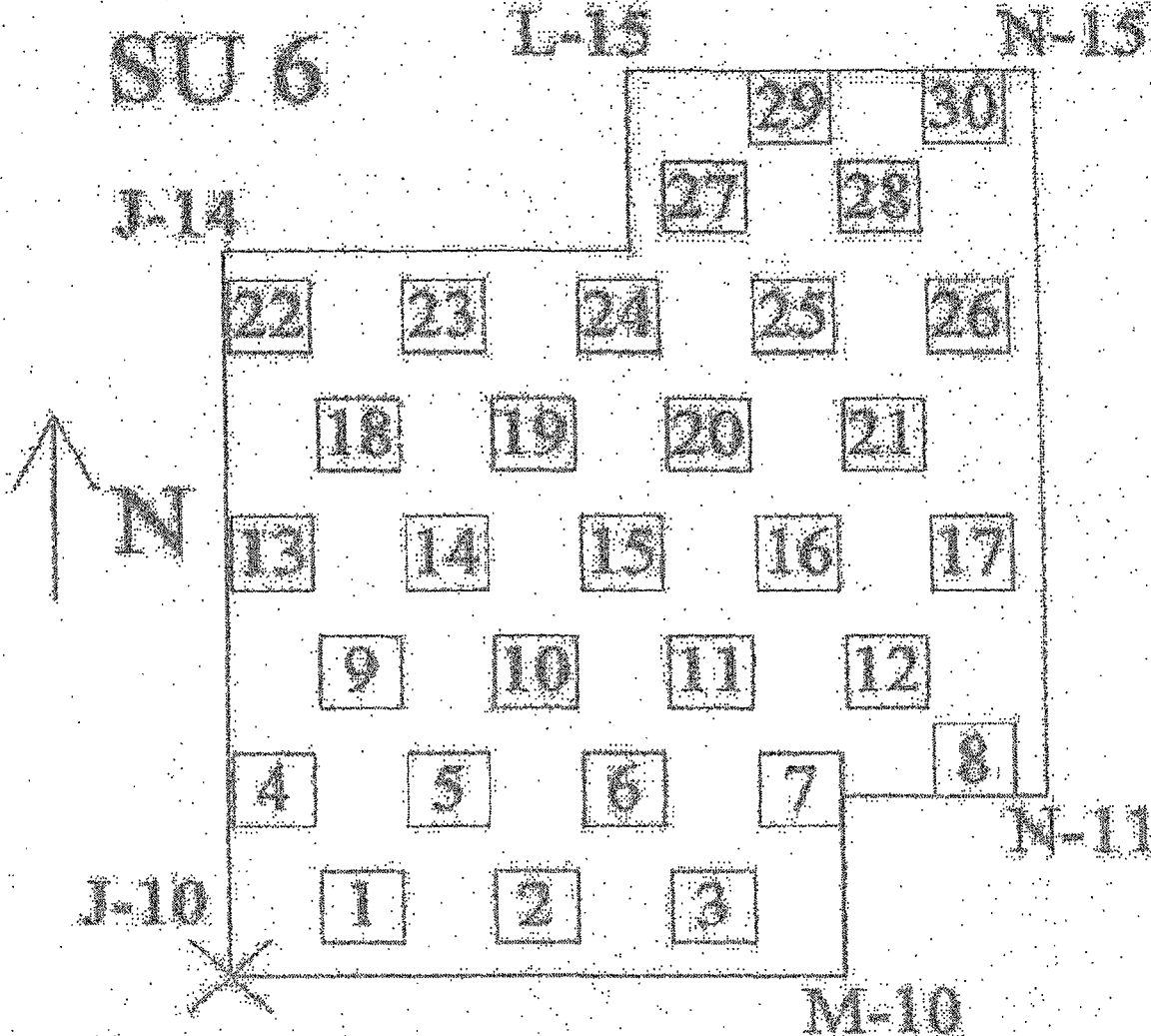
Remarks: Field Radiograph for 43-09 processed on 11/2/04

Technician Signature: *[Signature]* Date: 10/30/04

Project Reviewer: *[Signature]* Date: 11/2/04

Description: Characterization Survey - Survey Unit 6
 Date: 03/10/2004 Time: 1500 Survey No: CH-030004-01 RWP No: N/A

Survey Diagram:



Legend: ② Photo Transmittal Location: A. Signature: [Signature] Date: 03/10/2004

Remarks: The Characterization Survey Unit (SU 6) is located by the 100 ft SW corner of the building.

Technician's Signature: [Signature] Date: 03/10/2004
 Radiologist's Signature: [Signature] Date: 03/10/2004

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Exhibit B
 Radiological Survey Report Form

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Description: Characterization Survey - Survey Unit 7										
Date: 04/02/2004		Time: 1300		Survey No: CH-031614-01		RWEN: N/A				
Survey Details		Sample Details				Count Details				
Sample Number	Description	Sample Weight (g)	Sample Volume (mL)	Sample Matrix	Sample Type	Count Rate (cps)	Count Time (min)	Count Error (%)	Count Rate (cps)	Count Error (%)
16	Sample Location (see map)					12	1	30%	12	
17						12	1	30%	12	
18						12	1	30%	12	
19						12	1	30%	12	
20						12	1	30%	12	
21						12	1	30%	12	
22						12	1	30%	12	
23						12	1	30%	12	
24						12	1	30%	12	
25						12	1	30%	12	
26						12	1	30%	12	
27						12	1	30%	12	
28						12	1	30%	12	
29						12	1	30%	12	
30						12	1	30%	12	
31						12	1	30%	12	
32	Duplicate Count for #1					12	1	30%	12	
33	Duplicate Count for #14					12	1	30%	12	
34	Duplicate Count for #16					12	1	30%	12	
35	Duplicate Count for #24					12	1	30%	12	
36						12	1	30%	12	
37						12	1	30%	12	
38						12	1	30%	12	
39						12	1	30%	12	

Remarks: Field measurements for 11/18/2004 performed on 4/2/04

Technician(s) Signature: [Signature] Date: 04/02/04

Project Reviewer: [Signature] Date: 04/02/04

Exhibit C
 Radiological Survey Report Form

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Description: Characterization Survey - Survey Unit 7

Date: 03/20/04 Time: 1300 Survey No: C1432004-01 RWP No: N/A

Survey Diagram:

SU 7 E-17 J-17
 E-16
 N
 E-13 J-13

Legend: ☒ Field Readings/Calculations ☒ Exposure Rate Calculations ☒ Field Area Measurements

Remarks: The Survey of Survey Unit 7 (SU 7) is located by the SW corner of the SU.

Technician's Signature/Date: *[Signature]* / 03/20/04 N/A 1

Program Review: *[Signature]* / 03/20/04 N/A 1

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Exhibit A
Radiological Survey Report Form

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Description: Characterization Survey - Survey Unit 1										
Date: 08/07/2004	Time: 0720	Survey No: CIL-001104-01	EPR No: N/A							
Purpose of Survey (For Release Surveys include Exception): Static Measurements in SU 1										
Instrument Used: ☐ Dosimeter ☐ Probe ☐ Counter ☐ ☐ ☐										
Source Type	Source ID	Source Cat Desc	Area Type	Area ID	Area Cat Desc	Measurement	Unit (cpm)	Count Rate	RPA (dpm)	
43-10-1	PR170154	GLASS	2330	130513	GLASS	d	11.2	13	81	
						d	11.2	23	243	
43-10	PR200122	GLASS	2334	130520	GLASS	d	11.1	24	244	
						d	11.1	20	177	
44-9	PR200122	GLASS	3	130524	GLASS	d (GM)	11	30	712	
N/A	N/A	N/A	Radio ID	2328	GLASS	Exposure	N/A	N/A	N/A	
Survey Results			Summary Results			Direct Readings				
Sample Number	Sample Location	Count Rate (CPM)	RPA (dpm)	Count Rate (CPM)	RPA (dpm)	Count Rate (CPM)	Unit (cpm)	Count Rate (CPM)	RPA (dpm)	Exposure Rate (R)
1	Sample Location (see map)					12	11	120	137	200
2						20	15	250	27	
3						14	12	207	120	
4						13	7	275	11	
5						10	9	290	87	
6						10	4	255	14	
7						13	7	234	40	
8						22	16	311	132	
9						13	7	280	30	
10						13	7	272	16	
11						13	7	288	13	
12						12	7	265	123	
13						7	13	225	24	
14						12	14	280	19	
15						10	9	275	30	
Results: Total Background for 4500 counts at 1000										
Notes: No significant results for 4500 counts at 1000										
Radiological Engineer / Date: <u>R. B. Smith</u> / <u>1.9.1.2</u>										
Project Manager: <u>Mark M. Smith</u> / <u>1.9.1.2</u>										

Exhibit B
 Radiological Survey Report Form

Description: Characterization Survey - Survey Unit 3										
Date: 06/31/2004		Time: 0720		Survey No: CH-003104-01		REP No:		N/A		
Survey Results		Sample Results				Direct Readings				
Sample Number	Location/Description	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)
16	Sample Location (see map)					20	45	200	100	
17						17	13	207	110	
18						16	23	200	200	
19						22	28	201	1	
20						17	25	201	77	
21						15	23	201	42	
22						23	41	200	218	
23						28	134	201	211	
24						15	22	207	190	
25						16	8	207	90	
26						25	113	200	207	
27						30	79	207	200	N/A
28						23	31	200	210	
29						14	12	200	72	
30						11	212	201	211	
31						26	71	200	206	
32	Duplicate Count of #1					11	4	205	205	
33	Duplicate Count of #10					15	18	202	215	
34	Duplicate Count of #26					26	131	200	200	
35	Duplicate Count of #28					11	112	201	211	
36										
37										
38										
39										
40										

Remarks: Field measurements for 15-20 minutes on 6/30/04

Technician Signature / Date: *[Signature]* / 8/3/04

Project Director: *[Signature]* / 8/3/04

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Edition C
 Radiological Survey Report Form

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Description: Characterization Survey - Survey Unit 8			
Date: 05/31/2004	Time: 0730	Survey No: CH-03104-01	RAVPS: N/A
Survey Region:			

Legend: (a) Fixed/Portable Location	(b) Equipment Location	(c) Area Boundary
Remarks: The location of Survey Unit 8 (SU 8) is indicated by the X in the SW corner of the SU. Sample Location 28 and was displaced (A.D. 1000) due to destruction, Sample Location 17 was destroyed (A.D. 1000) due to destruction and displacement.		
Technician Signature / Date	19/04	1
Project Reviewer	19/04	1

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Feb 11/2/10

Exhibit A
Radiological Survey Report Form

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Description: Characterized Area Survey - Survey Unit 9									
Date:	02/17/2004	Time:	0850	Survey No:	CR-021004-02	RPT No:	N/A		
Purpose of Survey (For Release Surveys include Radiology): Static Measurements in SU-9									
Instrument Type: ☐ Analog ☐ Digital ☐ Handheld ☐ Laptop ☐ Other ☐									
Device Type	Model No.	Serial No.	Year Type	Year No.	Max Cd Dose	Manufacturer	Model Name	Current Rate	NDA Date
GM-151	PK170134	010806	2002	199414	000000		GM	0.00	01
							GM	0.02	01
GM-151	PK170132	021005	2004	199410	001205		GM	11.0	01
							GM	0.02	01
GM-151	PK170133	011204	2	171234	001104		GM	0.0	01
N/A	N/A	N/A	Model 10	2000	000000	Exposure	N/A	N/A	N/A
Survey Results		Sample Results				Direct Readings			
Sample Number	Description/Location	Count Rate (CPM)	Rate Standard Error (100 cps)	Count Rate (CPM)	Rate Standard Error (100 cps)	Count Rate (CPM)	Rate Standard Error (100 cps)	Count Rate (CPM)	Rate Standard Error (100 cps)
1	Sample locations (across)					11	4	200	40
2						9	45	200	40
3						14	12	200	40
4						6	31	200	40
5						17	10	233	40
6						14	12	200	40
7						18	24	301	130
8						8	13	217	40
9						12	7	208	120
10						13	7	200	40
11						13	7	214	141
12						10	4	100	123
13						19	30	200	40
14						13	4	200	4
15						9	43	200	30
Remarks: Two background for 43-45 gamma at 551/04									
Date: 02/17/2004									
Time: 18:30									
Page 1 of 3									

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Exhibit B
Radiological Survey Report Form

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Description: <u>Chernobyl Survey - Survey Unit 2</u>										
Date:	Time:	Series No:	EWB No:	N/A						
Survey Results		Sample Results				Direct Readings				
Sample Number	Location	Gamma Count Rate (CPM)	Gamma Count Rate (dpm/100cm ²)	Alpha Count Rate (CPM)	Alpha Count Rate (dpm/100cm ²)	Alpha Count Rate (CPM)	Alpha Count Rate (dpm/100cm ²)	Gamma Count Rate (CPM)	Gamma Count Rate (dpm/100cm ²)	Gamma Count Rate (CPM)
16	Sample Location (see map)					12	1	207	120	
17						13	1	210	120	
18						14	1	210	120	
19						15	1	210	120	
20						16	1	210	120	
21						17	1	210	120	
22						18	1	210	120	
23						19	1	210	120	
24						20	1	210	120	
25						21	1	210	120	
26						22	1	210	120	
27						23	1	210	120	
28						24	1	210	120	
29						25	1	210	120	
30						26	1	210	120	
31	Duplicate Count of 25					27	1	210	120	
32	Duplicate Count of 26					28	1	210	120	
33	Duplicate Count of 27					29	1	210	120	
34	Duplicate Count of 28					30	1	210	120	
35						31	1	210	120	
36						32	1	210	120	
37						33	1	210	120	
38						34	1	210	120	
39						35	1	210	120	
40						36	1	210	120	
41						37	1	210	120	
42						38	1	210	120	
43						39	1	210	120	
44						40	1	210	120	
45						41	1	210	120	
46						42	1	210	120	
47						43	1	210	120	
48						44	1	210	120	
49						45	1	210	120	
50						46	1	210	120	
51						47	1	210	120	
52						48	1	210	120	
53						49	1	210	120	
54						50	1	210	120	
55						51	1	210	120	
56						52	1	210	120	
57						53	1	210	120	
58						54	1	210	120	
59						55	1	210	120	
60						56	1	210	120	
61						57	1	210	120	
62						58	1	210	120	
63						59	1	210	120	
64						60	1	210	120	
65						61	1	210	120	
66						62	1	210	120	
67						63	1	210	120	
68						64	1	210	120	
69						65	1	210	120	
70						66	1	210	120	
71						67	1	210	120	
72						68	1	210	120	
73						69	1	210	120	
74						70	1	210	120	
75						71	1	210	120	
76						72	1	210	120	
77						73	1	210	120	
78						74	1	210	120	
79						75	1	210	120	
80						76	1	210	120	
81						77	1	210	120	
82						78	1	210	120	
83						79	1	210	120	
84						80	1	210	120	
85						81	1	210	120	
86						82	1	210	120	
87						83	1	210	120	
88						84	1	210	120	
89						85	1	210	120	
90						86	1	210	120	
91						87	1	210	120	
92						88	1	210	120	
93						89	1	210	120	
94						90	1	210	120	
95						91	1	210	120	
96						92	1	210	120	
97						93	1	210	120	
98						94	1	210	120	
99						95	1	210	120	
100						96	1	210	120	
101						97	1	210	120	
102						98	1	210	120	
103						99	1	210	120	
104						100	1	210	120	
105						101	1	210	120	
106						102	1	210	120	
107						103	1	210	120	
108						104	1	210	120	
109						105	1	210	120	
110						106	1	210	120	
111						107	1	210	120	
112						108	1	210	120	
113						109	1	210	120	
114						110	1	210	120	
115						111	1	210	120	
116						112	1	210	120	
117						113	1	210	120	
118						114	1	210	120	
119						115	1	210	120	
120						116	1	210	120	
121						117	1	210	120	
122						118	1	210	120	
123						119	1	210	120	
124						120	1	210	120	
125						121	1	210	120	
126						122	1	210	120	
127						123	1	210	120	
128						124	1	210	120	
129						125	1	210	120	
130						126	1	210	120	
131						127	1	210	120	
132						128	1	210	120	
133						129	1	210	120	
134						130	1	210	120	
135						131	1	210	120	
136						132	1	210	120	
137						133	1	210	120	
138						134	1	210	120	
139						135	1	210	120	
140						136	1	210	120	
141						137	1	210	120	
142						138	1	210	120	
143						139	1	210	120	
144						140	1	210	120	
145						141	1	210	120	
146						142	1	210	120	
147						143	1	210	120	
148						144	1	210	120	
149						145	1	210	120	
150						146	1	210	120	
151						147	1	210	120	
152						148	1	210	120	
153						149	1	210	120	
154						150	1	210	120	
155						151	1	210	120	
156						152	1	210	120	
157						153	1	210	120	
158						154	1	210	120	
159						155	1	210	120	
160						156	1	210	120	
161						157	1	210	120	
162						158	1	210	120	
163						159	1	210	120	
164						160	1	210	120	
165						161	1	210	120	
166										

Description: Characterization Survey - Survey Unit 7					
Date: 05/21/2004	Time: 0810	Survey No.: CH-08104-02	INP/Doc:	N/A	

Survey Diagram:

Legend:

- ① Fixed/Unmovable Location
- ② Despatch Oven (gallons)
- Survey Area Boundary

Remarks: The Diagram of Survey Unit (SU) 7 is marked by N 100° 20' E corner of the SU. Sample locations 1, 2, & 3 were displaced 5 ft.

Sample locations 4, 5, & 6 were displaced 5 ft. Sample locations 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, & 30 were displaced 5 ft.

Technician Signature/Date: <i>[Signature]</i> 05/21/04	QA: <i>[Signature]</i>
Page Review: <i>[Signature]</i> 05/21/04	QA: <i>[Signature]</i>

Exhibit A
Radiological Survey Report Form

Description: Characterization Survey - Survey Unit 10										
Date: 02/01/2008	Time: 0700	Survey No: CH-50104-01	RWP No: N/A							
Purpose of Survey: For Release Survey's Inactive Radiological Waste Measurement in SLL10										
Instrument Data: ☐ Instrument Manufacturer: ☐ Model: ☐ Lot: ☐										
Detector Type	Detector ID	Detector Cal Date	Manufacturer	Model	Serial No	Isotope	Dist. Type	Count Rate	Rate Error	
GM-104	DR119134	03/09/00	2030	150603	0204001	α	0.42	22	0.1	
						βγ	0.42	22	0.3	
GM-92	DR200132	02/12/03	3230	190001	0202001	α	0.42	24	0.6	
						βγ	0.42	24	0.6	
GM-2	DR200003	03/09/04	3	170204	0202001	βγ	0.42	30	0.3	
N/A	N/A	N/A	Model 15	0211	0201001	Exposure	N/A	N/A	N/A	
Survey Results		Background Results				Direct Readings				
Sample Number	Description/Location	Count Rate CPM	Net Count Rate CPM	Count Rate CPM	Net Count Rate CPM	Count Rate CPM	Net Count Rate CPM	Count Rate CPM	Net Count Rate CPM	Exposure Rate μR/hr
1	Sample Location (see map)					14	-2	207	39	N/A
2						15	-7	204	0	
3						16	9	356	216	
4						17	11	308	100	
5						19	4	281	34	
6						17	15	273	37	
7						10	-23	349	300	
8						20	13	303	110	
9						11	-13	353	4	
10						14	-2	377	26	
11						18	5	296	78	
12						10	25	283	417	
13						21	16	264	70	
14						19	-23	414	100	
15						20	31	307	101	
Remarks: This Background Area is in accordance with 30104										
N/A - no background readings were taken										
Technician Signature: <u>Paul</u> Date: <u>1-9-07</u> N/A										
Supervisor Signature: <u>Mark</u> Date: <u>1-9-07</u> N/A										

NE-100-00-00
 100-00-00
 100-00-00

Exhibit B
 Radiological Survey Report Form

Page 1 of 2

Description: Characterization Survey - Survey Unit 10									
Date:	Time:	Survey No:	REP No:	NA					
Survey Results		Sample Results			Direct Readings				
Sample Number	Location/Notes	Alpha Count Rate	Beta Count Rate	Gamma Count Rate	Alpha Count Rate	Beta Count Rate	Gamma Count Rate	Alpha Count Rate	Beta Count Rate
1	Sample Location (see map)				12	12	12	12	
15					17	17	17	17	
16					18	18	18	18	
19					21	21	21	21	
20					19	19	19	19	
21					13	13	13	13	
22					15	15	15	15	
23					16	16	16	16	
24					13	13	13	13	
25					13	13	13	13	
26					17	17	17	17	
27					12	12	12	12	
28					13	13	13	13	
29					14	14	14	14	
30					15	15	15	15	
31	Duplicate Count #1				10	10	10	10	
32	Duplicate Count #16				25	25	25	25	
33	Duplicate Count #19				22	22	22	22	
34	Duplicate Count #35				17	17	17	17	
35									
36									
37									
38									
39									
40									

Remarks: Field Booked for 0-91 measured on 05/04/04

Investigator's Signature/Name: *[Signature]* Date: *[Date]*
 Project Director: *[Signature]* Date: *[Date]*

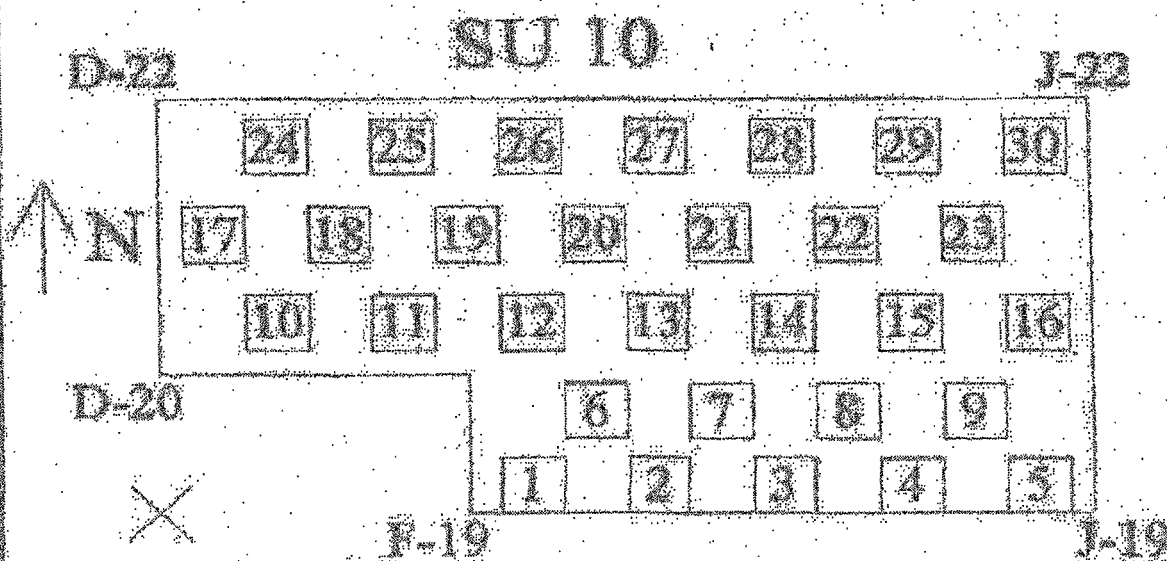
Table C
Radiological Survey Report Form

Page 3 of 3

Description: Characterization Survey - Survey Unit 10

Date: 09/01/2004 Time: 0700 Survey No: CA000104-01 RWP No: N/A

Survey Diagram



Legend: (A) Fixed/Removable Location (B) Discrete Area/Volume (C) Fixed Area/Volume

Remarks: The Origin of Survey Unit (SU) is indicated by X in the SW corner of the SU.

Reviewed by: [Signature] Date: 10/10/04
 Checked by: [Signature] Date: 10/10/04

Environmental
Radiological Survey Report Form

Page 1 of 1

Description: Characterization Survey - Survey (SU 1)										
Date:	Time:	Survey No.:	CR-00104-01	RAW No.:	N/A					
Purpose of Survey (For Release Surveys include Response):						State Measurements in SU 1)				
Instrument Data: Instrument Manufacturer/Model: ☐ Barlow ☐ Lucas ☒ ☐										
Sample Type	Location	Detector Cal Date	Model Type	Model No.	Model Cal Date	Screen Size	Height (ft)	Distance from	SLM (ft)	
01-10-1	RR179134	08/04/07	2010	170412	08/04/07	9"	6.22	30"	3.1	
						24"	6.2	30"	34.3	
01-10-2	RR200122	08/04/07	2010	170412	08/04/07	9"	11.7	30"	61.4	
						24"	20.7	30"	177	
01-10-3	RR200134	08/04/07	3	171251	08/04/07	24" (CR)	4'	30"	713	
N/A	N/A	N/A	Model 10	2010	08/04/07	Exposure	N/A	N/A	N/A	
Survey Results		Sample Results				Direct Readings				
Sample Number	Description/Location	Count Rate CPM	Net Standard Error 100 cps	Count Rate CPM	Net Standard Error 100 cps	Count Rate CPM	Net Standard Error 100 cps	Count Rate CPM	Net Standard Error 100 cps	Exposure Rate uR/hr
3	Sample Location (as map)					30	30	210	210	100
4						10	23	294	31	
5						10	9	310	300	
6						10	9	310	31	
7						15	23	211	141	
8						16	12	238	43	
9						16	24	310	120	
10						24	25	320	66	
11						17	19	315	114	
12						10	30	291	42	
13						9	45	277	30	
14						14	12	304	31	
15						25	25	227	160	
16						15	18	285	94	
17						9	43	287	33	
Remarks: Field background for 10-01 measured on 8/5/07										
Technician(s) Name(s): <u>[Signature]</u> Date: <u>10/3/07</u> RAW: <u>N/A</u>										
Project Director: <u>[Signature]</u> Date: <u>10/3/07</u> RAW: <u>N/A</u>										

Exhibit B
 Radiological Survey Report Form

Distribution: Characterization Survey - Survey Unit 11											
Date: 04/11/2004		Time: 1445		Survey No: CH-003101-03		AWP No: N/A					
Survey Results		Spotcheck Results				Direct Readings					
Sample Number	Geographic Area	Count Rate (CPM)	Area (sq. ft.)	Count Rate (CPM)	Area (sq. ft.)	Count Rate (CPM)	Area (sq. ft.)	Count Rate (CPM)	Area (sq. ft.)	Count Rate (CPM)	Area (sq. ft.)
16	Sample Location (see map)					11	4	297	30		
17						12	13	288	31		
18						32	110	211	40		
19						14	12	283	31		
20						5	10	260	30		
21						15	13	260	3		
22						13	14	292	35		
23						3	20	287	30		
24						11	4	260	30		
25						26	25	269	55		
26						11	4	300	117		
27						18	11	293	37		
28						7	22	317	130		
29						10	1	282	73		
30						15	9	271	12		
31	Duplicate Count for #10					10	10	301	30		
32	Duplicate Count for #12					14	13	294	31		
33	Duplicate Count for #20					13	7	266	4		
34	Duplicate Count for #30					18	14	287	30		
35											
36											
37											
38											
39											
40											

Remarks: Field Readings for 11/1/04 performed at 051104

Technician's Signature: *[Signature]* Date: 04/11/2004

Project Review: *[Signature]* Date: 04/11/2004

Description: Characterization Survey - Survey Unit 11			
Date: 08/21/2009	Time: 11:45	Survey No: CH-003104-00	ISAT No: 194
Survey Diagram			

SU 11

J-23
N-23

26	27	28	29	30
22	23	24	25	
17	18	19	20	21
13	14	15	16	
8	9	10	11	12
4	5	6	7	
2	3			
1				

J-18
N-19

K-18

Legend: ☒ Fixed Boundary Line	☐ J. Temporary Line	☐ P. Fixed Area Boundary
Remarks: The Origin of Survey Unit 11 is at the intersection of X in the 100' square of the 315.		
Technician(s) Signature/Date: <u>[Signature]</u> / <u>8/21/09</u>		
Project Review: <u>[Signature]</u> / <u>8/26/09</u>		

Description: Characterization Survey - Survey Dots 12										
Date:	Time:	Survey No.:	City/County/State:	Project No.:	N/A					
Purpose of Survey: (For Reference Surveys Include Reference):										
Traffic Measurements in SU 12										
Instrument Data: ☐ Automatic Measurement: ☐ Manual: ☐										
Survey Type	Survey No.	Survey Date	Survey Type	Survey No.	Survey Date	Survey Type	Survey No.	Survey Date	Survey Type	Survey No.
40-1	1000001	01/01/01	40-2	1000002	01/01/01	40-3	1000003	01/01/01	40-4	1000004
40-5	1000005	01/01/01	40-6	1000006	01/01/01	40-7	1000007	01/01/01	40-8	1000008
40-9	1000009	01/01/01	40-10	1000010	01/01/01	40-11	1000011	01/01/01	40-12	1000012
40-13	1000013	01/01/01	40-14	1000014	01/01/01	40-15	1000015	01/01/01	40-16	1000016
40-17	1000017	01/01/01	40-18	1000018	01/01/01	40-19	1000019	01/01/01	40-20	1000020
40-21	1000021	01/01/01	40-22	1000022	01/01/01	40-23	1000023	01/01/01	40-24	1000024
40-25	1000025	01/01/01	40-26	1000026	01/01/01	40-27	1000027	01/01/01	40-28	1000028
40-29	1000029	01/01/01	40-30	1000030	01/01/01	40-31	1000031	01/01/01	40-32	1000032
40-33	1000033	01/01/01	40-34	1000034	01/01/01	40-35	1000035	01/01/01	40-36	1000036
40-37	1000037	01/01/01	40-38	1000038	01/01/01	40-39	1000039	01/01/01	40-40	1000040
40-41	1000041	01/01/01	40-42	1000042	01/01/01	40-43	1000043	01/01/01	40-44	1000044
40-45	1000045	01/01/01	40-46	1000046	01/01/01	40-47	1000047	01/01/01	40-48	1000048
40-49	1000049	01/01/01	40-50	1000050	01/01/01	40-51	1000051	01/01/01	40-52	1000052
40-53	1000053	01/01/01	40-54	1000054	01/01/01	40-55	1000055	01/01/01	40-56	1000056
40-57	1000057	01/01/01	40-58	1000058	01/01/01	40-59	1000059	01/01/01	40-60	1000060
40-61	1000061	01/01/01	40-62	1000062	01/01/01	40-63	1000063	01/01/01	40-64	1000064
40-65	1000065	01/01/01	40-66	1000066	01/01/01	40-67	1000067	01/01/01	40-68	1000068
40-69	1000069	01/01/01	40-70	1000070	01/01/01	40-71	1000071	01/01/01	40-72	1000072
40-73	1000073	01/01/01	40-74	1000074	01/01/01	40-75	1000075	01/01/01	40-76	1000076
40-77	1000077	01/01/01	40-78	1000078	01/01/01	40-79	1000079	01/01/01	40-80	1000080
40-81	1000081	01/01/01	40-82	1000082	01/01/01	40-83	1000083	01/01/01	40-84	1000084
40-85	1000085	01/01/01	40-86	1000086	01/01/01	40-87	1000087	01/01/01	40-88	1000088
40-89	1000089	01/01/01	40-90	1000090	01/01/01	40-91	1000091	01/01/01	40-92	1000092
40-93	1000093	01/01/01	40-94	1000094	01/01/01	40-95	1000095	01/01/01	40-96	1000096
40-97	1000097	01/01/01	40-98	1000098	01/01/01	40-99	1000099	01/01/01	40-100	1000100
40-101	1000101	01/01/01	40-102	1000102	01/01/01	40-103	1000103	01/01/01	40-104	1000104
40-105	1000105	01/01/01								

March 2004

Rev. 3

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Exhibit B

Radiological Survey Report Form

Page 2 of 3

Description: Chemical Waste Survey - Survey Data 12										
Date: 09/01/2004		Time: 0835		Survey No: CM-090104-02		RVC No:		N/A		
Survey Results		Significant Results				Direct Readings				
Sample Number	Sample Location	Area C Remanence CPM	Area B Remanence CPM	Area A Remanence CPM	Area D Remanence CPM	Count CPM	Rate CPM	Count CPM	Rate CPM	Exposure Rate mR/hr
06	Sample Location (per map)					10	23	345	235	
07						15	7	245	205	
08						8	20	325	185	
09						75	4	520	130	
10						22	3	275	35	
11						15	8	285	45	
12						15	4	207	125	
13						4	55	245	27	
14						12	12	270	45	
15						40	13	244	20	
16						10	12	267	7	
17						44	26	245	225	N/A
18						23	97	305	125	N/A
19						47	15	268	5	
20						10	25	280	30	
21	Duplicate Count for #18					19	12	375	125	
22	Duplicate Count for #13					16	2	255	25	
23	Duplicate Count for #12					18	17	287	40	
24	Duplicate Count for #25					23	31	275	40	
25										
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99										
100										

Sample: Full Background Survey - 25 minutes on 9/1/04

Investigator: [Signature] Date: 9/1/04

Project Review: [Signature] Date: 9/1/04

Client Review: [Signature] Date: 9/1/04

PR-557 200-04
 Rev. 0
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Exhibit C
 Radiological Survey Report Form

Page 3 of 3

Description: <u>Classified Area Survey - Survey Line 12</u>			
Date: <u>04/01/2004</u>	Time: <u>0815</u>	Survey No: <u>CE-000/04-02</u>	IRWP No: <u>NA</u>

Survey Diagram:

SU 12

Legend: (1) Point/Location/Direction 2. Response Rate (0-100) 3. 25 4. 25 5. 25 6. 25 7. 25 8. 25 9. 25 10. 25 11. 25 12. 25 13. 25 14. 25 15. 25 16. 25 17. 25 18. 25 19. 25 20. 25 21. 25 22. 25 23. 25 24. 25 25. 25 26. 25 27. 25 28. 25 29. 25 30. 25 31. 25 32. 25 33. 25 34. 25 35. 25 36. 25 37. 25 38. 25 39. 25 40. 25 41. 25 42. 25 43. 25 44. 25 45. 25 46. 25 47. 25 48. 25 49. 25 50. 25 51. 25 52. 25 53. 25 54. 25 55. 25 56. 25 57. 25 58. 25 59. 25 60. 25 61. 25 62. 25 63. 25 64. 25 65. 25 66. 25 67. 25 68. 25 69. 25 70. 25 71. 25 72. 25 73. 25 74. 25 75. 25 76. 25 77. 25 78. 25 79. 25 80. 25 81. 25 82. 25 83. 25 84. 25 85. 25 86. 25 87. 25 88. 25 89. 25 90. 25 91. 25 92. 25 93. 25 94. 25 95. 25 96. 25 97. 25 98. 25 99. 25 100. 25

Remarks: The Classification Survey was performed in accordance with the SW-1000 (Rev. 01/01).

Technician(s) Signature/Date: <u>[Signature]</u> <u>04/01/04</u>	IRWP: <u>NA</u>	Page: <u>3</u>
Supervisor Signature/Date: <u>[Signature]</u> <u>04/01/04</u>	IRWP: <u>NA</u>	Page: <u>3</u>

Form 1.4
 Radiological Survey Report Form

Page 1 of 1

Distribution: Characterization Survey - Survey Unit 12									
Date: 09/01/2004		Time: 0100		Survey No: 01-040104-05		RPT No: 374			
Purpose of Survey (For Release Surveys Include Rock Code): Sample Measurements in SU 12									
Instrument Used: ☐ Surveyor ☐ Dose Rate ☐ Alpha ☐ Beta ☐ Gamma ☐ Neutron									
Sample Type	Detector ID	Detector Cal Date	Model Type	Model ID	Manufacturer	Serial Number	Range (cpm)	Resolution (%)	MEV (keV)
SP-10-1	PD170104	09/01/04	3300	170012	000001	4	0.41	9.0	9.1
						54	40.2	1.3	36.3
SP-08	PD200104	09/01/04	2204	19020	000105	2	10.3	1.0	11.0
						10	2.0	1.0	17.0
SP-04	PD200104	09/01/04	2	17104	000105	100000	47	1.0	71.0
N/A	N/A	N/A	Model ID	3370	000000	000000	N/A	N/A	N/A

Survey Results		Sample Results				Direct Readings			
Sample Number	Description/Remarks	Count Rate CPM	Net Count Rate CPM	Count Rate CPM	Net Count Rate CPM	Count Rate CPM	Net Count Rate CPM	Count Rate CPM	Net Count Rate CPM
1	Sample Incubator (see map)					11	11	220	43
2						10	20	215	40
3						11	10	200	17
4						8	10	207	11
5						12	15	200	9
6						10	20	200	20
7						10	25	200	9
8						10	25	215	10
9						9	30	200	9
10						25	40	200	10
11						30	40	200	31
12						10	20	207	9
13						10	20	200	9
14						10	1	200	9
15						21	20	200	10

Remarks: Field readings on 09/01/04 per RPT 01-040104-05

Technician Signature: *[Signature]* Date: 09/01/04

Release Status: *[Signature]* Date: 09/01/04

Exhibit B

Radiological Survey Report Form

Description: Characterization Survey - Survey Unit 13										
Date	Time	Survey No.	BWP No.		BWP No.		BWP No.		BWP No.	
Survey Results		Exposure Results				Direct Readings				Remarks
Sample Number	Sample Location (Site Name)	Gamma Exposure Rate (CPM)	Gamma Exposure Rate (dpm/100cm ²)	Gamma Exposure Rate (dpm/100cm ²)	Gamma Exposure Rate (dpm/100cm ²)	Gamma Exposure Rate (dpm/100cm ²)	Gamma Exposure Rate (dpm/100cm ²)	Gamma Exposure Rate (dpm/100cm ²)	Gamma Exposure Rate (dpm/100cm ²)	Gamma Exposure Rate (dpm/100cm ²)
16	Sample Location (Site Name)									
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										
31	Duplicate Count for #5									
32	Duplicate Count for #13									
33	Duplicate Count for #19									
34	Duplicate Count for #25									
35										
36										
37										
38										
39										

Remarks: First duplicate for #13 performed on 7/1/04

Technician/Supervisor: *[Signature]* Date: 7/1/04

Range Review: *[Signature]* Date: 7/1/04

Description: Classification Survey - Survey Unit 13					
Date: 09/01/2004	Time: 01:15	Survey No: 02-000-104-03	RWT No:	N/A	

Survey Diagram:

J-27 SU 13 N-27

J-23 N-23

Legend: ☒ General Contamination Location ☐ Specific Contamination ☒ ☒ ☒ Point Contamination

Remarks: The Diagram of Survey Unit 13 is controlled by 2.4 m for 10' corner of the SU. Sample locations 1, 2, 3, 4 have been identified. 5 is the location of the Wean Conveyor Shears.

Technician Signature: <i>[Signature]</i>	Date: 09/01/2004	Page: 3
Survey Number: <i>[Signature]</i>	Classification: N/A	

PARTIAL A
 Radiological Survey Report Form

Description: Characterization Survey - Survey Unit 14									
Date: 09/02/2004	Time: 0831	Survey No: 08-000014	RWPE: N/A						
Purpose of Survey (For Release Surveys include Rationale): State Measurements to SUI 14									
Instrument Data		Inspector: [Signature]		Model: []		Edition: []			
Detector Type	Detector ID	Detector Cal. Due	Manufacturer	Model No.	Serial No.	Range (cps)	Dead Time	Probe Head	Probe Head ID
4210-1	PC179112	02/03/04	2227	02002	700000	0	0.02	30	21
						0.1	0.02	30	21
4220	PC179112	02/03/04	2227	02002	700000	0	0.02	30	21
						0.1	0.02	30	21
412	PC179112	02/03/04	1	071254	02/15/03	07/000	0.1	0.02	010
N/A	N/A	N/A	02/03/04	02002	700000	0.1	0.02	30	21
Survey Results		Statistical Results				Direct Readings			
Sample Number	Location/Depth	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)
1	Sample Location (see map)					10	33	267	136
2						30	39	313	204
3						19	31	266	201
4						19	31	277	130
5						25	32	285	177
6						14	3	232	105
7						22	30	233	140
8						14	3	201	102
9						6	37	250	216
10						16	17	200	102
11						16	17	200	114
12						13	1	200	105
13						31	9	276	204
14						12	4	200	81
15						11	10	200	120
Remarks: Field Measurements for 41-42 generated on 09/02/04									
Total: 15 - 150 (Standard Deviation: 1.5) - 1012A									
Technician: [Signature] Date: 9/2/04									
Project: [Signature] Date: 9/2/04									

EXHIBIT
 Radiological Survey Report Form

Description: Contamination Survey - Survey Unit 14										
Date:	Time:	Survey No:	RWP No:	N/A						
Survey Points		Sample Results				Direct Readings				
Sample Number	Description	Gamma Rate (CPM)	Gamma Rate (dpm/100cm²)	Gamma Rate (CPM)	Gamma Rate (dpm/100cm²)	Direct CPM	Direct dpm/100cm²	Direct CPM	Direct dpm/100cm²	Remarks
16	Sample Location (row 16)					21	30	211	293	
17						18	6	204	281	
18						26	71	274	361	
19						4	20	216	147	
20						28	41	240	46	
21						12	1	205	176	
22						13	1	201	152	
23						45	8	237	35	
24						7	24	232	23	
25						14	6	208	91	
26						21	24	247	42	
27						15	33	200	215	274
28						11	10	203	231	
29						15	17	243	357	
30						3	25	212	227	
31						17	27	204	291	
32	Duplicate Count for 26					9	27	202	143	
33	Duplicate Count for 31					17	31	200	177	
34	Duplicate Count for 33					12	4	207	154	
35	Duplicate Count for 30					14	11	201	162	
36										
37										
38										
39										

Remarks: Field background for 45-60 seconds on 10/2/04

Technician/Inspector: *[Signature]* Date: *10/2/04*

Project Review: *[Signature]* Date: *10/2/04*

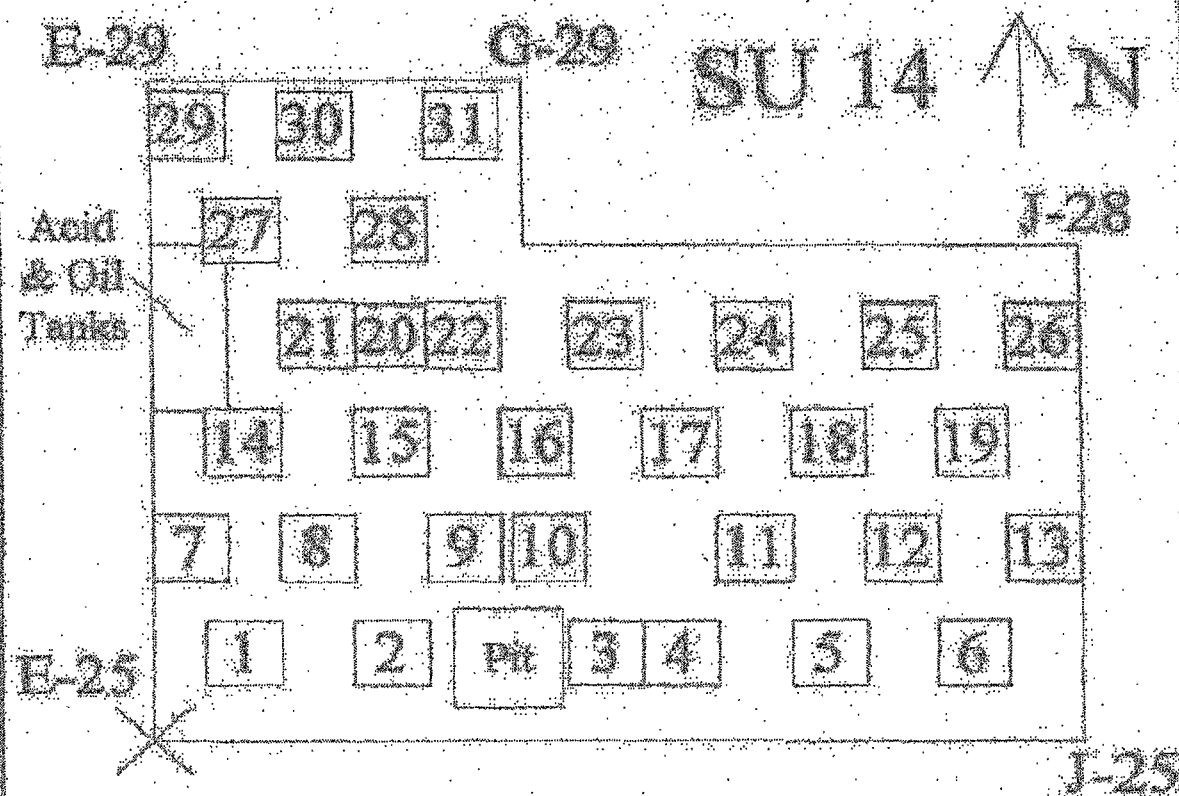
Exhibit C
 Radiological Survey Report Form

Page 3 of 3

Discontinuation: Characterization Survey - Survey Unit 14

Date: 09/01/2004 Time: 0835 Survey MS: C1090204-01 RVT No: N/A

Survey Diagram



Legend: (A) Field/Significant Locations (B) Demarcation Lines (C) Found Area Boundary

Remarks: The location of Survey Unit 14 (E, G & H) is marked by X in the SW corner of the SU. Sample Location 7 has been displaced 16 feet west. Sample Location 10 has been displaced 8 feet to the west. Sample Location 20 has been displaced 10 feet to the west.

Technician(s) Signature(s) Date: 09/01/2004

Project Director: [Signature] Date: 09/01/2004

HS-850-200-04
Rev. 0
May 17, 2015

**Exhibit A
Radiological Survey Report Form**

Page 1 of 1

Description: Contamination Survey - Survey Unit 15																																																																																																	
Date:	09/02/2004	Time:	0820	Survey No.:	211-090204-01	RWP No.:	N/A																																																																																										
Purpose of Survey (For Release Surveys Include Recipient): 550c Measurement 10-50 15																																																																																																	
<table border="1"> <tr> <td>Instrument Data</td> <td colspan="2">Response to Instrument 1: Alpha ☐ Beta ☐ Gamma ☒</td> <td colspan="2">Response to Instrument 2: Alpha ☐ Beta ☐ Gamma ☒</td> <td colspan="2">Response to Instrument 3: Alpha ☐ Beta ☐ Gamma ☒</td> <td colspan="2">Response to Instrument 4: Alpha ☐ Beta ☐ Gamma ☒</td> <td colspan="2">Response to Instrument 5: Alpha ☐ Beta ☐ Gamma ☒</td> </tr> <tr> <td>Source Type</td> <td>Source ID</td> <td>Source Cat. ID</td> <td>Isotope</td> <td>Isotope ID</td> <td>Source Cat. ID</td> <td>Isotope</td> <td>Isotope ID</td> <td>Source Cat. ID</td> <td>Isotope</td> <td>Isotope ID</td> </tr> <tr> <td>43-10-1</td> <td>PR379151</td> <td>02/0003</td> <td>202P</td> <td>090072</td> <td>090072</td> <td>202P</td> <td>090072</td> <td>090072</td> <td>202P</td> <td>090072</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>43-29</td> <td>PR380132</td> <td>02/0003</td> <td>202P</td> <td>090072</td> <td>090072</td> <td>202P</td> <td>090072</td> <td>090072</td> <td>202P</td> <td>090072</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>49-4</td> <td>PR380132</td> <td>02/0003</td> <td>2</td> <td>090072</td> <td>090072</td> <td>2</td> <td>090072</td> <td>090072</td> <td>2</td> <td>090072</td> </tr> <tr> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>Source ID</td> <td>Isotope</td> <td>Source Cat. ID</td> <td>Isotope</td> <td>Source Cat. ID</td> <td>Isotope</td> <td>Source Cat. ID</td> <td>Isotope</td> </tr> </table>										Instrument Data	Response to Instrument 1: Alpha ☐ Beta ☐ Gamma ☒		Response to Instrument 2: Alpha ☐ Beta ☐ Gamma ☒		Response to Instrument 3: Alpha ☐ Beta ☐ Gamma ☒		Response to Instrument 4: Alpha ☐ Beta ☐ Gamma ☒		Response to Instrument 5: Alpha ☐ Beta ☐ Gamma ☒		Source Type	Source ID	Source Cat. ID	Isotope	Isotope ID	Source Cat. ID	Isotope	Isotope ID	Source Cat. ID	Isotope	Isotope ID	43-10-1	PR379151	02/0003	202P	090072	090072	202P	090072	090072	202P	090072												43-29	PR380132	02/0003	202P	090072	090072	202P	090072	090072	202P	090072												49-4	PR380132	02/0003	2	090072	090072	2	090072	090072	2	090072	N/A	N/A	N/A	Source ID	Isotope	Source Cat. ID	Isotope	Source Cat. ID	Isotope	Source Cat. ID	Isotope
Instrument Data	Response to Instrument 1: Alpha ☐ Beta ☐ Gamma ☒		Response to Instrument 2: Alpha ☐ Beta ☐ Gamma ☒		Response to Instrument 3: Alpha ☐ Beta ☐ Gamma ☒		Response to Instrument 4: Alpha ☐ Beta ☐ Gamma ☒		Response to Instrument 5: Alpha ☐ Beta ☐ Gamma ☒																																																																																								
Source Type	Source ID	Source Cat. ID	Isotope	Isotope ID	Source Cat. ID	Isotope	Isotope ID	Source Cat. ID	Isotope	Isotope ID																																																																																							
43-10-1	PR379151	02/0003	202P	090072	090072	202P	090072	090072	202P	090072																																																																																							
43-29	PR380132	02/0003	202P	090072	090072	202P	090072	090072	202P	090072																																																																																							
49-4	PR380132	02/0003	2	090072	090072	2	090072	090072	2	090072																																																																																							
N/A	N/A	N/A	Source ID	Isotope	Source Cat. ID	Isotope	Source Cat. ID	Isotope	Source Cat. ID	Isotope																																																																																							
Survey Results			Sample Results				Direct Readings																																																																																										
Sample Number	Description	Source Response (CPM)	Net Response (dpm/100cm)	Source Response (CPM)	Net Response (dpm/100cm)	Source Cat. ID	Net Response (dpm/100cm)	Source Cat. ID	Net Response (dpm/100cm)	Response Rate (Bq)																																																																																							
1	Sample Location (as map)					01	45	150	36	N/A																																																																																							
2						17	41	290	100																																																																																								
3						19	29	279	150																																																																																								
4						10	49	439	290																																																																																								
5						07	40	262	100																																																																																								
6						07	41	250	91																																																																																								
7						10	5	345	107																																																																																								
8						18	28	281	100																																																																																								
9						12	1	273	150																																																																																								
10						15	12	267	100																																																																																								
11						07	31	265	100																																																																																								
12						09	31	246	60																																																																																								
13						10	30	301	200																																																																																								
14						20	20	280	60																																																																																								
15						10	20	300	100																																																																																								
Remarks: Field Background for 550c measured as 21004.																																																																																																	
<table border="0"> <tr> <td colspan="6">Technician Signature: <i>[Signature]</i> Date: 9/2/04</td> <td colspan="2">N/A</td> <td colspan="2">Y</td> </tr> <tr> <td colspan="6">Principal Investigator: <i>[Signature]</i> Date: 9/2/04</td> <td colspan="2">N/A</td> <td colspan="2">Y</td> </tr> </table>											Technician Signature: <i>[Signature]</i> Date: 9/2/04						N/A		Y		Principal Investigator: <i>[Signature]</i> Date: 9/2/04						N/A		Y																																																																				
Technician Signature: <i>[Signature]</i> Date: 9/2/04						N/A		Y																																																																																									
Principal Investigator: <i>[Signature]</i> Date: 9/2/04						N/A		Y																																																																																									

Exhibit B
Radiochemical Survey Report Form

Description: Characterization Survey - Survey Unit 15										
Date: 09/02/04		Time: 0820		Survey No: CH400204-02		RWV No: N/A				
Survey Points		Statistical Results				Direct Readings				
Sample Number	Description/Notes	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Direct Read (CPM)	Net Read (CPM)	Direct Read (CPM)	Net Read (CPM)	Remarks
16	Sample Location (see map)					16	17	301	234	
17						18	24	270	123	
18						19	23	264	111	
19						20	25	140	50	
20						21	22	278	115	
21						22	24	273	118	
22						23	23	264	107	
23						24	25	301	122	
24						25	26	277	119	
25						26	23	260	106	
26						27	22	260	113	
27						28	21	265	104	
28						29	24	225	84	
29						30	25	234	91	
30						31	24	267	210	
31	Duplicate Counts for 16					32	25	253	168	
32	Duplicate Counts for 16					33	25	281	122	
33	Duplicate Counts for 21					34	25	257	108	
34										
35										
36										
37										
38										
39										

Remarks: Field Book entries for 42-43 averaged as 200 CPM

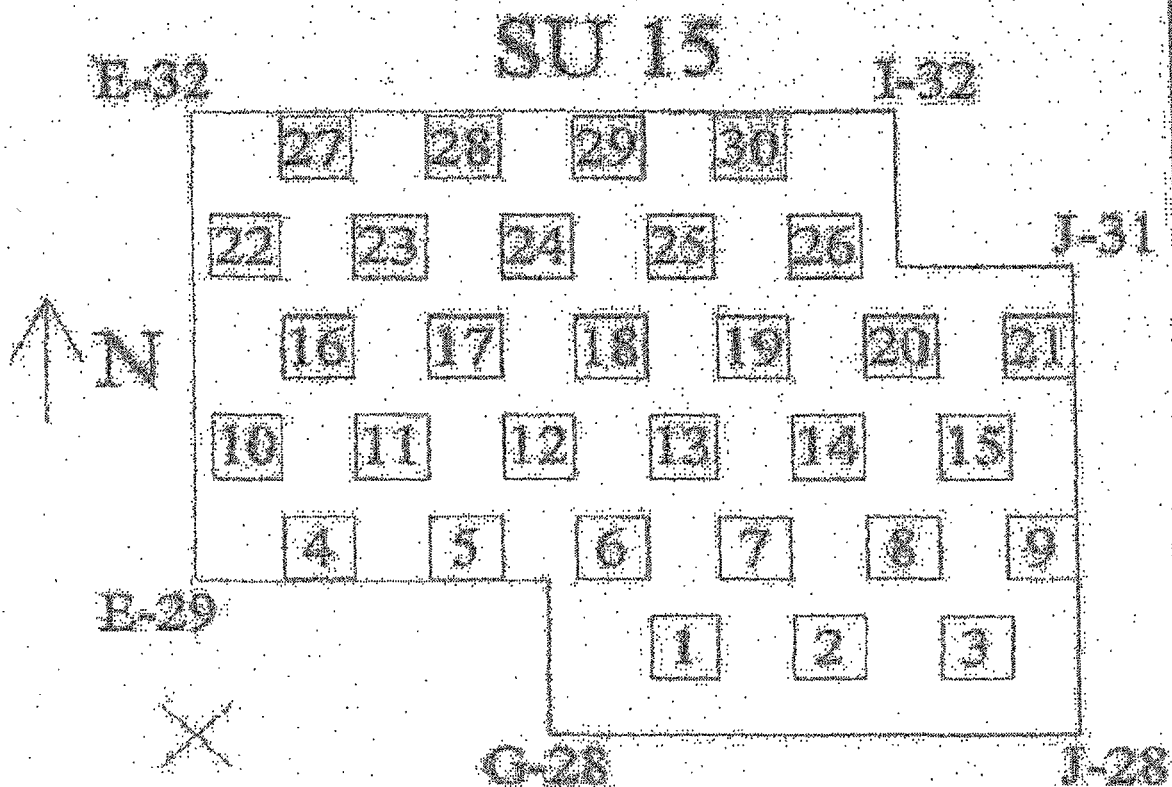
Inspector's Signature: *[Signature]* Date: 9/2/04

Page Review: *[Signature]* Date: 9/2/04

Description: Characterization Survey - Survey Unit 15

Date: 08/02/2004 Time: 0830 Survey No: CH-0000404 RWT No: NA

Survey Region:



Legend: (1) Point/Coordinate Location, (2) Exposure/Measurement, (3) Read/Anal Boundary

Remarks: The Original Survey Unit (0.42, 0.44) is marked up to the 0.40 contour of the SLT.

Technician/Signature/Date: *[Signature]* 19/07/04
 Supervisor/Signature/Date: *[Signature]* 19/07/04

Radiological Survey Report Form

Description: Characterization Survey - Survey Unit 10									
Date: 09/01/2004	Time: 12:00	Survey No: CH-000104-D4	RWP No: N/A						
Purpose of Survey (For Release Surveys Include Radionuclide): State Measurements to SLL 10									
Instrument Data: ☐ Surveyor: ☐ Detector: ☐ Filter: ☐									
Detector Type	Detector ID	Detector Cal. Due	Count Type	Count Rate	Count Cal. Due	Location	Count Rate	Count Rate	Count Rate
GM-1001	00179124	09/08/04	2200	190012	09/08/04	1	2.42	2.42	2.42
						10	2.42	2.42	2.42
GM-1002	00179125	09/08/04	2200	190012	09/08/04	1	1.43	1.43	1.43
						10	1.43	1.43	1.43
GM-1003	00179126	09/08/04	3	12/0000	09/08/04	By CMG	47	30	773
N/A	N/A	N/A	Model 19	0573	02/08/07	Detector	N/A	N/A	N/A
Survey Results		Significant Results				Direct Readings			
Sample Number	Description/Location	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Count Rate (CPM)	Count Rate (CPM)	Count Rate (CPM)	Count Rate (CPM)	Count Rate (CPM)
1	Sample Location (see map)					20	31	24	41
2						11	18	23	3
3						6	13	20	73
4						14	2	24	137
5						12	12	20	179
6						16	2	20	91
7						17	13	20	3
8						13	2	20	30
9						13	2	20	11
10						11	12	21	23
11						17	15	20	41
12						13	2	20	30
13						6	13	20	4
14						10	10	20	43
15						10	13	20	17
Remarks: Field Background for 45-92 reported as 0.024									
Transmitted Signature: <i>[Signature]</i> Date: 09/01/04 Project Name: <i>[Signature]</i> Date: 09/01/04									

HHS Form 404
 Rev. 6
 May 14, 2013

Exhibit B
 Radiological Survey Report Form

Page 1 of 3

Description: Charleston Survey - Survey Unit 16										
Date: 09/01/2004		Time: 1245		Survey No: CH-000004-04		RAW No:		MVA		
Survey Results		Sample Results				Direct Readings				
Sample Number	Description/Depth	Count Rate CPM	Net Background Rate CPM	Count Rate CPM	Net Background Rate CPM	Count CPM	Net Count CPM	Count CPM	Net Count CPM	Remarks
16	Sample Location (see map)					12	4	100	96	
17						12	4	100	96	
18						17	15	100	85	
19						15	4	100	96	
20						10	23	100	77	
21						12	41	100	59	
22						16	10	112	102	
23						12	20	100	80	
24						14	2	100	96	
25						10	23	100	77	
26						12	13	100	87	
27						14	4	100	96	
28						11	10	110	100	
29						10	4	100	96	
30						13	7	100	93	
31						13	2	100	98	
32	Depth 1 Count for 24					14	2	100	98	
33	Depth 1 Count for 27					30	31	279	248	
34	Depth 1 Count for 32					10	4	100	96	
35										
36										
37										
38										
39										

Remarks: Field Background for 21-31 given on 9/1/04

Investigator Signature: *[Signature]* Date: 9/1/04
 Project Manager: *[Signature]* Date: 9/1/04

18-ASP-200-04
Rev. 0
Page 1 of 1

Exhibit C
Radiological Survey Report Form

Page 1 of 1

Description: Characterization Survey - Survey Unit 16			
Date: 09/01/2004	Time: 1245	Survey No: CH-000104-01	RWP No: N/A

Survey Diagram:

Legend: (1) Time/Location/Location # Response Time (min) ~~XX~~ ~~XX~~ ~~XX~~ Total Area (meters)

Remarks: The origin of Survey Unit 16 (SU 16) is located at the intersection of the SLL. Sample locations 1, 2, & 3 have been displaced 5 feet to the north due to the presence of the West Canyon Slacks.

Technician(s) Signature(s):	Date:	Page:
Project Number:	Other Number:	Page:

Exhibit A
Radiological Survey Report Form

Designation: Characterization Survey - Survey Unit 17									
Date: 09/02/2004	Time: 1000	Survey No.: CH-000004-01	IRV No.: N/A						
Purpose of Survey (For Release Surveys Include Reason(s)): Surface Measurements at S1-17									
Instrument Data: ☐ Scintillation ☐ Geiger ☐ Other ☐ ☐ ☐									
Detector Type	Detector ID	Detector Lot No.	Model Type	Serial No.	Manufacturer	Location	Height (ft)	Count Rate (CPM)	Exposure Rate (mR/hr)
40-10-1	PR170114	0120000	2000	190413	0900004	a	201	20	50
						b	201	20	50
70-03	PR200132	0240005	2010	190413	0900004	a	128	50	70
						b	201	20	50
100	PR200132	0240005	2010	190413	0900004	0-1000	0	10	70
N/A	N/A	N/A	None	2000	0900004	Exposure	N/A	100	70
Survey Results			Scintillation Results			Exposure Results			
Sample Name	Description	Count Rate (CPM)	Rate (mR/hr)	Count Rate (CPM)	Rate (mR/hr)	Count Rate (CPM)	Rate (mR/hr)	Count Rate (CPM)	Rate (mR/hr)
1	Sample Location (not exp)					10	13	510	20
2						14	4	20	100
3						13	1	20	10
4						20	20	20	10
5						12	4	20	10
6						12	4	20	10
7						24	40	120	4
8						10	13	20	100
9						14	5	20	100
10						12	4	20	10
11						13	13	20	100
12						10	13	20	100
13						14	13	20	100
14						9	41	20	4
15						11	13	20	100
Remarks: Field Data from 09/02/2004 survey at S1-17									
Prepared by: [Signature] Date: 09/02/2004 Reviewed by: [Signature] Date: 09/02/2004									

Radiological Survey Report Form

Description: Characterization Survey - Survey Unit 17										
Date: 06/02/2004		Time: 1000		Survey No: CR-0001-01-03		RWP No: N/A				
Survey Points		Sample Points				Data Points				
Sample Number	Location/Notes	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)
16	Sample Location 1 (see map)					11	10	26	10	
17						12	4	25	10	
18						17	23	28	75	
19						8	25	37	38	
20						10	17	27	15	
21						5	21	27	25	
22						14	6	25	32	
23						15	12	28	3	
24						14	17	24	25	
25						19	25	25	20	
26						22	23	23	10	
27						10	15	24	31	
28						18	28	28	20	
29						9	21	24	21	
30						5	22	28	18	
31	Duplicate Count for #16					10	33	27	72	
32	Duplicate Count for #17					12	15	22	13	
33	Duplicate Count for #23					14	6	26	10	
34										
35										
36										
37										
38										
39										

Notes: Field background for 45-54 gpm not on 6/2/04

Technician Signature: [Signature] Date: 6/2/04

Inspector Signature: [Signature] Date: 6/2/04

HHS-200-4
 Rev. 8
 Page 1 of 1

Exhibit C
 Radiological Survey Report Form

Page 1 of 1

Description: Characterization Survey - Survey Unit 17			
Date: 09/02/2004	Time: 1000	Survey No: CH-00001-05	Rev. No: N/A

SU 17

P-36
K-36

N

↑

25	Screw Press		27	28	29	30
19	20	26	21	22	23	24
15	16	17	18			
10	11	12	13	14		
6	7	8	9			
1	2	3	4	5		

K-35

J-32

P-32

X

Legend: (1) Point/Contourable Location (2) Boundary Location (3) Point Area Boundary

Remarks: The Origin of Survey Unit (0002, 0125) is marked by X in the SW corner of the SU. Sample Location 05 was 12 feet south

Inspector/Signatures/Date	9/2/04
Investigator	9/2/04

Exhibit A
 Radiological Survey Report Form

Page 1 of 2

Description: Chemical Waste Survey - Survey Unit 12										
Date: 05/02/2021	Time: 1245	Survey No: CH-020204-02	HSE No: N/A							
Purpose of Survey (For Release Surveys include recipient): Site Measurements in SU 12										
Instrument Data: ☐ Manual ☒ Electronic ☐										
Detector Type	Detector SN	Detector Cal Due	Isotopic Type	Isotopic SN	Manufacturer	Geometry	Height (cm)	Count Rate (cps)	NETA Error	
GM-10-1	12470134	01/25/25	2322	150432	0004/01	α	0.62	23	5.1	
						βγ	0.62	13	36.1	
GM-09	12470132	02/12/25	2324	150420	0004/01	α	1.23	54	71.9	
						βγ	2.25	13	164	
GM-2	12470135	01/15/24	3	171224	01/13/24	SV (GM)	27	39	71.9	
N/A	N/A	N/A	None	0372	02/01/25	Region	N/A	N/A	N/A	
Survey Results			Screenable Results			Direct Counting				
Sample Number	Description/Location	Screenable Count Rate (cps)	Screenable Count Rate (dpm)	Screenable Count Rate (dpm)	Screenable Count Rate (dpm)	Count Rate (cps)	Count Rate (dpm)	Count Rate (cps)	Count Rate (dpm)	Exposure Rate (μR/hr)
1	Sample Location (see map)					9	41	105	114	293
2						31	10	307	126	
3						17	10	300	249	
4						15	17	305	237	
5						14	6	281	102	
6						10	13	308	234	
7						10	13	223	11	
8						10	13	206	207	
9						13	4	271	132	
10						11	28	291	191	
11						14	6	276	139	
12						16	17	278	139	
13						17	18	282	139	
14						17	23	301	229	
15						16	17	310	194	
Remarks: Final Background for C-13 gamma in 1204										
1204 - No Background Detected in 1204										
Investigator Signature / Date: <u>[Signature]</u> / <u>12/2/21</u>										
Reviewer Signature / Date: <u>[Signature]</u> / <u>12/2/21</u>										

Exhibit B
Radiological Survey Report Form

Description: Characterization Survey - Survey Unit 18										
Date: 09/03/2004		Time: 1245		Survey No: CH-050204-04		RAD No: N/A				
Survey Results		Statistical Results				Direct Readings				
Sample Number	Description/Notes	Survey Parameter (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Gross CPM	Net CPM	Gross CPM	Net CPM	Exposure Rate (mR/hr)
16	Sample Location (see map)					44	15	240	30	
17						16	15	205	235	
18						10	74	240	110	
19						10	43	230	40	
20						12	30	123	500	
21						18	17	720	110	
22						14	4	240	40	
23						11	15	220	30	
24						11	10	201	110	
25						13	4	230	201	
26						13	1	205	204	
27						22	30	200	177	
28						17	23	201	199	
29						13	10	131	21	
30						21	24	203	70	
31	Duplicate Count for 18					17	27	212	100	
32	Duplicate Count for 17					14	5	100	234	
33	Duplicate Count for 126					13	1	101	220	
34										
35										
36										
37										
38										
39										
40										

Remarks: Field Backgrounds for 15-30 recorded on 09/02/04

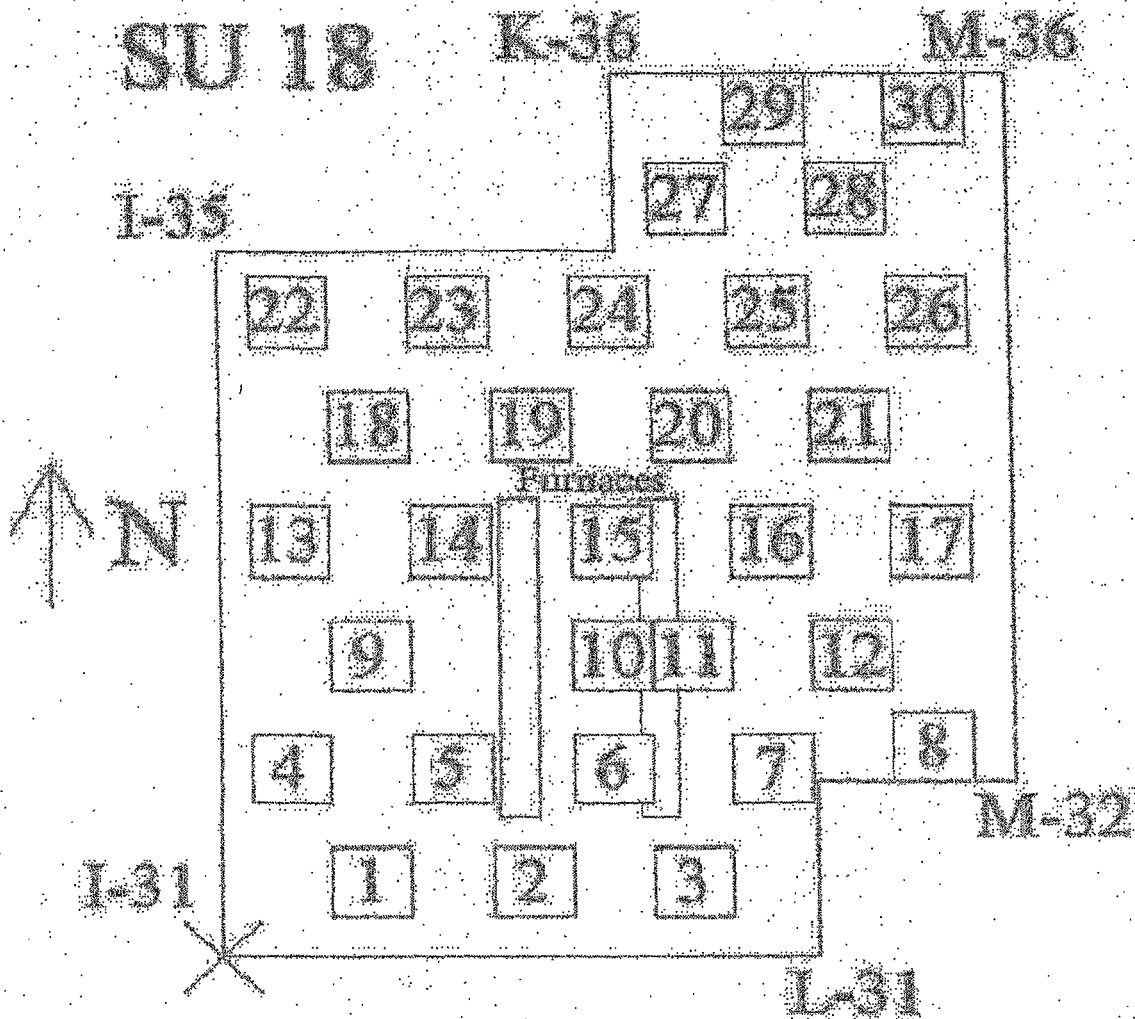
Technician Signature / Date: *[Signature]* / 09/03/04

Project Manager: *[Signature]* / 09/03/04

QA/QC Review: *[Signature]* / 09/03/04

Description: Characterization Survey - Survey Unit 13
 Date: 08/02/2004 Time: 1345 Survey No: CA-000001-04 RWP No: NA

Survey Diagram



Legend: (N) North Arrow (L) Location (S) Survey Unit (F) Furnace (X) Point Area Boundary

Remarks: The Origin of Survey Unit (SU 13, 001) is marked by X on the 3rd corner of the RCI. Sample locations 10 was duplicated 10 feet east.

Radiological Signature / Date: *ASG* 1/9/2004
 Prepared by: *W. J. [illegible]* 1/9/2004 Check Review: *NA* 1

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Rev. 9
Dec 13/01

Exhibit A Radiological Survey Report Form

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Description: Characterization Survey - Survey Unit 19										
Date: 09/07/04	Time: 0545	Survey No: CH-000004-01	RWP No: 00A							
Purpose of Survey (For Release Surveys include Resident): State Measurements in SU 19										
Instrument Data Instrument Location (if known) ☐ Inside ☐ Outside ☐										
Detector Type	Detector ID	Detector Cal Date	Model Type	Serial No	Model Cal Date	Counting Rate	High Energy	Correction Factor	MDL (dpm)	
40-10-1	FR000104	01/08/00	4030	190013	05/08/01	0	0.01	0.0	9.1	
						0.0	0.02	0.0	36.4	
40-10	FR000113	01/12/02	2121	190030	02/12/03	0	0.03	0.0	70.2	
						0.0	0.04	0.0	176	
40-2	FR000107	02/12/01	2	17134	03/12/01	0.0 (0.0)	0.0	0.0	71.3	
N/A	N/A	07/01	Model 17	0773	02/08/03	Response	0.03	0.04	N/A	
Survey Results		Sample Results				Direct Readings				
Sample Number	Description/Results	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Response Rate (dpm)
1	Sample Location (see map)					0	0.0	36.4	13.2	10.0
2						0	0	0.0	12.0	
3						0	0	0.0	13.5	
4						0	0	0.0	11.7	
5						0	0	0.0	0	
6						0	0	0.0	11.8	
7						0	0	0.0	0	
8						0	0	0.0	0	
9						0	0	0.0	13.1	
10						0	0	0.0	0	
11						0	0	0.0	0.1	
12						0	0	0.0	0.0	
13						0	0	0.0	0.0	
14						0	0	0.0	0.0	
15						0	0	0.0	-3	
Remarks: SEE Map for Unit 19-97 p. 100 for 000/04										
Signature/Date Signature/Date Signature/Date Signature/Date										

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EXHIBIT B
Hydrological Survey Report Form

Page 2 of 3

Description: Channelization Survey - Survey Unit 19										
Date: 09/01/2004		Time: 0645		Survey No: CH-050004-01		RWPNr: N/A				
Survey Results		Singeable Results				Direct Readings				
Sample Number	Description/Notes	Gravel Count CPM	Net Singeable Load Tons	Gravel Count CPM	Net Singeable Load Tons	Gravel CPM	Net Singe Tons	Gravel CPM	Net Singe Tons	Response Rate %
16	Sample Location (see map)					17	24	242	37	
17						13	3	246	40	
18						34	21	270	30	
19						4	28	274	18	
20						17	24	280	6	
21						13	12	289	29	
22						12	2	297	37	
23						22	21	298	40	
24						12	2	296	31	
25						34	24	300	35	
26						17	27	303	13	
27						36	19	305	31	N/A
28						22	21	307	14	
29						18	20	304	128	
30						13	3	309	237	
31						13	14	310	47	
32	Duplicate Count for 119					16	19	310	110	
33	Duplicate Count for 119					26	19	315	114	
34	Duplicate Count for 225					24	22	301	90	
35										
36										
37										
38										
39										

Reminder: Field Participants should be aware of the following:

Transcribed by: DSJ Date: 10/23/04 SNA: 1

Project Director: [Signature] Date: 10/23/04 SNA: 1

Description: Classification Survey - Survey Unit 19			
Date: 09/01/2004	Time: 0545	Survey No: CH-000104-01	RWP No: N/A
Survey Diagram:			

C-41
SU 19
P-41

N

29

30

31

25

26

27

28

22

23

24

18

19

20

21

15

16

17

10

11

12

13

14

6

7

8

9

5

1

2

3

4

C-36
G-38
G-36

United Press
Shore

Legend: ① Handwritten Notations A. Exposed Area (Hatched) ~~---/---/---~~ Road Area Boundary

Remarks: The Origin of Survey Unit 19 (SU 19) is marked by X in the SW corner of the SU. Sample Location 5 was displaced to the north.

Technician's Signature: <i>[Signature]</i>	Date: <i>10/3/04</i>	RPA: <i>1</i>
Project Review: <i>[Signature]</i>	Chief Review: <i>[Signature]</i>	RPA: <i>1</i>

55-15760-1

Page 0

Page 1 of 15

Exhibit A

Radiological Survey Report Form

Page 1 of 3

Description: Chemicalization Survey - Survey Unit 20									
Date: 05/03/2004	Time: 0830	Survey No: CH000102-02	RWP No: N/A						
Purpose of Survey (For Release Surveys include Sediment): Radio Measurements in SU 20									
☐ Background Only ☐ Background Measurements Only ☐ Direct ☐ Indirect ☒ Direct & Indirect									
Device Type	Device ID	Device Cal Due	Probe Type	Probe ID	Probe Cal Due	Sample Size	Time (min)	Count Rate	MDA (dpm)
42-10-1	PH175134	05/05/03	222	150013	05/05/04	2	5.15	1.0	4.1
						10	4.2	2.0	4.0
42-10	PH000032	02/12/03	222	150020	05/05/04	4	10.5	1.4	7.0
						5	2.0	1.0	3.0
44-4	PH000030	05/12/04	1	150024	05/12/04	PH10005	47	30	7.0
N/A	N/A	N/A	Probe ID:	400	05/05/03	Recounts:	N/A	N/A	N/A
Survey Results		Sample Results				Direct Readings			
Sample Number	Description/Location	Gross Countable CPM	Net Countable CPM	Gross Countable CPM	Net Countable CPM	Gross CPM	Net CPM	Time (min)	MDA (dpm)
1	Sample Location (see map)					28	14	200	10%
2						15	15	200	40
3						8	24	200	2
4						17	24	200	147
5						18	30	200	118
6						17	24	200	101
7						20	31	200	100
8						21	30	200	95
9						19	35	200	97
10						17	34	200	97
11						16	19	200	172
12						13	8	200	12
13						19	20	200	10
14						14	8	200	51
15						13	8	200	36
Location: TBM Borehole # B-13-15 located in W-13									
(MDA) = 10% Countable Background, i.e. = MDA									
Technician: <u>W. J. Smith</u> Date: <u>5/3/04</u> Page: <u>1</u>									
Project Name: <u>W. J. Smith</u> Date: <u>5/3/04</u> Page: <u>1</u>									

09/03/2014
 08:20
 09/03/2014

Exhibit B
 Radiological Survey Report Form

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Description: Characterization Survey - Survey Unit 20										
Date: 09/03/2014		Time: 08:20		Survey No: C11000104-02		RWENo: N/A				
Survey Results		Smearable Results				Direct Readings				
Sample Number	Location/Depth	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)
10	Sample Location (see map)					17	21	200	1	
17						18	40	281	39	
18						11	4	324	103	
19						13	14	324	103	
20						18	30	283	42	
21						11	4	320	38	
22						20	41	310	126	
23						19	33	283	43	
24						4	33	301	140	
25						12	2	297	47	
26						12	2	315	144	
27						16	10	315	150	50
28						15	14	300	119	
29						16	20	300	105	
30						17	24	345	231	
31	Duplicate Count for 23					18	14	274	38	
32	Duplicate Count for 20					17	24	277	31	
33	Duplicate Count for 30					15	14	250	130	
34										
35										
36										
37										
38										
39										

Results: 100% of samples for 15-30 were within 100% of 100%.

Technician: [Signature] Date: 09/03/2014 RWENo: N/A

Supervisor: [Signature] Date: 09/03/2014 RWENo: N/A

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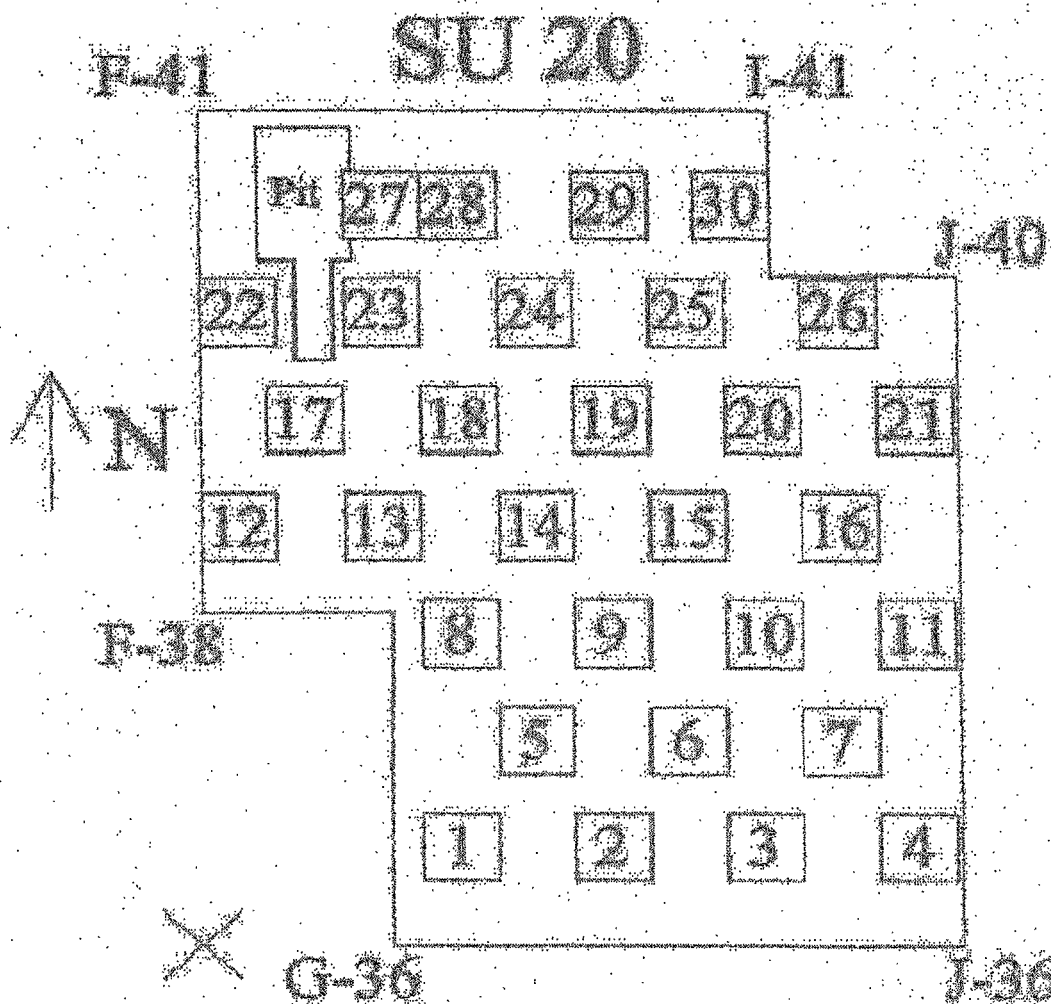
EXHIBIT C
 Radiological Survey Report Form

Page 1 of 3

Description: Characterization Survey - Survey Unit 20

Date: 05/10/2004 Time: 0830 Survey No: CH-050304-02 RWT No: N/A

Survey Diagram:



Legend: (P) Photo location, (X) Sample location, **

Note: The original survey line (0-10, 0-15) is marked by X at the 10' corner of the cell. Sample location 27 is approximately 10' from the

Technician/Signature/Date	05/10/2004	N/A	1
Project Number	CH-050304-02	N/A	1

1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 26

Exhibit B
Radiological Survey Report Form

Description: Chemical Station Survey - Survey Unit 21										
Date: 09/03/2004		Time: 0800		Survey No: CH-2004-03		RWPNr: N/A				
Survey Results		Suspect Results				Data Readings				
Sample Number	Description/Location	Count or Measurement	Net or Background Count	Count or Measurement	Net or Background Count	Count (CPM)	Net or Background (CPM)	Count (CPM)	Net or Background (CPM)	Count (CPM)
16	Sample Location (see map)					12	3	204	30	
17						11	3	203	30	
18						22	31	205	31	
19						22	31	207	32	
20						17	24	207	32	
21						11	3	202	30	
22						14	3	203	30	
23						19	3	205	30	
24						17	24	203	30	
25						15	3	202	30	
26						14	3	204	30	
27						17	24	204	30	
28						13	3	206	30	
29						22	31	211	32	
30						12	3	203	30	
31	Duplicate Count for #1					25	19	205	30	
32	Duplicate Count for #16					13	3	205	30	
33	Duplicate Count for #28					11	3	205	30	
34										
35										
36										
37										
38										
39										

Remarks: Field Readings for 43-45 generated on 09/03/04

Technician Signature/ID: *[Signature]* 190304

Project Review: *[Signature]* 1004

Description: Characterization Survey - Survey Unit 21			
Date: 08/01/2007	Time: 0925	Survey No.: CU-000304-01	RAW No.: N/A

Survey Diagram:

Legend: (a) Point Number Location, (b) Exposure Time (min), (c) Sample Area Boundary

Remarks: This diagram of Survey Unit (SU 21, 1 (1)) is subject to the SW corner of the SU.

Transect(s) Signature/Date: <i>O. Smith</i> / 8/3/07	Page: 7
Prepared By: <i>Mark Miller</i> / 8/3/07	Checked By: <i>Mark Miller</i> / 8/3/07

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ENHANCED

Radiological Survey Report Form

Page 1 of 1

Description: Characterization Survey - Survey Unit 22										
Date:	09/09/2004	Time:	1230	Survey No:	CEL-090304-01	RPT No:	N/A			
Purpose of Survey: (For Release Surveys Include Radiology) State Measurements in SU 22										
Instrument Data: ☐ Immediate Release Survey Mode ☐ Backlog ☒ Direct ☐										
Detector Type	Detector SN	Detector Cal Date	Model Type	Model SN	Model Cal Date	Positioning	Height (m)	Counting Rate	MDA (cps)	
AS-10-1	1817999	02/06/02	200	17012	01/09/04	0	0.42	44	57	
						0.1	0.3	23	40.3	
AS-01	1818012	02/06/02	200	09020	02/12/03	0	1.23	52	70.1	
						0.1	0.8	30	42.6	
AS-02	1818035	02/15/04	1	17124	02/12/04	30 (CM)	17	69	71.8	
N/A	N/A	N/A	Model 11	2078	02/09/04	Exposure	N/A	100	N/A	
Survey Results		Significant Results				Direct Readings				
Sample Number	Designation	Surface Measurement (cps)	Top of Structure Measurement (cps)	Ground Level Measurement (cps)	Top of Structure Measurement (cps)	Ground Level (cps)	Area (sqm)	Count Rate (cps)	MDA (cps)	Detector Read (cps)
1	Channel Location (see map)					18	30	213	100	N/A
2						37	25	224	40	
3						17	28	220	100	
4						0	0.3	221	100	
5						15	25	221	40	
6						18	28	204	50	
7						11	46	200	30	
8						12	4	200	30	
9						14	4	217	30	
10						24	107	227	200	
11						33	100	200	30	
12						19	22	204	30	
13						14	2	201	100	
14						21	41	200	117	
15						10	20	200	40	
Remarks: Field Measurements for 4721 generated on 09/09/04										
TSP - No Measurements Detected for 100%										
Technician Signature/Date: <u>OSJ</u> <u>11/3/04</u> <u>N/A</u> <u>1</u>										
Fluorescence Signature/Date: <u>Wan-Min</u> <u>09/09/04</u> <u>N/A</u> <u>1</u>										

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Exhibit B

Radiological Survey Report Form

Page 2 of 3

Description: Characterization Survey - Survey Unit 22										
Date: 05/05/2004		Time: 1330		Survey No: CH-000304-04		RVT No: N/A				
Survey Results		Soil Sample Results				Direct Readings				
Sample Number	Description/Location	Gamma Rate (CPM)	Gamma Rate (dpm/g)	Gamma Rate (CPM)	Gamma Rate (dpm/g)	Survey Count	Survey Time (min)	Count Rate (CPM)	Count Rate (dpm/g)	Remarks
16	Sample Location (see map)					20	10	200	20	
17						37	1	370	135	
18						18	30	360	30	
19						25	70	275	300	
20						16	10	275	15	
21						12	5	240	15	
22						21	45	300	24	
23						17	30	245	40	
24						24	30	260	70	
25						14	5	300	100	
26						18	30	250	40	
27						13	5	200	30	N/A
28						6	45	300	100	
29						19	30	260	70	
30						16	30	300	100	
31	Background Count for B1					15	14	271	100	
32	Background Count for B1.5					17	24	250	60	
33	Background Count for B2					16	19	270	20	
34										
35										
36										
37										
38										
39										

Remarks: Field Backgrounds for 11-21 generated on 5/6/2004

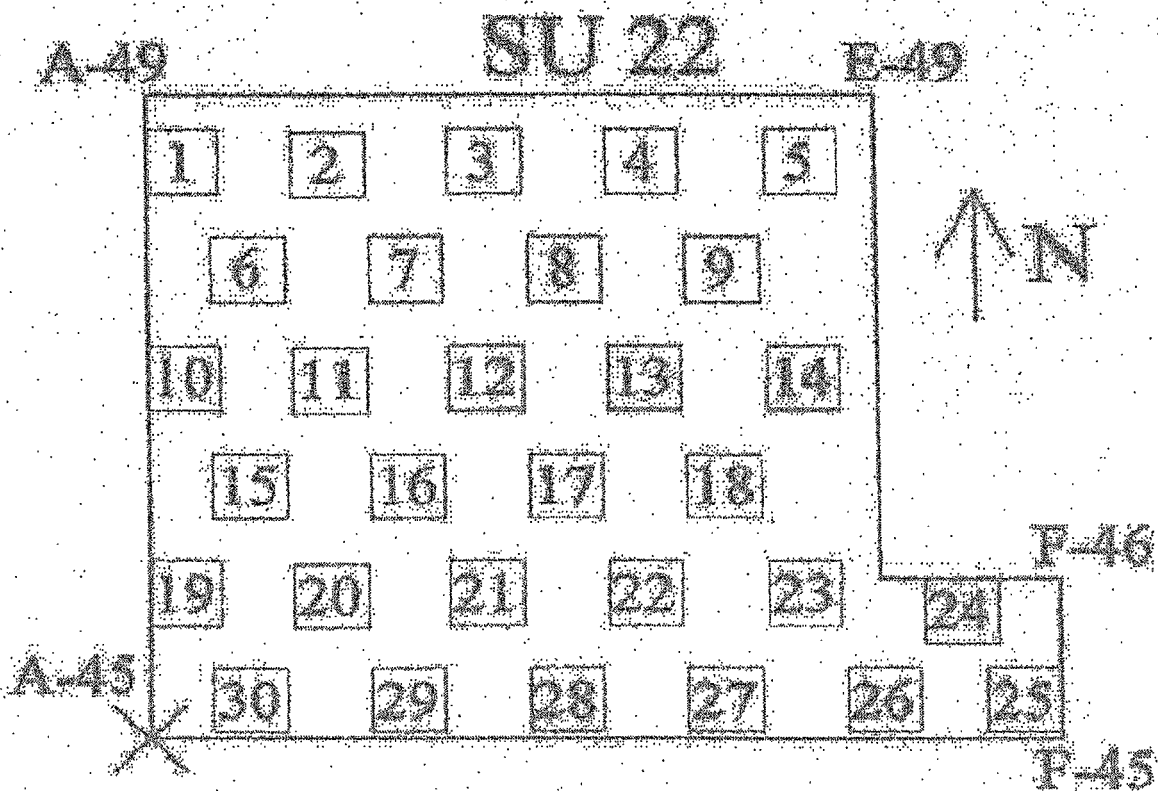
Tech/Supervisor Signature: [Signature] Date: 5/6/2004

Project Number: [Signature] Date: 5/6/2004

Description: Classification Survey - Survey Unit 22

Date: 09/15/2004 Time: 1230 Survey No: 03-000109-03 RVP No: N/A

Survey Diagram:



Legend: (X) Fixed Boundary Location (X) Boundary Line (X) Road Area Boundary

Remarks: The Origin of Survey Line (O.S.L. & R.V.) is marked by 'X' in the SW corner of the SU.

Inspector's Signature/Date: [Signature] 1/9/2007

Project Number: [Signature] 1/9/2007

Exhibit A
Radiological Survey Report Form

Page 1 of 3

Description: Contamination Survey - Survey Unit 22									
Date:	10/03/2004	Time:	1300	Survey No.:	0200000405	RWP No.:	N/A		
Purpose of Survey (For Release Surveys Include Radionuclide):						Soil Measurements at S0-22			
Instrument Data		Reference Measurements		Energy		Lenses			
Detector Type	Detector ID	Detector Cal Date	Chan Type	Chan ID	Chan ID Desc	Scalation	Dead Time	Channel Range	MCA Type
43-001	TR170154	090903	2523	190012	04000001	n	0.42	25	2.7
						10	0.42	25	2.7
43-002	TR170154	091103	2523	190012	04000001	n	12.3	25	2.7
						10	12.3	25	2.7
43-003	TR170154	091103	2	171254	04000001	100000	47	30	715
N/A	N/A	N/A	140019	2578	02000003	Exposure	N/A	N/A	N/A

Survey Results		Scalation Results				Direct Readings			
Sample Number	Description/Location	Chan ID	Chan ID Desc	Chan ID Desc	Chan ID Desc	Chan ID Desc	Chan ID Desc	Chan ID Desc	Chan ID Desc
1	Sample Location (see map)					10	30	207	23
2						11	3	219	217
3						14	3	200	20
4						13	3	232	23
5						16	19	223	22
6						17	24	205	20
7						18	19	200	20
8						24	2	200	20
9						12	2	202	2
10						9	12	200	20
11						11	2	233	23
12						16	19	215	21
13						15	12	207	20
14						14	13	207	20
15						17	23	207	20

Remarks: Field measurements by 17-22 generated on 10/03/04

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Prepared by: <u>RLH</u>	Date: <u>10/03/04</u>	RWP No.: <u>N/A</u>
Checked by: <u>RLH</u>	Date: <u>10/03/04</u>	RWP No.: <u>N/A</u>

Exhibit B
Radiological Survey Report Form

Description: Characterization Survey - Survey Unit 23										
Date: 08/03/2004		Time: 1900		Survey No: CH-900013-01		RWE No: N/A				
Survey Details		Survey Results				Direct Readings				
Sample Number	Description/Location	Count Rate (CPM)	Net Count Rate (CPM)	Background (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Count Rate (CPM)	Count Rate (CPM)	Count Rate (CPM)	Count Rate (CPM)
16	Sample Location (see map)					12	5	207	117	
17						15	14	165	94	
18						17	14	181	48	
19						16	19	171	130	
20						30	14	154	76	
21						15	14	168	88	
22						9	13	159	79	
23						28	11	165	111	
24						12	8	173	36	
25						28	12	168	78	
26						15	8	158	4	
27						17	24	168	1	100
28						18	16	165	88	
29						19	15	168	11	
30						15	14	155	50	
31	Duplicate Count for 28					12	8	161	125	
32	Duplicate Count for 27					17	24	163	46	
33	Duplicate Count for 24					18	20	168	84	
34										
35										
36										
37										
38										
39										
40										

Remarks: Field Readings for 16-33 generated on 08/03/04

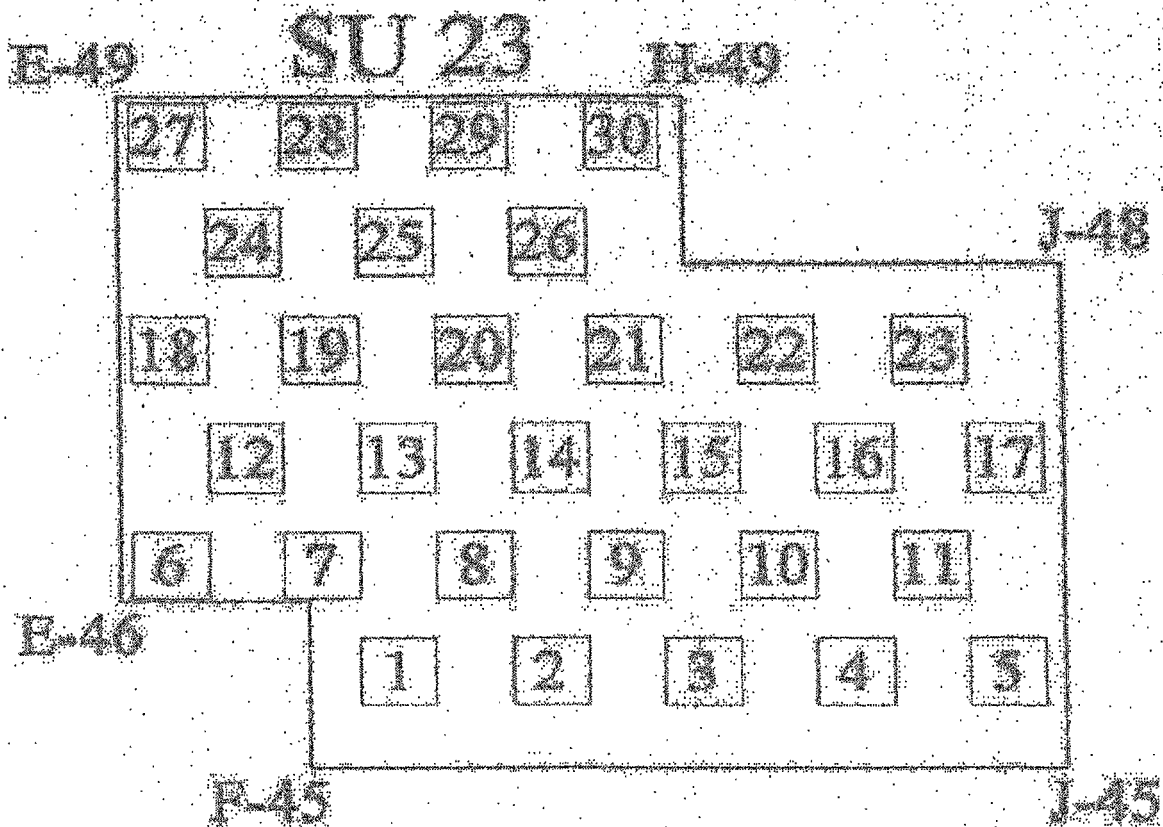
Technician: [Signature] Date: 08/03/04

Project Manager: [Signature] Date: 08/03/04

Description: Characterization Survey - Survey Unit 23

Date: 09/04/2004 Time: 1300 Survey No: CM-001304-05 RWP No: N/A

Survey Diagram



Legend: (S) Point/Location/Feature, (E) Exposure Rate (R/hr), (R) Read Rate (R/hr), (M) Read Rate (R/hr)

Remarks: The Origin of Survey Unit 23 is located by a hole in the ground.

Technical Supervisor: [Signature] Date: 10/1/04

Project Review: [Signature] Date: 10/1/04

**Exhibit A
Radiological Survey Report Form**

Page 1 of 3

Description: Characterization Survey - Survey 15K 24									
Date:	05/07/2004	Time:	0730	Survey No:	04-00004-01	RMP No:	N/A		
Purpose of Survey (For Release Surveys Indicate Radiophysics): Area Measurements at SU 24									
Instrument Data Instrument Manufacturer: ☐ Model: ☐ Serial: ☐ Lot: ☐									
Detector Type	Detector SN	Detector Cal Date	Units Type	Range SN	Model SN	Resolution	Rept. Unit	Count Rate	MFD (dpm)
40-10-1	00177131	05/06/04	204	150012	000001	u	uCi	20	9.1
						dy	uCi	23	95.1
40-10	FR00013	02/13/04	204	150012	00177131	u	uCi	23	71.4
						dy	uCi	270	10
40-4	FR00013	02/13/04	2	171224	00177131	Ry (CM)	27	20	713
N/A	N/A	N/A	AR0012	0001	00177131	Exposure	N/A	N/A	N/A
Survey Results		Indirect Readings				Direct Readings			
Sample Number	Designation/Location	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)
1	Sample Location (see map)					21	45	265	142
2						21	35	252	121
3						20	38	210	108
4						11	7	273	144
5						17	4	254	131
6						14	46	312	155
7						18	29	316	138
8						13	3	260	11
9						13	28	288	56
10						15	1	288	46
11						14	2	315	128
12						16	30	324	182
13						15	12	300	120
14						17	4	301	167
15						11	9	272	100
Remarks: These data generated for 12-03 generated for 10/04									
Signature: <i>[Signature]</i> Date: <i>10/04</i> Title: <i>N/A</i>									
Reviewer: <i>[Signature]</i> Date: <i>10/04</i> Title: <i>N/A</i>									

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EXHIBIT 2
Radiological Survey Report Form

Page 1 of 1

Description: Characterization Survey - Survey 1463-24										
Date:	Time:	Survey No.	CH-000-04-01	RWP No.	N/A					
Survey Results		Sample Results				Data Results				
Sample Number	Description/Location	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)
15	Sample 1463-24 (1st rep)					5	35	22	38	
17						26	39	203	4	
19						26	32	203	43	
20						17	23	122	101	
20						18	43	117	110	
21						9	20	212	43	
22						10	43	215	433	
23						12	29	202	24	
24						13	7	200	54	
25						15	26	205	50	
26						17	23	200	4	
27						18	29	201	117	101
28						5	20	201	207	
29						10	12	100	203	
30						15	20	201	29	
31	Duplicate Count for 21					19	34	212	113	
32	Duplicate Count for 23					21	43	202	26	
33	Duplicate Count for 25					10	43	212	103	
34										
35										
36										
37										
38										
39										
40										
41										

Remarks: Field data generated for 15-23 generated on 10/2/04

Prepared by: [Signature] Date: 10/2/04

Checked by: [Signature] Date: 10/2/04

Description: Check station Survey - Survey Unit 24			
Date: 19/03/2004	Time: 0730	Survey No: CH-000704-01	ESR No: N/A
Survey Diagram:			
Epoch: ☒ Epoch Time and Location ☐ Epoch Time and Alt ☐ Epoch Time and Bearing ☐ Epoch Time and Distance			
Remarks: The design survey 1/pt (A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z) is marked by X in the 3rd column of the SU.			
Technician's Signature: <i>[Signature]</i>		Date: 19/03/04	
Inspector's Signature: <i>[Signature]</i>		Date: N/A	

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Exhibit B
Radiological Survey Report Form

Page 2 of 3

Description: Characterization Survey - Survey Unit 25										
Date: 07/01/2004		Time: 0800		Survey No: CH-02070401		RWP No: N/A				
Survey Results		Background Results				Direct Readings				
Sample Number	Location/Depth	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Time (min)	Count Rate (CPM)	Net Count Rate (CPM)	Remarks
16	Sample Location (see map)					13	13	235	114	
17						1	37	235	114	
18						13	12	235	114	
19						10	30	235	114	
20						22	30	235	114	
21						10	14	235	114	
22						30	19	235	114	
23						2	25	235	114	
24						10	12	235	114	
25						111	201	235	114	
26						12	4	235	114	
27						20	44	235	114	
28						23	52	235	114	
29						18	2	235	114	
30						18	29	235	114	
31	Duplicate Count for #1					10	15	235	114	
32	Duplicate Count for #14					18	29	235	114	
33	Duplicate Count for #23					10	47	235	114	
34										
35										
36										
37										
38										
39										

Sample: First background (12-13-01) recorded on 07/01/04

Technician: [Signature] Date: 7/1/04

Inspector: [Signature] Date: 7/1/04

Facility C
Radiological Survey Report Form

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Description: Characterization Survey - Survey Unit 25

Date: 05/07/2014

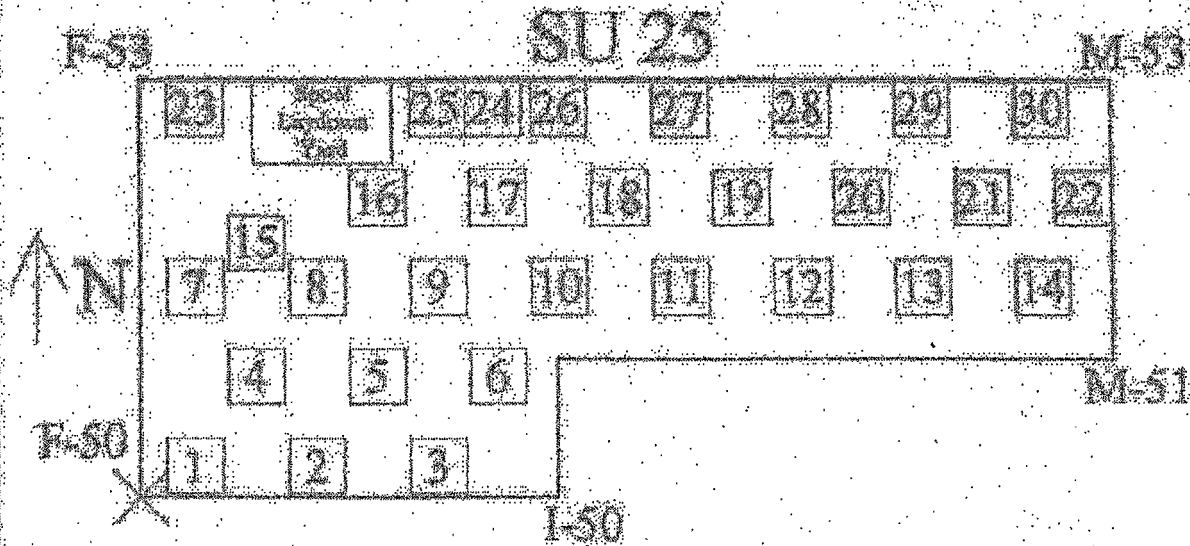
Time: 0900

Survey No: CH-050701-02

RWT No:

NA

Survey Diagram



Legend: (P) Point Numbered Location, (X) Equipment Location, (---) Profile Line Boundary

Remarks: The Origin of Survey Unit (SU 25, a AS) is marked by F in the NW corner of the SU.

Technical Sign-off Date:

10/27/14

NA

1

Project Director:

10/27/14

NA

1

Exhibit A
Radiological Survey Report Form

Page 1 of 1

Description: Characterization Survey - Survey Unit 26									
Date: 03/07/2008	Time: 1:30	Survey No: CH-000704-03	RWF No: N/A						
Purpose of Survey (Per Release Survey Instructions): Static Measurements in SU 26									
☐ Instrument Data ☐ Instrument Measurements (in Room) ☐ Outside ☐ Inside ☐									
Detector Type	Detector ID	Detector Cal Date	Isotope Type	Isotope ID	Energy Cal Date	Scatter Ratio	Depth (cm)	Correction Factor	LEADER
40-10-1	DE170134	02/05/08	220R	100612	02/05/08	2	0.42	23	24
						41	0.42	23	24
40-10	DE170134	02/05/08	220R	100612	02/05/08	2	0.42	23	24
						41	0.42	23	24
40-8	DE170134	02/05/08	2	121234	02/05/08	Pr (Ch)	47	30	243
N/A	N/A	N/A	Whole 12	0202	02/05/08	Exposure	N/A	100%	N/A
Survey Results			Background Results			Direct Readings			
Sample Number	Sample Location	Count Rate (CPM)	Net Background (CPM)	Count Rate (CPM)	Net Background (CPM)	Count Rate (CPM)	Net Background (CPM)	Count Rate (CPM)	Net Background (CPM)
1	Sample Location (see map)					14	7	259	43
2						17	43	260	49
3						17	23	262	47
4						8	45	276	15
5						26	32	300	30
6						15	12	267	25
7						17	23	269	49
8						17	23	271	46
9						14	7	276	15
10						13	12	281	40
11						17	23	283	46
12						27	22	282	43
13						10	44	285	42
14						14	7	287	15
15						14	10	287	10
Remarks: First background for 40-10 generated on 02/05/08									
Total = No Countdowns during 10 min									
Technician: [Signature] Date: 3/7/08									
Inspector: [Signature] Date: 3/7/08									

Exhibit B
Entomological Survey Report Form

Geographical Classification Survey - Survey Unit 26										
Date: 09/02/2004		Time: 0210		Survey No: C140076140		Inspector: N/A				
Survey Results		Susceptible Results				Direct Readings				
Sample Number	Proportion Count	Count Susceptible CPN	Proportion Susceptible CPN	Count Susceptible CPN	Proportion Susceptible CPN	Count CPN	Proportion CPN	Count CPN	Proportion CPN	Count CPN
16	Sample Location (See map)					41	4	20	20	
17						14	7	20	20	
18						10	10	20	20	
19						26	72	200	200	
20						11	4	20	20	
21						15	12	20	20	
22						13	2	20	20	
23						12	4	20	20	
24						13	5	20	20	
25						10	10	20	20	
26						8	20	20	20	
27						14	7	20	20	
28						10	10	20	20	
29						17	25	20	20	
30						15	20	20	20	
31	Duplicate Count for 28					14	7	20	20	
32	Duplicate Count for 24					10	20	20	20	
33	Duplicate Count for 22					10	20	20	20	
34										
35										
36										
37										
38										
39										

Remarks: Field data generated on 9/2/04

Technician's Signature: *[Signature]* N/A

Supervisor's Signature: *[Signature]* N/A

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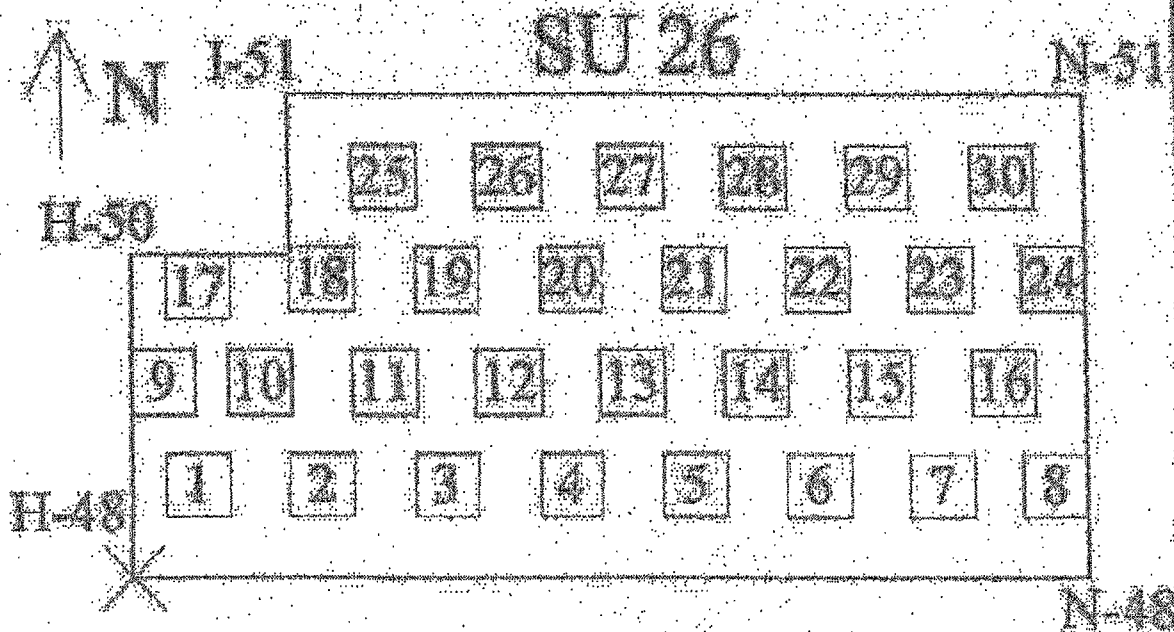
Exhibit C
Radiological Survey Report Form

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Description: Characterization Survey - Survey Unit 26

Date: 08/07/2008 Time: 12:45 Survey No: C14300704-03 R-62-2008 N/A

Survey Diagram:



Legend: (a) Fixed Sample Location (b) Repetitive Sample (c) Sample Area Boundary

Remarks: The origin of Survey Unit (SU) 26 is marked by 'X' in the SW corner of the SU.

Technician(s) Signature/Date: [Signature] 8/7/08 N/A
Project Director: [Signature] 8/7/08 N/A

Exhibit A
 Radiological Survey Report Form

Description: Characterization Survey - Survey Unit 21									
Date:	06/01/2014	Time:	1300	Survey No:	01100704-01	SNP No:	N/A		
Purpose of Survey (For Release Surveys include Radionuclides):									
Solid Measurements in SU 27									
Instrument Data Detector Type: ☐ NaI ☒ GM ☐ Lucas ☐ ☐ ☐									
Detector Type	Detector No.	Detector Cal Date	Cal Type	Cal No.	Base Cal Date	Sample Size (g)	Weight (g)	Count Rate	Net Count
GM-10-1	PR100134	06/01/13	2710	190612	080400	5	0.03	23	51
						27	0.2	2.1	563
GM-02	PR200012	01/20/13	2710	190250	020100	2	1.27	3.6	714
						10	2.0	3.0	170
GM-03	PR200004	02/10/14	2	171254	05/11/11	10,000	47	20	715
N/A	N/A	N/A	Model 10	0578	030503	Release	N/A	N/A	200
Survey Results:		Radionuclide Results:				Direct Readings:			
Sample Number	Sample Location	Count Rate (CPM)	Net Count (100 cm ²)	Count Rate (CPM)	Net Count (100 cm ²)	Count Rate (CPM)	Net Count (100 cm ²)	Count Rate (CPM)	Net Count (100 cm ²)
1	Sample Location (see map)					23	50	207	5
2						14	7	209	5
3						17	23	207	139
4						21	13	271	3
5						18	25	209	77
6						16	7	201	37
7						14	7	279	1
8						17	14	271	3
9						17	23	203	64
10						2	50	203	204
11						13	7	207	110
12						12	2	201	202
13						20	29	227	88
14						15	3	206	13
15						13	7	207	81
Remarks: Total Background for 42-43 year old is 0.0714									
Signature(s) Required: Date: <u>06/01/14</u> Signature: <u>[Signature]</u> Title: <u>N/A</u>									
Project Review: <u>[Signature]</u> Date: <u>06/01/14</u> Title: <u>N/A</u>									

Exhibit B
Radiological Survey Report Form

Description: Classroom Survey - Survey Unit 17										
Date: 09/12/2004		Time: 1200		Survey No: CH-000704-04		RWP No: N/A				
Survey Results		Statistical Results				Direct Readings				
Sample Number	Location/Notes	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Response Rate (%)
16	Sample Location (see map)					21	10	239	113	
17						30	18	201	117	
18						15	2	200	10	
19						14	7	312	200	
20						10	13	231	109	
21						10	4	201	192	
22						15	21	200	114	
23						11	104	314	124	
24						10	13	202	10	
25						17	23	314	120	
26						15	15	202	10	
27						22	20	204	10	
28						22	20	302	10	
29						11	4	204	112	
30						18	20	200	109	
31	Duplicate Count for #1					22	20	204	10	
32	Duplicate Count for #14					20	20	200	10	
33	Duplicate Count for #22					12	4	200	100	
34										
35										
36										
37										
38										
39										

Remarks: All 2 Backgrounds & 4 of 41 generated in 09/12/04

Technician Signature / Date: [Signature] / 09/12/04 R/R: 1

Supervisor Signature / Date: [Signature] / 09/12/04 C/R: 1

Exhibit A
 Radiological Survey Report Form

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Description: Characterization Survey - Survey Unit 3A										
Date:	09/03/2001	Time:	1415	Survey No.:	CF-0007-01-05	RFV No.:	N/A			
Purpose of Survey (For Release Surveys include Region):						Soils Measurements in 90133				
Instrument Data Instrument Manufacturer: ☐ Fluke ☐ ☐ ☐ ☐										
Detector Type	Detector ID	Detector Cal. Exp.	Cal. Type	Cal. Exp.	Model Calibration	Manufacturer	Model	Detector Range	MDA (dpm)	
40-10-1	TR170114	02/0004	3020	100012	000004			1-40	5.1	
								1-2	663	
40-50	TR00112	02/0005	1220	100010	001125			1-20	714	
								1-10	179	
44-0	TR00112	02/0005	3	100010	001125	SA (200)	47	1-10	713	
N/A	N/A	N/A	000010	0010	020005	Exposure	1-2	N/A	300	
Survey Results		Background Results				Direct Readings				
Sample Number	Description/Sample	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Exposure Rate (mR/hr)
1	Sample Location (see map)					16	16	214	100	0.01
2						17	17	210	100	
3						18	18	208	100	
4						19	19	206	100	
5						20	20	204	100	
6						21	21	202	100	
7						22	22	200	100	
8						23	23	198	100	
9						24	24	196	100	
10						25	25	194	100	
11						26	26	192	100	
12						27	27	190	100	
13						28	28	188	100	
14						29	29	186	100	
15						30	30	184	100	
Remarks: PMD Background for 1000 gpm was 0.02 mR/hr PMD - 1000 gpm was 0.02 mR/hr										
Technician(s) Signature / Date: <i>[Signature]</i> 9/3/01 N/A 1										
Project Director: <i>[Signature]</i> 9/3/01 N/A 1										

Exhibit D
 Radiological Survey Report Form

Page 2 of 3

Description: Characterization Survey - Survey Unit 78										
Date:	Time:	Thick:	Survey No.:	CR-000704-05	RAW No.:	N/A				
Survey Results		Survey Results				Survey Results				
Search Number	Description/Region	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)
16	Sample Location 1 (Sample)					11	0	252	11	
17						11	1	254	12	
18						17	21	265	19	
19						12	20	272	1	
20						12	12	288	11	
21						10	19	288	12	
22						17	21	287	10	
23						12	1	289	10	
24						18	24	282	11	
25						7	23	284	10	
26						11	1	292	10	
27						12	21	288	3	
28						17	21	278	10	
29						19	20	282	10	
30						14	7	280	10	
31	Duplicate Count for #16					22	28	280	210	
32	Duplicate Count for #17					11	1	292	11	
33	Duplicate Count for #29					18	7	277	21	
34										
35										
36										
37										
38										
39										

Remarks: Field Backgrounds for 10-12-04-05-06-07-08-09-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30-31-32-33-34-35-36-37-38-39-40-41-42-43-44-45-46-47-48-49-50-51-52-53-54-55-56-57-58-59-60-61-62-63-64-65-66-67-68-69-70-71-72-73-74-75-76-77-78-79-80-81-82-83-84-85-86-87-88-89-90-91-92-93-94-95-96-97-98-99-100-101-102-103-104-105-106-107-108-109-110-111-112-113-114-115-116-117-118-119-120-121-122-123-124-125-126-127-128-129-130-131-132-133-134-135-136-137-138-139-140-141-142-143-144-145-146-147-148-149-150-151-152-153-154-155-156-157-158-159-160-161-162-163-164-165-166-167-168-169-170-171-172-173-174-175-176-177-178-179-180-181-182-183-184-185-186-187-188-189-190-191-192-193-194-195-196-197-198-199-200-201-202-203-204-205-206-207-208-209-210-211-212-213-214-215-216-217-218-219-220-221-222-223-224-225-226-227-228-229-230-231-232-233-234-235-236-237-238-239-240-241-242-243-244-245-246-247-248-249-250-251-252-253-254-255-256-257-258-259-260-261-262-263-264-265-266-267-268-269-270-271-272-273-274-275-276-277-278-279-280-281-282-283-284-285-286-287-288-289-290-291-292-293-294-295-296-297-298-299-300-301-302-303-304-305-306-307-308-309-310-311-312-313-314-315-316-317-318-319-320-321-322-323-324-325-326-327-328-329-330-331-332-333-334-335-336-337-338-339-340-341-342-343-344-345-346-347-348-349-350-351-352-353-354-355-356-357-358-359-360-361-362-363-364-365-366-367-368-369-370-371-372-373-374-375-376-377-378-379-380-381-382-383-384-385-386-387-388-389-390-391-392-393-394-395-396-397-398-399-400-401-402-403-404-405-406-407-408-409-410-411-412-413-414-415-416-417-418-419-420-421-422-423-424-425-426-427-428-429-430-431-432-433-434-435-436-437-438-439-440-441-442-443-444-445-446-447-448-449-450-451-452-453-454-455-456-457-458-459-460-461-462-463-464-465-466-467-468-469-470-471-472-473-474-475-476-477-478-479-480-481-482-483-484-485-486-487-488-489-490-491-492-493-494-495-496-497-498-499-500-501-502-503-504-505-506-507-508-509-510-511-512-513-514-515-516-517-518-519-520-521-522-523-524-525-526-527-528-529-530-531-532-533-534-535-536-537-538-539-540-541-542-543-544-545-546-547-548-549-550-551-552-553-554-555-556-557-558-559-560-561-562-563-564-565-566-567-568-569-570-571-572-573-574-575-576-577-578-579-580-581-582-583-584-585-586-587-588-589-590-591-592-593-594-595-596-597-598-599-600-601-602-603-604-605-606-607-608-609-610-611-612-613-614-615-616-617-618-619-620-621-622-623-624-625-626-627-628-629-630-631-632-633-634-635-636-637-638-639-640-641-642-643-644-645-646-647-648-649-650-651-652-653-654-655-656-657-658-659-660-661-662-663-664-665-666-667-668-669-670-671-672-673-674-675-676-677-678-679-680-681-682-683-684-685-686-687-688-689-690-691-692-693-694-695-696-697-698-699-700-701-702-703-704-705-706-707-708-709-710-711-712-713-714-715-716-717-718-719-720-721-722-723-724-725-726-727-728-729-730-731-732-733-734-735-736-737-738-739-740-741-742-743-744-745-746-747-748-749-750-751-752-753-754-755-756-757-758-759-760-761-762-763-764-765-766-767-768-769-770-771-772-773-774-775-776-777-778-779-780-781-782-783-784-785-786-787-788-789-790-791-792-793-794-795-796-797-798-799-800-801-802-803-804-805-806-807-808-809-810-811-812-813-814-815-816-817-818-819-820-821-822-823-824-825-826-827-828-829-830-831-832-833-834-835-836-837-838-839-840-841-842-843-844-845-846-847-848-849-850-851-852-853-854-855-856-857-858-859-860-861-862-863-864-865-866-867-868-869-870-871-872-873-874-875-876-877-878-879-880-881-882-883-884-885-886-887-888-889-890-891-892-893-894-895-896-897-898-899-900-901-902-903-904-905-906-907-908-909-910-911-912-913-914-915-916-917-918-919-920-921-922-923-924-925-926-927-928-929-930-931-932-933-934-935-936-937-938-939-940-941-942-943-944-945-946-947-948-949-950-951-952-953-954-955-956-957-958-959-960-961-962-963-964-965-966-967-968-969-970-971-972-973-974-975-976-977-978-979-980-981-982-983-984-985-986-987-988-989-990-991-992-993-994-995-996-997-998-999-1000-1001-1002-1003-1004-1005-1006-1007-1008-1009-1010-1011-1012-1013-1014-1015-1016-1017-1018-1019-1020-1021-1022-1023-1024-1025-1026-1027-1028-1029-1030-1031-1032-1033-1034-1035-1036-1037-1038-1039-1040-1041-1042-1043-1044-1045-1046-1047-1048-1049-1050-1051-1052-1053-1054-1055-1056-1057-1058-1059-1060-1061-1062-1063-1064-1065-1066-1067-1068-1069-1070-1071-1072-1073-1074-1075-1076-1077-1078-1079-1080-1081-1082-1083-1084-1085-1086-1087-1088-1089-1090-1091-1092-1093-1094-1095-1096-1097-1098-1099-1100-1101-1102-1103-1104-1105-1106-1107-1108-1109-1110-1111-1112-1113-1114-1115-1116-1117-1118-1119-1120-1121-1122-1123-1124-1125-1126-1127-1128-1129-1130-1131-1132-1133-1134-1135-1136-1137-1138-1139-1140-1141-1142-1143-1144-1145-1146-1147-1148-1149-1150-1151-1152-1153-1154-1155-1156-1157-1158-1159-1160-1161-1162-1163-1164-1165-1166-1167-1168-1169-1170-1171-1172-1173-1174-1175-1176-1177-1178-1179-1180-1181-1182-1183-1184-1185-1186-1187-1188-1189-1190-1191-1192-1193-1194-1195-1196-1197-1198-1199-1200-1201-1202-1203-1204-1205-1206-1207-1208-1209-1210-1211-1212-1213-1214-1215-1216-1217-1218-1219-1220-1221-1222-1223-1224-1225-1226-1227-1228-1229-1230-1231-1232-1233-1234-1235-1236-1237-1238-1239-1240-1241-1242-1243-1244-1245-1246-1247-1248-1249-1250-1251-1252-1253-1254-1255-1256-1257-1258-1259-1260-1261-1262-1263-1264-1265-1266-1267-1268-1269-1270-1271-1272-1273-1274-1275-1276-1277-1278-1279-1280-1281-1282-1283-1284-1285-1286-1287-1288-1289-1290-1291-1292-1293-1294-1295-1296-1297-1298-1299-1300-1301-1302-1303-1304-1305-1306-1307-1308-1309-1310-1311-1312-1313-1314-1315-1316-1317-1318-1319-1320-1321-1322-1323-1324-1325-1326-1327-1328-1329-1330-1331-1332-1333-1334-1335-1336-1337-1338-1339-1340-1341-1342-1343-1344-1345-1346-1347-1348-1349-1350-1351-1352-1353-1354-1355-1356-1357-1358-1359-1360-1361-1362-1363-1364-1365-1366-1367-1368-1369-1370-1371-1372-1373-1374-1375-1376-1377-1378-1379-1380-1381-1382-1383-1384-1385-1386-1387-1388-1389-1390-1391-1392-1393-1394-1395-1396-1397-1398-1399-1400-1401-1402-1403-1404-1405-1406-1407-1408-1409-1410-1411-1412-1413-1414-1415-1416-1417-1418-1419-1420-1421-1422-1423-1424-1425-1426-1427-1428-1429-1430-1431-1432-1433-1434-1435-1436-1437-1438-1439-1440-1441-1442-1443-1444-1445-1446-1447-1448-1449-1450-1451-1452-1453-1454-1455-1456-1457-1458-1459-1460-1461-1462-1463-1464-1465-1466-1467-1468-1469-1470-1471-1472-1473-1474-1475-1476-1477-1478-1479-1480-1481-1482-1483-1484-1485-1486-1487-1488-1489-1490-1491-1492-1493-1494-1495-1496-1497-1498-1499-1500-1501-1502-1503-1504-1505-1506-1507-1508-1509-1510-1511-1512-1513-1514-1515-1516-1517-1518-1519-1520-1521-1522-1523-1524-1525-1526-1527-1528-1529-1530-1531-1532-1533-1534-1535-1536-1537-1538-1539-1540-1541-1542-1543-1544-1545-1546-1547-1548-1549-1550-1551-1552-1553-1554-1555-1556-1557-1558-1559-1560-1561-1562-1563-1564-1565-1566-1567-1568-1569-1570-1571-1572-1573-1574-1575-1576-1577-1578-1579-1580-1581-1582-1583-1584-1585-1586-1587-1588-1589-1590-1591-1592-1593-1594-1595-1596-1597-1598-1599-1600-1601-1602-1603-1604-1605-1606-1607-1608-1609-1610-1611-1612-1613-1614-1615-1616-1617-1618-1619-1620-1621-1622-1623-1624-1625-1626-1627-1628-1629-1630-1631-1632-1633-1634-1635-1636-1637-1638-1639-1640-1641-1642-1643-1644-1645-1646-1647-1648-1649-1650-1651-1652-1653-1654-1655-1656-1657-1658-1659-1660-1661-1662-1663-1664-1665-1666-1667-1668-1669-1670-1671-1672-1673-1674-1675-1676-1677-1678-1679-1680-1681-1682-1683-1684-1685-1686-1687-1688-1689-1690-1691-1692-1693-1694-1695-1696-1697-1698-1699-1700-1701-1702-1703-1704-1705-1706-1707-1708-1709-1710-1711-1712-1713-1714-1715-1716-1717-1718-1719-1720-1721-1722-1723-1724-1725-1726-1727-1728-1729-1730-1731-1732-1733-1734-1735-1736-1737-1738-1739-1740-1741-1742-1743-1744-1745-1746-1747-1748-1749-1750-1751-1752-1753-1754-1755-1756-1757-1758-1759-1760-1761-1762-1763-1764-1765-1766-1767-1768-1769-1770-1771-1772-1773-1774-1775-1776-1777-1778-1779-1780-1781-1782-1783-1784-1785-1786-1787-1788-1789-1790-1791-1792-1793-1794-1795-1796-1797-1798-1799-1800-1801-1802-1803-1804-1805-1806-1807-1808-1809-1810-1811-1812-1813-1814-1815-1816-1817-1818-1819-1820-1821-1822-1823-1824-1825-1826-1827-1828-1829-1830-1831-1832-1833-1834-1835-1836-1837-1838-1839-1840-1841-1842-1843-1844-1845-1846-1847-1848-1849-1850-1851-1852-1853-1854-1855-1856-1857-1858-1859-1860-1861-1862-1863-1864-1865-1866-1867-1868-1869-1870-1871-1872-1873-1874-1875-1876-1877-1878-1879-1880-1881-1882-1883-1884-1885-1886-1887-1888-1889-1890-1891-1892-1893-1894-1895-1896-1897-1898-1899-1900-1901-1902-1903-1904-1905-1906-1907-1908-1909-1910-1911-1912-1913-1914-1915-1916-1917-1918-1919-1920-1921-1922-1923-1924-1925-1926-1927-1928-1929-1930-1931-1932-1933-1934-1935-1936-1937-1938-1939-1940-1941-1942-1943-1944-1945-1946-1947-1948-1949-1950-1951-1952-1953-1954-1955-1956-1957-1958-1959-1960-1961-1962-1963-1964-1965-1966-1967-1968-1969-1970-1971-1972-1973-1974-1975-1976-1977-1978-1979-1980-1981-1982-1983-1984-1985-1986-1987-1988-1989-1990-1991-1992-1993-1994-1995-1996-1997-1998-1999-2000-2001-2002-2003-2004-2005-2006-2007-2008-2009-2010-2011-2012-2013-2014-2015-2016-2017-2018-2019-2020-2021-2022-2023-2024-2025-2026-2027-2028-2029-2030-2031-2032-2033-2034-2035-2036-2037-2038-2039-2040-2041-2042-2043-2044-2045-2046-2047-2048-2049-2050-2051-2052-2053-2054-2055-2056-2057-2058-2059-2060-2061-2062-2063-2064-2065-2066-2067-2068-2069-2070-2071-2072-2073-2074-2075-2076-2077-2078-2079-2080-2081-2082-2083-2084-2085-2086-2087-2088-2089-2090-2091-2092-2093-2094-2095-2096-2097-2098-2099-2100-2101-2102-2103-2104-2105-2106-2107-2108-2109-2110-2111-2112-2113-2114-2115-2116-2117-2118-2119-2120-2121-2122-2123-2124-2125-2126-2127-2128-2129-2130-2131-2132-2133-2134-2135-2136-2137-2138-2139-2140-2141-2142-2143-2144-2145-2146-2147-2148-2149-2150-2151-2152-2153-2154-2155-2156-2157-2158-2159-2160-2161-2162-2163-2164-2165-2166-2167-2168-2169-2170-2171-2172-2173-2174-2175-2176-2177-2178-2179-2180-2181-2182-2183-2184-2185-2186-2187-2188-2189-2190-2191-2192-2193-2194-2195-2196-2197-2198-2199-2200-2201-2202-2203-2204-2205-2206-2207-2208-2209-2210-2211-2212-2213-2214-2215-2216-2217-2218-2219-2220-2221-2222-2223-2224-2225-2226-2227-2228-2229-2230-2231-2232-2233-2234-2235-2236-2237-2238-2239-2240-2241-2242-2243-2244-2245-2246-2247-2248-2249-2250-2251-2252-2253-2254-2255-2256-2257-2258-2259-2260-2261-2262-2263-2264-2265-2266-2267-2268-2269-2270-2271-2272-2273-2274-2275-2276-2277-2278-2279-2280-2281-2282-2283-2284-2285-2286-2287-2288-2289-2290-2291-2292-2293-2294-2295-229

Exhibit C
 Radiological Survey Report Form

Description: Characterization Survey - Survey Unit 28					
Date: 09/07/2004	Time: 1415	Survey No: CH-000704-07	RWENr: N/A		
Survey Division:					
E-56 F-56 Chem Lab SU 28 ↑ N E-53 20 30 21 11 1 2 H2SO4 Hot Tanks & Laydown Yard 24 22 25 23 26 15 12 16 13 17 14 18 19 5 3 6 4 7 8 9 10 M-53 E-53 11 15 12 16 13 17 14 18 19 M-53					
Legend: (a) Point/Resource Location (b) Signature Area (a/b) (c) Survey Area Boundary					
Remarks: The Origin of Survey Point (20) & (21) is marked by X in the SW corner of the Cell.					
Inspector's Signature / Date: <i>[Signature]</i> / 9/7/04 SRA 1					
Project Reviewer: <i>[Signature]</i> / 9/7/04 SRA 1					

EXHIBIT A
Pathological Survey Report Form

Page 1 of 3

Description: Characterization Survey - Survey Unit 29									
Date: 05/08/2004	Time: 0745	Survey No: CH-200014-01	SWP No: N/A						
Purpose of Survey (If a Release Survey include Release): <u>Soil Measurements in SLU 29</u>									
☐ Information Data ☐ Background Measurements Only ☐ Release ☐ Action ☐									
Release Type	Release ID	Release Cat No	Matrix Type	Matrix ID	Matrix Cat No	Radionuclide	Depth (cm)	Count Rate	Efficiency
40-10-1	PH177134	000000	200	17017	000004	α	1-2	24	91
						βγ	20.2	14	54.3
40-20	PH207132	001200	204	10010	001400	α	10.0	24	77.2
						βγ	23.1	14	192
40-30	PH200132	000000	1	17014	001104	βγ (60s)	47	10	713
N/A	N/A	N/A	None 17	3079	020001	Background	N/A	N/A	N/A

Survey Results		Background Results		Release Results		Depth Readings		Release Results	
Sample Number	Description/Results	Depth (cm)	Background Count Rate	Depth (cm)	Release Count Rate	Depth (cm)	Release Count Rate	Depth (cm)	Release Count Rate
1	Sample Location (see map)					5	4	297	108
2						47	22	423	3
3						16	16	240	27
4						45	16	113	12
5						14	3	276	24
6						36	4	207	21
7						13	9	271	10
8						13	8	297	13
9						4	27	263	36
10						11	41	277	12
11						15	14	240	4
12						12	4	218	39
13						3	28	230	40
14						16	14	204	55
15						10	12	200	117

Remarks: Total Backgrounds 15-17-03 measured on 05/08/04

15037 - Environmental Detection Lab - CH2A

Technician/Signature/Date:	<i>[Signature]</i> 15/08/04	N/A	1
Inspector/Signature/Date:	<i>[Signature]</i> 15/08/04	N/A	1

Exhibit B
 Radiological Survey Report Form

Disciplined Characterization Survey - Survey Unit 28										
Date: 09/09/2004		Time: 0743		Survey No: CH-04001-01		RWT No: N/A				
Survey Results		Background Results				Direct Readings				
Sample Number	Location (lat/long)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Remarks
16	Sample Location (lat/long)					201	38	239	1	
17						18	21	207	18	
18						15	8	203	144	
19						7	32	305	100	
20						15	11	244	107	
21						11	22	341	27	
22						15	9	217	100	
23						10	15	201	51	
24						15	8	200	87	
25						10	15	273	79	
26						15	3	219	56	
27						15	1	212	118	
28						15	1	216	100	
29						15	11	263	77	
30						15	11	241	117	
31	Duplicate Count for 25					10	42	292	121	
32	Duplicate Count for 29					11	41	341	270	
33	Duplicate Count for 30					14	3	231	107	
34										
35										
36										
37										
38										
39										

Remarks: Field Data provided for 31-33 generated on 5/10/04

Technician's Signature/Date: *[Signature]* 10/20/04

Page Review: *[Signature]* 10/20/04

Description: Characterization Survey - Survey Unit 29			
Date: 12/08/2004	Time: 0745	Survey No: CH-070804-01	RWP No: N/A

Survey Diagram:

Legend: (A) Point/Feature Location, (B) Response Data (0-30), (C) Point/Feature Location			
Remarks: The Origin of Survey Unit 29 is marked by 'X' in the SW corner of the SU.			
Technician(s) Signature: [Signature]		Date: 12/08/04	N/A
Project Review: [Signature]		Date: 12/08/04	N/A

NY-RS-200-04
Rev. 9
Rev 11/2/11

Exhibit A
Radiological Survey Report Form

Page 1 of 1

Description: Contamination Survey - Survey Unit 30									
Date: 09/09/2004		Time: 0900		Survey No.: CH-090004-02		RVE No.: N/A			
Purpose of Survey (For Release Surveys include Radiograph): State Measurements in SU 30									
Instrument Data		Instrument Manufacturer & Model		Serial No.		Calibration		Lot No.	
Cesium Type		Detector Cal Date		Meter Type		Meter SN		Meter Cal Due	
03151	CR17M14	02/09/03	220	120012	707001	a	042	25	51
						b	043	23	462
03152	CR17M14	02/09/03	220	120012	707001	a	150	24	712
						b	245	30	172
149	PR200014	02/19/04	2	171204	CR17M14	PR100M	77	30	715
N/A	N/A	N/A	Serial ID	0574	000000	Support	N/A	N/A	N/A

Survey Results		Sample Results		Area Results		Area Results		Area Results		Area Results	
Sample Number	Description/Location	Count Rate/Min CPM	Net Count Rate/Min CPM	Count Rate/Min CPM	Net Count Rate/Min CPM	Count Rate/Min CPM	Net Count Rate/Min CPM	Count Rate/Min CPM	Net Count Rate/Min CPM	Count Rate/Min CPM	Net Count Rate/Min CPM
1	Sample Location (see map)					31	11	200	15	N/A	
2						30	10	200	15		
3						11	10	200	15		
4						27	21	200	15		
5						28	34	200	15		
6						18	27	200	15		
7						16	15	200	15		
8						17	32	200	15		
9						30	16	200	15		
10						20	15	200	15		
11						15	11	210	114		
12						17	21	210	137		
13						11	27	200	15		
14						15	24	200	15		
15						21	33	200	15		

Remarks: Field Backgrounds for 60.00 gpm/100 sq ft: 0.00 Bq/g

N/A - No Count Rate Detected, i.e. < MDA

Technician/Inspector/Date:	<i>[Signature]</i>	1 Total:	<i>[Signature]</i>	N/A
Inspector/Date:	<i>[Signature]</i>	1 Total:	<i>[Signature]</i>	N/A

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EXHIBIT Radiological Survey Report Form

Page 3 of 3

Description: Characterization Survey - Survey Unit 24										
Date:	Time:	Survey No:	CH-000004-03	RWT No:	N/A					
Survey Results		Background Results				Direct Readings				
Sample Number	Sample Location	Count Rate (CPM)	Net Count Rate (CPM)	Background (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)
16	Sample Location (see map)					7	10	213	19	
17						21	43	211	110	
18						12	21	200	37	
19						13	8	200	2	
20						4	27	270	37	
21						27	43	190	110	
22						13	11	208	21	
23						13	0	219	111	
24						14	14	203	30	
25						33	0	210	301	
26						27	24	270	100	
27						10	14	220	20	
28						10	31	210	117	
29						14	5	100	201	
30						13	0	107	251	
31	Duplicate Count for 28					14	10	201	30	
32	Duplicate Count for 29					17	31	201	120	
33	Duplicate Count for 30					10	22	200	37	
34										
35										
36										
37										
38										
39										
40										
41										

Remarks: First background for 45-10 generated on 3/15/04

Technician's Signature/Date: *[Signature]* 1/9/04
 Project Director: *[Signature]* 1/9/04

Exhibit C
 Radiological Survey Report Form

Page 3 of 3

Description: Characterization Survey - Survey Unit 30					
Date: 05/08/2004	Time: 0900	Survey No: C11-000004-02	RSP No: N/A		

Survey Diagram:

Legend: (●) Fixed/Unfixed Location ———> Exposure Rate (dpm/l) - - - - - Point Area Boundary ——— Unit Boundary

Remarks: The Origin of Survey Unit 30 (12, 13 & 14) is marked with an 'X' in the SW corner of the SU.

Prepared by: [Signature]	Date: 12/28/04	NA	1
Checked by: [Signature]	Date: 1/10/05	NA	1

[illegible]

Exhibit B
Radiological Survey Report Form

Description: Characterization Survey - Survey Unit 31										
Date: 08/04/2004		Time: 0100		Survey No: CH-050804-02		SWRN: 15A				
Survey Results		Background Results				Direct Readings				
Sample Number	Description/Location	Gamma Background CPM	Gamma Background Rate (dpm)	Alpha Background CPM	Alpha Background Rate (dpm)	Count Rate CPM	Time (min)	Count Rate CPM	Net Count Rate (dpm)	Background Rate (dpm)
16	Sample Location (see map)					18	30	231	130	
17						14	3	211	120	
18						6	37	232	137	
19						18	25	254	130	
20						10	21	233	123	
21						25	25	237	142	
22						25	25	277	121	
23						21	43	237	142	
24						12	11	231	0	
25						8	27	230	12	
26						10	15	230	20	
27						9	20	235	10	
28						15	21	231	20	
29						10	15	218	40	
30						10	15	245	110	
31	Duplicate Count for #1					23	24	201	170	
32	Duplicate Count for #20					22	19	270	81	
33	Duplicate Count for #30					9	23	255	21	
34										
35										
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99										
100										

Remarks: Field Backgrounds for #1-15 measured on 08/04/04

Technician's Signature: [Signature] Date: 8/4/04

Project Director: [Signature] Date: 8/4/04

Exhibit C

Pathological Survey Report Form

Description: Characterization Survey - Survey Unit 11			
Date: 09/02/2004	Time: 01:00	Survey No: CH-2004-03	RWP No: N/A

SU 31

L-63 M-63

M-60

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F-62
F-59
H-59

Legend: Point of Interest Boundary Line Faint Area Boundary	
Remarks: The Origin of Survey Unit 11 is at the intersection of the 1st and 2nd corners of the SU.	

Technician/Signature/Date: <u>DEL</u>	Team: <u>NA</u>
Supervisor/Signature/Date: <u>NA</u>	Chief/Signature/Date: <u>NA</u>

Exhibit A
Neurological Survey Report Form

Page 1 of 3

Description: Characterization Survey - Survey Unit 32									
Date: 05/05/2004	Time: 1229	Survey No: 01-000104-01	KVP No: N/A						
Purpose of Survey (For Release Subjects Medical Personnel): Daily Monitoring for SU 32									
Instrument Data Intensity Characterization: ☐ Static ☐ Active ☐ ☐ ☐									
Detector Type	Detector ID	Detector ID No.	Model Type	Model ID	Model ID No.	Manufacturer	Serial Number	Calibration Date	Calibration By
00-10-1	PR10101	0100001	2021	1000-01	0000-01	01	001	23	21
00-10-2	PR10102	0110002	2021	1000-01	0110002	02	002	21	20
00-10-3	PR10103	0120003	2021	1000-01	0120003	03	003	20	19
00-10-4	PR10104	0130004	2021	1000-01	0130004	04	004	19	18
N/A	N/A	N/A	Model ID	0000	0000000	0000000	0000000	N/A	N/A

Survey Results		Spectrum Results				Direct Readings			
Sample Number	Description/Results	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Count Rate (CPM)	Count Rate (CPM)	Count Rate (CPM)	Count Rate (CPM)	Count Rate (CPM)
1	Sample Location (see map)					30	20	10	20
2						14	5	20	9
3						15	27	20	13
4						13	11	27	13
5						10	11	27	17
6						8	25	20	20
7						12	2	20	20
8						10	5	27	10
9						21	12	27	17
10						14	5	23	5
11						12	4	20	14
12						12	8	24	21
13						15	11	20	10
14						8	10	11	8
15						10	10	20	21

Remarks: Direct Readings for SU 32 recorded at 05/05/04

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Inspector's Signature/Date: <u>[Signature]</u> <u>05/05/04</u>	QA: <u>1</u>
Surveyor's Signature/Date: <u>[Signature]</u> <u>05/05/04</u>	QA: <u>1</u>

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Exhibit B
Radioisotopic Survey Report Form

Page 2 of 3

Classification: Characterization Study - Survey Unit 31 Date: 08/09/2004 Time: 1220 Survey No: CIL000001-04 RWT No: N/A										
Survey Results		Background Results				Direct Readings				
Sample Number	Description/Location	Count Rate CPM	Net Count Rate CPM	Count Rate CPM	Net Count Rate CPM	Count Rate CPM	Net Count Rate CPM	Count Rate CPM	Net Count Rate CPM	Remarks
1	Sample Location (see map)					10	1	200	100	
2						11	2	201	101	
3						12	3	202	102	
4						13	4	203	103	
5						14	5	204	104	
6						15	6	205	105	
7						16	7	206	106	
8						17	8	207	107	
9						18	9	208	108	
10						19	10	209	109	
11						20	11	210	110	
12						21	12	211	111	
13						22	13	212	112	
14						23	14	213	113	
15						24	15	214	114	
16						25	16	215	115	
17						26	17	216	116	
18						27	18	217	117	
19						28	19	218	118	
20						29	20	219	119	
21						30	21	220	120	
22						31	22	221	121	
23						32	23	222	122	
24						33	24	223	123	
25						34	25	224	124	
26						35	26	225	125	
27						36	27	226	126	
28						37	28	227	127	
29						38	29	228	128	
30						39	30	229	129	
31						40	31	230	130	
32						41	32	231	131	
33						42	33	232	132	
34						43	34	233	133	
35						44	35	234	134	
36						45	36	235	135	
37						46	37	236	136	
38						47	38	237	137	
39						48	39	238	138	
40						49	40	239	139	
41						50	41	240	140	
42						51	42	241	141	
43						52	43	242	142	
44						53	44	243	143	
45						54	45	244	144	
46						55	46	245	145	
47						56	47	246	146	
48						57	48	247	147	
49						58	49	248	148	
50						59	50	249	149	
51						60	51	250	150	
52						61	52	251	151	
53						62	53	252	152	
54						63	54	253	153	
55						64	55	254	154	
56						65	56	255	155	
57						66	57	256	156	
58						67	58	257	157	
59						68	59	258	158	
60						69	60	259	159	
61						70	61	260	160	
62						71	62	261	161	
63						72	63	262	162	
64						73	64	263	163	
65						74	65	264	164	
66						75	66	265	165	
67						76	67	266	166	
68						77	68	267	167	
69						78	69	268	168	
70						79	70	269	169	
71						80	71	270	170	
72						81	72	271	171	
73						82	73	272	172	
74						83	74	273	173	
75						84	75	274	174	
76						85	76	275	175	
77						86	77	276	176	
78						87	78	277	177	
79						88	79	278	178	
80						89	80	279	179	
81						90	81	280	180	
82						91	82	281	181	
83						92	83	282	182	
84						93	84	283	183	
85						94	85	284	184	
86						95	86	285	185	
87						96	87	286	186	
88						97	88	287	187	
89						98	89	288	188	
90						99	90	289	189	
91						100	91	290	190	
92						101	92	291	191	
93						102	93	292	192	
94						103	94	293	193	
95						104	95	294	194	
96						105	96	295	195	
97						106	97	296	196	
98						107	98	297	197	
99						108	99	298	198	
100						109	100	299	199	
101						110	101	300	200	
102						111	102	301	201	
103						112	103	302	202	
104						113	104	303	203	
105						114	105	304	204	
106						115	106	305	205	
107						116	107	306	206	
108						117	108	307	207	
109						118	109	308	208	
110						119	110	309	209	
111						120	111	310	210	
112						121	112	311	211	
113						122	113	312	212	
114						123	114	313	213	
115						124	115	314	214	
116						125	116	315	215	
117						126	117	316	216	
118						127	118	317	217	
119						128	119	318	218	
120						129	120	319	219	
121						130	121	320	220	
122						131	122	321	221	
123						132	123	322	222	
124						133	124	323	223	
125						134	125	324	224	
126						135	126	325	225	
127						136	127	326	226	
128						137	128	327	227	
129						138	129	328	228	
130						139	130	329	229	
131						140	131	330	230	
132						141	132	331	231	
133						142	133	332	232	
134						143	134	333	233	
135						144	135	334	234	
136						145	136	335	235	
137						146	137	336	236	
138						147	138	337	237	
139						148	139	338	238	
140						149	140	339	239	
141						150	141	340	240	
142						151	142	341	241	
143						152	143	342	242	
144						153	144	343	243	
145						154	145	344	244	
146						155	146	345	245	
147						156	147	346	246	
148						157	148	347	247	
149						158	149	348	248	
150						159	150	349	249	
151						160	151	350	250	
152						161	152	351	251	
153						162	153	352	252	
154						163	154	353	253	
155						164	155	354	254	
156						165	156	355	255	
157						166	157	356	256	
158						167	158	357	257	
159						168	159	358	258	
160						169	160	359	259	
161						170	161	360	260	
162						171	162	361	261	
163						172	163	362	262	
164						173	164	363	263	
165						174	165	364	264	
166						175	166	365	265	
167						176	167	366	266	
168						177	168	367	267	
169						178	169	368	268	
170						179	170	369	269	
171						180	171	370	270	
172						181	172	371	271	
173						182	173	372	272	
174						183	174	373	273	
175						184	175	374	274	
176						185	176	375	275	
177						186	177			

Description: Characterization Survey - Survey Unit 32			
Date: 09/26/2011	Time: 1224	Survey No: C45-070804-04	EMP No: N/A

Survey Diagram

Legend: ☒ Fixed/Removable Location ☐ Survey Line (1/2"

Notes: The Origin of Survey Unit 015, 016, 017 is marked by 'X' in the SW corner of SU 32.

Investigator Signature / Date: <i>[Signature]</i>	Date: <i>09/26/2011</i>
Radiological Survey: <i>[Signature]</i>	Date: <i>09/26/2011</i>

Edition A
 Radiological Survey Report Form

Description: Characterization Survey - Survey Unit 33									
Date: 04/10/2004	Time: 0740	Survey No: CH-001004-01	RWP No: N/A						
Purpose of Survey (For Release Surveys include Reason(s)): Spill Measurements in SU 33									
Instrument Data: Instrument Name/Model: ☐ ☐ ☐ ☐ ☐ ☐									
Detector Type	Detector ID	Detector Cal. Due	Beam Type	Beam Size	Beam Coll. Dia	Beam Shape	Beam Type	Detector Type	Detector ID
GM-10-T	PR27014	03/09/04	300	100012	100014	5	100	20	51
GM-10-T	PR27014	03/09/04	300	100012	100014	5	100	20	51
GM-10-T	PR27014	03/09/04	300	100012	100014	5	100	20	51
GM-10-T	PR27014	03/09/04	300	100012	100014	5	100	20	51
N/A	N/A	N/A	Model 12	3575	03/09/03	Detector	N/A	N/A	N/A
Survey Results		Screening Results				Direct Readings			
Sample Number	Description/Location	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)
1	Sample Location (see map)					14	5	241	20
2						6	20	20	5
3						12	11	240	5
4						20	27	241	21
5						1	30	104	40
6						4	30	207	40
7						11	20	271	21
8						12	10	240	5
9						14	5	241	20
10						17	11	240	5
11						23	20	241	20
12						8	24	240	20
13						14	20	240	20
14						12	20	240	20
15						16	5	241	20
Remarks: Field Data for 15-03-04 on 04/10/04									
Prepared by: <i>[Signature]</i> Date: 17.10.04 Reviewed by: <i>[Signature]</i> Date: 17.10.04									

Exhibit B
 Radiological Survey Report Form

Page 2 of 3

Description: Characterization Survey - Survey Unit 11										
Date: 09/19/2004		Time: 0740		Survey No: CH-091002-01		EMP No: N/A				
Survey Results		Screening Results				Direct Readings				
Sample Number	Location/Notes	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Remarks
16	Sample Location (see map)					14	4	220	110	
17						12	0	207	141	
18						14	21	257	221	
19						11	22	202	213	
20						7	43	195	207	
21						12	34	257	271	
22						15	8	184	204	
23						22	18	224	200	
24						12	11	212	226	
25						10	2	197	2	
26						34	5	238	243	
27						24	4	233	240	N/A
28						11	21	200	213	
29						12	14	210	225	
30						10	14	212	211	
31	Duplicate Count for #16					10	27	201	217	
32	Duplicate Count for #18					8	24	200	212	
33	Duplicate Count for #19					14	40	238	252	
34										
35										
36										
37										
38										
39										

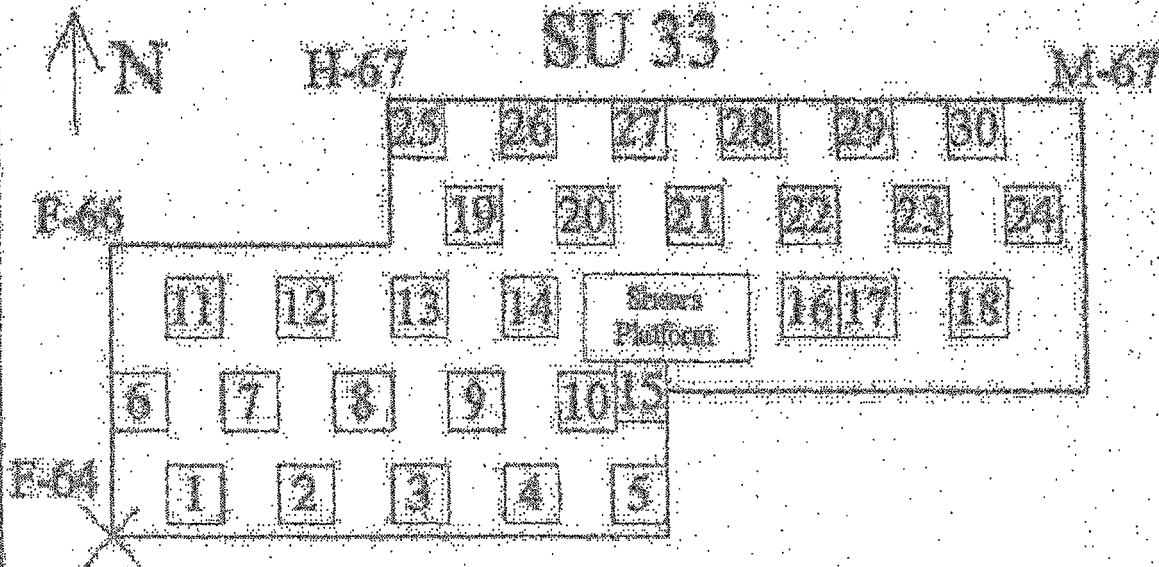
Remarks: Field Readings for 42-43 and 44 on 9/20/04

Inspector's Signature/Date	<i>[Signature]</i> 9/20/04	N/A
Project Review	<i>[Signature]</i> 10/20/04	N/A

Description: Characterization Survey - Survey Unit 33

Date: 08/18/2001 Time: 0740 Survey No: CH-001004-01 RWPT62 N/A

Survey Diagram



Legend: (P) Fixed Area Side Location (S) Sample Location (X) Fixed Area Boundary

Remarks: The Grid of Survey Unit 33 is located in the SW corner of the SU.

Inspector/Supervisor/Date: [Signature] 1/3/01
Field Review: [Signature] Client Review: [Signature]

[illegible]

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Exhibit B
Radiological Survey Report Form

Page 1 of 1

Description: Characterization Survey - Survey Unit 14										
Date: 09/04/2014		Time: 1345		Survey No: CH-000004-01		RUP No:		NA		
Survey Results		Background Results				Direct Readings				Remarks
Sample Number	Location/Depth	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	
15	Sample Location (see map)					10	30	20	21	
17						11	31	20	21	
18						11	31	20	21	
19						10	30	20	21	
20						16	36	20	21	
21						25	45	20	21	
22						12	32	20	21	
23						14	34	20	21	
24						13	33	20	21	
25						13	33	20	21	
26						11	31	20	21	
27						9	29	20	21	
28						20	40	20	21	
29						17	37	20	21	
30						12	32	20	21	
31	Duplicate Count for #1					14	34	20	21	
32	Duplicate Count for #14					10	30	20	21	
33	Duplicate Count for #21					13	33	20	21	
34										
35										
36										
37										
38										
39										

Remarks: Final Background for 30-32 generated on 09/04/14

Technician's Signature: *[Signature]* Date: 10/06/14

Range Reviewer: *[Signature]* Date: 10/06/14

Description: Characterization Survey - Survey Unit 34					
Date: 09/05/04	Time: 1345	Survey No: CH-0000403	Area No: N/A		

SU 34

The diagram shows a rectangular grid of numbered points. The points are arranged in four rows: the top row contains points 23 through 30; the second row contains points 14 through 22; the third row contains points 6 through 13; and the bottom row contains points 3 through 5, followed by points 1 and 2. A small 'X' marks the origin of the grid, located at the bottom left corner of the grid area. Surrounding the grid are labels: 'F-69' at the top left, 'M-69' at the top right, 'F-66' at the bottom left, 'H-66' at the bottom center, and 'M-67' at the bottom right. A north arrow points upwards on the left side of the grid.

Legend: (a) Point Survey Unit Location				X Reference Point (SU 34)		--- Survey Area Boundary	
Remarks: The Origin of Survey Unit 34 (SU 34) is marked by 'X' in the SW corner of the SU.							
Inspector's Signature/Date: <i>[Signature]</i> 10/08/04				N/A			
Inspector's Review: <i>[Signature]</i> 10/08/04				N/A			

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Radiological Survey Report Form

Page 1 of 1

Description: Characterization Survey - Survey Unit 35									
Date: 08/10/2011	Time: 0831	Survey No: 01-001401-02	RWI No: 30A						
Purpose of Survey: (For Release Surveys Include Radiology) State Measurements in SU 35									
Instrument Data Instrument Manufacturer: ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐									
Detector Type	Detector ID	Detector Cal Date	Model Type	Serial No	Manufacturer	Detector Range	Detector Range	Detector Range	Detector Range
AS-1001	01175114	02/02/09	3000	700000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-03	01000102	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-04	01000103	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-05	01000104	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-06	01000105	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-07	01000106	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-08	01000107	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-09	01000108	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-10	01000109	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-11	01000110	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-12	01000111	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-13	01000112	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-14	01000113	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-15	01000114	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-16	01000115	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-17	01000116	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-18	01000117	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-19	01000118	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-20	01000119	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-21	01000120	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-22	01000121	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-23	01000122	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-24	01000123	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-25	01000124	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-26	01000125	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-27	01000126	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-28	01000127	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-29	01000128	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-30	01000129	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-31	01000130	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-32	01000131	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-33	01000132	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-34	01000133	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-35	01000134	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-36	01000135	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-37	01000136	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-38	01000137	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-39	01000138	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-40	01000139	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-41	01000140	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-42	01000141	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-43	01000142	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-44	01000143	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-45	01000144	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-46	01000145	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-47	01000146	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-48	01000147	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-49	01000148	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-50	01000149	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-51	01000150	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-52	01000151	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-53	01000152	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-54	01000153	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-55	01000154	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-56	01000155	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-57	01000156	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-58	01000157	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-59	01000158	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-60	01000159	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-61	01000160	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-62	01000161	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-63	01000162	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-64	01000163	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-65	01000164	02/02/09	3000	000000	Fluoropak	0	0.00	2.0	9.1
						0.1	0.1	2.1	9.2
AS-66	01000165	02							

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**Exhibit B
Radiological Survey Report Form**

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Description: Characterization Survey - Survey Unit 25										
Date: 09/19/2004		Time: 0955		Survey No: 25-000001-02		RWP No: NA				
Survey Results		Sample Results				Direct Readings				
Sample Number	Description/Location	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Remarks
16	Sample Location (see map)					18	17	20	11	
17						5	14	210	100	
18						13	11	210	100	
19						16	1	210	100	
20						17	11	209	100	
21						16	17	210	100	
22						11	11	210	100	
23						18	1	210	100	
24						16	11	210	100	
25						17	11	210	100	
26						16	11	210	100	
27						17	11	210	100	
28						18	1	210	100	
29						16	11	210	100	
30						17	11	210	100	
31	Duplicate Count for 25					18	11	210	100	
32	Duplicate Count for 25					17	11	210	100	
33	Duplicate Count for 25					17	11	210	100	
34										
35										
36										
37										
38										
39										
40										

Remarks: Field Backgrounds for 25-000001-02

Technician(s) Signature / Date: AS / 9/20/04 N/A

Supervisor Signature / Date: W. J. [Signature] / 9/20/04 N/A

Exhibit C
Radiological Survey Report Form

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Description: Characterization Survey - Survey Unit 35					
Date: 05/10/2004	Time: 0800	Survey No: CH-001000-02	RWP No: N/A		

Survey Diagram

Legend: (a) Fixed/Removable Location; (b) Exposure Station; (c) Sample Area Boundary					
Remarks: The Original Survey Unit (SU 35, SU 36) is divided by I-72 into SU 35 and SU 36.					
Technician(s) Signature / Date: <i>[Signature]</i> / 05/10/04		QA: <i>[Signature]</i> /			
Inspector Review: <i>[Signature]</i> / 05/10/04		QA Review: <i>[Signature]</i> /			

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EXHIBIT A

Radiological Survey Report Form

Page 1 of 3

Description: Characterization Survey - Survey Unit 35									
Date:	02/10/2004	Time:	01015	Survey No.:	CU-75704-03	RWP No.:	N/A		
Purpose of Survey (For Release Surveys Include Reason): Spills Measurements in SU 35									
Instrument Data		Instrument Calibration Data		Factor		Index			
Detector Type	Detector ID	Detector Cal. Exp.	Model Type	Serial No.	Class Cal. Exp.	Manufacturer	Model (Exp.)	Uncertainty	Model (Exp.)
GM-104	PC12345	000000	2022	100001	000000		1.00	20	50
							1.02	21	50.5
444	PC12345	000000	2022	100001	000000		1.00	21	71.5
							1.02	20	120
444	PC12345	01/13/04	2	101244	001200	Pyrolog	47	20	71.4
N/A	N/A	N/A	Model 17	0723	000000	Exposure	N/A	N/A	N/A
Survey Results			Statistical Results			Count Readings			
Sample Number	Description/Location		Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)
1	Sample Location (see map)				10	27	19	25	N/A
2					12	0	231	99	
3					14	5	235	102	
4					16	3	233	102	
5					15	0	211	100	
6					21	32	238	107	
7					11	22	219	105	
8					35	27	202	91	
9					13	13	234	100	
10					8	38	253	115	
11					10	27	244	108	
12					14	5	234	100	
13					17	11	231	91	
14					10	5	233	107	
15					9	40	249	110	
Remarks: AGC Detector in CU-33 generated 51000									
TSP - For Release Surveys Only									
Field Supervisor/Date		Signature		Signature		Signature		Signature	
		[Signature]		[Signature]		[Signature]		[Signature]	
Page Number		Page Number		Page Number		Page Number		Page Number	
1		1		1		1		1	

Exhibit B
Radiological Survey Report Form

Description: Characterization Survey - Survey Unit 16									
Date: 03/18/2004		Time: 07015		Survey No: CH-02/00-03		RWPNr: N/A			
Survey Results		Specialty Results				Direct Readings			
Count Number	Description/Location	Count of Background CPN	Count of Background CPN	Count of Background CPN	Count of Background CPN	Count of Background CPN	Count of Background CPN	Count of Background CPN	Count of Background CPN
16	Sample 1 (Background)					18	27	27	42
17						20	27	28	48
18						18	41	29	78
19						8	48	28	108
20						11	21	21	116
21						13	0	267	8
22						8	43	28	738
23						12	21	28	66
24						10	27	28	29
25						18	1	18	18
26						18	5	25	81
27						10	27	22	138
28						18	41	28	108
29						8	27	27	21
30						11	22	27	51
31	Duplicate Count for #2					13	0	28	99
32	Duplicate Count for #11					15	0	28	95
33	Duplicate Count for #13					8	27	27	27
34									
35									
36									
37									
38									
39									

Remarks: Field Backgrounds for #16-33 generated on 03/18/04

Technician(s) Signature: *[Signature]* Date: 3/19/04 RWPNr: N/A

Project Review: *[Signature]* Date: 3/19/04 RWPNr: N/A

Description: Characteristic Survey - Survey Unit 36					
Date: 09/10/2004	Time: 0101Z	Survey No: CIL591004-03	RWT No:	NA	

Survey Diagram

Legend: • Point Location — Survey Line Boundary - - - Fence Area Boundary

Remarks: The Origin of Survey Unit 36 is marked by X in the SW corner of the grid.

Inspector's Signature/Date: <i>[Signature]</i> / 09/10/04	NA	/
Range Review: <i>[Signature]</i> / 09/10/04	NA	/

Exhibit A
Radiological Survey Report Form

Description: <u>Characterization Survey - Survey Unit 37</u>									
Date: <u>09/18/2005</u>	Time: <u>1235</u>	Survey No.: <u>CR-001001-04</u>	RAW No: <u>N/A</u>						
Purpose of Survey (For Release Surveys include Radiology): <u>State Measurements in SU 37</u>									
Instrument Type: <u>Scoutmaster 2000</u> ☐ Probe ☒ Laminar ☐ _____									
Detector Type	Detector ID	Detector Cal Due	Filter Type	Filter ID	Filter Cal Due	Manufacturer	Model Name	Count Rate	Background
43-10-1	PR179454	02/2005	222V	146612	04/07/05	α	1.45	23	21
						βγ	492	23	363
43-35	PA20072	03/12/05	222V	146612	04/07/05	α	150	23	773
						βγ	246	24	176
44-9	PR00325	03/12/04	2	177234	03/12/04	βγ (GND)	47	30	713
N/A	N/A	N/A	Model 19	5976	03/07/05	Exposure	N/A	N/A	N/A

Survey Results		Sample Results				Direct Readings				
Sample Number	Description/Depth	Gross Count Rate CPM	Net Count Rate dpm/100cm ²	Gross Count Rate CPM	Net Count Rate dpm/100cm ²	Gross Count Rate CPM	Net Count Rate dpm/100cm ²	Count Rate CPM	Surface Count dpm/100cm ²	Exposure Time min
1	Sample Location (see map)					15	0	354	50	N/A
2						7	-43	244	-40	
3						13	-16	257	-21	
4						17	-11	186	-87	
5						13	-11	200	-101	
6						14	-3	205	-1	
7						13	-13	156	-21	
8						16	-3	235	-84	
9						14	0	200	15	
10						14	0	204	152	
11						14	-3	200	-13	
12						15	-11	238	-70	
13						12	-19	275	-39	
14						20	27	215	-138	
15						12	10	104	-210	

Remarks: Final Background for 1000 placed on 9/19/05

N/A - No Counters Present in N/A

Technician(s) Name(s): <u>[Signature]</u>	Date: <u>9/19/05</u>	N/A	1
Review: <u>[Signature]</u>	Date: <u>9/19/05</u>	N/A	1

Description: Characterization Survey - Survey Unit 37										
Date: 09/10/2004		Time: 1255		Survey No: CH-091004-04		RWP No: N/A				
Survey Results		Sample Results				Direct Readings				
Sample Number	Description/Location	Screen Removable CPM	Non-Removable Area CPM	Screen-Off Removable CPM	Non-Off Removable Area CPM	Gross CPM	Net or Spill CPM	Count for CPM	Net for CPM	Response Rate %
16	Sample Location (see map)					15	31	178	258	
17						13	41	259	37	
18						14	58	271	71	
19						10	27	248	48	
20						17	11	240	32	
21						10	1	265	2	
22						14	5	250	10	
23						8	34	243	26	
24						15	28	252	102	
25						17	11	180	332	
26						11	32	242	27	
27						22	13	232	332	N/A
28						17	10	207	117	
29						14	5	120	58	
30						10	27	192	493	
31	Duplicate Count for #2					10	22	251	32	
32	Duplicate Count for #14					19	22	248	45	
33	Duplicate Count for #27					14	9	201	133	
34										
35										
36										
37										
38										
39										
Remarks: Field background for #2-33 generated on 9/10/04										
Technician(s) Signature/Date: <i>[Signature]</i> <i>[Signature]</i>						N/A				
Project Review: <i>[Signature]</i> <i>[Signature]</i>						N/A				

Exhibit C
 Radiological Survey Report Form

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Description: Characterization Survey - Survey Unit 37			
Date: 09/14/2004	Time: 1235	Survey No: CN-001004-04	FWT No: N/A
Survey Diagram:			

SU 37

Legend: (a) Road/Accessible Location (b) Exposure Rate (R/hr) (c) (d) (e) (f) (g) (h) (i) (j) (k) (l) (m) (n) (o) (p) (q) (r) (s) (t) (u) (v) (w) (x) (y) (z) (aa) (ab) (ac) (ad) (ae) (af) (ag) (ah) (ai) (aj) (ak) (al) (am) (an) (ao) (ap) (aq) (ar) (as) (at) (au) (av) (aw) (ax) (ay) (az) (ba) (bb) (bc) (bd) (be) (bf) (bg) (bh) (bi) (bj) (bk) (bl) (bm) (bn) (bo) (bp) (bq) (br) (bs) (bt) (bu) (bv) (bw) (bx) (by) (bz) (ca) (cb) (cc) (cd) (ce) (cf) (cg) (ch) (ci) (cj) (ck) (cl) (cm) (cn) (co) (cp) (cq) (cr) (cs) (ct) (cu) (cv) (cw) (cx) (cy) (cz) (da) (db) (dc) (dd) (de) (df) (dg) (dh) (di) (dj) (dk) (dl) (dm) (dn) (do) (dp) (dq) (dr) (ds) (dt) (du) (dv) (dw) (dx) (dy) (dz) (ea) (eb) (ec) (ed) (ee) (ef) (eg) (eh) (ei) (ej) (ek) (el) (em) (en) (eo) (ep) (eq) (er) (es) (et) (eu) (ev) (ew) (ex) (ey) (ez) (fa) (fb) (fc) (fd) (fe) (ff) (fg) (fh) (fi) (fj) (fk) (fl) (fm) (fn) (fo) (fp) (fq) (fr) (fs) (ft) (fu) (fv) (fw) (fx) (fy) (fz) (ga) (gb) (gc) (gd) (ge) (gf) (gg) (gh) (gi) (gj) (gk) (gl) (gm) (gn) (go) (gp) (gq) (gr) (gs) (gt) (gu) (gv) (gw) (gx) (gy) (gz) (ha) (hb) (hc) (hd) (he) (hf) (hg) (hh) (hi) (hj) (hk) (hl) (hm) (hn) (ho) (hp) (hq) (hr) (hs) (ht) (hu) (hv) (hw) (hx) (hy) (hz) (ia) (ib) (ic) (id) (ie) (if) (ig) (ih) (ii) (ij) (ik) (il) (im) (in) (io) (ip) (iq) (ir) (is) (it) (iu) (iv) (iw) (ix) (iy) (iz) (ja) (jb) (jc) (jd) (je) (jf) (jg) (jh) (ji) (jj) (jk) (jl) (jm) (jn) (jo) (jp) (jq) (jr) (js) (jt) (ju) (jv) (jw) (jx) (jy) (jz) (ka) (kb) (kc) (kd) (ke) (kf) (kg) (kh) (ki) (kj) (kk) (kl) (km) (kn) (ko) (kp) (kq) (kr) (ks) (kt) (ku) (kv) (kw) (kx) (ky) (kz) (la) (lb) (lc) (ld) (le) (lf) (lg) (lh) (li) (lj) (lk) (ll) (lm) (ln) (lo) (lp) (lq) (lr) (ls) (lt) (lu) (lv) (lw) (lx) (ly) (lz) (ma) (mb) (mc) (md) (me) (mf) (mg) (mh) (mi) (mj) (mk) (ml) (mm) (mn) (mo) (mp) (mq) (mr) (ms) (mt) (mu) (mv) (mw) (mx) (my) (mz) (na) (nb) (nc) (nd) (ne) (nf) (ng) (nh) (ni) (nj) (nk) (nl) (nm) (nn) (no) (np) (nq) (nr) (ns) (nt) (nu) (nv) (nw) (nx) (ny) (nz) (oa) (ob) (oc) (od) (oe) (of) (og) (oh) (oi) (oj) (ok) (ol) (om) (on) (oo) (op) (oq) (or) (os) (ot) (ou) (ov) (ow) (ox) (oy) (oz) (pa) (pb) (pc) (pd) (pe) (pf) (pg) (ph) (pi) (pj) (pk) (pl) (pm) (pn) (po) (pp) (pq) (pr) (ps) (pt) (pu) (pv) (pw) (px) (py) (pz) (qa) (qb) (qc) (qd) (qe) (qf) (qg) (qh) (qi) (qj) (qk) (ql) (qm) (qn) (qo) (qp) (qq) (qr) (qs) (qt) (qu) (qv) (qw) (qx) (qy) (qz) (ra) (rb) (rc) (rd) (re) (rf) (rg) (rh) (ri) (rj) (rk) (rl) (rm) (rn) (ro) (rp) (rq) (rr) (rs) (rt) (ru) (rv) (rw) (rx) (ry) (rz) (sa) (sb) (sc) (sd) (se) (sf) (sg) (sh) (si) (sj) (sk) (sl) (sm) (sn) (so) (sp) (sq) (sr) (ss) (st) (su) (sv) (sw) (sx) (sy) (sz) (ta) (tb) (tc) (td) (te) (tf) (tg) (th) (ti) (tj) (tk) (tl) (tm) (tn) (to) (tp) (tq) (tr) (ts) (tt) (tu) (tv) (tw) (tx) (ty) (tz) (ua) (ub) (uc) (ud) (ue) (uf) (ug) (uh) (ui) (uj) (uk) (ul) (um) (un) (uo) (up) (uq) (ur) (us) (ut) (uu) (uv) (uw) (ux) (uy) (uz) (va) (vb) (vc) (vd) (ve) (vf) (vg) (vh) (vi) (vj) (vk) (vl) (vm) (vn) (vo) (vp) (vq) (vr) (vs) (vt) (vu) (vv) (vw) (vx) (vy) (vz) (wa) (wb) (wc) (wd) (we) (wf) (wg) (wh) (wi) (wj) (wk) (wl) (wm) (wn) (wo) (wp) (wq) (wr) (ws) (wt) (wu) (wv) (ww) (wx) (wy) (wz) (xa) (xb) (xc) (xd) (xe) (xf) (xg) (xh) (xi) (xj) (xk) (xl) (xm) (xn) (xo) (xp) (xq) (xr) (xs) (xt) (xu) (xv) (xw) (xx) (xy) (xz) (ya) (yb) (yc) (yd) (ye) (yf) (yg) (yh) (yi) (yj) (yk) (yl) (ym) (yn) (yo) (yp) (yq) (yr) (ys) (yt) (yu) (yv) (yw) (yx) (yy) (yz) (za) (zb) (zc) (zd) (ze) (zf) (zg) (zh) (zi) (zj) (zk) (zl) (zm) (zn) (zo) (zp) (zq) (zr) (zs) (zt) (zu) (zv) (zw) (zx) (zy) (zz)

Remarks: The Original Survey Unit (SU 37) is marked by a black 'X' on the map of the SU.

Technician(s) Signature: [Signature]	Date: 09/14/2004	Page: 3 of 3
Project Review: [Signature]	Client Signature: [Signature]	Page: 3 of 3

Exhibit A
Radiological Survey Report Form

Page 1 of 1

Description: Characterization Survey - Surface Surveys for Building 5									
Date: 10/25/2004		Time: 0745		Survey No.: CR-103404-01		RWP No.: N/A			
Purpose of Survey: (For Release Surveys include recipient) Removable activity measured on static survey going with planned military Load Survey Unit listed below.									
Instrument Data: Instrument Model/Serial: ☐ Fluorine ☐ Isotopes: ☐ ☐ ☐									
Detector Type:	Detector ID:	Detector Cal Due:	Model Type:	Model No.:	Manufacturer:	Range (cpm):	Energy Range:	MDA (dpm):	
GM-10-1	PA110134	090500	2035	190612	080503	α	0.8	23	11.4
						βγ	49.2	23	36.7
43-01	PA200137	10/1/05	220a	100330	071203	α	N/A	5.4	N/A
						βγ	N/A	1.0	13A
44-0	PA200305	09/1/04	1	471137	080304	βγ (K40)	47	30	710
N/A	N/A	N/A	Model 19	8574	030905	βγ (K40)	50%	N/A	N/A

Survey Results		Screenable Results				Direct Readings				
Sample Number	Description/Location	Gross α (cpm)	Net α (cpm)	Gross βγ (cpm)	Net βγ (cpm)	Gross α (cpm)	Net α (cpm)	Gross βγ (cpm)	Net βγ (cpm)	Remarks
1	SC18-023	1	1	44	35					
2	SC18-024	0	0	40	33					
3	SC18-027	0	0	31	5					
4	SC18-030	0	0	34	10					
5	SC18-026	0	0	41	30					
6	SC18-018	0	0	35	32					
7	SC22-010	0	0	35	2					
8	SC22-011	0	0	31	3					
9	SC25-023	0	0	32	7					
10	SC18-022	0	0	32	13					
11	SC22-010	0	0	30	23					
12	SC22-011	1	1	42	14					
13	SC22-011 (Dup)	1	1	30	29					
14	SC24-02	0	0	31	3					
15	SC18-02 (Dup)	0	0	40	30					

Remarks: _____

NCR - 50 Compartmental Control M. C. N/A

Inspector/Sign-off: <i>[Signature]</i>	Date: 10/25/04	Page: 1
Inspector/Sign-off: <i>[Signature]</i>	Date: 10/25/04	Page: 1

Exhibit A
Radiological Survey Report Form

Page 1 of 4

Description: Characterization Survey - Survey Unit 33									
Date:	05/15/2004	Time:	0830	Survey No.:	CH-091801-01	RWPNr:	N/A		
Purpose of Survey (For Release Surveys Indicate Requirement): Static Measurements in SU 33									
Instrument Data: ☐ Scaler ☐ Meter ☐ Dosimeter ☐ Other ☐									
Detector Type	Detector ID	Detector Cal Due	Model Type	Model No	Manufacturer	Serial No	Range	Resolution	Min. Count
40-10-1	PH179134	10/05/03	2222	100012	1000000	1000000	0-100	0.1	100
40-10-2	PH200133	05/12/03	2222	100013	1000000	1000000	0-100	0.1	100
40-10-3	PH200133	05/12/03	2	171204	1000000	1000000	0-100	0.1	100
N/A	N/A	N/A	Model ID	4078	1000000	1000000	0-100	0.1	100
Survey Results			Statistical Results				Direct Readings		
Sample Number	Description/Location	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)
1	Sample Location (see map)					9	17	336	141
2						15	15	233	312
3						14	10	305	708
4						7	23	127	241
5						21	48	240	37
6						13	26	143	46
7						13	4	128	177
8						13	4	132	178
9						10	6	238	27
10						10	42	259	38
11						13	4	143	178
12						14	31	205	40
13						16	11	277	24
14						10	12	252	40
15						8	13	300	403
Remarks: Eight Backgrounds for 40-10-1 measured on 5/15/04									
Testimony/Signature/Date: <i>[Signature]</i> 10/15/04 Pages Review: <i>[Signature]</i> 10/15/04									

Exhibit B
Radiological Survey Report Form

Description: Characterization Survey - Survey Unit 14										
Date: 09/15/2004		Time: 0830		Survey No: CH-091104-01		RFP No: N/A				
Survey Results		Scannable Results				Direct Readings				
Sample Number	Description/Remarks	Time & Response CPM	Net Response (dpm/100 cm ²)	Count by Scannable CPM	Net by Scannable (dpm/100 cm ²)	Gross CPM	Net Count (dpm/100 cm ²)	Gross by CPM	Net by CPM (dpm/100 cm ²)	Response Count by
16	Sample Location (see map)					7	37	406	400	
17						12	-1	400	398	
18						14	10	264	250	
19						30	40	126	31	
20						15	31	221	4	
21						18	31	240	23	
22						18	-4	400	120	
23						18	-4	227	120	
24						24	10	101	206	
25						11	-6	307	224	
26						10	-12	270	21	
27						12	-1	247	20	
28						12	4	301	30	
29						12	-1	147	144	
30						12	-6	238	207	
31						10	-12	249	40	
32						14	10	282	37	
33						15	4	264	250	
34						15	-4	201	36	
35						13	4	300	296	
36						12	-1	185	134	
37						13	-1	30	25	
38						4	-23	250	20	
39						10	-12	200	20	

Remarks: Field background for 12-01 generated on 9/15/04

Prepared by: [Signature] Date: 10/15/04 RFP: N/A

Field Review: [Signature] Date: 10/15/04 Clean Review: N/A

Exhibit B
 Radiological Survey Report Form

Description: Characterization Survey - Survey Unit 38										
Date:	09/15/2004	Time:	0830	Survey No.:	CH-201584-01	RVP No.:	N/A			
Survey Results		Sample Results				Direct Readings				
Sample Number	Description/Location	Count Rate CPM	Net Count Rate dpm/100cm ²	Count Rate CPM	Net Count Rate dpm/100cm ²	Gross CPM	Net CPM in air	Gross CPM	Net CPM in air	Remarks
40	Sample Location (see map)					11	8	348	297	
41						32	18	50	131	
42						16	91	237	46	
43						17	36	130	119	
44	Duplicate Count for # 2					13	15	512	520	
45	Duplicate Count for # 4					16	31	391	46	
46	Duplicate Count for # 51					12	4	178	43	
47	Duplicate Count for # 40					12	4	169	131	
48										
49										
50										
51										
52										
53										
54										
55										
56										
57										
58										
59										
60										
61										
62										
63										

Remarks: Data background for (1-0) generated on 9/15/04

Technician's Signature/Date: D. Stuck 9/15/04

Project Director: [Signature] 9/15/04

10-688 (Rev. 4-64)
 May 6
 10-15 (7-15)

Exhibit C
 Radiological Survey Report Form

Page 4 of 4

Description: Characterization Survey - Survey Unit 38				
Date: 08/15/2004	Type: 0830	Survey No: CR-091301-01	RWP No:	N/A

Survey Diagram:

SU 38
N ↑

Legend:

- ② Fixed Monitored Location
- Exposure Data (uR/h)
- Radiol Area Boundary

Remarks: The Origin of Survey Unit (SU 38) is marked by 'X' in the SW corner of the SU.

Technician(s) Signature(s):	Date: 8/15/04	Page: 4
Project Number: 091301-01	Other Number:	1

Exhibit A
Radiological Survey Report Form

Page 1 of 3

Description: Characterization Survey - Survey Unit 39									
Date: 05/29/2014	Time: 0800	Survey No: CH-092904.01	RWP No: N/A						
Purpose of Survey (For Release Surveys include Recipient): Static Measurements in SU 39									
Instrument Data Instrument Manufacturer: ☐ Fluke ☒ TASC ☐ ☐									
Device ID	Device SN	Device Cal Due	Model Type	Model SN	Model Cal Due	Sensitivity	Range (cpm)	Detector Probe	NDA (cpm)
43-10-1	00179134	02/20/05	252A	199042	02/20/05	25	0-99	2.5	9.1
						25	0-99	2.5	26.3
43-10	00200812	02/12/03	222A	199038	02/12/03	25	0-99	2.5	74.8
						25	0-99	2.5	176
44-4	00200812	02/12/03	2	011254	02/12/03	25 (Gd)	0-99	2.5	713
N/A	N/A	N/A	Model 1A	2512	02/20/05	Exposure	N/A	N/A	N/A

Survey Results		Removable Results				Direct Readings				
Sample Number	Description/Location	Gross Alpha (CPM)	Net Alpha (CPM)	Gross Beta (CPM)	Net Beta (CPM)	Gross Gamma (CPM)	Net Gamma (CPM)	Gross X-ray (CPM)	Net X-ray (CPM)	Exposure Rate (mR/hr)
1	Sample Location (see map)					18	22	261	353	N/A
2						14	6	253	267	
3						18	32	297	179	
4						13	-3	272	324	
5						12	-11	229	168	
6						14	0	237	208	
7						8	-32	204	120	
8						14	5	243	1413	
9						13	-5	315	156	
10						8	22	252	8	
11						8	-40	260	78	
12						18	22	315	162	
13						10	-21	269	125	
14						7	-38	483	1168	
15						12	-11	256	18	

Remarks: Plot of Direct Readings for 43-10 generated by NDA Plot

N/A = No Readings (exposed to < 5 mR)

Technician Signature / Date: <u>[Signature]</u> 19.29.04	N/A	1
Project Review: <u>[Signature]</u> 05/29/14	N/A	1

Exhibit B
 Radiological Survey Report Form

Description: Characterization Survey - Survey Unit 19										
Date: 09/29/2004		Time: 0800		Survey No: CB-002044-01		RWT No: N/A				
Survey Results		Spot Results				Direct Readings				
Sample Number	Description/Results	Gross Removable CPM	Net Removable CPM 100 cm	Gross Removable CPM	Net Removable CPM 100 cm	Gross CPM	Net CPM 100 cm	Gross CPM	Net CPM 100 cm	Response Rate
16	Sample Locations (see map)					5	-43	364	240	
17						12	-31	408	316	
18						10	-22	357	279	
19						17	-16	394	378	
20						13	5	410	405	
21						11	-15	347	230	
22						8	-23	374	356	
23						6	-43	341	301	
24						17	-16	365	306	
25						10	-22	227	197	
26						15	-5	333	297	
27						9	-47	347	240	N/A
28						15	-1	333	267	
29						17	-16	400	348	
30						14	-6	408	378	
31						12	-16	351	261	
32						15	-5	305	293	
33						14	-0	369	313	
34	Duplicate Count #1					12	-16	364	270	
35	Duplicate Count #10					9	-23	350	403	
36	Duplicate Count #51					13	-5	340	246	
37										
38										
39										

Remarks: First background on 12-13 measured on 9/29/04

Investigator's Signature / Date: *[Signature]* / 9/29/04

Radiographer: *[Signature]* / 9/29/04

Client Review: *[Signature]* / 9/29/04

Description: Characterization Survey: Survey Unit 39

Date: 09/25/2004

Time: 0800

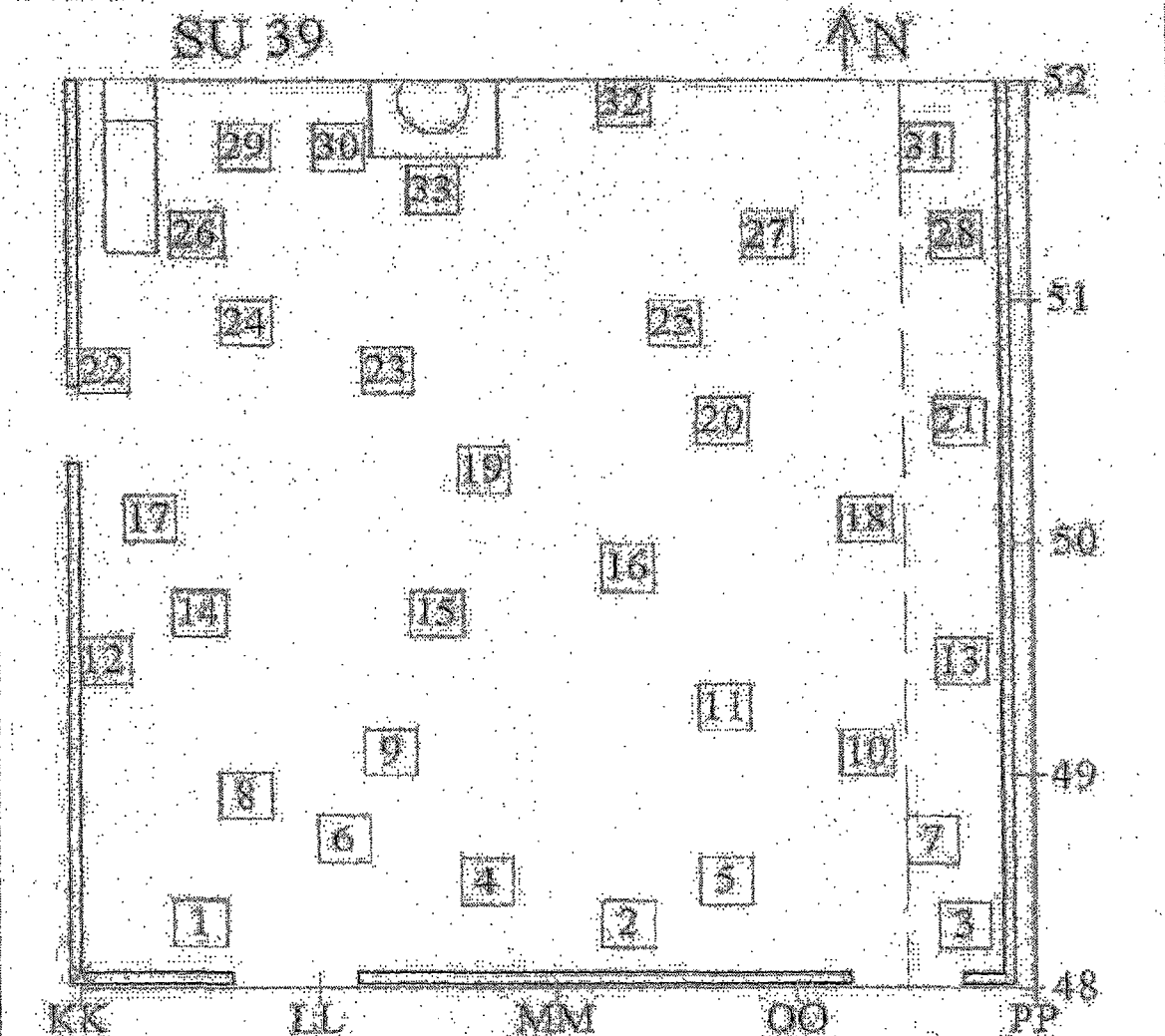
Survey No:

CH-072004-01

RWEN:

NA

Survey Diagram:



Legend: (C) Point of Interest Location, (R) Boundary of Survey Unit, --- Traverse Line Boundary

Remarks: The diagram of Survey Unit (SU 39) is located in the SW corner of the field.

Prepared by: [Signature] Date: 10/21/04
 Reviewer: [Signature] Date: 10/21/04

Exhibit A
Radiological Survey Report Form

Page 1 of 3

Description: Characterization Survey - Survey Unit 40									
Date: 10/13/2004	Time: 0800	Survey No: CIL-101204-01	RWP No: N/A						
Purpose of Survey (For Release Surveys Include Revision): Static Measurements in SU 40									
Instrument Data Instrument Manufacturer: ☐ Fluke ☐ Thermo ☐									
Detector Type	Detector No	Detector Cal Due	Model Type	Model No	Detector Cal Due	Manufacturer	Range (cps)	Conversion Factor	Units (pCi)
GM-10-1	FE119204	02/02/05	2200	100012	02/02/05	Fluke	0-500	1.0	N/A
							0-5	100	1000
GM-10-2	FE2000132	02/02/05	2200	100020	02/02/05	Fluke	0-500	1.0	N/A
							0-5	100	1000
GM-10-3	FE2000204	02/02/05	2200	100021	02/02/05	Fluke	0-500	1.0	N/A
							0-5	100	1000
N/A	N/A	N/A	Model 10	2200	02/02/05	Fluke	N/A	N/A	N/A

Survey Results		Spreadable Results				Direct Readings				
Sample Number	Dispersant/Location	Screen Countable (CPM)	Net Countable (dpm/100cm²)	Gross Sp. Countable (CPM)	Net Sp. Countable (dpm/100cm²)	Screen Count	Net Count (dpm/100cm²)	Gross Sp. Count	Net Sp. Count (dpm/100cm²)	Exposure Rate (µR/hr)
1	Sample Location (see map)					13	17	353	270	N/A
2						16	32	302	117	
3						18	40	338	195	
4						25	41	374	213	
5						30	48	340	251	
6						7	40	300	201	
7						12	11	490	351	
8						9	3	315	700	
9						22	65	363	203	
10						32	11	397	222	
11						41	22	340	331	
12						43	27	332	367	
13						11	5	308	315	
14						15	10	300	301	
15						10	37	401	414	

Remarks: Field Backscattered for 15-22 generated on 10/13/04

N/A - No Comparison Performed to NDA

Technician's Signature / Title: <i>[Signature]</i> / <i>Inspector</i>	Date: 10/13/04
Project Director: <i>[Signature]</i> / <i>Project Director</i>	Date: 10/13/04

Exhibit B
 Radiological Survey Report Form

Description: Characterization Survey - Survey Unit #1										
Date:	Time:	Survey No:	EMP No:							
Survey Results		Screening Results				Direct Readings				
Sample Number	Designation/Notes	Gross Count Rate CPM	Net Count Rate CPM (100 cm ²)	Gross Count Rate CPM	Net Count Rate CPM (100 cm ²)	Gross Count Rate CPM	Net Count Rate CPM (100 cm ²)	Gross Count Rate CPM	Net Count Rate CPM (100 cm ²)	Remarks
16	Sample Location 1 (see map)					6	22	72	-15	
17						14	22	72	320	
18						9	3	72	50	
19						16	32	43	310	
20						14	22	55	85	
21						11	5	37	34	
22						12	12	33	131	
23						10	0	50	78	
24						9	9	20	81	
25						5	3	35	15	
26						16	16	20	80	
27						11	16	32	55	NA
28						8	14	42	69	
29						7	16	10	30	
30						11	16	31	14	
31						15	15	46	68	
32						9	3	60	124	
33	Duplicate Count #2					9	5	20	93	
34	Duplicate Count #1					14	22	34	81	
35	Duplicate Count #2					12	6	25	112	
36										
37										
38										
39										

Remarks: Field Measurements for 41-42 completed on 10/13/04

Investigator Signature: *[Signature]* Date: 1/10/10/04

Reviewer Signature: *[Signature]* Date: 1/10/10/04

Description: Characterization Survey - Sassy Unit 40

Date: 10/13/2004

Time: 0800

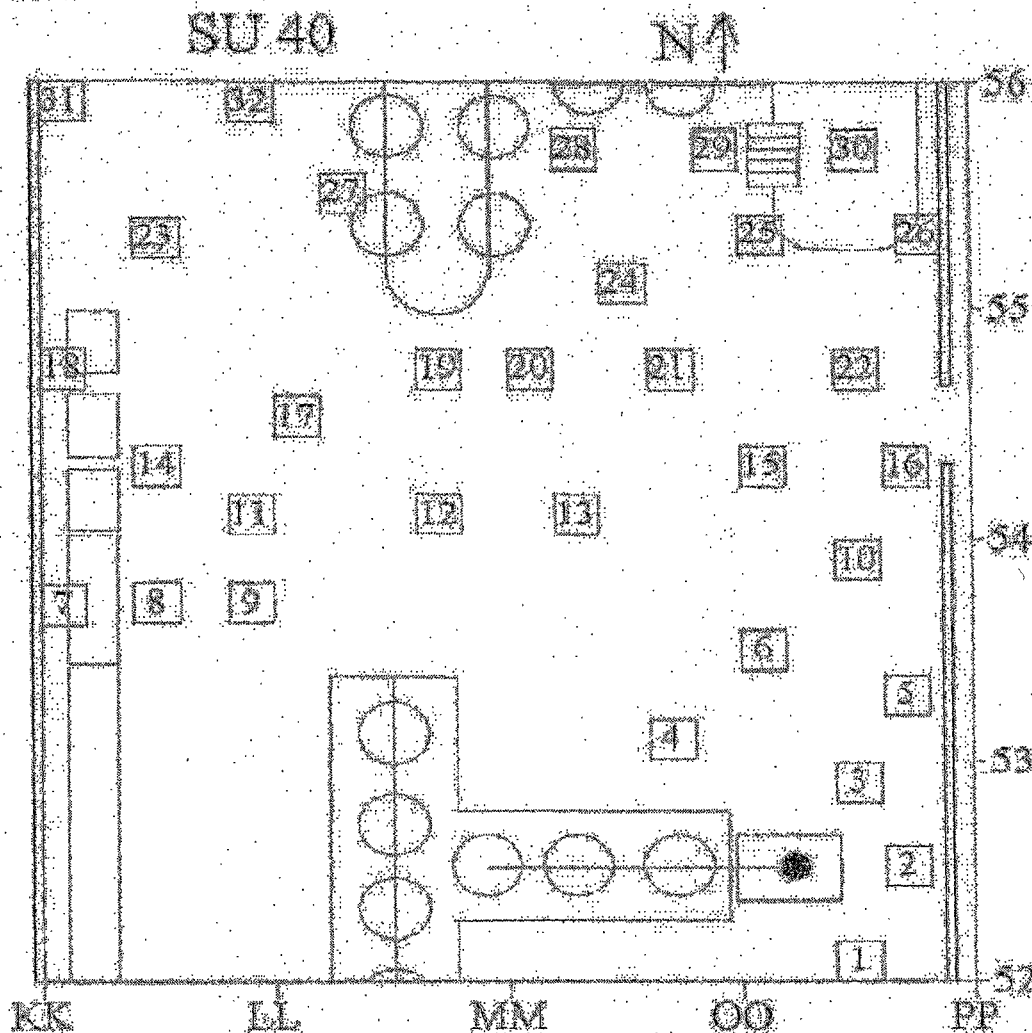
Survey No:

CH-101204-01

RWP No:

N/A

Survey Diagram



Legend: (1) Fixed Removable Location (2) Removable Location (3) Fixed Area Boundary

Remarks: The Origin of Survey is at the 1st, 2nd, 3rd, 4th, 5th, 6th, 7th, 8th, 9th, 10th, 11th, 12th, 13th, 14th, 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, 24th, 25th, 26th, 27th, 28th, 29th, 30th, 31st, 32nd, 33rd, 34th, 35th, 36th, 37th, 38th, 39th, 40th, 41st, 42nd, 43rd, 44th, 45th, 46th, 47th, 48th, 49th, 50th, 51st, 52nd, 53rd, 54th, 55th, 56th, 57th, 58th, 59th, 60th, 61st, 62nd, 63rd, 64th, 65th, 66th, 67th, 68th, 69th, 70th, 71st, 72nd, 73rd, 74th, 75th, 76th, 77th, 78th, 79th, 80th, 81st, 82nd, 83rd, 84th, 85th, 86th, 87th, 88th, 89th, 90th, 91st, 92nd, 93rd, 94th, 95th, 96th, 97th, 98th, 99th, 100th, 101st, 102nd, 103rd, 104th, 105th, 106th, 107th, 108th, 109th, 110th, 111th, 112th, 113th, 114th, 115th, 116th, 117th, 118th, 119th, 120th, 121st, 122nd, 123rd, 124th, 125th, 126th, 127th, 128th, 129th, 130th, 131st, 132nd, 133rd, 134th, 135th, 136th, 137th, 138th, 139th, 140th, 141st, 142nd, 143rd, 144th, 145th, 146th, 147th, 148th, 149th, 150th, 151st, 152nd, 153rd, 154th, 155th, 156th, 157th, 158th, 159th, 160th, 161st, 162nd, 163rd, 164th, 165th, 166th, 167th, 168th, 169th, 170th, 171st, 172nd, 173rd, 174th, 175th, 176th, 177th, 178th, 179th, 180th, 181st, 182nd, 183rd, 184th, 185th, 186th, 187th, 188th, 189th, 190th, 191st, 192nd, 193rd, 194th, 195th, 196th, 197th, 198th, 199th, 200th, 201st, 202nd, 203rd, 204th, 205th, 206th, 207th, 208th, 209th, 210th, 211st, 212nd, 213th, 214th, 215th, 216th, 217th, 218th, 219th, 220th, 221st, 222nd, 223rd, 224th, 225th, 226th, 227th, 228th, 229th, 230th, 231st, 232nd, 233rd, 234th, 235th, 236th, 237th, 238th, 239th, 240th, 241st, 242nd, 243rd, 244th, 245th, 246th, 247th, 248th, 249th, 250th, 251st, 252nd, 253rd, 254th, 255th, 256th, 257th, 258th, 259th, 260th, 261st, 262nd, 263rd, 264th, 265th, 266th, 267th, 268th, 269th, 270th, 271st, 272nd, 273rd, 274th, 275th, 276th, 277th, 278th, 279th, 280th, 281st, 282nd, 283rd, 284th, 285th, 286th, 287th, 288th, 289th, 290th, 291st, 292nd, 293rd, 294th, 295th, 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10/4/04 200-94
Rev. 3
Form 17-01-13

Exhibit A
Radiological Survey Report Form

Page 1 of 3

Description: Characterization Survey - Survey Unit 41									
Date:	09/21/2004	Time:	1245	Survey No:	CH-092104-01	RMP No:	N/A		
Purpose of Survey (For Release Surveys include Reason(s)): Soil Measurements in SU 41									
Instrument Data: ☐ Direct Readout ☐ Probe ☐ Gamma ☐ ☐ ☐									
Probe Type	Model No.	Factory Set Date	Model Type	Model No.	Manufacturer	Serial No.	Model Name	Factory Name	Model Name
4340-1	RA2100124	01/2000	3020	100012	RA2100124	8	1.42	20	2.1
						10	1.42	20	2.1
4340-2	RA2100124	01/2000	3020	100012	RA2100124	8	1.42	20	2.1
						10	1.42	20	2.1
4340-3	RA2100124	01/2000	3020	100012	RA2100124	8	1.42	20	2.1
						10	1.42	20	2.1
N/A	N/A	N/A	Model ID	2000	RA2100124	8	1.42	20	2.1

Survey Results		Statistical Results				Direct Readings			
Sample Number	Description/Location	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)	Count Rate (CPM)	Net Count Rate (CPM)
1	Sample Location (see map)					11	1.4	312	200
2						11	1.4	312	200
3						11	1.4	312	200
4						11	1.4	312	200
5						11	1.4	312	200
6						11	1.4	312	200
7						11	1.4	312	200
8						11	1.4	312	200
9						11	1.4	312	200
10						11	1.4	312	200
11						11	1.4	312	200
12						11	1.4	312	200
13						11	1.4	312	200
14						11	1.4	312	200
15						11	1.4	312	200

Remarks: Field Backgrounds for 12-15 generated on 9/21/04

10/21/04 - Environmental Sciences, Inc. - 4502A

Technician Signature: [Signature] Date: 10/21/04

Project Manager: [Signature] Date: 10/21/04

Exhibit B
 Radiological Survey Report Form

Description: Characterization Survey - Survey Unit 11										
Date:	Time:	Survey No.	RWP No.	N/A						
Survey Results		Statistical Results				Direct Readings				
Sample Number	Description/Remarks	Count Rate CPM	Net Count Rate CPM	Count Rate CPM	Net Count Rate CPM	Count Rate CPM	Net Count Rate CPM	Count Rate CPM	Net Count Rate CPM	Count Rate CPM
16	Sample Location (see map)					110	-11	99	88	
17						102	-1	101	100	
18						102	73	101	100	
19						114	10	104	104	
20						115	13	102	107	
21						109	37	105	114	
22						111	-6	107	100	
23						115	15	100	107	
24						110	-11	99	112	
25						112	7	105	109	
26						110	37	100	121	
27						110	4	106	100	N/A
28						115	4	100	106	N/A
29						112	-1	103	104	
30						112	-1	100	101	
31	Duplicate Count #1					110	13	107	100	
32	Duplicate Count #2					110	-1	101	101	
33	Duplicate Count #3					9	47	47	617	
34										
35										
36										
37										
38										
39										
40										

Remarks: Field background for 2004 measured on 10/11/04

Investigator Signature/Date: [Signature] 10/11/04

Project Review: [Signature] 10/11/04

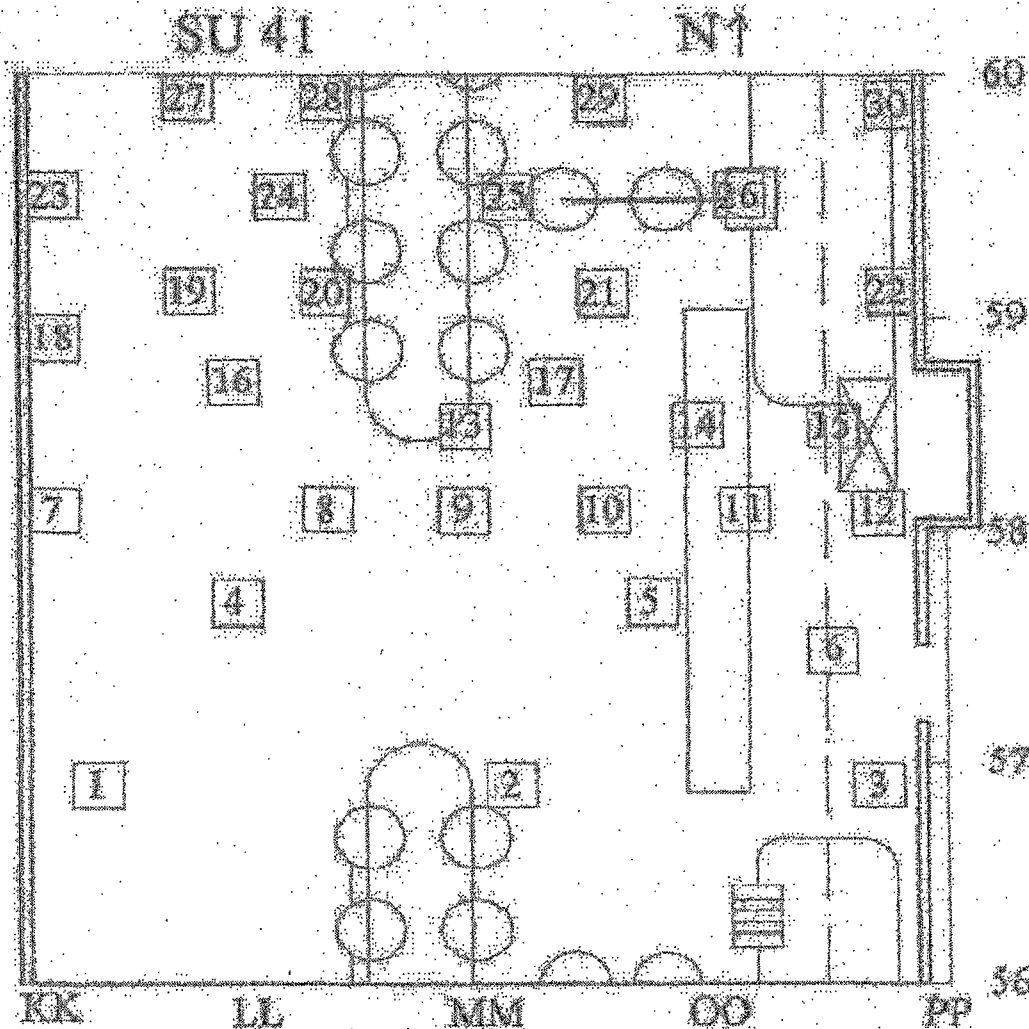
Exhibit C
Radiological Survey Report Form

Page 3 of 3

Description: Classification Survey - Survey Unit 41

Date: 09/21/2004 Time: 1243 Survey No: CH-002101-01 RWP No: N/A

Survey Diagram



Legend: (a) Fixed/Removable Location (b) Survey Unit Boundary (c) Survey Unit Boundary

Remarks: The Origin of Survey Unit (SU) is located in the SW corner of the SU.

Technician's Signature/Date:

Surveyor's Name:

[Signature]
[Signature]

12/1/04

N/A

N/A

1

1

Exhibit A
Radiological Survey Report Form

Page 1 of 3

Description: Characterization Survey - Survey Unit 42									
Date: 09/21/2004	Time: 1120	Survey No: CH-002101-02	RWP No: N/A						
Purpose of Survey (For Release Surveys include Recipient): Stone Measurements in SU 42									
Instrument Data: Instrument Manufacturer & Model: ☐ Eberline ☐ Ludlum ☐ ☐									
Detector Type	Detector SN	Balance Cal Due	Alarm Type	Alarm SN	Alarm Cal Due	Scrambler	Range (cpm)	Channel Type	Min Range
42-10-1	PR770154	03/08/02	2539	190512	05/08/04	0	0-22	23	5.3
42-23	PR200012	02/14/05	2236	190510	02/12/05	0	0-22	23	50.5
42-9	PR200123	03/12/04	1	121234	03/12/04	00 (ONP)	0	30	71.3
N/A	N/A	N/A	N/A	N/A	N/A	Exposure	N/A	N/A	N/A

Survey Results		Integrable Results			Direct Readings					
Sample Number	Description/Location	Class 1 Relevant CPM	Class 2 Relevant cpm 100 cm ²	Class 3 Relevant CPM	Class 4 Relevant cpm 100 cm ²	Area CTM	Area cpm 100 cm ²	Class 5 CPM	Net 5 cpm 100 cm ²	Exposure Rate uR
1	Sample Location (see map)					76	24	496	117	N/A
2						17	20	313	225	
3						4	23	315	334	
4						13	4	314	201	
5						13	4	313	204	
6						16	31	467	490	
7						18	31	468	473	
8						13	4	311	322	
9						18	31	303	734	
10						4	17	300	134	
11						10	17	330	306	
12						12	16	307	420	
13						15	18	304	231	
14						14	10	302	15	
15						18	4	309	304	

Notes: Plot Readings for 1-15 generated on 09/21/04

RCP - 20 Characterization Record 11 - N/A

Inspector: *[Signature]* Date: 10/21/04

Field Review: *[Signature]* Date: 10/21/04

Exhibit B
Radiological Survey Report Form

Description: Characterization Survey - Survey Unit 42										
Date: 09/27/2004		Time: 1310		Survey No: CH-052101-02		RWT No: N/A				
Survey Results		Surveyable Results				Area Readings				
Sample Number	Description/Location	Gross Countable CPM	Net Countable dpm/100cm ²	Gross Countable CPM	Net Countable dpm/100cm ²	Gross CPM	Net Countable dpm/100cm ²	Gross CPM	Net Countable dpm/100cm ²	Remarks
15	Sample Location (see map)					8	53	250	0	
17						16	21	240	276	
18						9	17	200	128	
19						9	17	201	282	
20						22	33	356	297	
21						13	8	307	210	
22						10	11	307	310	
23						9	17	376	37	
24						17	26	301	123	
25						11	8	282	13	
26						10	12	287	120	
27						20	32	354	251	
28						8	25	103	174	N/A
29						10	13	294	111	
30						8	11	268	9	
31						15	26	251	178	
32						10	17	316	191	
33						13	8	249	145	
34						8	23	305	117	
35	Duplicate Count #10					18	13	319	180	
36	Duplicate Count #11					19	27	304	1140	
37	Duplicate Count #20					16	27	313	214	
38										
39										

Remarks: Field Measurements for 13-01 performed on 09/28/04

Technician's Signature/Date: <i>P. Shaw</i> / 9/28/04	QA: <i>[Signature]</i> /
Project Reviewer: <i>[Signature]</i> /	QA: <i>[Signature]</i> /

Exhibit C
Radiological Survey Report Form

Page 3 of 3

Description: Characterization Survey - Survey Unit 42			
Date: 09/21/2004	Time: 1330	Survey No: CH-072101-02	RWP No: N/A

Survey Diagram

SU 42 N ↑

Legend: (S) Fixed Reference Location (X) Exposure Point (d/s/hr) (---) --- (---) Point Area Boundary

Remarks: The Origin of Survey Unit (1 A-E, 6 E-W) is indicated by X in the NW corner of the SU.

Technician's Signature / Date: <i>[Signature]</i> / 9/21/04	N/A
Supervisor's Signature / Date: <i>[Signature]</i> / 9/21/04	N/A

Exhibit A
 Radiological Survey Report Form

Page 1 of 3

Description: Characterization Survey - Survey Unit 43										
Date:	10/21/2001	Time:	1400	Survey No:	CH-102104-01	RWP No:	N/A			
Purpose of Survey (For Release Surveys include Receptor):										
Soil Assessments in SU 43										
Instrument Data Instrument Manufacturer/Model: ☐ Thermo ☐ Lutron ☐ ☐										
Detector Type	Detector No.	Detector Cal Due	Model Type	Model No.	Model Cal Due	Sensitivity	Alt. (ftm)	Count Rate	MRA (dpm)	
4210-1	PR17134	02/03/01	2220	190713	02/03/01	2	0.42	23	9.1	
						25	46.2	23	56.5	
40-21	PR200134	02/03/01	2224	190720	02/03/01	2	14.7	34	71.8	
						25	286	34	175	
40-2	PR00134	02/03/01	2	191274	02/03/01	21000	42	30	713	
N/A	N/A	N/A	Model 19	2277	02/03/01	Exposure	N/A	N/A	N/A	
Survey Results		Dynamic Results				Direct Readings				
Sample Number	Description/Result	Gross Countable (CPM)	Net Countable (CPM)	Gross Countable (CPM)	Net Countable (CPM)	Gross CPM	Net CPM	Gross CPM	Net CPM	Exposure Rate (uR/hr)
1	Sample Location (see map)					18	7	257	4	N/A
2						15	2	257	51	
3						18	18	111	159	
4						19	24	388	180	
5						14	7	113	215	
6						16	11	240	46	
7						18	28	194	182	
8						18	13	116	118	
9						18	7	124	492	
10						19	7	113	225	
11						12	4	121	183	
12						19	15	125	102	
13						19	12	163	134	
14						14	7	204	218	
15						1	15	225	115	
Remarks: Field Backgrounds for 43-43 given on 10/11/01 TSD-150 Countdown Monitor, Pz. C-102A										
Technician's Signature / Date: <u>[Signature]</u> 10/21/01 Project Number: <u>102104-01</u> Client Name: <u>N/A</u>										

Exhibit D
Radiological Survey Report Form

Description: Characterization Survey - Survey Unit 43											
Date: 10/21/2004		Time: 1400		Survey No: CH-102104-01		RWP No:		NSA			
Survey Results		Scanned Results				Direct Readings					
Sample Number	Description/Remarks	Gross Count Rate CPM	Flow Rate (L/min)	Gross Count Rate CPM	Flow Rate (L/min)	Gross CPM	Net Count Rate CPM	Gross CPM	Net Count Rate CPM	Net Count Rate CPM	Net Count Rate CPM
16	Sample 1 (0.0101 g)					10	14	202	202		
17						9	30	272	272		
18						17	33	246	246		
19						8	36	280	280		
20						12	4	312	312		
21						11	9	197	197		
22						18	29	252	252		
23						6	36	192	192		
24						13	28	176	176		
25						12	2	240	240		
26						14	7	230	230		
27						11	2	272	272		
28						10	13	212	212		
29						19	42	202	202		
30						8	20	272	272		
31	Duplicate Count for #1					22	59	122	122		
32	Duplicate Count for #2					14	7	300	300		
33	Duplicate Count for #3					13	13	282	282		
34	Duplicate Count for #4					12	4	320	320		
35											
36											
37											
38											
39											

Remarks: Field background for 35-39 generated on 10/21/04

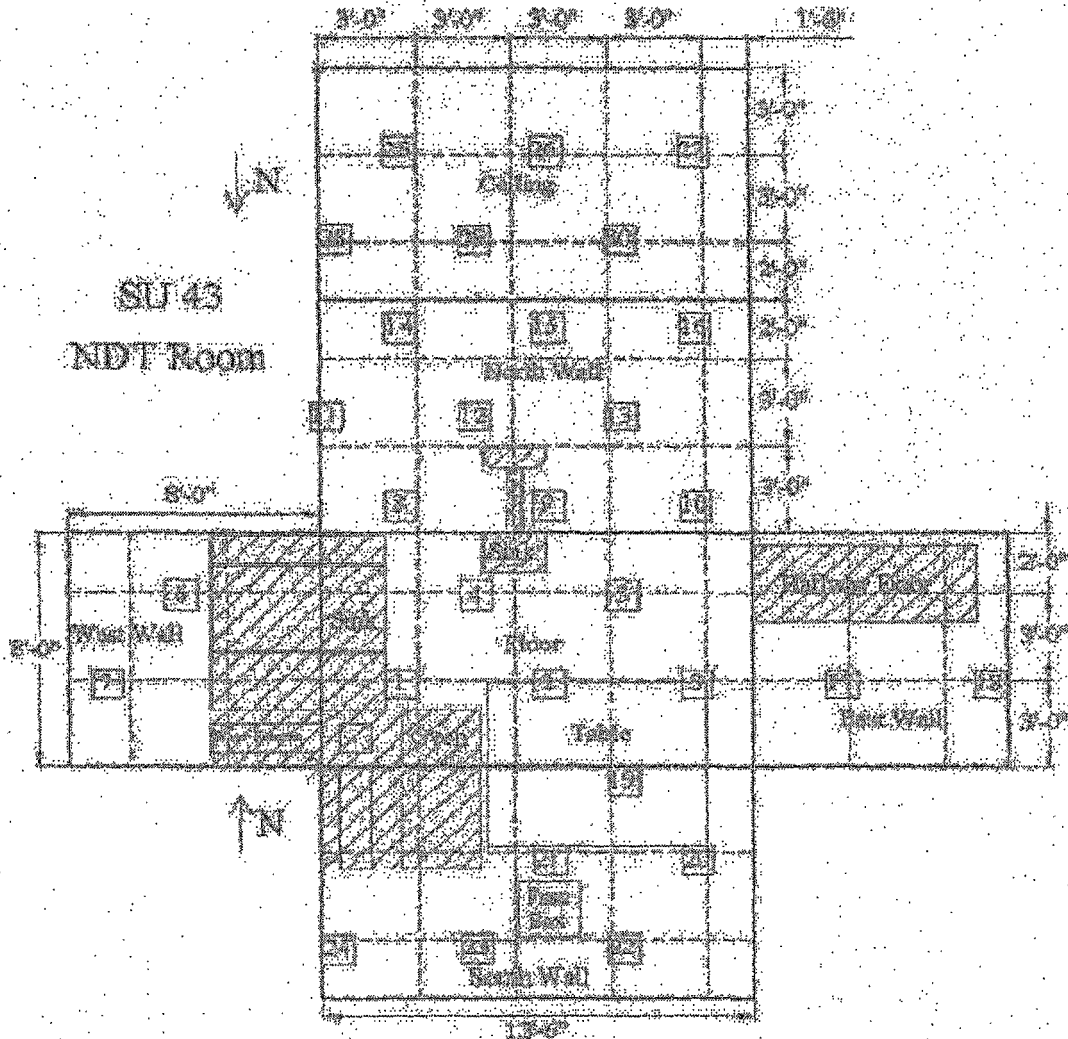
Technician/Signature: *[Signature]* Date: 10/21/04 NSA: *[Signature]*

Project Manager: *[Signature]* Client Review: NSA: *[Signature]*

Exhibit C
Radiological Survey Report Form

Description: Characterization Survey - Survey Unit 43
Date: 10/21/2004 Time: 1400 Survey No: CH-102104-01 RWP No: N/A

Survey Diagram



Legend: (a) Radiological (contaminated) (b) Radiological (not contaminated) (c) Radiological (not contaminated) (d) Radiological (not contaminated)

Summary: The Origin of Survey Unit (0.00, 0.00) is marked by X in the SW corner of the SU.

Inspector/Signature/Date: DSB 10/21/04 N/A
Project Review: Robert M. V. 10/21/04 Character Review: N/A

Exhibit A

Radiological Survey Report Form

Page 1 of 3

Description: Characterization Survey - Survey Unit 44 (Dross Storage Room)										
Date: 10/22/2004	Time: 0845	Survey No: CR-101204.01	RWP No: N/A							
Purpose of Survey (For Release Surveys include Recipient): Static Measurements in SUI 44										
Instrument Data										
Detector Type	Detector SN	Detector Cal Due	Probe Type	Model SN	Model Cal Due	Scalibration	Range (cpm)	Conversion Factor	MDA (dpm)	
4510-1	19139134	02/08/05	3000	190613	02/08/05	+	0-32	1.5	34	
45-93	19200133	02/08/05	1221	190200	02/08/05	+	0-32	1.5	34.3	
45-9	19200133	02/08/05	1221	190200	02/08/05	+	0-32	1.5	34.3	
45-9	19200133	02/08/05	1221	190200	02/08/05	+	0-32	1.5	34.3	
N/A	N/A	N/A	Model 19	3000	02/08/05	Exposure	N/A	N/A	N/A	
Survey Results		Sample Results				Direct Readings				
Sample Number	Description/Remarks	Gross Count/100 cm ²	Net Count/100 cm ²	Gross Count/100 cm ²	Net Count/100 cm ²	Gross Count/100 cm ²	Net Count/100 cm ²	Gross Count/100 cm ²	Net Count/100 cm ²	Remarks
1	Sample Location (see Map)	30	96			340	1787	2053	929	N/A
2		12	33			125	685	784	1831	
3		12	33			275	1431	1644	2331	
4		98	136			313	1621	1993	3198	
5		33	99			441	1311	1803	3614	
6		13	36			173	875	803	1814	
7		43	127			314	2305	1766	4317	
8		30	96			404	2373	929	1971	
9		33	99			199	967	1000	1439	
10						27	130	675	1257	
11						51	97	337	310	
12						24	59	375	328	
13						21	43	343	228	
14						16	16	313	138	
15						17	22	292	76	
Remarks: Field Backgrounds for 45-93 performed on 10/22/04. Some of which were 8" in diameter, others were 2" in diameter.										
N/A = No Count/100 cm ² (See Note 1)										
Technician(s) Signature/Date: [Signature] 10/22/04										
Range Review: [Signature] 10/22/04										

Exhibit B
 Radiological Survey Report Form

Description: Characterization Survey - Survey Unit 44 (Dress Storage Room)										
Date: 10/22/2004		Time: 0845		Survey No: CH-101204-01		RWE No: N/A				
Survey Results		Integrable Results				Direct Readings				
Sample Number	Description/Remarks	Gross Rate/100-cm ²	Net Rate/100-cm ²	Gross Rate/100-cm ²	Net Rate/100-cm ²	Gross Count	Net Count	Gross Count	Net Count	Exposure Rate, mR/hr
16	Sample Locations (see map)	2	3	N/A	N/A	37	22	31	13	
17						32	49	374	21	
18						16	16	270	7	
19						15	16	353	113	
20						25	85	320	119	
21						18	5	357	270	
22						17	22	371	372	
23						18	27	449	546	
24						24	25	333	259	
25		16	81			73	347	322	745	
26		12	25		N/A	75	352	326	897	
27		22	110			175	373	1328	3212	N/A
28						18	81	318	733	
29						14	5	464	591	
30						23	34	453	353	
31	Duplicate Count for #1					243	223	1794	431	
32	Duplicate Count for #14					19	5	329	186	
33	Duplicate Count for #29					21	42	603	708	
34										
35										
36	N/A									
37										
38										
39										

Remarks: Field Backgrounds for 43-92 generated on 10/22/04. Rooms of walls above 3' indicate activity less than 25 Bq/l. w/ 14-5.

Radiologist (Signature) / Date: [Signature] / 10/22/04

Program Review: [Signature] / 10/22/04

Exhibit C
 Radiological Survey Report Form

Page 3 of 3

Description: Characterization Survey - Survey Unit #4 (Dress Storage Room)			
Date: 10/22/2004	Time: 0845	Survey No: CH-102704.01	RWP No: N/A

Survey Diagram

Legend: (1) Fixed Reference Location — Exposure Lines (meters) - - - Perimeter Area Boundary

Remarks: The Origin of Survey Unit #4 at NS-RSP is marked by X in the SW corner of the SU.

Technician(s) Signature / Date: <i>[Signature]</i> 10/22/04	N/A	1
Principal Review: <i>[Signature]</i> 10/22/04	N/A	1

Appendix C

Scanning Survey Results

Attached within this appendix are the results of scanning surveys performed in Buildings 5, 7, and 8. These are copies of the actual field survey performed with a 43-37 gas proportional floor scanner, and as such are not in units of activity. The numbers recorded on the field survey forms are for 30-second counts. Each one of these 30-second counts corresponds to a 10 ft x 1.5 ft area scanned at 4 feet per second. This scan speed was developed to ensure that the minimum detectable activity levels remained below 200 dpm/100 cm². The efficiency of the 43-37 was approximately 28% for alpha and 24% for beta emissions. The active probe area is 582 cm². A summary of the daily backgrounds is listed below.

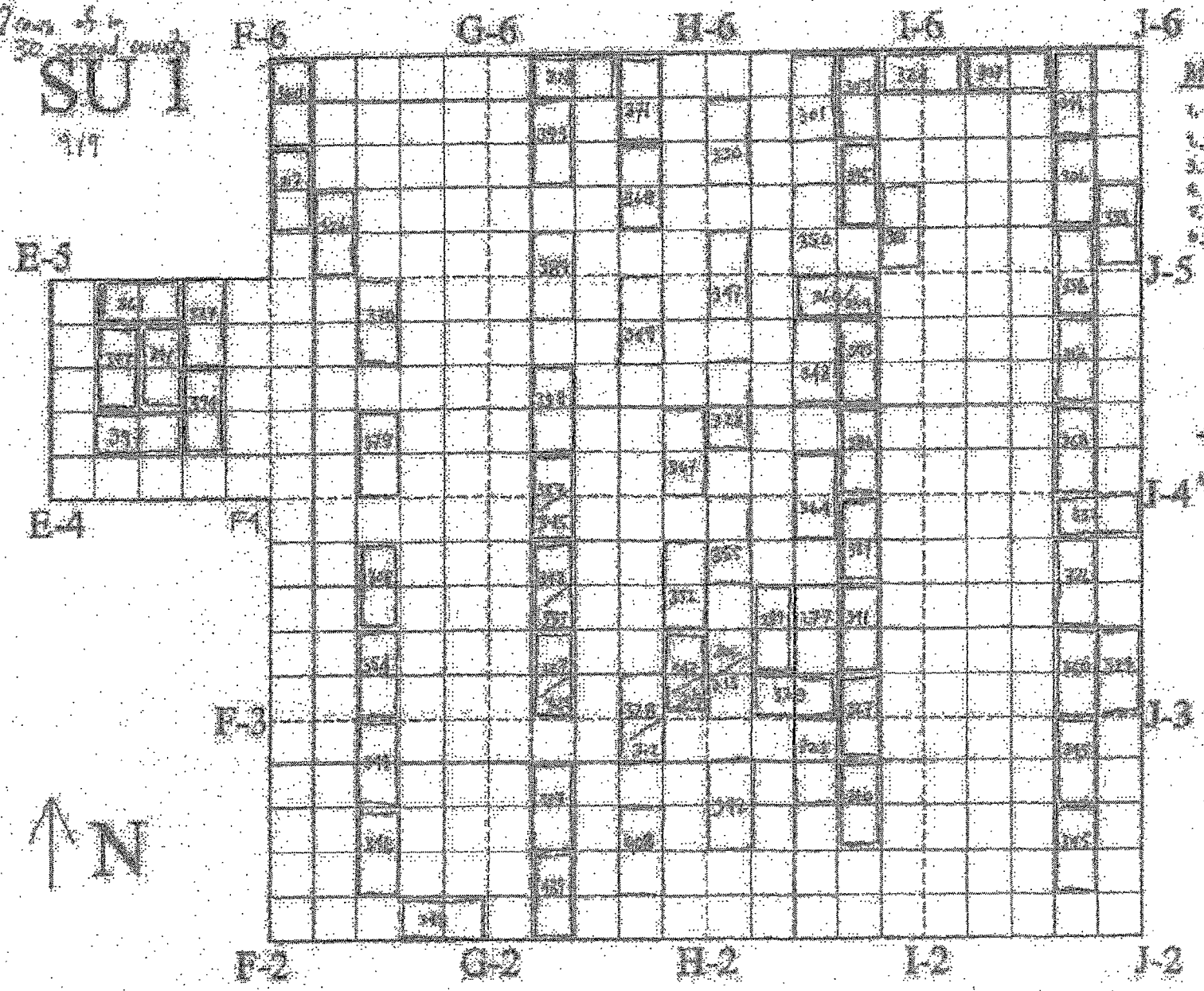
Date	Background
9/9/2004	706
9/10/2004	776
9/13/2004	695
9/14/2004	712
9/15/2004	721
9/16/2004	728
9/17/2004	793
9/20/2004	704

Date	Background
9/21/2004	701
9/29/2004	690
10/4/2004	664
10/6/2004	581
10/7/2004	641
10/8/2004	636
10/21/2004	458
10/22/2004	444

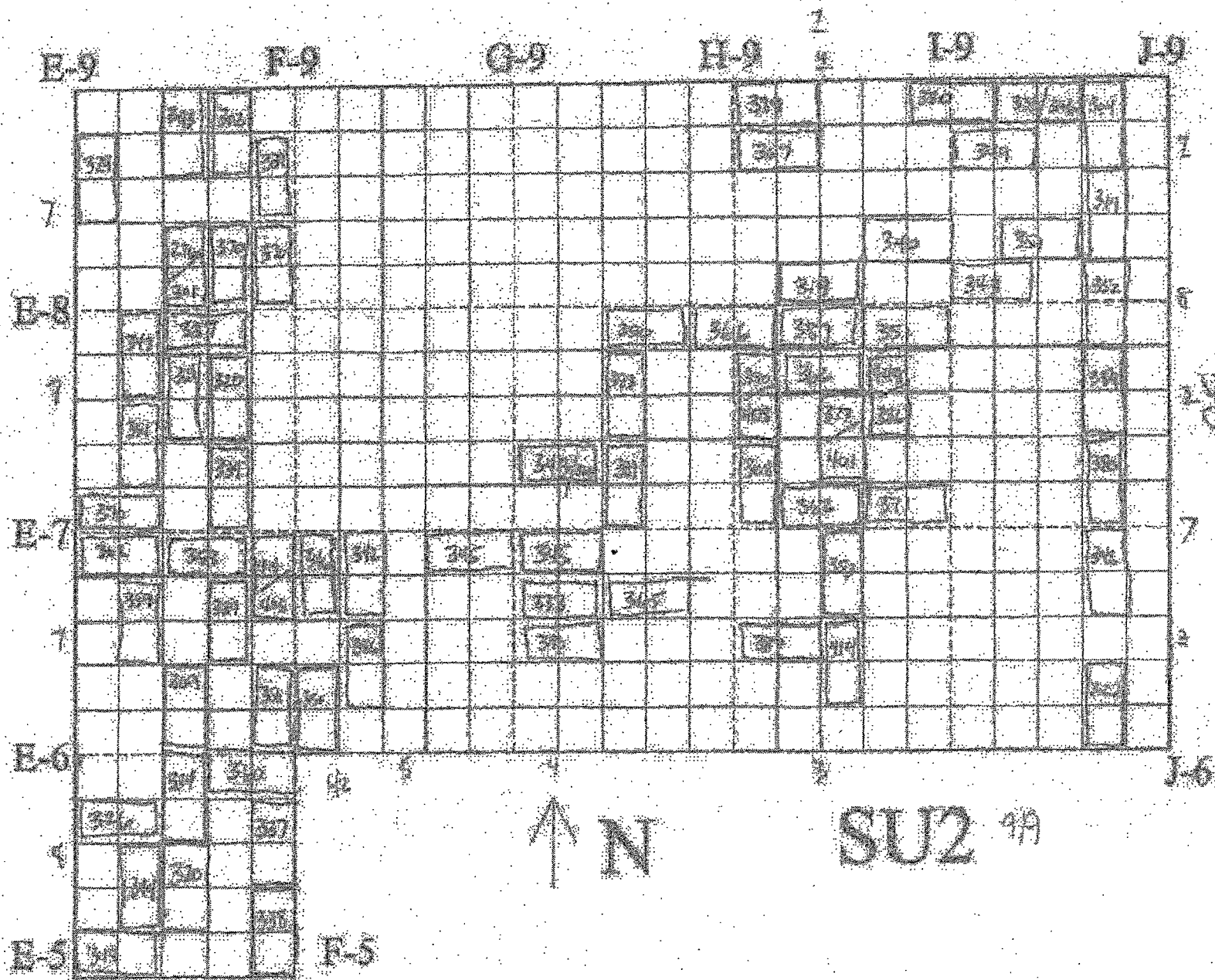
Table C-1
Daily Backgrounds of the 43-37 Floor Scanner

9

70 in Building
7000 ft
32 ft
SU 1
9/7



10/11/01
10/11/01
10/11/01



OSU 49.04

8-11

J-10

N-10

139

14-8

145

16



14-00000

400

41

B-13

B-12

B-11

B-10

Discussion

Figure 1

1000

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

62

1095

END

RD

NEW CONCRETE 6 EQ sep 10

9.1001

73

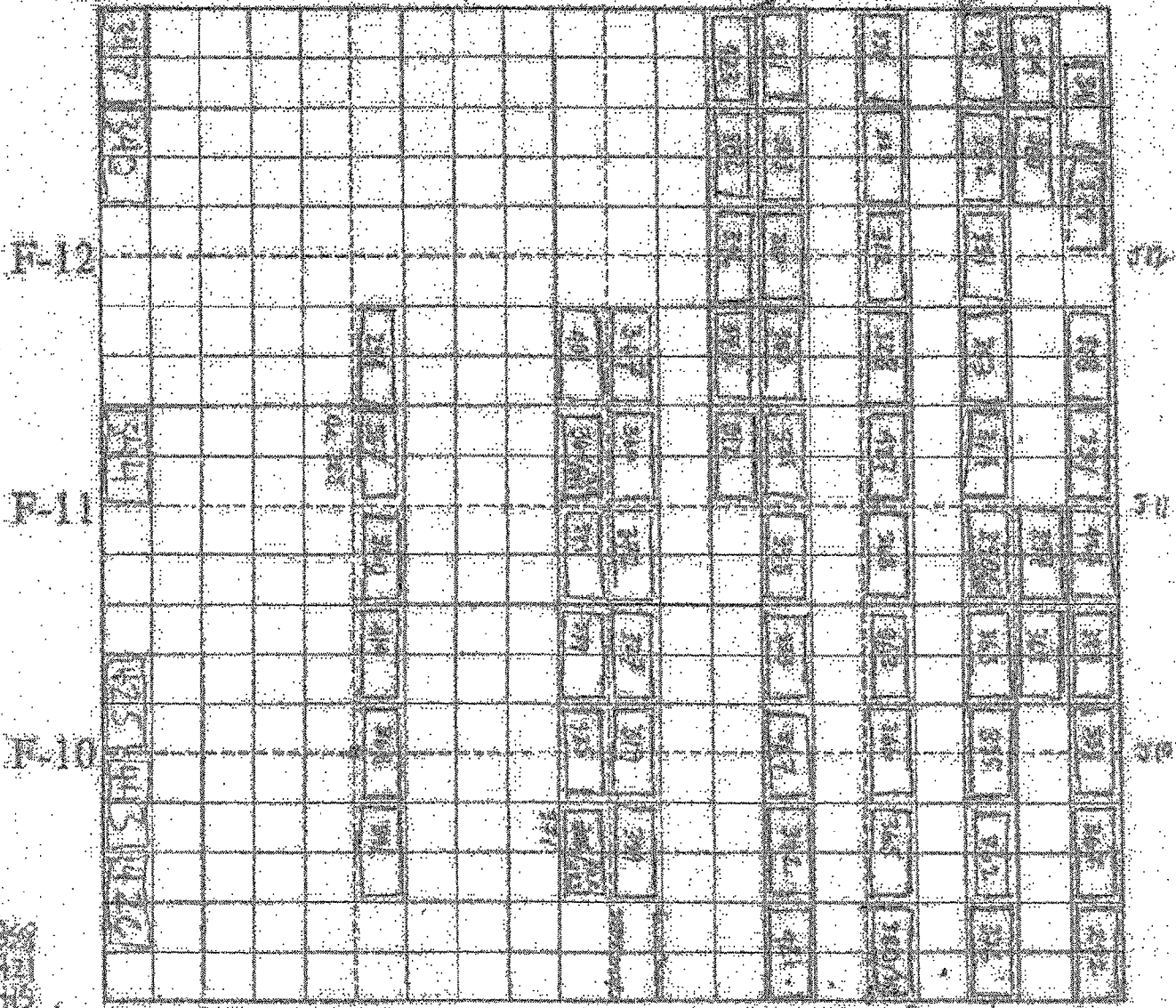
8 4 2

SU 5 410



F-13

J-13



675
712
91
755
643
677

DSU
C. 1000

675
712
91
755
643
677

SU 6 913



L-15

N-15

J-14

I-13

I-12

J-11

I-10

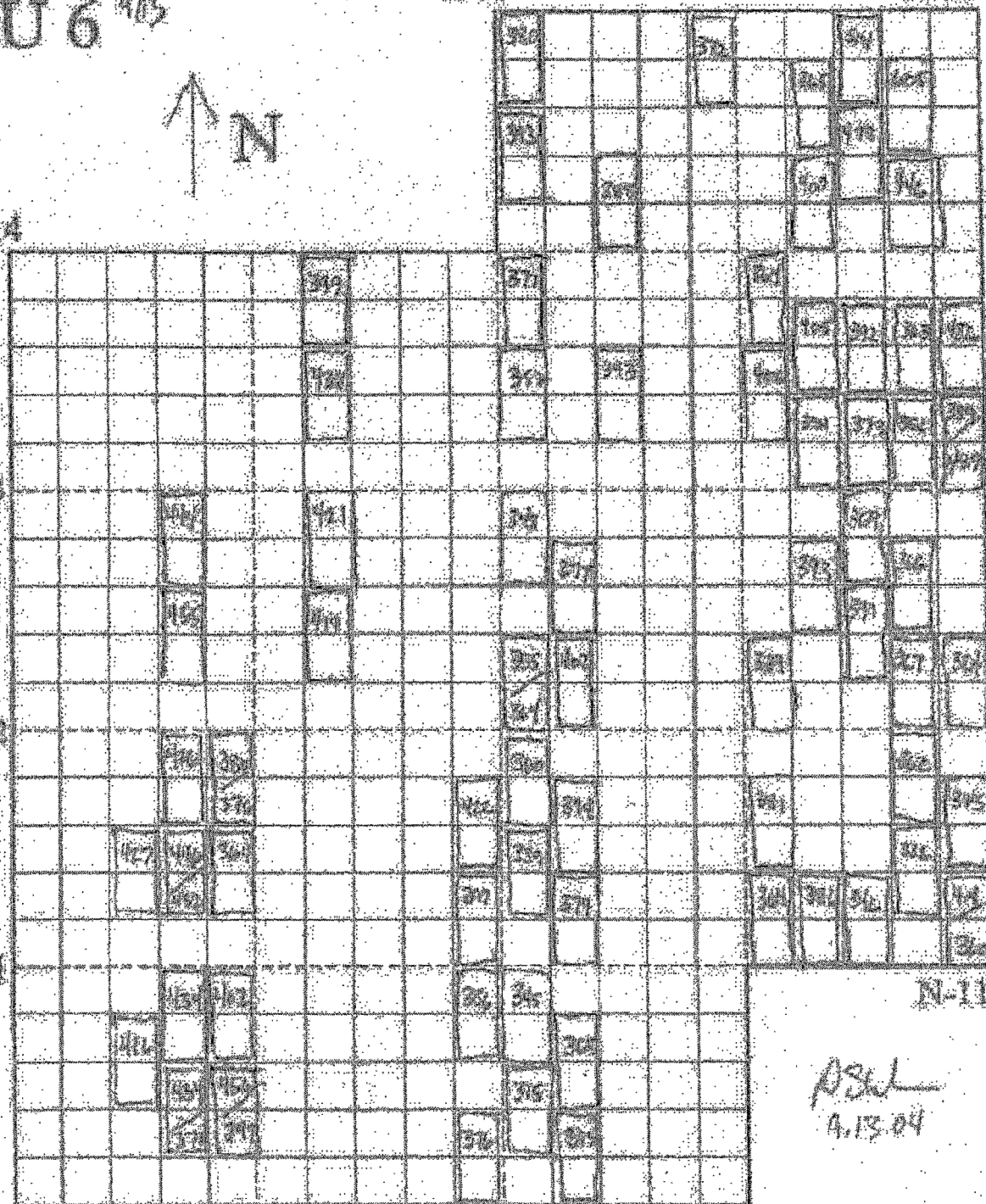
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L-10

M-10

N-11

PSL
4.13.04



17

↑ N

415

SU 7

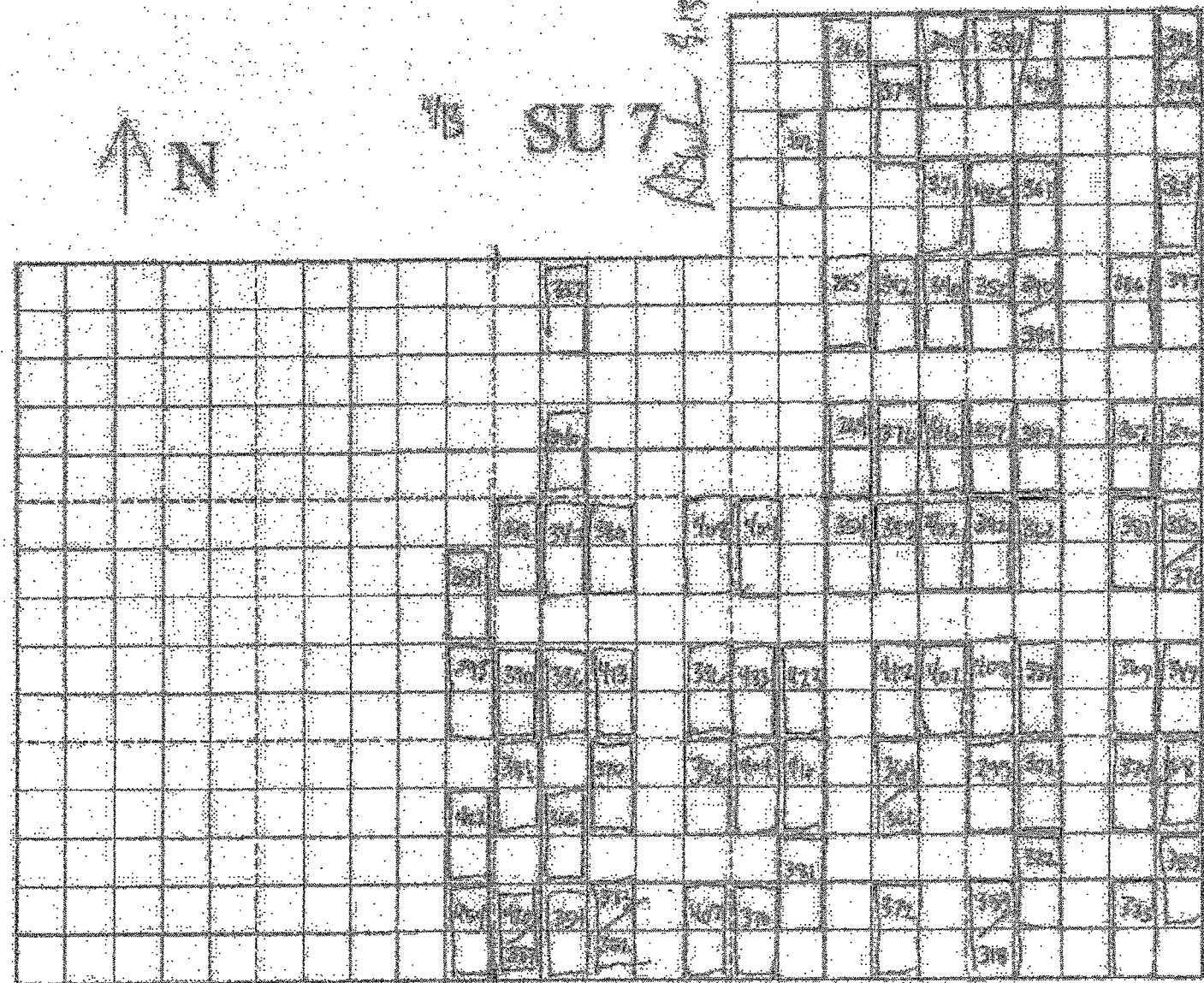
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15

14

13



E F G H I J

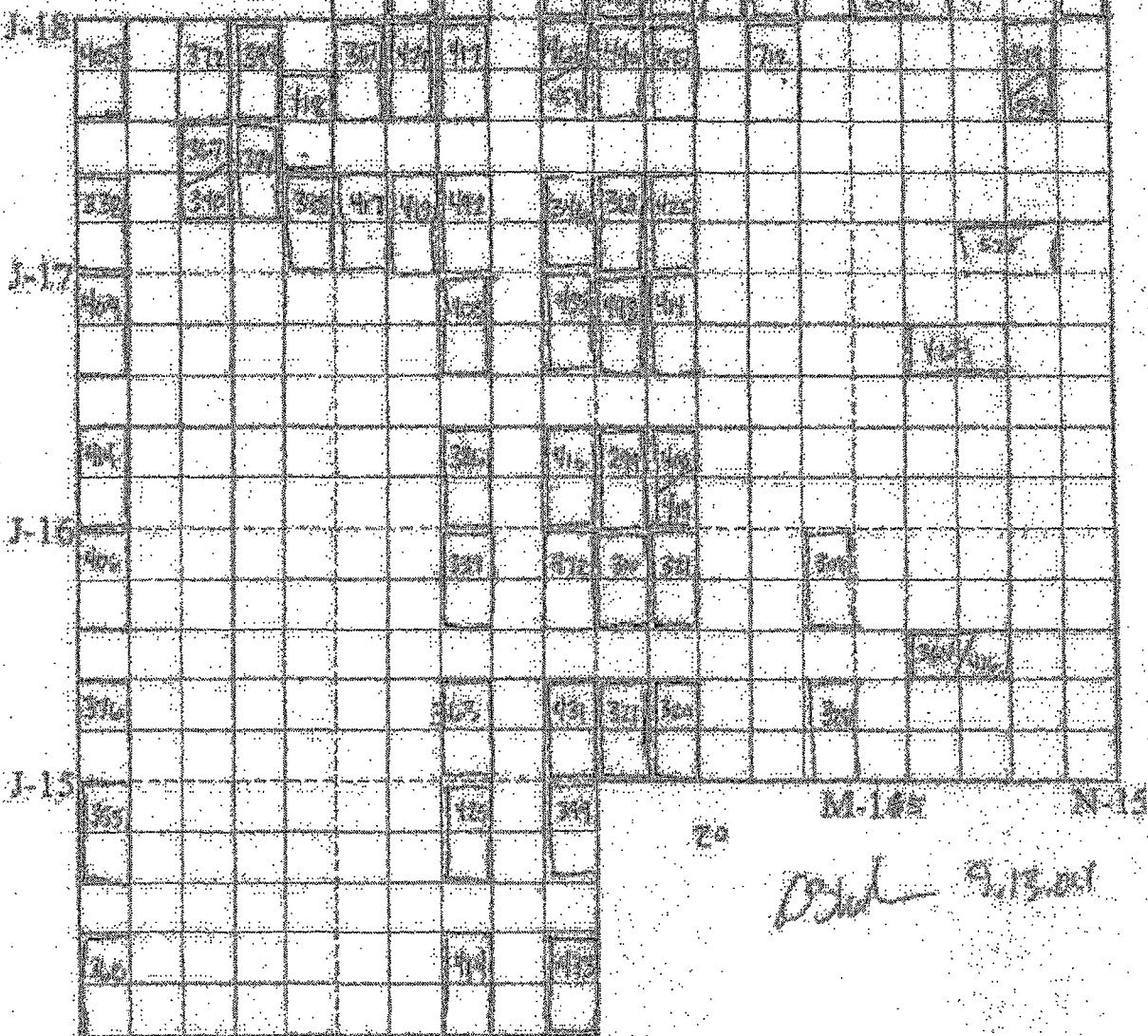
SU 8

K-19

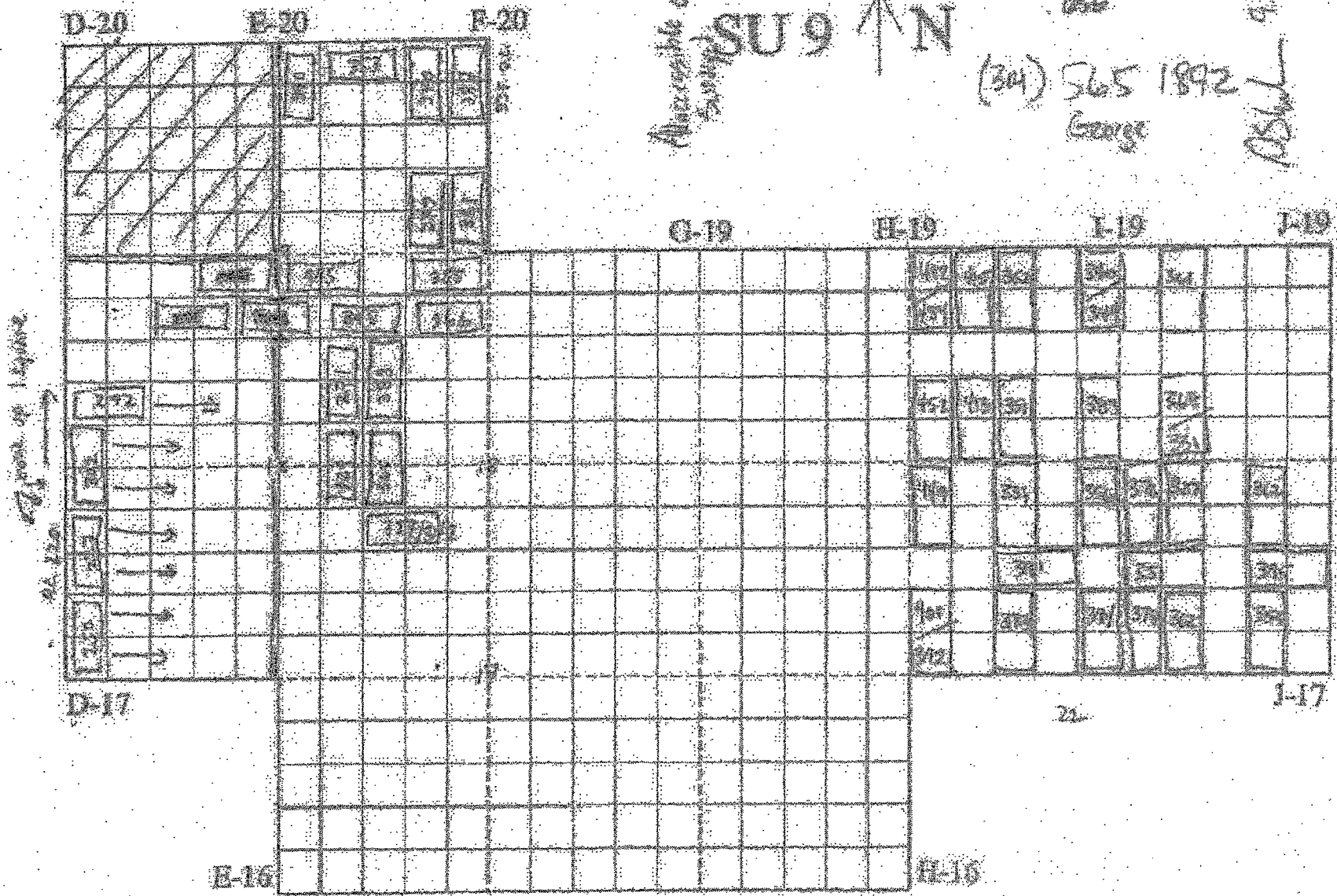
48°

N-19

↑ N



DBJ 9.13.01



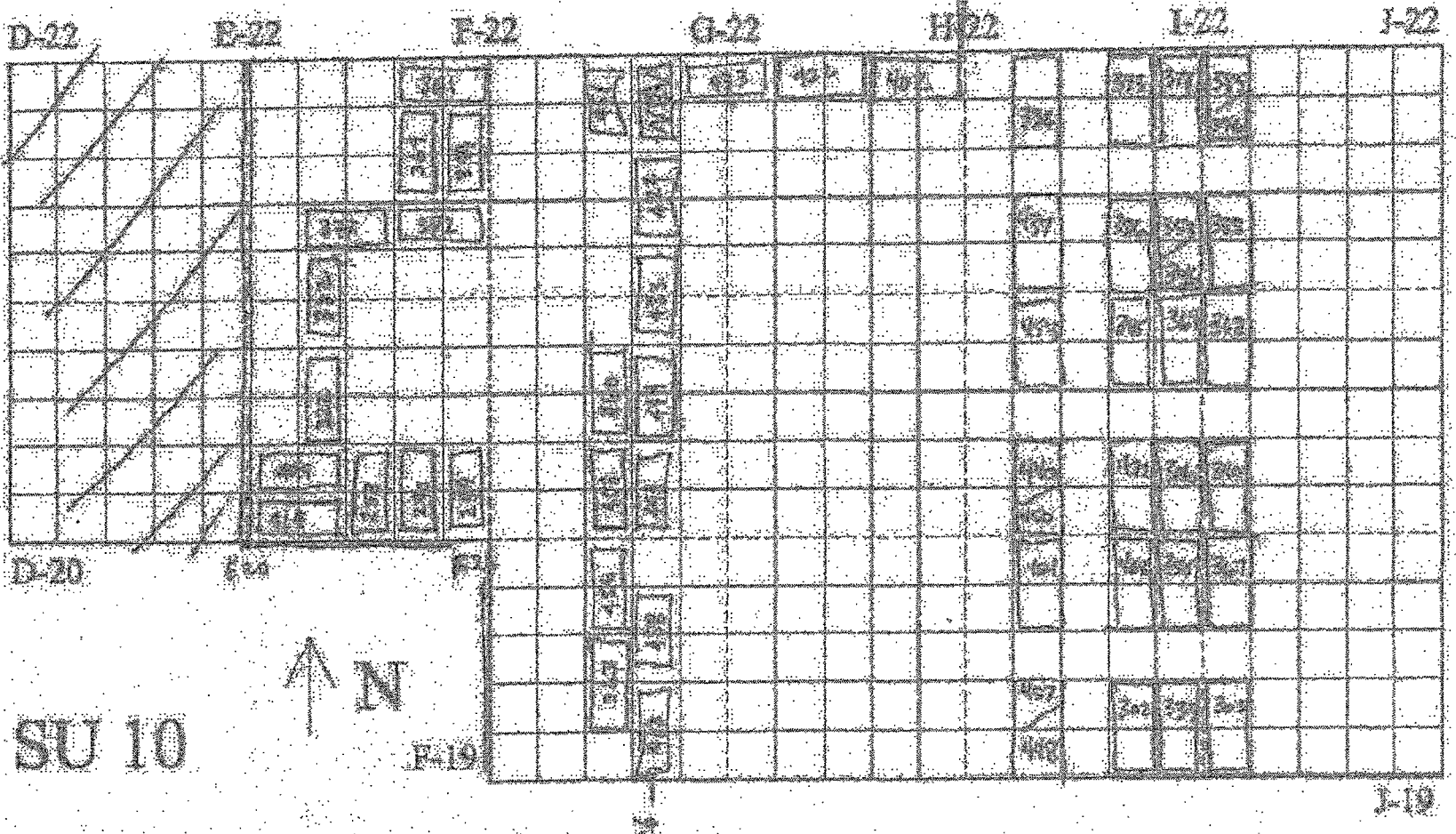
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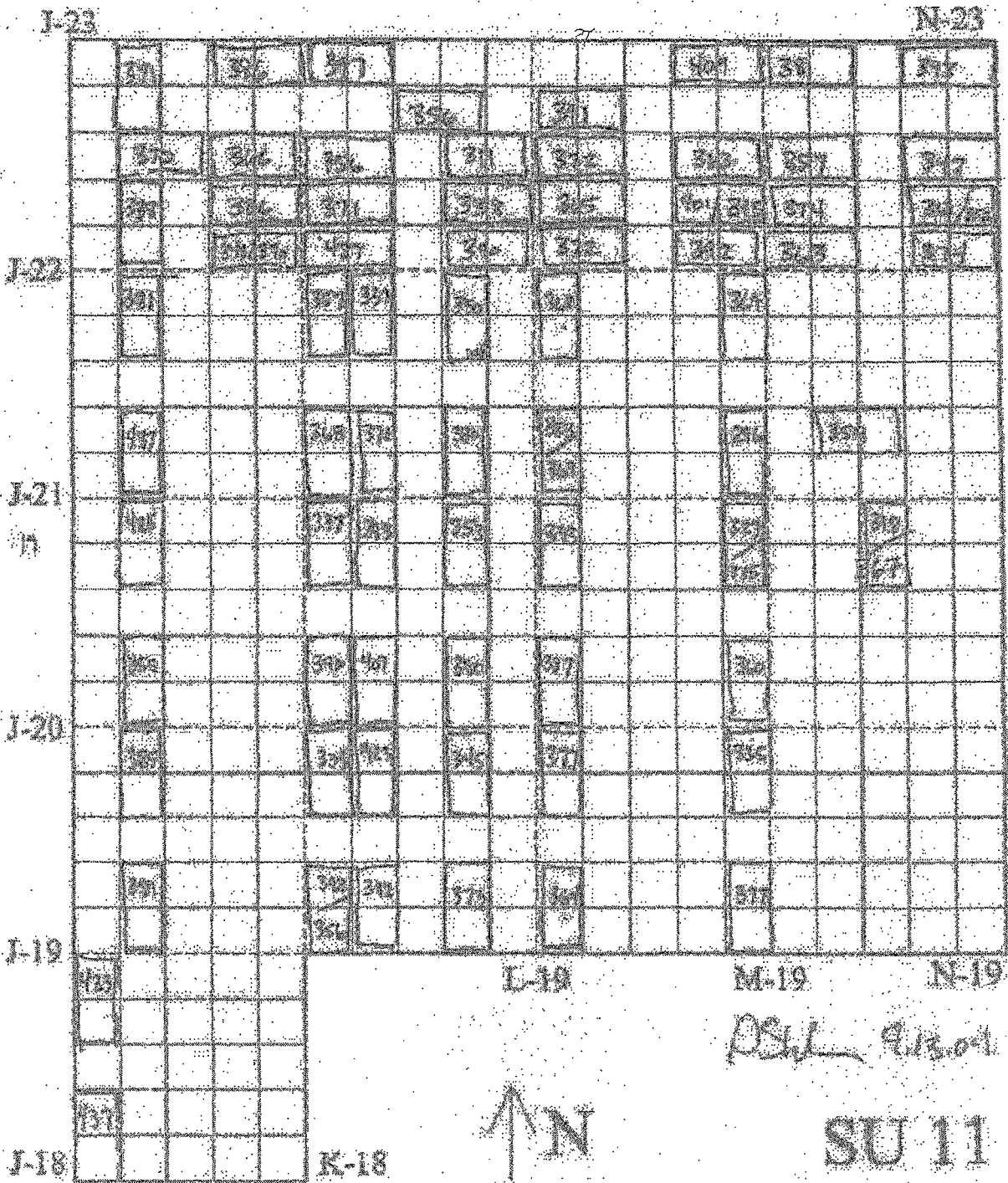
All accessible
spots
sampled

9.14.04

Asch

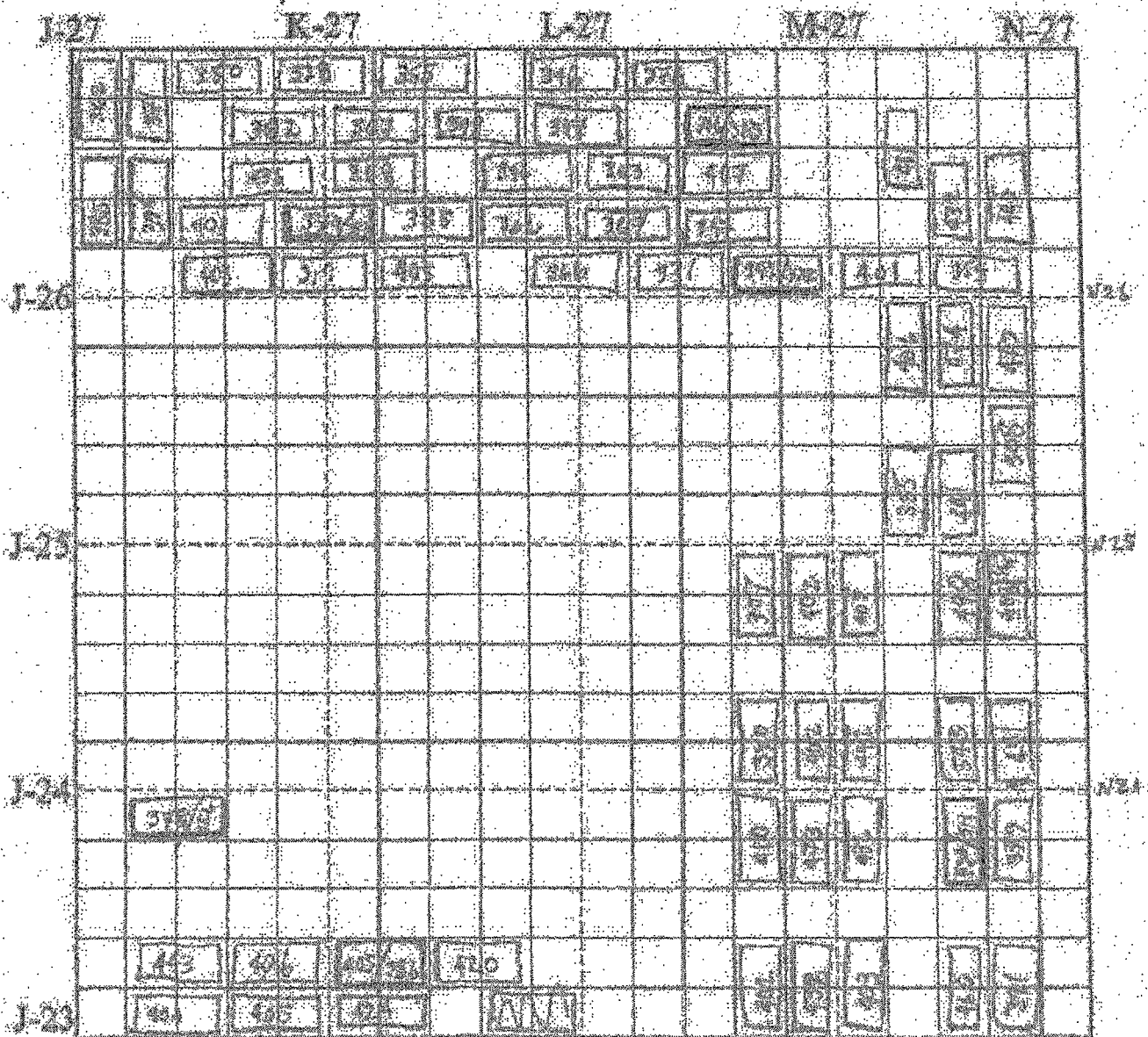
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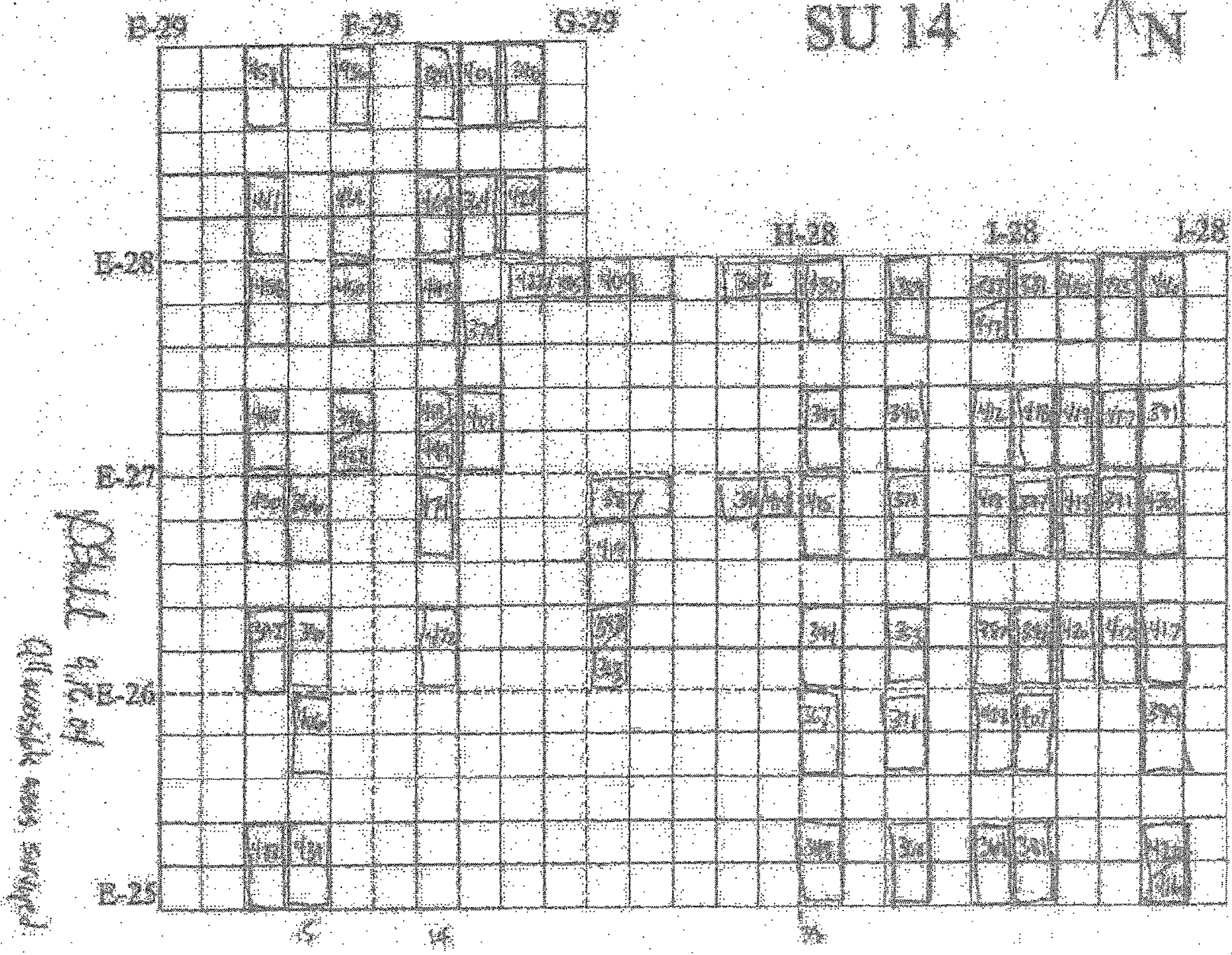
SU 13



BSH 9.16.04
All assembly areas surveyed

4/16

SU 14





0-32

References

13

SU 15

END

1990

13-29

129

G-28

1230

9.17.04

SU 16



L-32

M-32

J-31

K-31

27

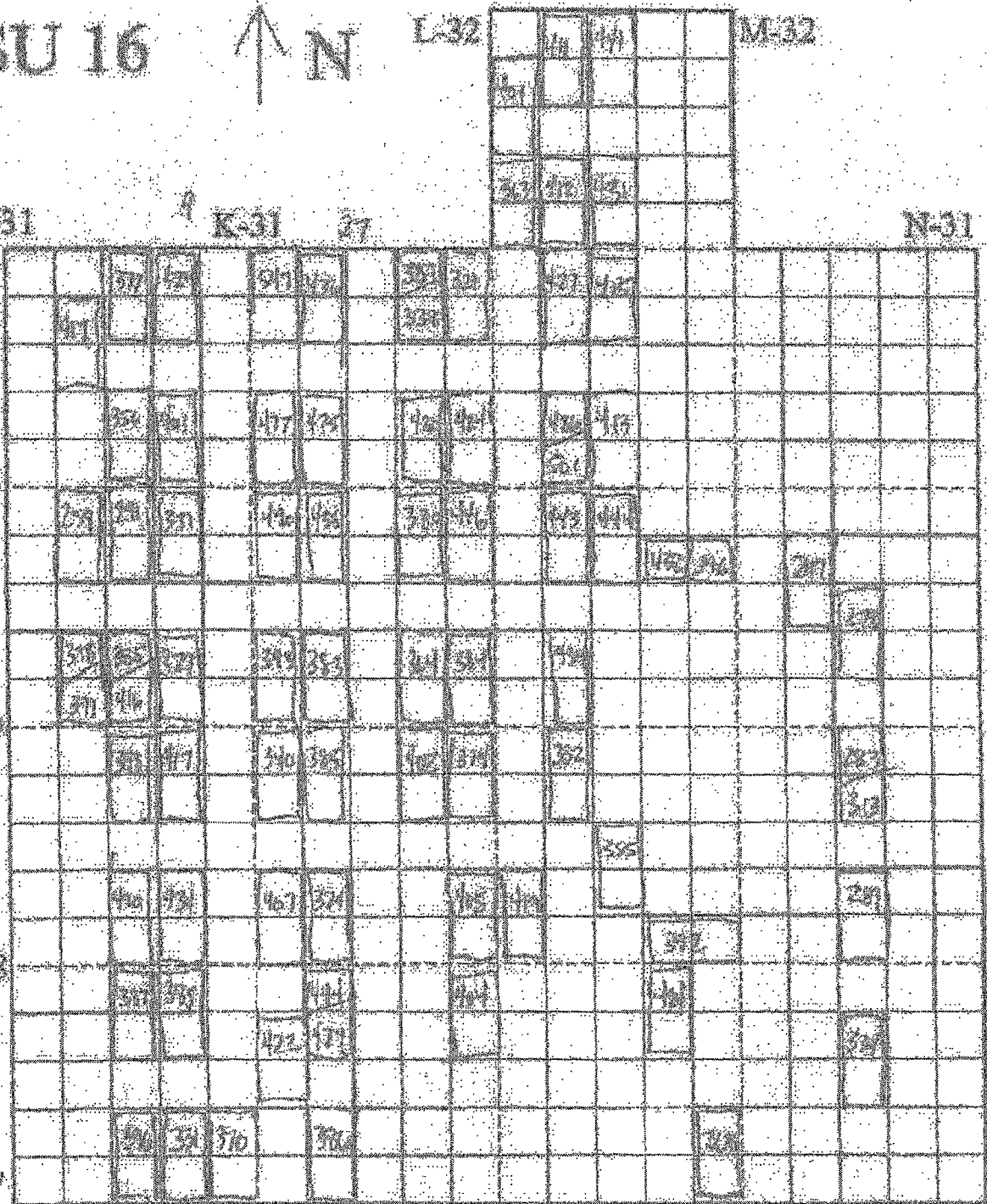
N-31

J-30

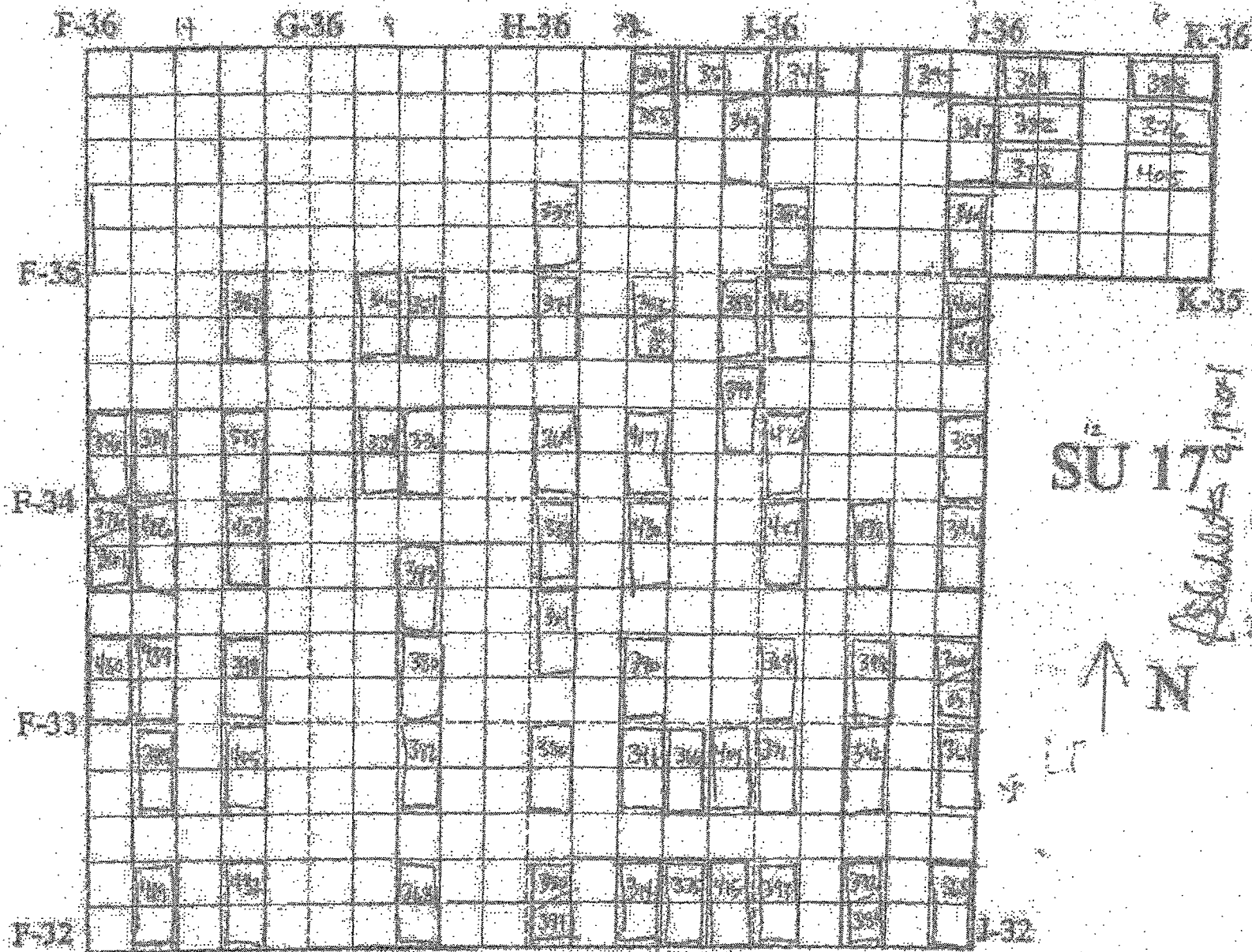
J-29

I-28

J-27

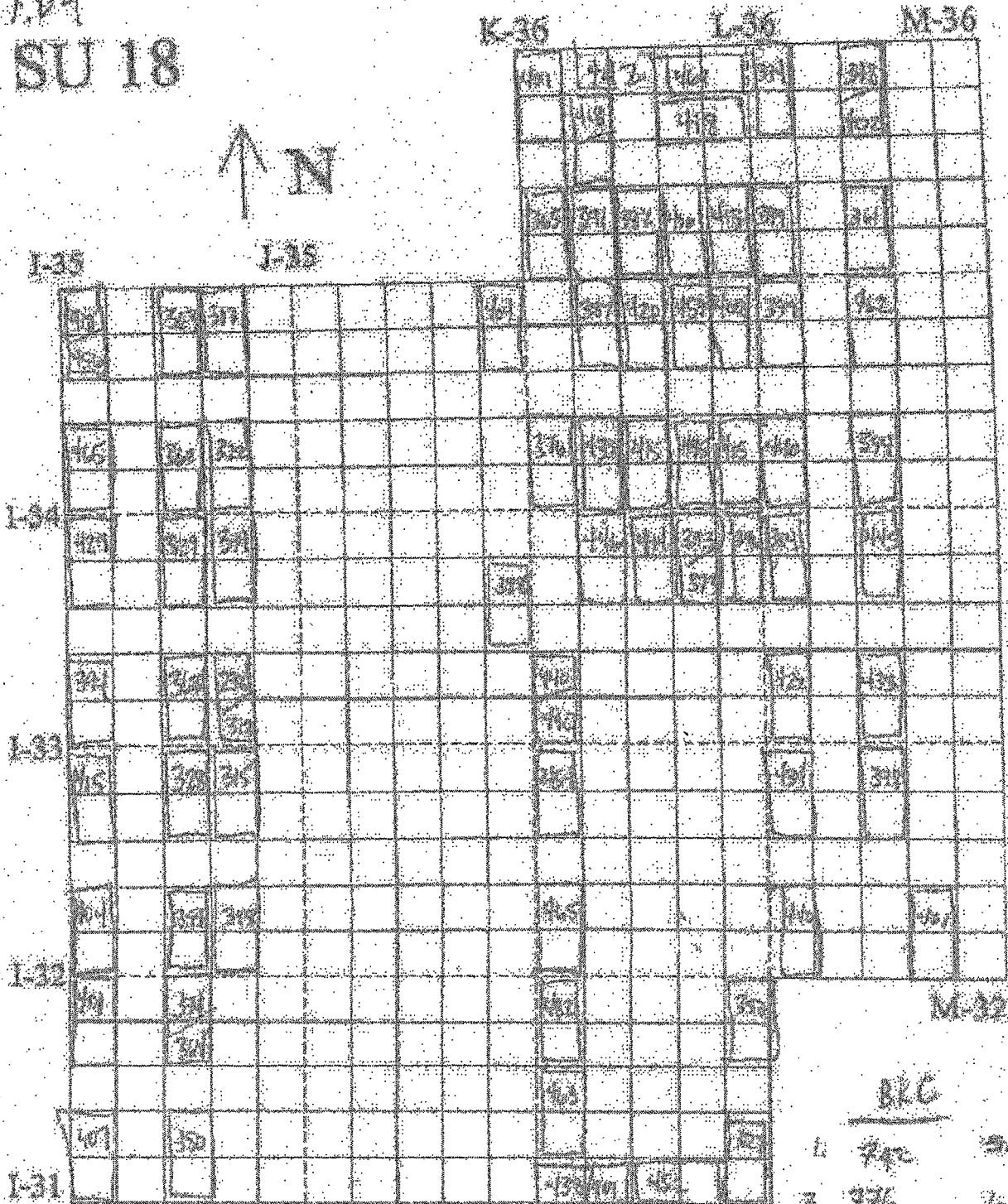


19
all accessible areas surveyed.



9.17.04

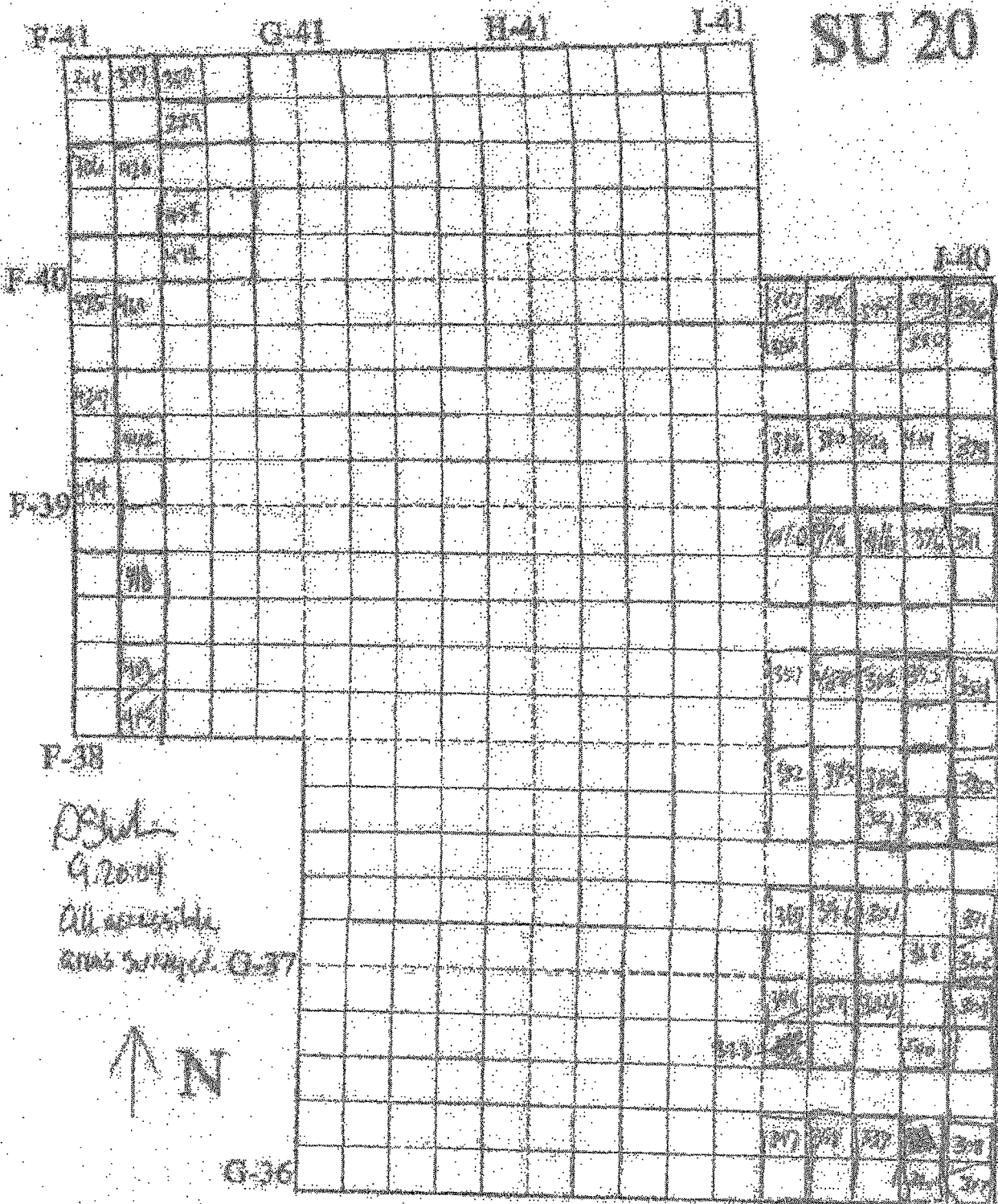
SU 18



9.17.04
 All possible areas
 covered

BKC

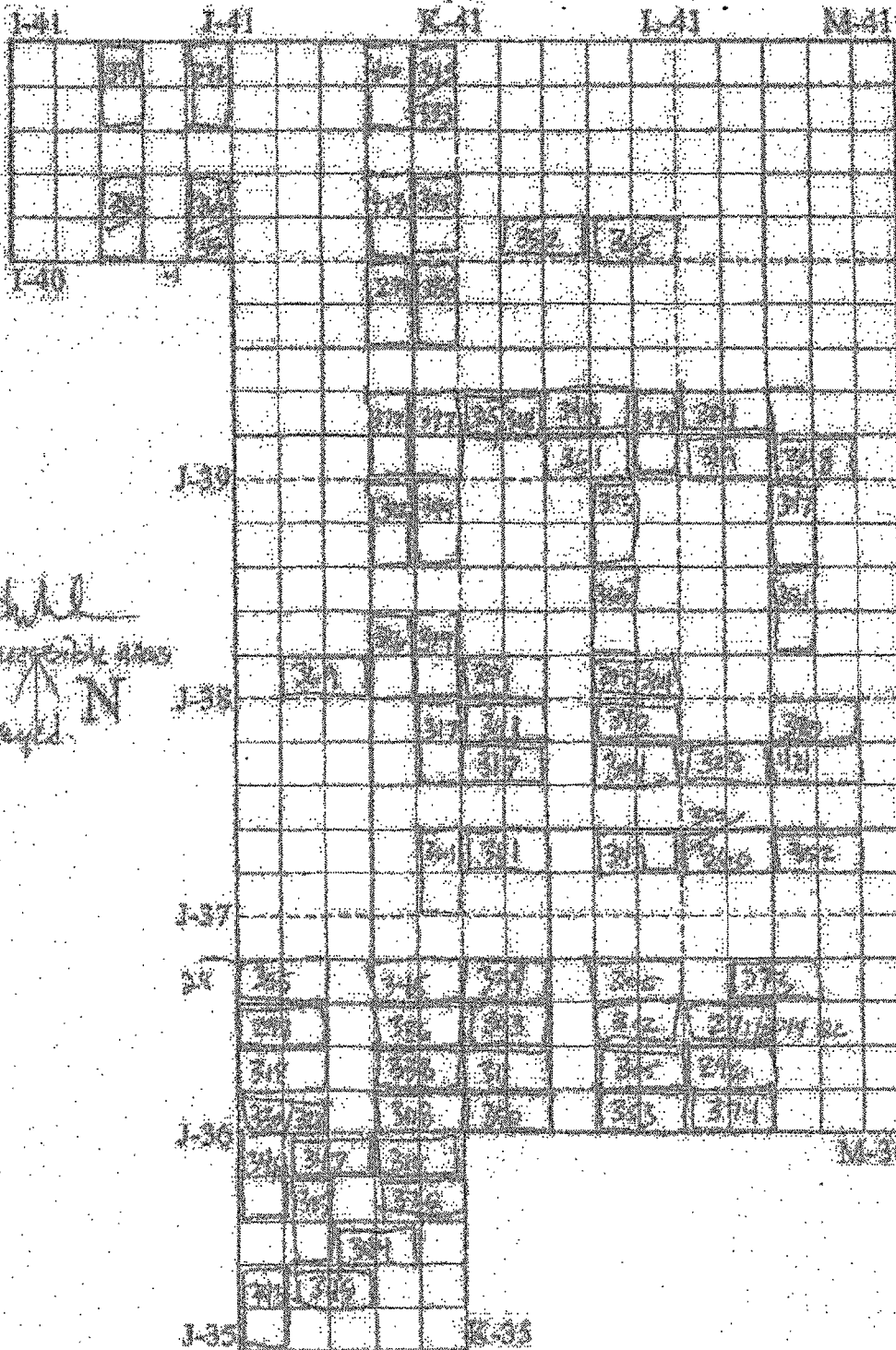
- 1. 742 5. 711
- 2. 776 6. 745
- 3. 812
- 4. 776

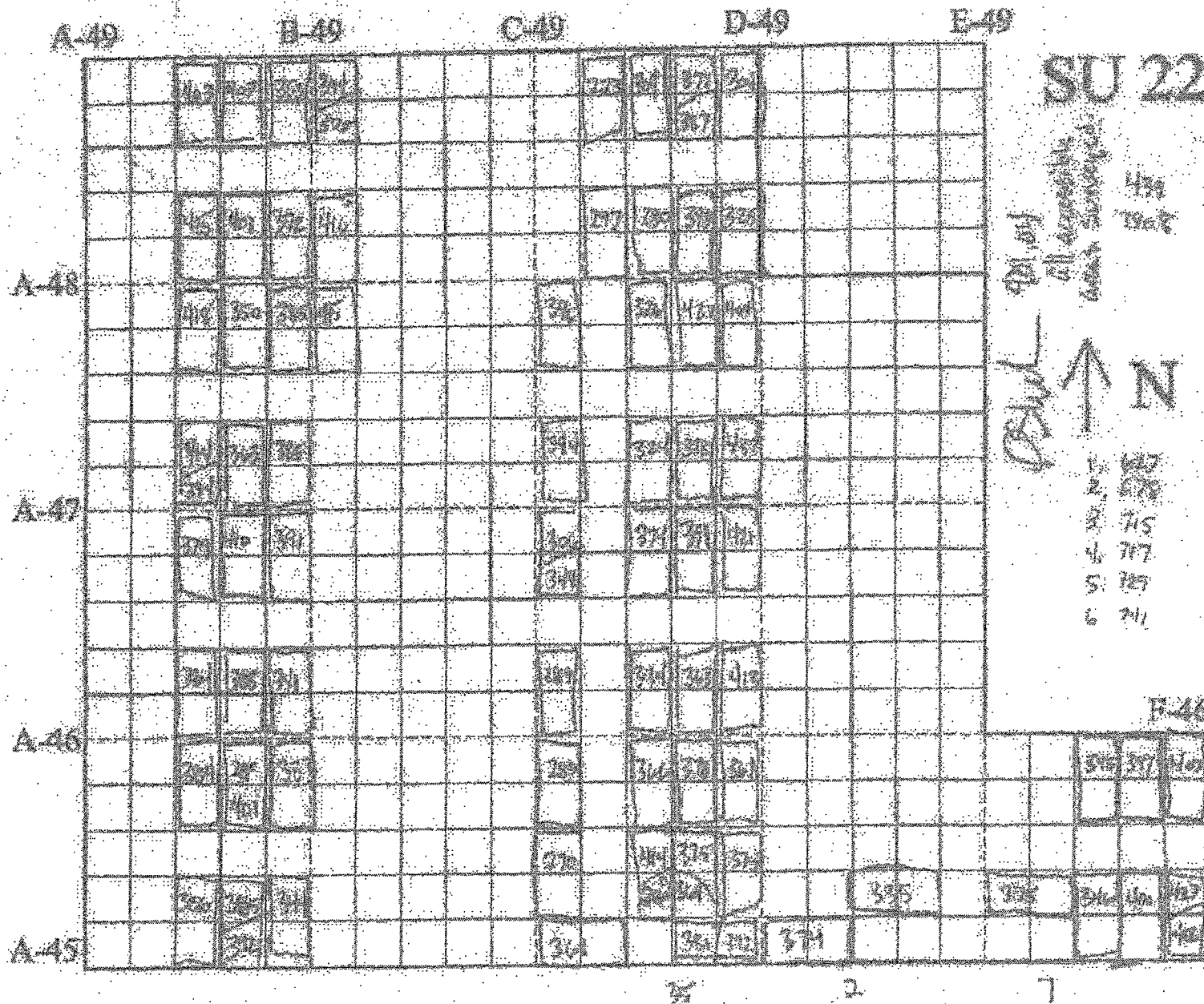


SU 21

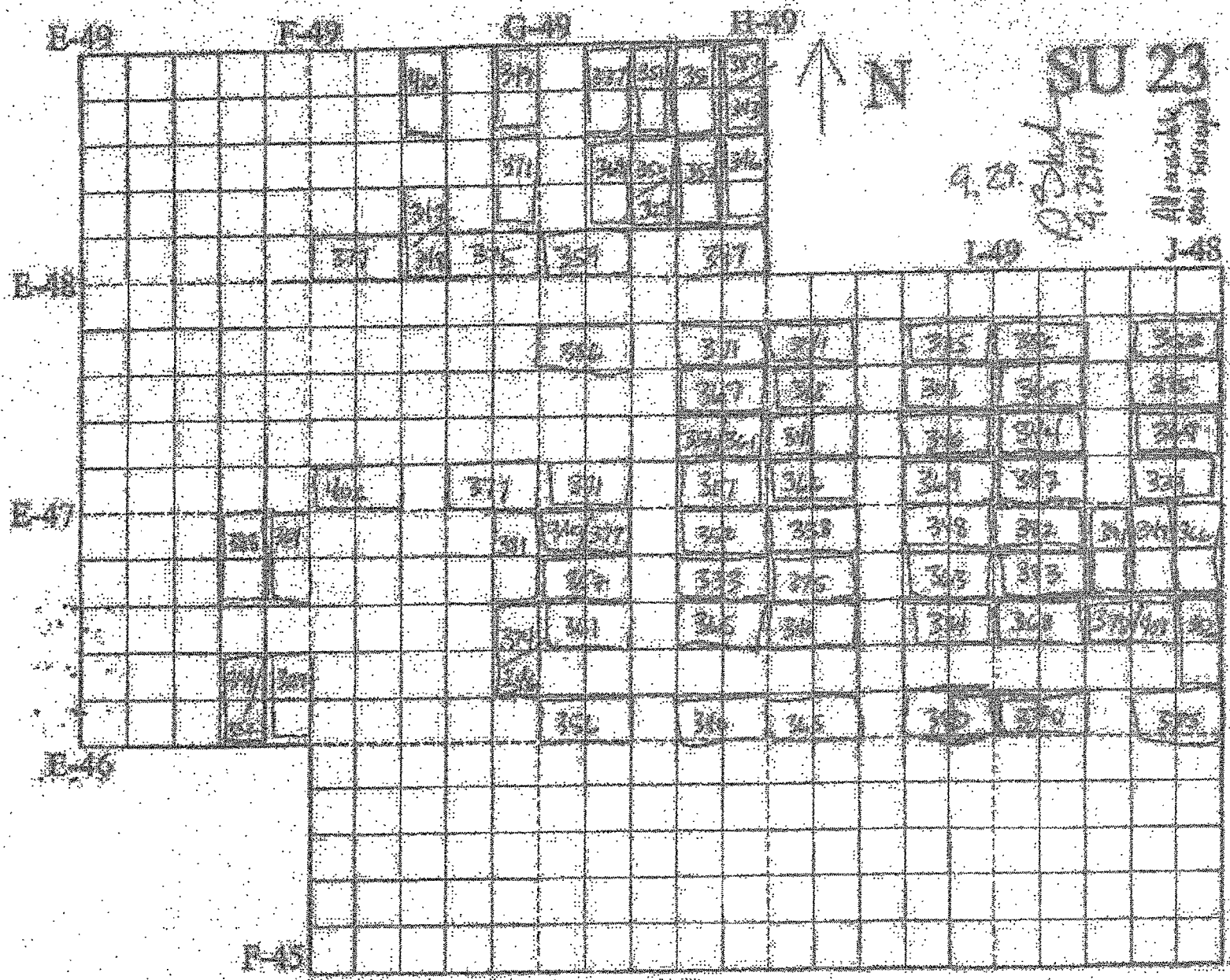
9.2004

1675





1 2 3 4 5 6
 702 207 22 221 225 22



SU 23

9.23

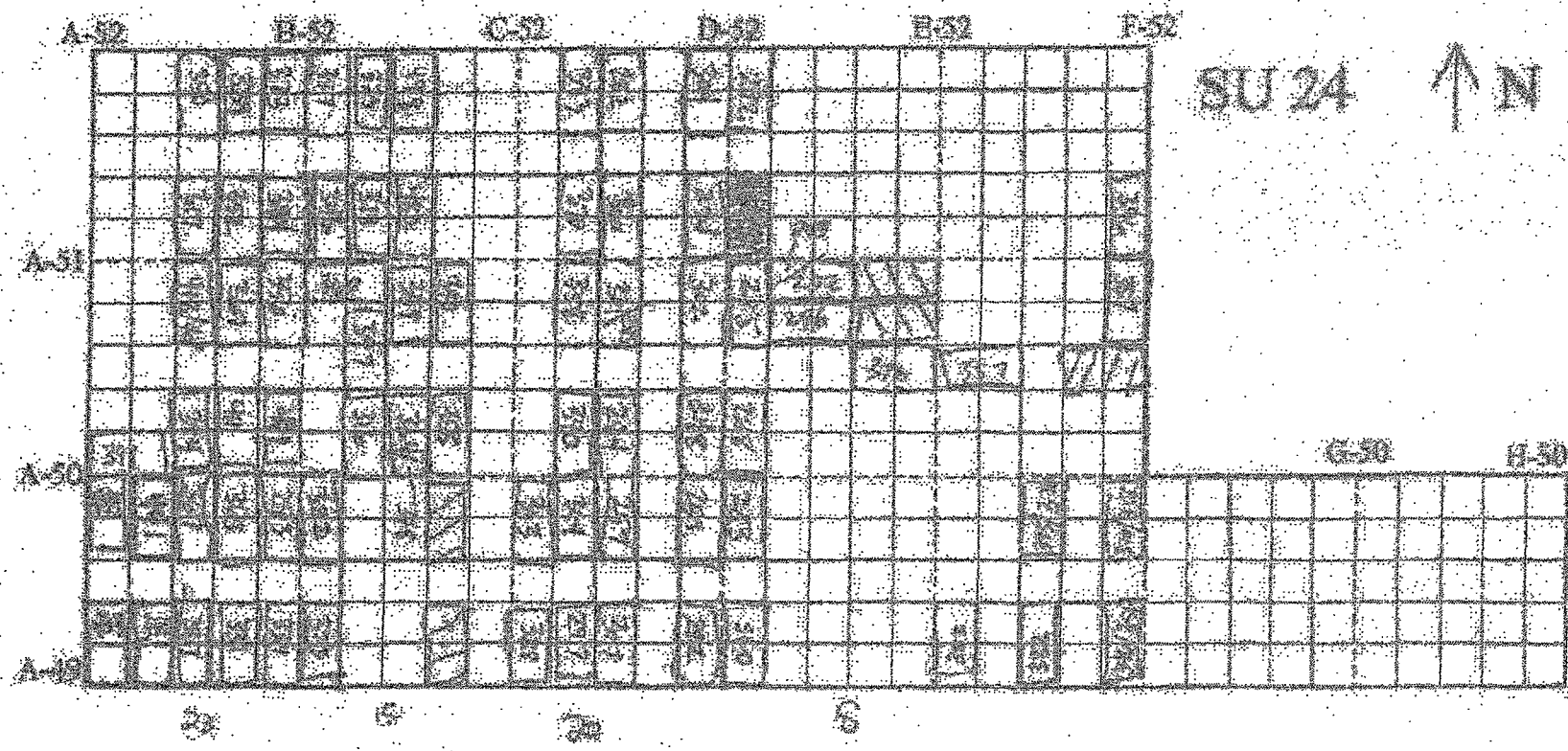
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Handwritten notes and signatures.

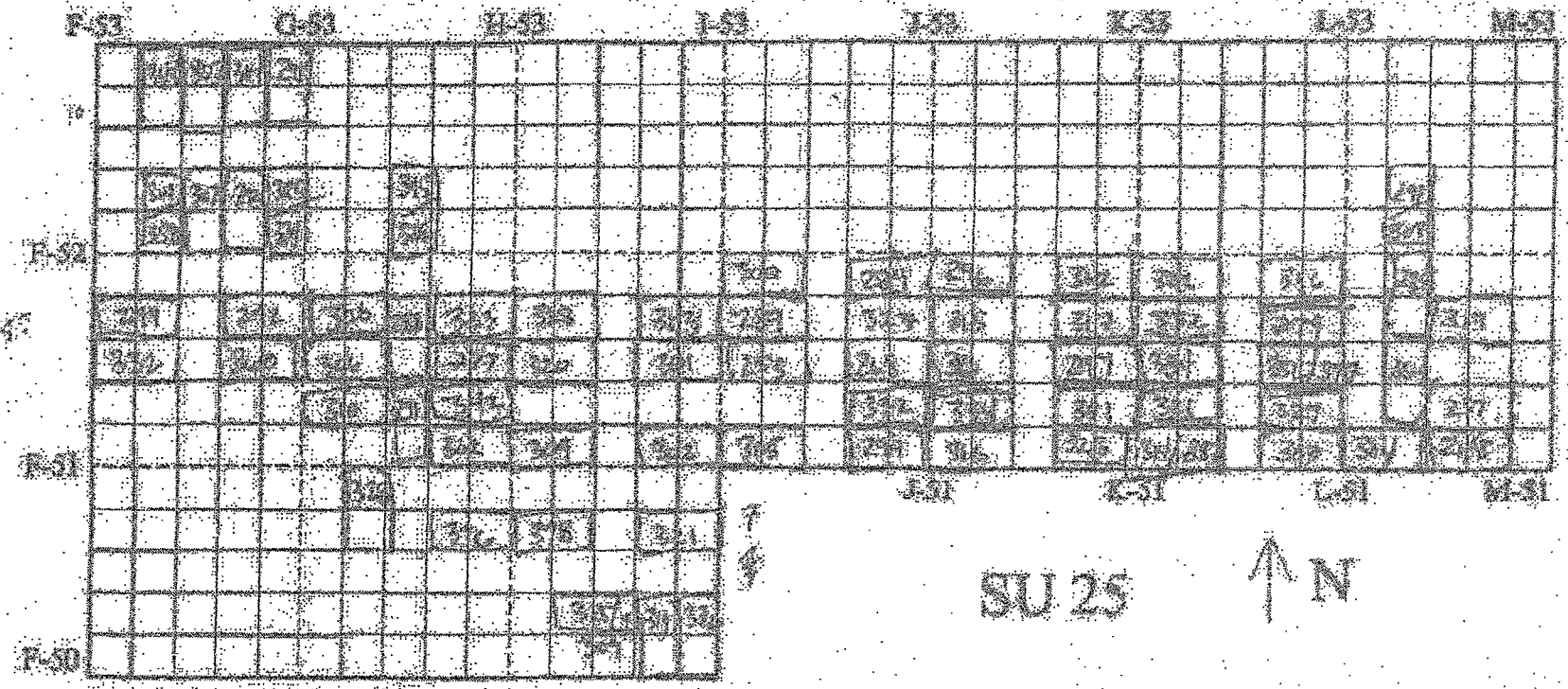
24

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 11/12/50
 1000000 3000



1000 ft. 1000 ft. 1000 ft.
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 1000 ft. 1000 ft. 1000 ft.



SU 25



OS 141
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12

↑ N

I-51

J-51

K-51

SU 26

L-51

M-51

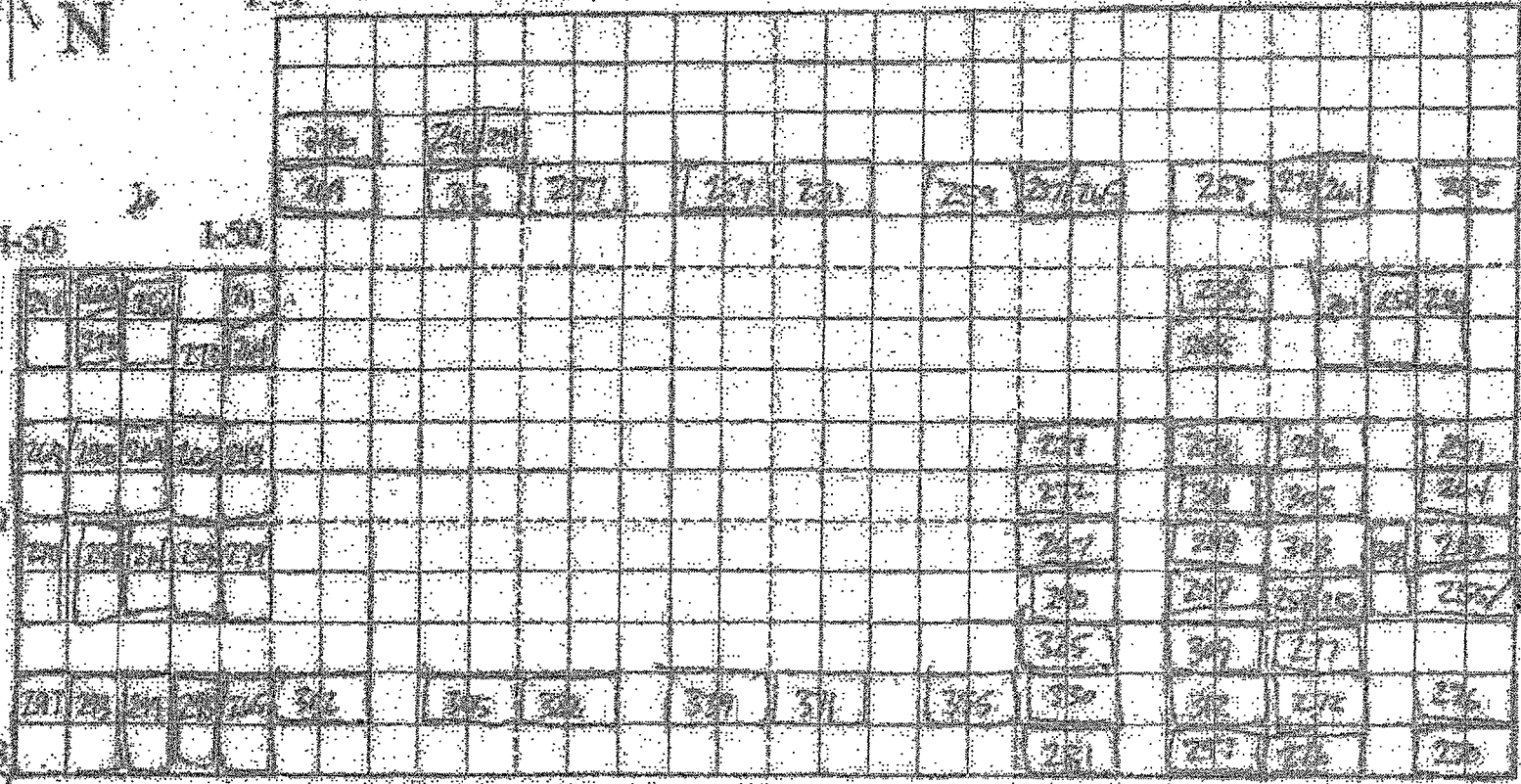
N-51

II-50

I-50

II-49

II-48

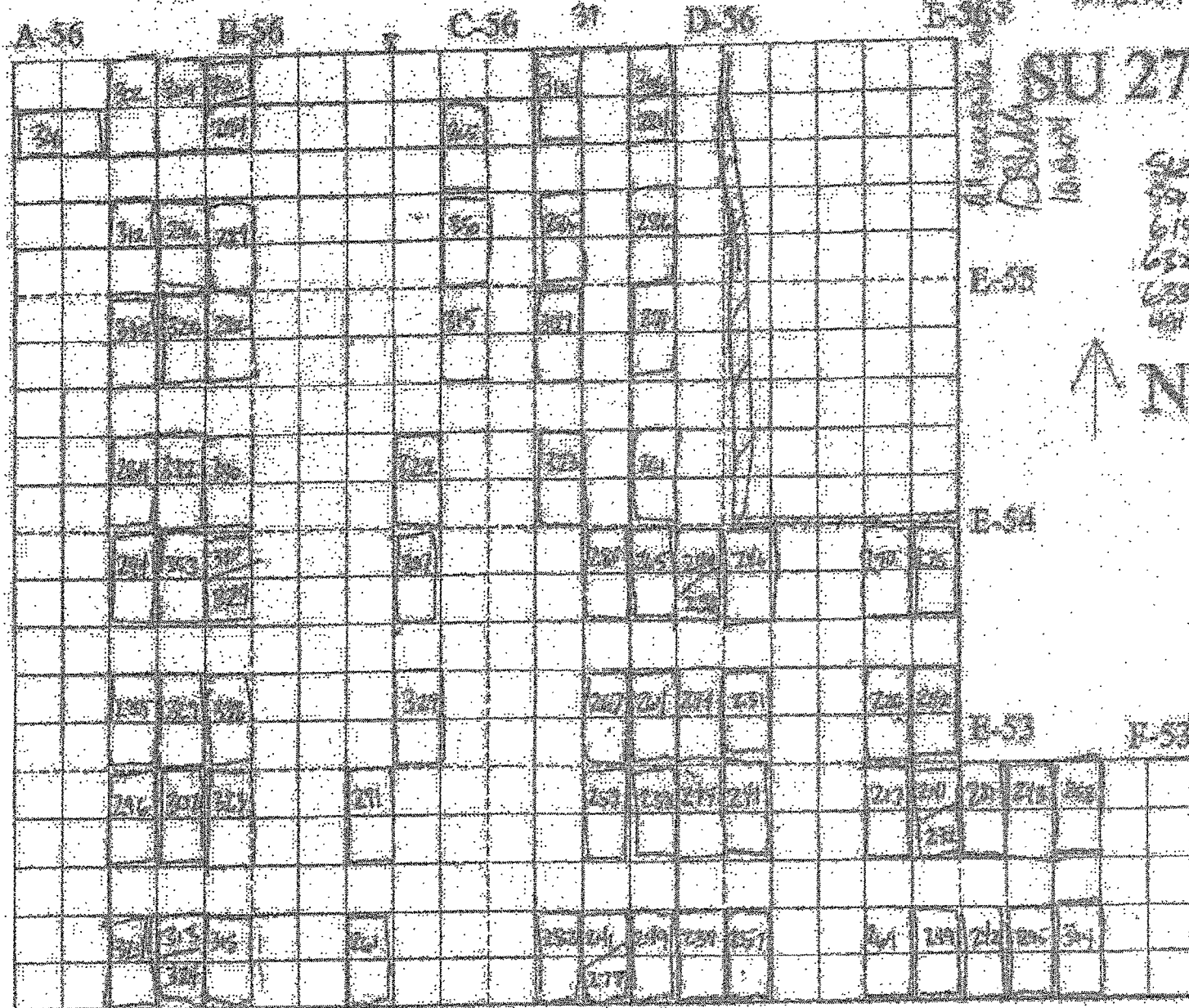


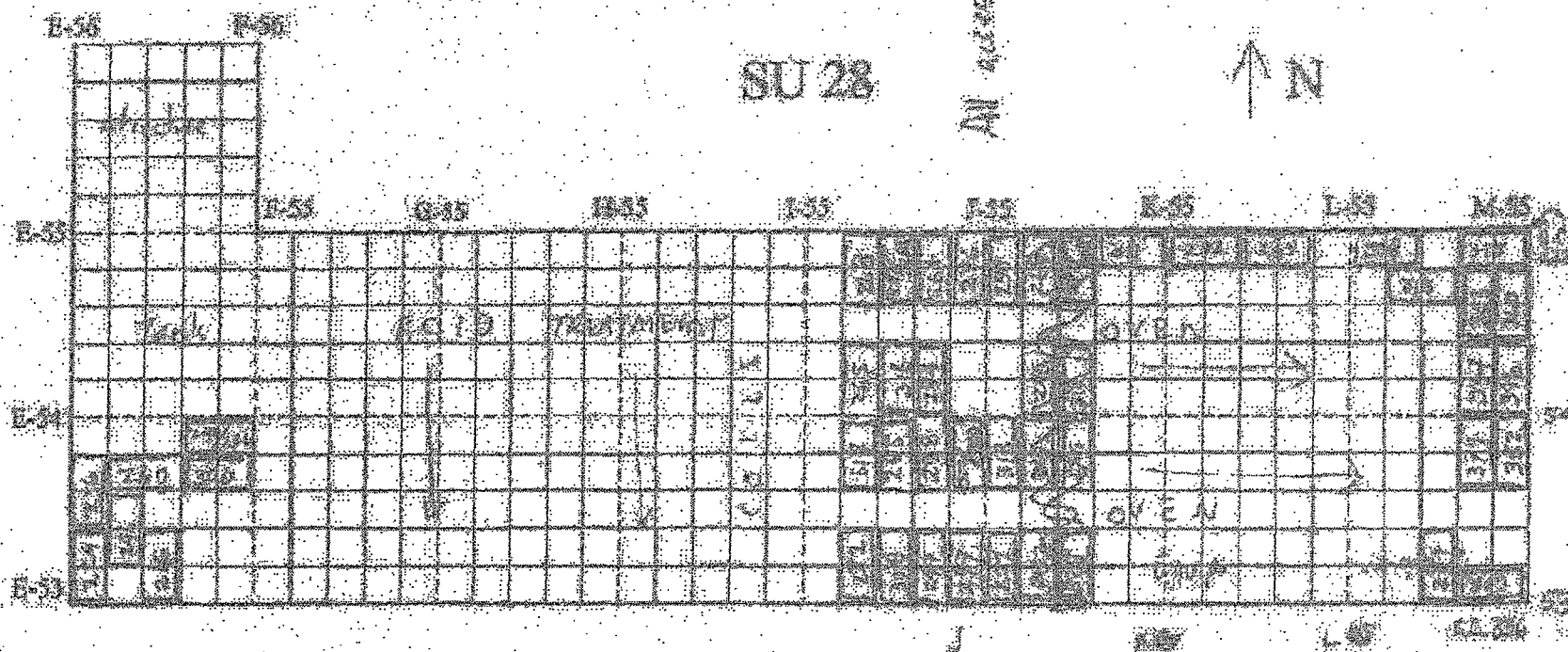
6

30

1000

SU 27





All accessible areas Surveyed

10.6

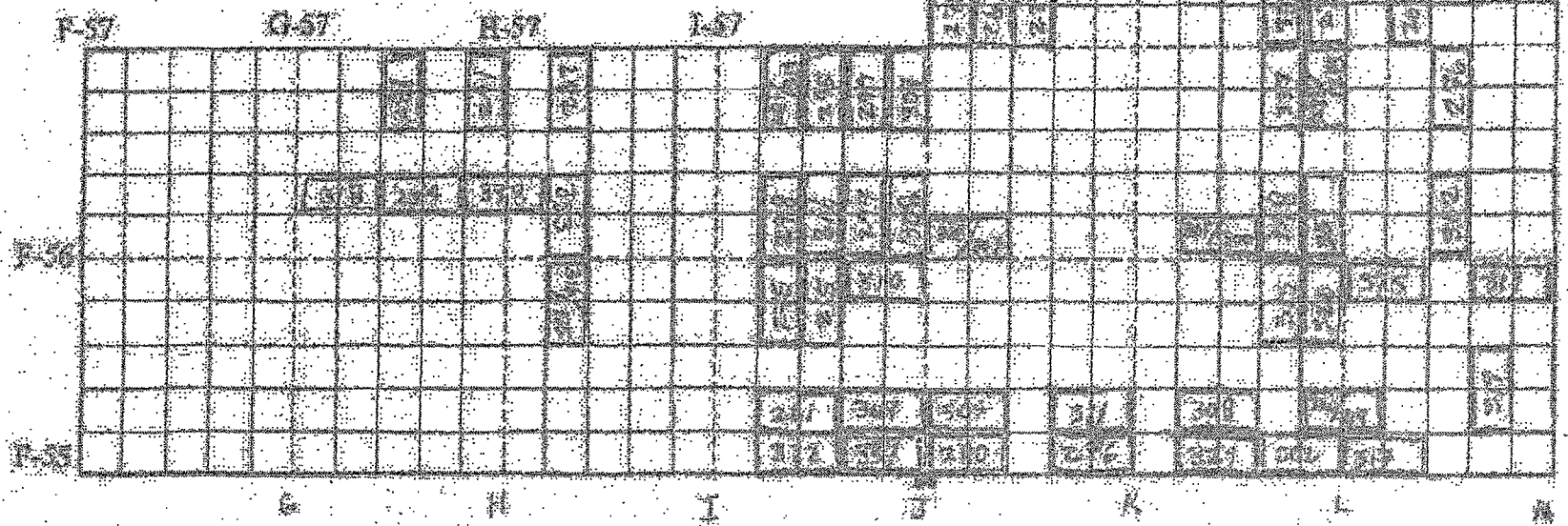
10.6

Complete

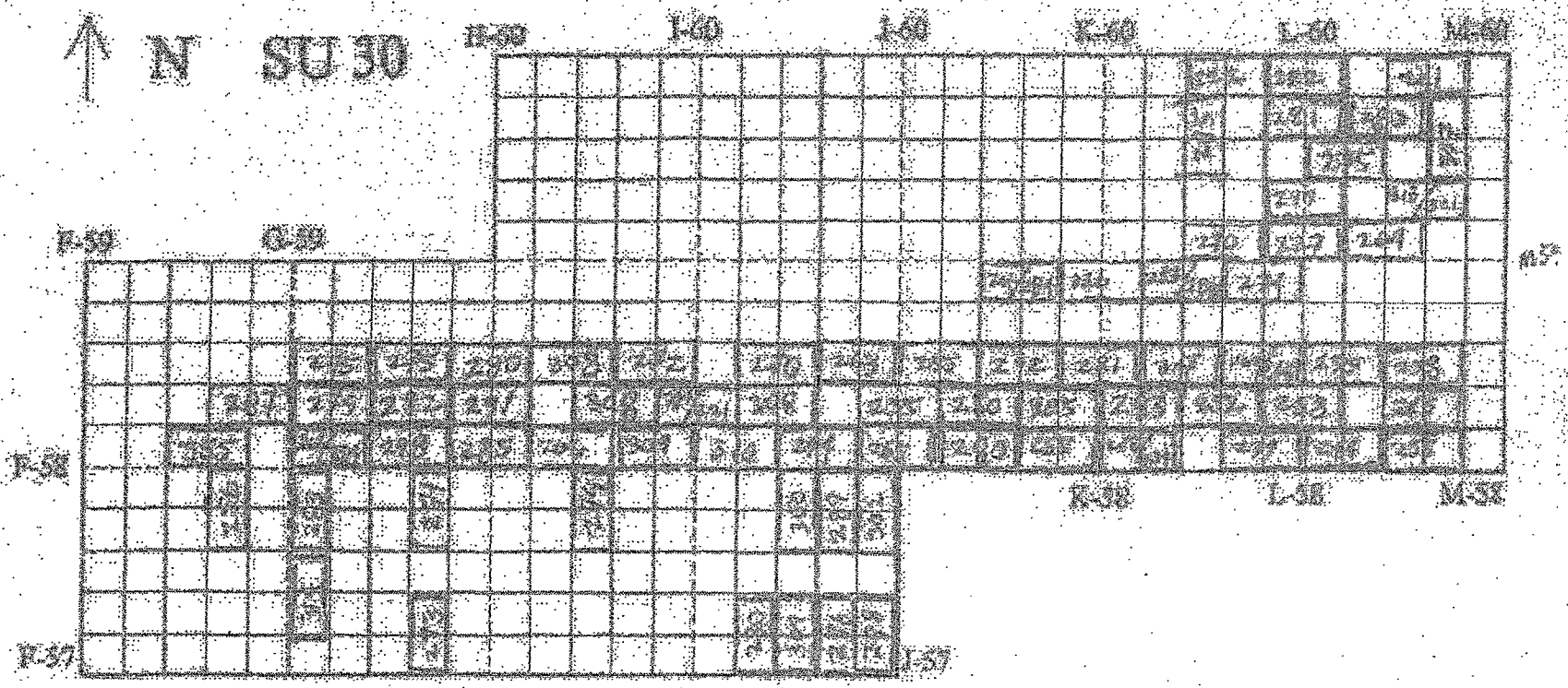
[illegible]

9U 29

104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032 1033 1034 1035 1036 1037 1038 1039 1040 1041 1042 1043 1044 1045 1046 1047 1048 1049 1050 1051 1052 1053 1054 1055 1056 1057 1058 1059 1060 1061 1062 1063 1064 1065 1066 1067 1068 1069 1070 1071 1072 1073 1074 1075 1076 1077 1078 1079 1080 1081 1082 1083 1084 1085 1086 1087 1088 1089 1090 1091 1092 1093 1094 1095 1096 1097 1098 1099 1100 1101



Study
 in 1970
 (1/10/1970)
 was completed



10.8.4

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650
715
637
579

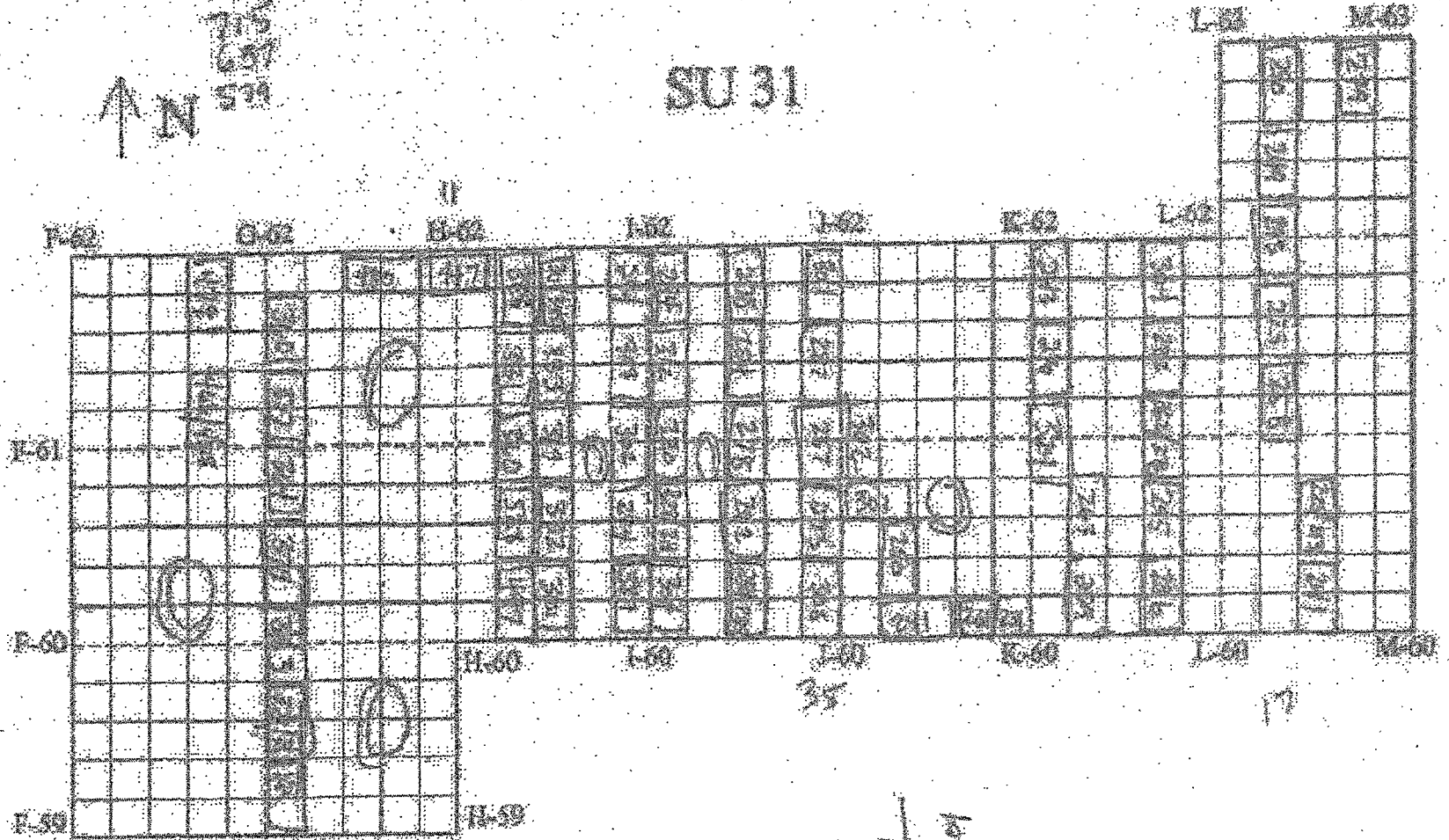
027 1049
6002 P
9102 X

Oil - possible areas
Samples

64

N

SU 31



027-1049
6002 P
9102 X

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 1. 1000
 2. 1000
 3. 1000
 4. 1000
 5. 1000
 6. 1000

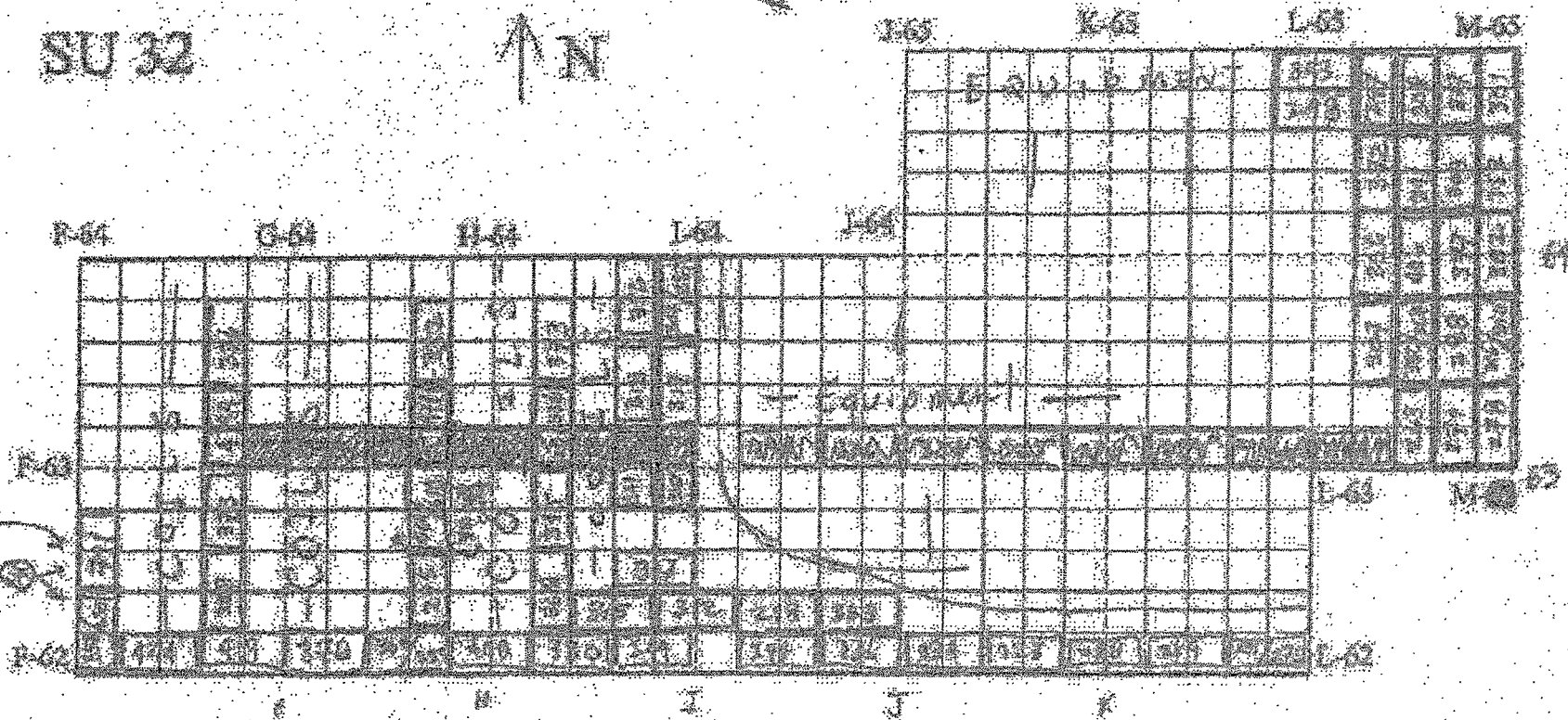
09.10.04

10.07.04

10.07.04
 10.07.04
 10.07.04

SU 32

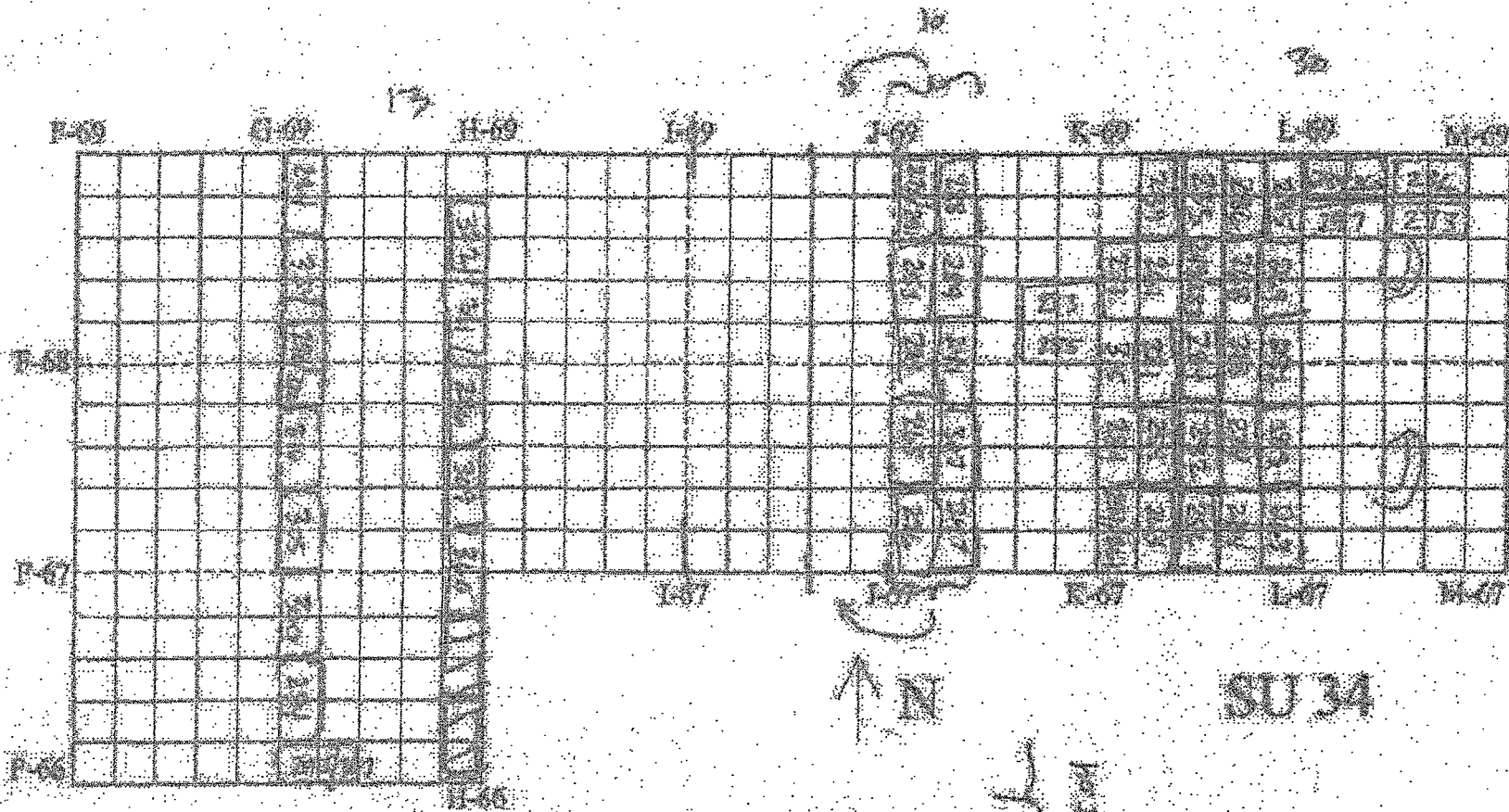
↑ N



10-1-41

All accessible areas
Surveyed

50



SU 34

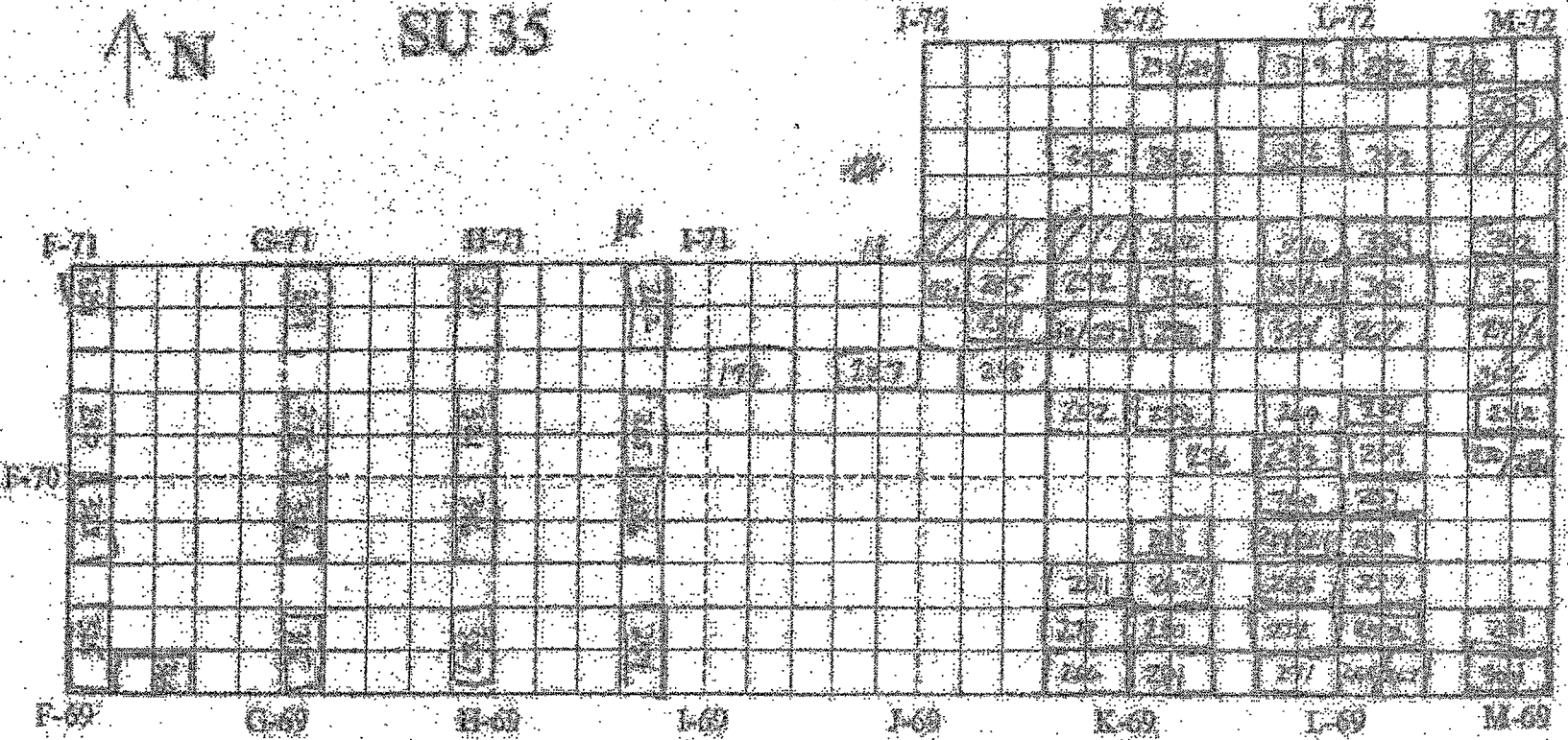
0322
100000

THE UNIVERSITY OF CHICAGO

Figure 1

1) 100-100
2) 100-100
3) 100-100
4) 100-100
5) 100-100
6) 100-100

BU 35



SU 36

↑ N

H-73

I-74

J-74

K-74

L-74

M-74

F-73

G-73

F-72

F-71

K-72

L-72

M-72

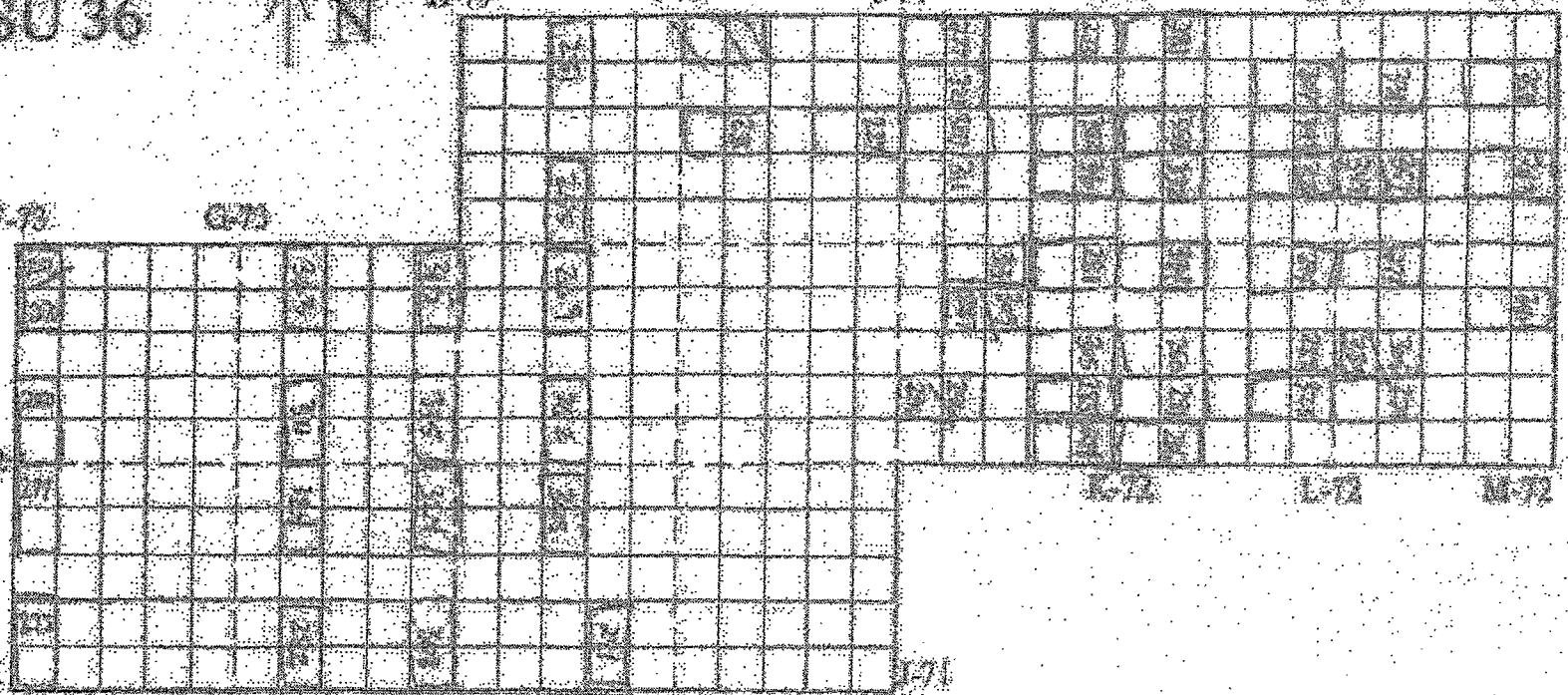
OS-1

1000 ft

Altitude 1000 ft

Section 1

1000 ft



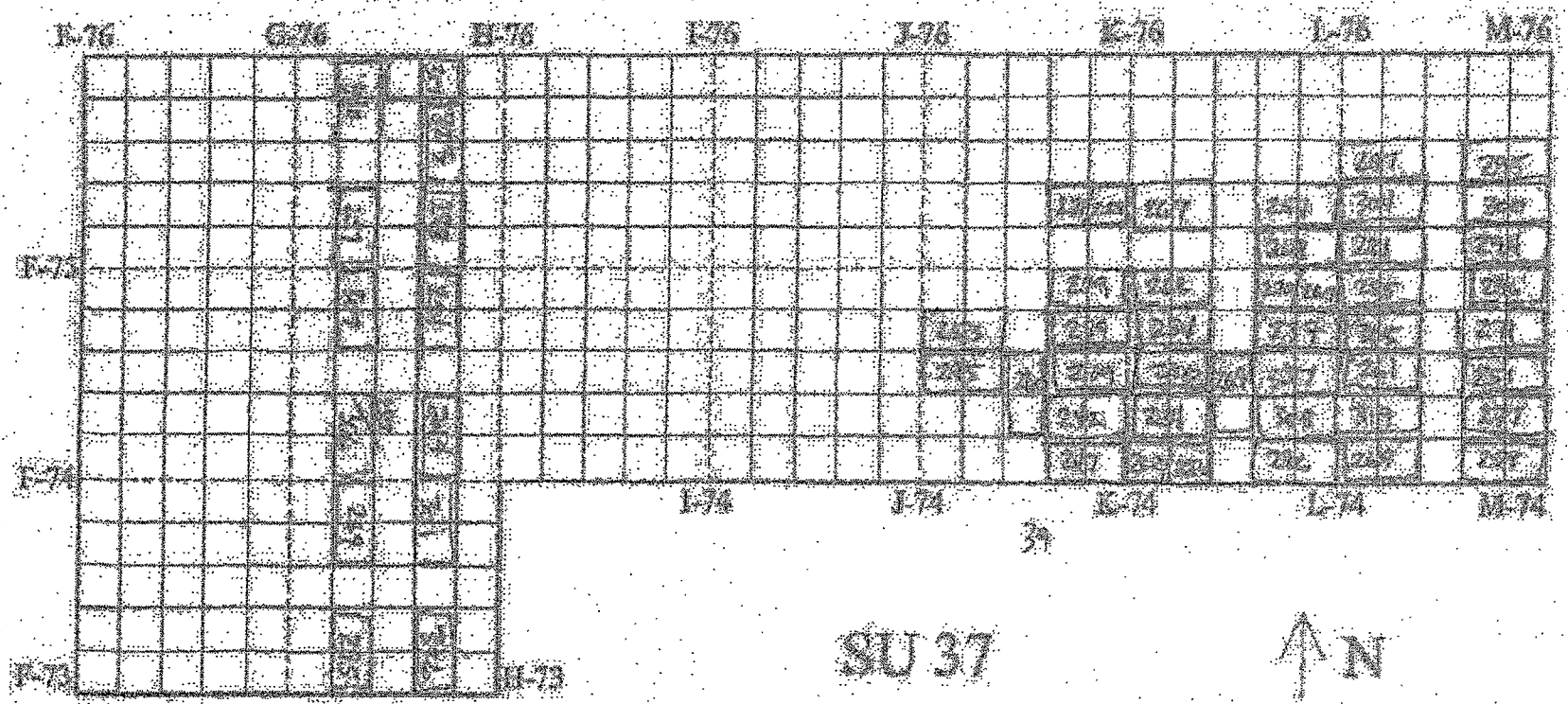
OSU

for Ho-aj

all reasonable ones

subways

to 100



SU 37

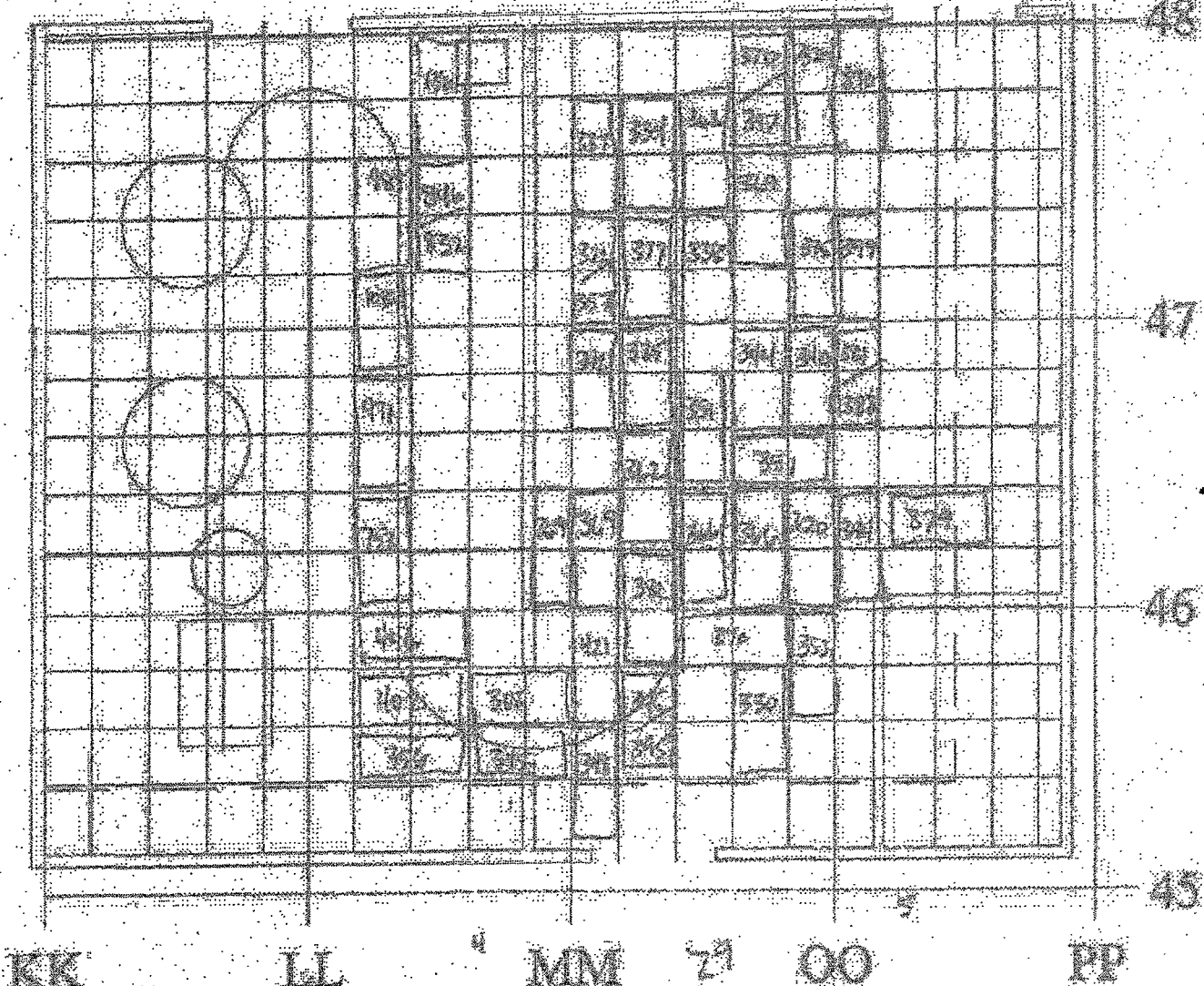


9/14/45

SU 38

N ↑ 43 BMES

3. 728
4. 706
3. 720
4. 686
5. 784
6. 760



Photograph taken 9/14/45
H. S. 16
11/12/45

15
4.17.04

SU 39 ST ROSES

↑ N

52

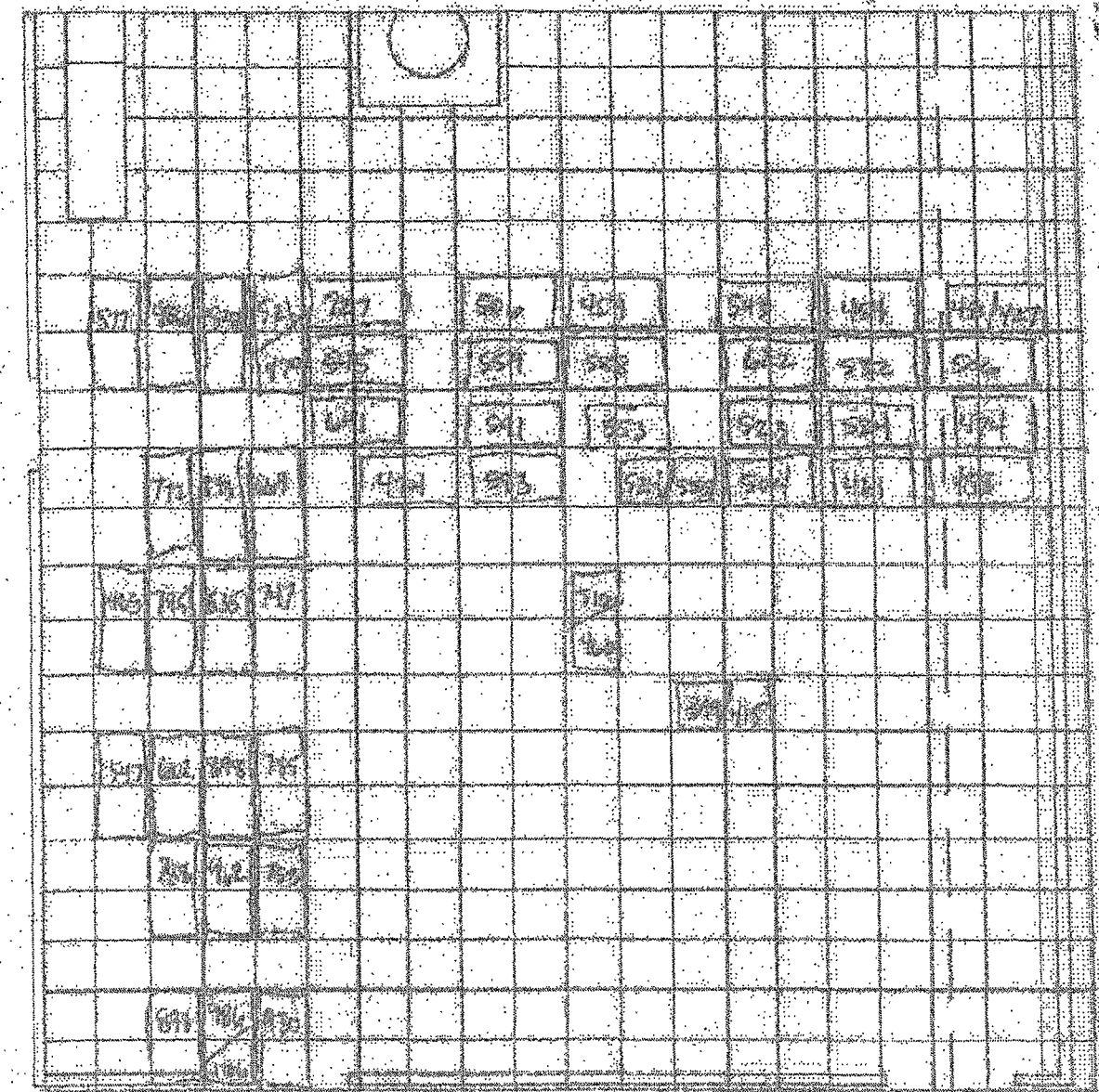
51

50

49

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47



KK

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4.17.04

SU 40

TV SCAN PAGES

N↑

56

55

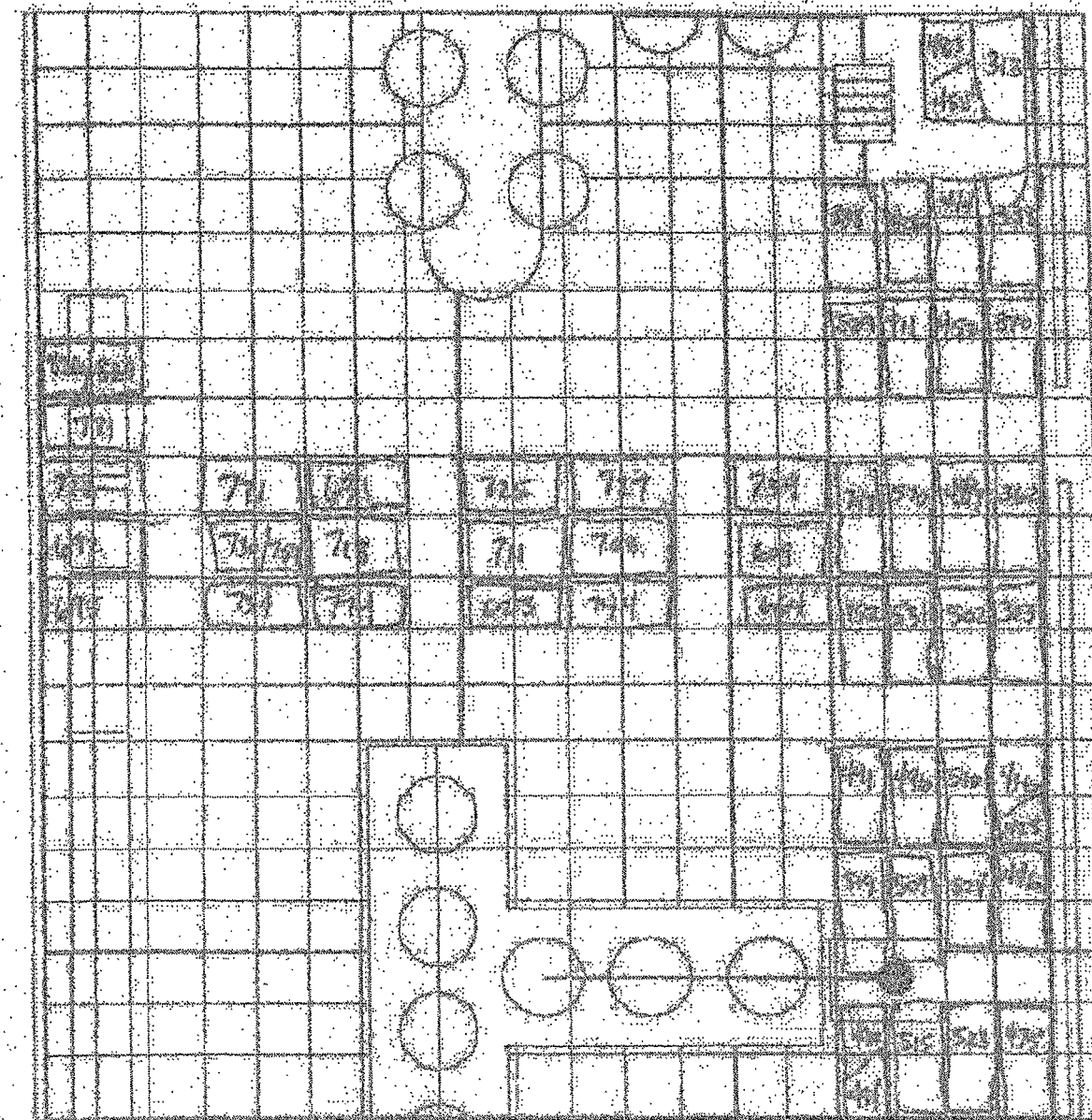
15
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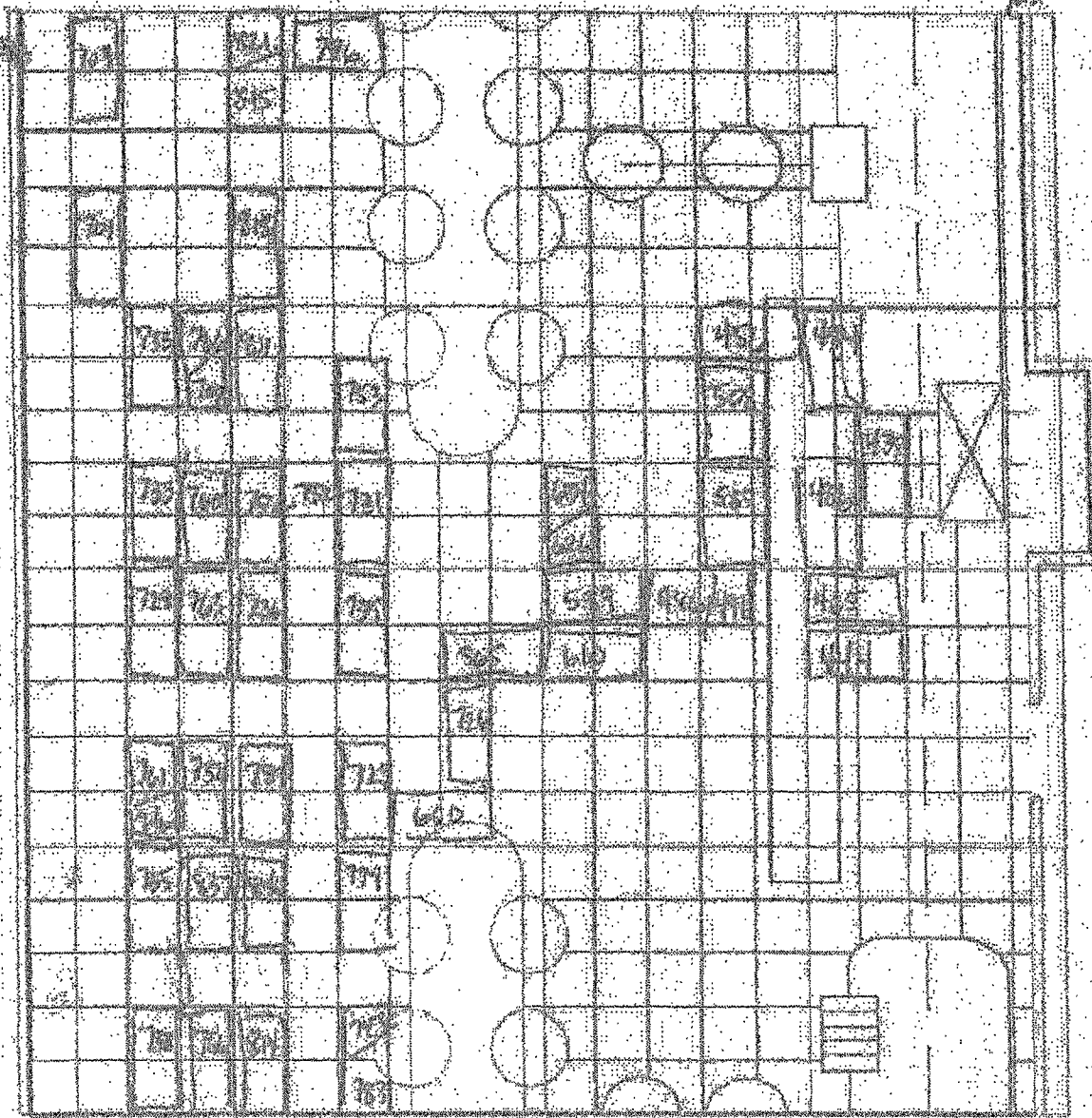
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ASL
9/504

SU 41 45 SCHWILL FISHES

N1

6.1.1. 24/60



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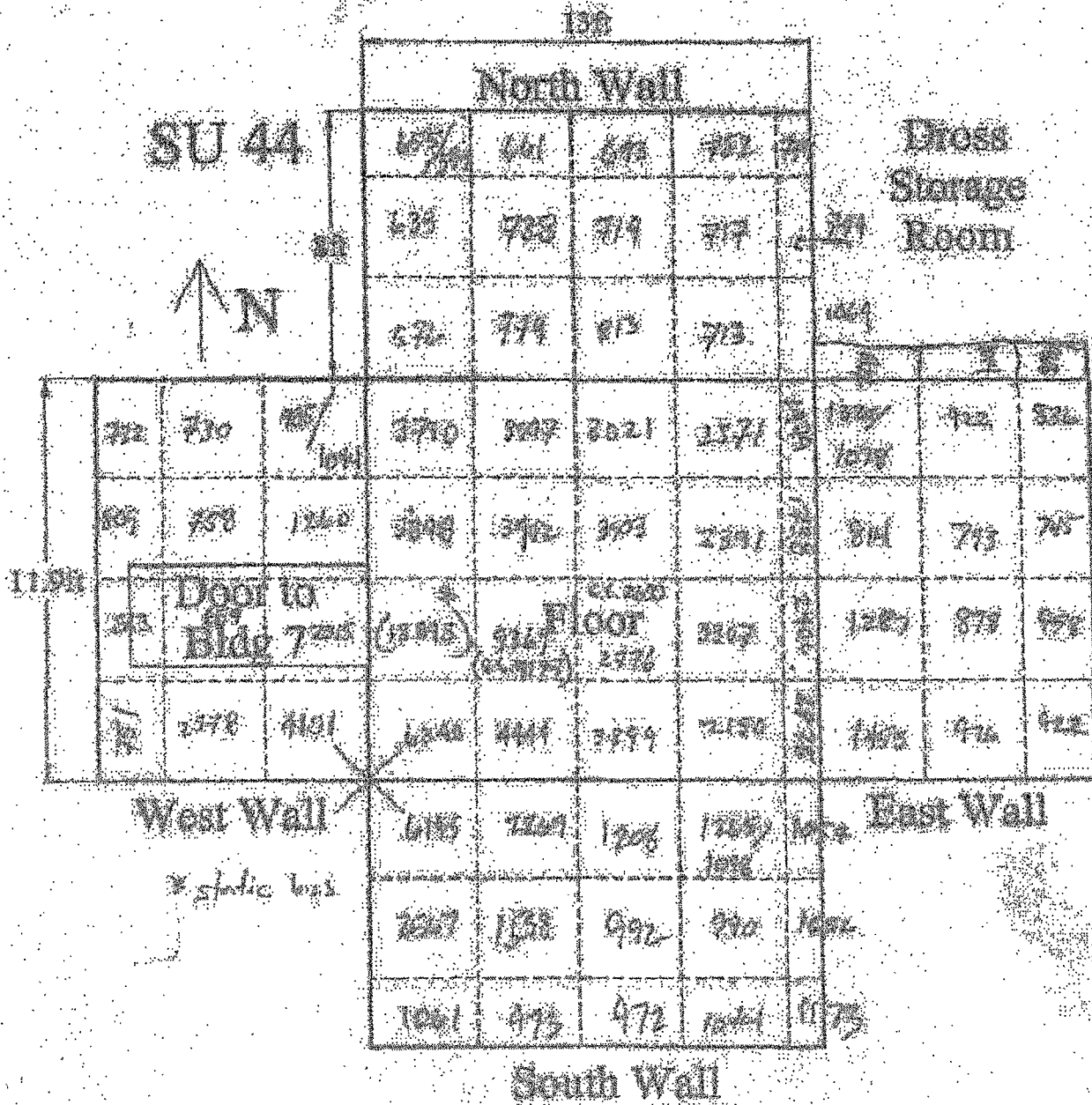
MM

7

OO

PP

DSH 9/15/01



Appendix D

Results of Mg-Th Product Sampling



STL

STL St. Louis
13715 Rider Trail North
Earth City, MO 63045

Tel: 314 298 8566 Fax: 314 298 8757
www.stl-inc.com

ANALYTICAL REPORT

SCI, Madison IL

Lot #: F4B200269

Dan Hoffman

Pangea Group, Inc.
743 Spirit 40 Park Drive
Suite 232
Chesterfield, MO 63005

SEVERN TRENT LABORATORIES, INC.

A handwritten signature in dark ink, appearing to read "BT", with a long vertical line extending downwards from the signature.

Billy Tierney
Project Manager

March 8, 2004

Case Narrative
LOT NUMBER: F4B200269

This report contains the analytical results for the two samples received under chain of custody by STL St. Louis on February 19, 2004. These samples are associated with your SCI, Madison IL project.

All applicable quality control procedures met method-specified acceptance criteria except as noted on the following page.

This report is incomplete without the case narrative. All chemical analysis results are based upon sample as received, wet weight, unless noted otherwise. All radiochemistry results are based upon sample as dried and ground with the exception of tritium, unless requested wet weight by the client.

Observations/Nonconformances

Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt.

Isotopic Thorium

The sample was analyzed at a dilution due to high concentrations of target analytes. The reporting limit has been adjusted for the dilution since no analysis at a lesser dilution was performed.

Affected Samples:

F4B200269 (1): SCI METAL COMPONENT SHAVINGS

Isotopic Uranium

The sample was analyzed at a dilution due to high concentrations of target analytes. The reporting limit has been adjusted for the dilution since no analysis at a lesser dilution was performed.

Affected Samples:

F4B200269 (1): SCI METAL COMPONENT SHAVINGS

METHODS SUMMARY

F4B200269

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>	<u>PREPARATION METHOD</u>
Gamma Spectroscopy - Cesium-137 & Hits	DOE GA-01-R MOD	
Isotopic Thorium by Alpha Spectroscopy	DOE A-01-R MOD	
Isotopic Uranium by Alpha Spectroscopy	DOE A-01-R MOD	

References:

DOE "DOE METHODS FOR EVALUATING ENVIRONMENTAL AND WASTE
MANAGEMENT SAMPLES" OCTOBER 1994 US DEPARTMENT OF ENERGY

SAMPLE SUMMARY

F4B200269

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
F9XPD	001	SCI METAL COMPONENT SHAVINGS	02/18/04	14:30
F9XPJ	002	SCI FIREBRICK-NEW	02/18/04	15:00

NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PANGEA GROUP, INC.

Client Sample ID: SCI METAL COMPONENT SHAVINGS

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F4B200269-001
Work Order: F9XPD
Matrix: SOLID

Date Collected: 02/18/04 1430
Date Received: 02/19/04 1230

Parameter	Result	Qual	Total Uncert. (2 σ +/-)	MDC	Prep Date	Analysis Date	Batch #	Yld %
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		A-01-R MOD		
Uranium 234	1.3	U	3.8	6.5	03/01/04	03/03/04	4061413	100
Uranium 235	0.0	U	0.0	5.7	03/01/04	03/03/04	4061413	100
Uranium 238	0.8	U	3.2	5.9	03/01/04	03/03/04	4061413	100
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g		A-01-R MOD		
Thorium 228	17		13	15	03/01/04	03/04/04	4061412	77
Thorium 230	152		30	9	03/01/04	03/04/04	4061412	77
Thorium 232	15.2		8.5	3.2	03/01/04	03/04/04	4061412	77
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		GA-01-R MOD		
Cesium 137	-11	U	32	57	02/24/03	02/25/04	4055187	
--- Other Detected Radionuclides ---								
Actinium 228	2030		610	210	02/24/03	02/25/04	4055187	
Lead 212	1570		210	130	02/24/03	02/25/04	4055187	
Radium 228	1330		330	330	02/24/03	02/25/04	4055187	
Thallium 208	530		110	70	02/24/03	02/25/04	4055187	
Thorium 232	1490		300	200	02/24/03	02/25/04	4055187	

S)

re incomplete without the case narrative.

determined by instrument performance only.
results are greater than the MDC

result is less than the sample detection limit.

PANGAEA GROUP, INC.

Client Sample ID: SCI METAL COMPONET SHAVINGS DUP

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F4B200269-001X
Work Order: F9XPD
Matrix: SOLID

Date Collected: 02/18/04 1430
Date Received: 02/19/04 1230

Parameter	Result	Qual	Total Uncert. (2 σ +/-)	MDC	Prep Date	Analysis Date	Batch #	Yld %
Gamma Cs-137 & Hits by DOE GA-01-R MOD.								
Cesium 137	5	U	36	71	02/24/03	02/25/04	4055187	
--- Other Detected Radionuclides ---								
Actinium 228	1480		480	220	02/24/03	02/25/04	4055187	
Lead 212	1710		210	70	02/24/03	02/25/04	4055187	
Radium 228	1600		370	310	02/24/03	02/25/04	4055187	
Thallium 208	600		110	60	02/24/03	02/25/04	4055187	
Thorium 232	1660		280	160	02/24/03	02/25/04	4055187	

S)

is incomplete without the case narrative.

determined by instrument performance only.
results are greater than the MDC

result is less than the sample detection limit.

PANGEA GROUP, INC.

Client Sample ID: SCI FIREBRICK-NEW

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F4B200269-002
Work Order: F9XPJ
Matrix: SOLID

Date Collected: 02/18/04 1500
Date Received: 02/19/04 1230

Parameter	Result	Qual	Total Uncert. (2 σ +/-)	MDC	Prep Date	Analysis Date	Batch #	Yld %
Iso URANIUM (SHORT CT) DOE A-01-R MOD								
				pCi/g		A-01-R MOD		
Uranium 234	2.19		0.45	0.13	03/01/04	03/03/04	4061413	54
Uranium 235	0.081	U	0.097	0.12	03/01/04	03/03/04	4061413	54
Uranium 238	2.53		0.49	0.11	03/01/04	03/03/04	4061413	54
Iso THORIUM (SHORT CT) DOE A-01-R MOD								
				pCi/g		A-01-R MOD		
Thorium 228	2.72		0.66	0.35	03/01/04	03/04/04	4061412	49
Thorium 230	3.00		0.67	0.20	03/01/04	03/04/04	4061412	49
Thorium 232	2.91		0.65	0.14	03/01/04	03/04/04	4061412	49
Gamma Cs-137 & Hits by DOE GA-01-R MOD.								
				pCi/g		GA-01-R MOD		
Cesium 137	-0.01	U	0.89	1.8	02/24/03	02/25/04	4055187	
--- Other Detected Radionuclides ---								
Lead 212	3.5		1.6	1.4	02/24/03	02/25/04	4055187	
Lead 214	2.3		1.9	2.1	02/24/03	02/25/04	4055187	

incomplete without the case narrative.

determined by instrument performance only.
ults are greater than the MDC

sult is less than the sample detection limit.

PANGAEA GROUP, INC.

Client Sample ID: SCI FIREBRICK-NEW DUP

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F4B200269-002X
Work Order: F9XPJ
Matrix: SOLID

Date Collected: 02/18/04 1500
Date Received: 02/19/04 1230

Parameter	Result	Qual	Total Uncert. (2 σ +/-)	MDC	Prep Date	Analysis Date	Batch #	Yld %
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g		A-01-R MOD		
Thorium 228	1.73		0.53	0.34	03/01/04	03/04/04	4061412	43
Thorium 230	2.54		0.63	0.14	03/01/04	03/04/04	4061412	43
Thorium 232	1.98		0.53	0.14	03/01/04	03/04/04	4061412	43
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g		A-01-R MOD		
Uranium 234	1.90		0.44	0.13	03/01/04	03/03/04	4061413	46
Uranium 235	0.020	U	0.056	0.11	03/01/04	03/03/04	4061413	46
Uranium 238	2.24		0.48	0.11	03/01/04	03/03/04	4061413	46

(S)

are incomplete without the case narrative.

is determined by instrument performance only.
results are greater than the MDC

Result is less than the sample detection limit.

METHOD BLANK REPORT

Severn Trent Laboratories - Radiochemistry

Client Lot ID: F4B200269
Matrix: SOLID

				Lab Sample ID				
Parameter	Result	Qual	Total Uncert. (2 σ +/-)	MDC	Prep Date	Analysis Date	Batch #	Yld %
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g	GA-01-R MOD	F4B240000-187B		
Cesium 137	0.9	U	4.4	9.9	02/24/03	02/25/04	4055187	
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	A-01-R MOD	F4C010000-412B		
Thorium 228	0.0	U	0.0	0.2	03/01/04	03/04/04	4061412	66
Thorium 230	0.25	J	0.13	0.08	03/01/04	03/04/04	4061412	66
Thorium 232	0.008	U	0.035	0.075	03/01/04	03/04/04	4061412	66
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	A-01-R MOD	F4C010000-413B		
Uranium 234	0.027	U	0.042	0.061	03/01/04	03/03/04	4061413	100
Uranium 235	0.023	U	0.033	0.031	03/01/04	03/03/04	4061413	100
Uranium 238	0.026	U	0.034	0.041	03/01/04	03/03/04	4061413	100

S)

re incomplete without the case narrative.

determined using instrument performance only
results are greater than the MDC

result is greater than sample detection limit but less than stated reporting limit.

result is less than the sample detection limit.

Laboratory Control Sample Report

Severn Trent Laboratories - Radiochemistry

Client Lot ID: F4B200269
Matrix: SOLID

Parameter	Spike Amount	Result	Total Uncert. (2 σ +/-)	MDC	% Yld	% Rec.	Lab Sample ID QC Control Limits
Gamma Cs-137 & Hits by DOE GA-01-R MOD:		pCi/g		GA-01-R MOD			F4B240000-187C
Americium 241	51000	52500	6100	100		103	(84 - 114)
Cesium 137	21600	22500	2300	100		104	(86 - 114)
Cobalt 60	33200	34100	3100	90		102	(83 - 111)
	Batch #:	4055187		Analysis Date:	02/25/04		
Iso THORIUM (SHORT CT) DOE A-01-R MOD		pCi/g		A-01-R MOD			F4C010000-412C
Thorium 230	58.5	65.1	8.2	0.7	71	111	(70 - 130)
	Batch #:	4061412		Analysis Date:	03/04/04		
Iso URANIUM (SHORT CT) DOE A-01-R MOD		pCi/g		A-01-R MOD			F4C010000-413C
uranium 234	19.6	16.7	2.5	0.4	97	85	(70 - 120)
uranium 238	19.6	16.4	2.4	0.2	97	84	(70 - 125)
	Batch #:	4061413		Analysis Date:	03/03/04		

(S)

s determined by instrument performance only
lations are performed before rounding to avoid round-off error in calculation

DUPLICATE EVALUATION REPORT

Severn Trent Laboratories - Radiochemistry

Client Lot ID: F4B200269
Matrix: SOLID

Date Sampled: 02/18/04
Date Received: 02/19/04

Parameter	SAMPLE Result	Total Uncert. (2σ+/-)	% Yld	DUPLICATE Result	Total Uncert. (2 σ+/-)	% Yld	QC Sample ID	Precision
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g	GA-01-R MOD		F4B200269-001	
Cesium 137	-11 U	32		5 U	36		-553	%RPD
---Other Dedected Radionuclides---								
Actinium 228	2030	610		1480	480		32	%RPD
Lead 212	1570	210		1710	210		8	%RPD
Radium 228	1330	330		1600	370		19	%RPD
Thallium 208	530	110		600	110		11	%RPD
Thorium 232	1490	300		1660	280		11	%RPD
Batch #:		4055187 (Sample)		4055187 (Duplicate)				
Iso THORIUM (SHORT CT) DOE A-01-R MOD				pCi/g	A-01-R MOD		F4B200269-002	
Thorium 228	2.72	0.66	49	1.73	0.53	43	45	%RPD
Thorium 230	3.00	0.67	49	2.54	0.63	43	16	%RPD
Thorium 232	2.91	0.65	49	1.98	0.53	43	38	%RPD
Batch #:		4061412 (Sample)		4061412 (Duplicate)				
Iso URANIUM (SHORT CT) DOE A-01-R MOD				pCi/g	A-01-R MOD		F4B200269-002	
Uranium 234	2.19	0.45	54	1.90	0.44	46	14	%RPD
Uranium 235	0.081 U	0.097	54	0.020 U	0.056	46	122	%RPD
Uranium 238	2.53	0.49	54	2.24	0.48	46	12	%RPD
Batch #:		4061413 (Sample)		4061413 (Duplicate)				

E(S)

are incomplete without the case narrative.
Calculations are performed before rounding to avoid round-off error in calculated results.

Result is less than the sample detection limit.

Appendix E

Example Calibration Paperwork and Daily Background Calculation Records

EXHIBIT
CHL-SQUARED DETERMINATION RECORD

Probe Meter	23-10-1 2929	Serial No. Serial No.	PR179121 190612			
Meas. Cal. Due	2/2/2005	Detector Cal. Due	2/2/2005	Scanning	Alert	
Source ID	Isotope	Initial Activity (cpm)	Initial Activity Date	Half-life (yr)	Date of Check	Decay Corrected Activity
PR179121	Th-230	35400	2/2/2005	7.54E+04	07/22/04	33200

Count	Depth (cm)	Gross Source		Net CPN (C)		
		Counts	Time (s)	(C _s - C _b)	(C _s - C _b)	(C _s - C _b)
1	0	11541		11540	11485	20318
2	0	11536		11081	-13	21
3	0	11541		11540	11485	20318
4	0	11536		11081	11326	10100
5	0	11540		11221	981	1131
6	0	11535		11080	-416	105
7	0	11537		11021	925	58
8	0	11532		11201	203	5712
9	0	11530		11043	354.2	23354
10	0	11532		11342	373	713
11	0	11532		11002	-105	2441
12	0	11533		11003	-893	1183
13	0	11537		11024	-174	80
14	0	11530		11001	1263	11004
15	0	11532		11779	373	3301
16	0	11536		11581	1211	35081
17	0	11532		11721	218	330
18	0	11532		11671	223	624
19	0	11532		11742	373	2302
20	0	11536		11723	218	335

	Background (C)	Source (C)	Net Counts (C)	Sum of Squares (C _s - C _b)	19409
Average	83	11048	11703		
Check-Ins	Avg Obsd +/- 1σ	avg source +/- 3σ	% Dev	% 20%	Obsd - C _b / C _s
High	2	12006	11997	14046	187
Low	1	11401	11922	9754	

Source Standard Deviation (C) Efficiency

Background Standard Deviation Correction Factor (cpm/100cpm)

Performed By W. J. [Signature] Date 6/17/04

Reviewed By N/A Date N/A

NOTE: BACKGROUND COUNTS FOR 10 MINUTES. See 4

EXHIBIT F
CHI-SQUARED DETERMINATION RECORD

Probe	43-10-1	Serial No.	PH170111
Model	1929	Serial No.	190612
Master Cal Date	5/2/2005	Detector Cal Date	2/2/2005
Source ID	Unknown	Initial Activity Date	10/7/1991
Initial Activity Date	10/7/1991	Half Life (yr)	20.1
Date of Check	5/17/2005	Current Activity	20.4

Count	Blank (cpm)	Gross Source Counts (cpm C _g)	Net CPM (C _g)	(C _g - C _b)	(C _g - C _b) ²
1	403	11892	11890.0	-21.1	445
2	403	11693	11691.0	-24.0	576
3	403	12036	11834.0	-22.0	484
4	403	11769	11777.0	-22.0	484
5	403	11825	11830.0	-22.0	484
6	403	11936	11904.0	-22.0	484
7	403	11882	11879.0	-22.0	484
8	403	11846	11854.0	-22.0	484
9	403	11926	11909.0	-22.0	484
10	403	11843	11840.0	-22.0	484
11		11715	11723.0	-173.1	29959
12		11800	11716.0	-43.1	1858
13		11925	11423.0	-319	10176
14		11790	11458.0	-360	12960
15		11798	11309.0	-391	15288
16		11742	11200.0	-481	23128
17		11823	11091.0	-592	35044
18		12161	11020.0	-660	43560
19		11922	11400.0	-390	15210
20		11867	11300.0	-481	23128

Average	Background (C _b)	Source (C _g)	Net Counts (C _g)	Sum of Squares (C _g - C _b)	330394
	402.00	11892	11590.0		

Check for	avg blank $\pm 3\sigma$	avg source $\pm 3\sigma$	$\pm 3\sigma$	$\pm 20\%$	Chi-Squared Value
High	500	12272	32705	3272	0.51, 0.5/0
Low	200	11516	11545	5941	2.50

Source Standard Deviation (σ) 1.27 Efficiency 25.2%

Background Standard Deviation 2.13 Correction Factor (cpm/100cpm) 2.50

Performed By [Signature] Date 5/17/05

Reviewed By NA Date NA

NOTE: BACKLOG COUNTS FOR 10 MINUTES 26 (check)



RECORD COPY

LUDDUM MEASUREMENTS, INC.
 POST OFFICE BOX 410 PH. 323-234-6404
 601 S. GILBERT ST. FAXING: 323-234-6402
 SHERBORN, TEXAS 75682 U.S.A.

CUSTOMER: PANASOL GROUP ORDER NO. 91333870000
 Mfg. Uniflex Medical Systems, Inc. Model 322 Serial No. 190612
 Mfg. Uniflex Medical Systems, Inc. Model 43701 Serial No. RR 174154
 Del. Date 4/28/92 Exp. Date 4/28/93 Del. Interval 1 Year Intervals Normal
 Checklist: ☒ Complete to customer's req. and/or detector factory spec. ☐ 75 % ☐ 85 % ☐ 90 % ☐ 95 % ☐ 100 %
☐ New instrument ☐ Instrument repaired ☒ Warm start ☐ 10 % ☐ 20 % ☐ Out of Tol. ☐ Requiring Repair ☐ Otherwise comment:
☒ Manufacturer's ☐ Written Operation
☒ Auto lock ☐ Alpha density 175 mV Beta density 2 mV Beta window 21 mV
☒ Calibrated to manufacturer's spec. for 12 hours ☐ Calibrated to accordance with NIM SOP and recorded on file
 Instrument voltage 25 V 3.32 mV High Voltage on ☐ High Voltage off ☐ High Voltage set with detector connected
☒ HV Detector (if present) None 1 502 200 1001 V
 COMMENTS:

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Alpha Channel Digital Readout	REFERENCE CAL POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING
	401.0cm	4019.46	4019.46
	402.0cm	4019.5	4019.5
	403.0cm	402.5	402.5
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1. The first step in the process is to identify the problem or issue that needs to be addressed. This involves gathering information and understanding the context of the problem.

Reference: [redacted] and/or [redacted].

0-13-Continued ☐ 100 ☐ 1000 ☐ 10000 ☐ 100000 ☐ 1000000 ☐ 10000000 ☐ 100000000 ☐ 1000000000 ☐ 10000000000 ☐ 100000000000 ☐ 1000000000000

☒ Handwritten ☐ Printed ☐ Other

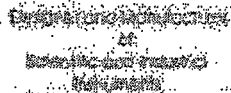
☒ in 300-101 ☐ in 300-102 ☐ in 300-103 ☒ in 300-104 ☐ in 300-105

Collected by William A. Adger Date 2/2/64

05/16/81

The credit was paid for the purchase of a new car. The car was purchased from a dealer who was a member of the same church. The car was purchased for \$10,000. The church paid the credit for the car. The car was purchased for \$10,000. The church paid the credit for the car.

1. The following information is being furnished to you for your information only. It is not to be used for any other purpose.



LUMINUM MEASUREMENTS, INC.
P.O. BOX 100, BLD 100 PM 200-200-1000
501 OAK STREET PARK, TEX. 75080-1000
SWEETWATER, TEXAS 75080, U.S.A.

Detector	45-1023	Serial No.	NK117159	Order #	P10000170-029
Customer	HANCO GROUP	Age Input Sensitivity	175	FTV	
Counter	2722	Serial No.	190612	Auto Input Sensitivity	1
Country	USA	Auto Window	50	FTV	
Other		Detector Serial No. Detector	1608		

[illegible]

TABLE 1



Daily Background Establishment Worksheet

Meter Model <u>2221</u>	Meter Serial No. <u>84717</u>	Date of Background <u>9/14/04</u>
Detector Model <u>43-37</u>	Detector Serial No. <u>177480</u>	Type of Surface <u>CONCRETE</u>

Measurement Location 1

N/A
Alpha Channel

415
Beta Channel

N/A
Gamma Channel

Measurement Location 2

Alpha Channel

273
Beta Channel

Gamma Channel

Measurement Location 3

Alpha Channel

757
Beta Channel

Gamma Channel

Measurement Location 4

Alpha Channel

719
Beta Channel

Gamma Channel

Measurement Location 5

Alpha Channel

382
Beta Channel

Gamma Channel

Measurement Location 6

Alpha Channel

454
Beta Channel

Gamma Channel

Average Background(s)

517
Alpha Channel

712
Beta Channel

517
Gamma Channel

Note: (all measurements 1 minute counts, only meter channels that apply)

ASLUE
Technician's Signature

9.14.04
Date

Appendix F

Rafter Sampling Data Summary

Building Number	Sample Number	Result	Unit	Uncertainty	MDA	Analysis	Sample Weight (g)	Total Activity (pCi)	Activity Conc (pCi/100 cm ²)
B7 Casting	R-01	43.5	pCi/g	9.8	7.0	Gross α	482.8	21002	13000
B7 Casting	R-02	9.9	pCi/g	6.9	10	Gross α	567.4	5617	3500
B7 Casting	R-03	21.8	pCi/g	7.2	6.9	Gross α	392	8546	5300
B7 Casting	R-04	17.4	pCi/g	7.3	8.2	Gross α	383.4	6671	4100
B7 Casting	R-05	24.9	pCi/g	9.3	9.2	Gross α	272.6	6788	4200
B7 Casting	R-06	40	pCi/g	11	9	Gross α	493	19720	12200
B4	R-07	76	pCi/g	15	8	Gross α	215.4	16370	10200
B4	R-08	49	pCi/g	11	8	Gross α	212.9	10432	6500
B4	R-09	79	pCi/g	14	8	Gross α	261.2	20635	12800
B4	R-10	18.9	pCi/g	8.8	11	Gross α	2.4	45	0
B4	R-11	59	pCi/g	12	7	Gross α	35.8	2112	1300
B4	R-12	64	pCi/g	12	6	Gross α	193.1	12358	7700
B6	R-13	38	pCi/g	9	5.9	Gross α	27.2	1034	600
B6	R-14	18.6	pCi/g	6.3	5.8	Gross α	199.3	3707	2300
B6	R-15	28.8	pCi/g	8.1	7.3	Gross α	33.5	965	600
B6	R-16	18.9	pCi/g	7.6	8.8	Gross α	172.1	3253	2000
B6	R-17	16.3	pCi/g	6.2	6.6	Gross α	220.8	3599	2200
B6	R-18	10.3	pCi/g	6	8.2	Gross α	199.3	2053	1300
B7	R-19	32.9	pCi/g	8.5	6.4	Gross α	249	8192	5100
B7	R-20	36.9	pCi/g	9.2	6.4	Gross α	221.7	8181	5100
B7	R-21	35	pCi/g	12	12	Gross α	225.2	7882	4900
B7	R-22	57	pCi/g	16	13	Gross α	211.3	12044	7500
B7	R-23	16.4	pCi/g	8.6	10	Gross α	269	4412	2700
B7	R-24	25	pCi/g	10	12	Gross α	255.7	6393	4000
B8	R-25	7.5	pCi/g	7.1	11	Gross α	306.6	2300	1400
B8	R-26	15.1	pCi/g	7.5	8.9	Gross α	435.9	6582	4100
B8	R-27	0.8	pCi/g	4.3	8.1	Gross α	444.3	355	200
B8	R-28	22.9	pCi/g	9.5	11	Gross α	391.7	8970	5600
B8	R-29	17.7	pCi/g	7.9	9.3	Gross α	162	2867	1800
B8	R-30	33	pCi/g	13	15	Gross α	103.6	3419	2100
B5	R-31	24.7	pCi/g	9.6	10	Gross α	61.6	1522	900
B5	R-32	14.2	pCi/g	6.9	8.2	Gross α	177.1	2515	1600
B5	R-33	259	pCi/g	33	8	Gross α	16.77	4343	2700
B5	R-34	69	pCi/g	13	8	Gross α	44.69	3084	1900
B5	R-35	78	pCi/g	13	6	Gross α	58.7	4579	2800
B5	R-36	360	pCi/g	45	9	Gross α	9.45	3402	2100
B7 Casting	R-01	43.1	pCi/g	7.9	8.4	Gross β	482.8	20809	12900
B7 Casting	R-02	19.0	pCi/g	7.9	12	Gross β	567.4	10781	6700
B7 Casting	R-03	24.0	pCi/g	7.8	11	Gross β	392	9408	5800
B7 Casting	R-04	33.3	pCi/g	8.1	10	Gross β	383.4	12767	7900
B7 Casting	R-05	34	pCi/g	10	13	Gross β	272.6	9268	5800
B7 Casting	R-06	45.3	pCi/g	8.8	9.5	Gross β	493	22333	13900
B4	R-07	49.8	pCi/g	9.6	10	Gross β	215.4	10727	6700
B4	R-08	26.6	pCi/g	8.3	11	Gross β	212.9	5663	3500
B4	R-09	24.1	pCi/g	8.7	13	Gross β	261.2	6295	3900
B4	R-10	21	pCi/g	10	15	Gross β	2.4	50	0
B4	R-11	45.9	pCi/g	9.5	11	Gross β	35.8	1643	1000
B4	R-12	32.1	pCi/g	9.9	14	Gross β	193.1	6199	3900
B6	R-13	32.1	pCi/g	7.6	9.5	Gross β	27.2	873	500

Building Number	Sample Number	Result	Unit	Uncertainty	MDA	Analysis	Sample Weight (g)	Total Activity (pCi)	Activity Conc. (pCi/100 cm ²)
B6	R-14	20	pCi/g	6.4	9	Gross β	199.3	3986	2500
B6	R-15	28	pCi/g	6.9	8.8	Gross β	33.5	938	600
B6	R-16	31.7	pCi/g	9	12	Gross β	172.1	5456	3400
B6	R-17	20.3	pCi/g	7.1	10	Gross β	220.8	4482	2800
B6	R-18	13.2	pCi/g	6.3	9.5	Gross β	199.3	2631	1600
B7	R-19	23.1	pCi/g	7.3	10	Gross β	249	5752	3600
B7	R-20	34.1	pCi/g	8.4	11	Gross β	221.7	7560	4700
B7	R-21	32	pCi/g	12	16	Gross β	225.2	7206	4500
B7	R-22	51	pCi/g	16	22	Gross β	211.3	10776	6700
B7	R-23	22	pCi/g	11	17	Gross β	269	5918	3700
B7	R-24	28	pCi/g	11	16	Gross β	255.7	7160	4400
B8	R-25	39	pCi/g	12	16	Gross β	306.6	11957	7400
B8	R-26	28	pCi/g	12	18	Gross β	435.9	12205	7600
B8	R-27	-2.5	pCi/g	9.3	16	Gross β	444.3	0	0
B8	R-28	35	pCi/g	12	17	Gross β	391.7	13710	8500
B8	R-29	24	pCi/g	12	17	Gross β	162	3888	2400
B8	R-30	32	pCi/g	16	24	Gross β	103.6	3315	2100
B5	R-31	23	pCi/g	13	19	Gross β	61.6	1417	900
B5	R-32	19.5	pCi/g	9.9	15	Gross β	177.1	3453	2100
B5	R-33	95	pCi/g	12	7	Gross β	16.77	1593	1000
B5	R-34	39.3	pCi/g	7.7	8.5	Gross β	44.69	1756	1100
B5	R-35	33.8	pCi/g	5.7	5.7	Gross β	58.7	1984	1200
B5	R-36	138	pCi/g	19	13	Gross β	9.45	1304	800

Maximum Weight 567
Minimum Weight 2.4

Exhibit A
Radiological Survey Report Form

Page 1 of 3

Description: Characterization of Overhead Beams									
Date: 09/30/2004	Time: 1430	Survey No: CH-093004-01	RWP No: N/A						
Purpose of Survey (For Release Surveys Include Recipient): To quantify surface activity of overhead beams after removal of accumulated detritus.									
Instrument Data Instrument Manufacturer(s): Bicon ☐ Eberline ☐ Ludlum ☒ ☐ ☐									
Detector Type	Detector SN	Detector Cal Due	Meter Type	Meter SN	Meter Cal Due	Sensitivities	Bkgd. (cpm)	Correction Factor	MDA (dpm)
43-10-1	PR179154	02/08/05	2929	190612	08/08/04	α	0.42	2.9	9.1
						β/γ	49.2	2.3	56.3
43-93	PR200132	02/12/05	2224	190220	02/12/05	α	14	5.4	74.8
						β/γ	139	3.0	129
44-9	PR203335	03/15/05	3	171254	03/15/05	β/γ (GM)	47	30	713
N/A	N/A	N/A	Model 19	8578	02/09/05	Exposure	N/A	N/A	N/A

Survey Results		Smearable Results				Direct Readings				
Sample Number	Description/Results	Gross α Removable CPM	Net α Removable dpm/100 cm ²	Gross β/γ Removable CPM	Net β/γ Removable dpm/100 cm ²	Gross α CPM	Net α dpm/100 cm ²	Gross β/γ CPM	Net β/γ dpm/100 cm ²	Exposure Rate uR
1	Building 7 Casting Area					12	-11	281	426	N/A
2						15	5	236	291	
3						17	16	270	393	
4						8	-32	367	684	
5						17	16	187	144	
6						15	5	246	321	
7	Building 4		N/A			14	0	269	390	
8						17	16	228	267	
9						21	38	201	186	
10						12	-11	146	21	
11						24	54	261	366	
12						16	11	220	243	
13	Building 6					17	16	229	270	
14						13	-5	217	234	
15						10	-22	193	162	

Remarks: Field Backgrounds for 43-93 generated on 9/30/04 and 10/1/04. Readings taken on 9/30/04 and 10/1/04, except for readings 33-36

Readings 33-36 taken 12/10/04. 12/10/04 Bkgs: α - 18cpm, β - 199 "NCD" = No Contamination Detected, i.e. < MDA

Technician(s) Signature / Date: Matthew Cushman / 12/10/04 N/A /

Range Review: N/A / Client Review: N/A /

Exhibit B
Radiological Survey Report Form

Description: Characterization of Overhead Beams										
Date: 09/30/2004		Time: 1430		Survey No: CH-093004-01			RWP No: N/A			
Survey Results		Smearable Results				Direct Readings				
Sample Number	Description/Results	Gross α Removable CPM	Net α Removable dpm/ 100 cm ²	Gross β/γ Removable CPM	Net β/γ Removable dpm/ 100 cm ²	Gross α CPM	Net α dpm/ 100 cm ²	Gross β/γ CPM	Net β/γ dpm/ 100 cm ²	Exposure Rate uR
16	Building 6					12	-11	188	147	
17						6	-43	146	21	
18						11	-16	166	81	
19	Building 7					16	11	185	138	
20						13	-5	188	147	
21						12	-11	156	51	
22						9	-27	210	213	
23						14	0	170	93	
24						12	-11	196	171	
25	Building 8					13	-5	276	411	
26						12	-11	190	153	
27			N/A			11	-16	309	510	N/A
28						10	-22	187	144	
29						8	-32	166	81	
30						27	70	144	15	
31	Building 5					22	43	156	51	
32						21	38	167	84	
33						48	162	334	405	
34						24	32	268	207	
35						36	97	312	339	
36						24	32	277	234	
37										
38	N/A							N/A		
39										

Remarks: Field Backgrounds for 43-93 generated on 9/30/04 and 10/1/04. Readings taken on 9/30/04 and 10/1/04, except for readings 33-36

Technician(s) Signature / Date: Matthew Cushman / 12/10/04 N/A /
 Manager Review: N/A / Client Review: N/A /

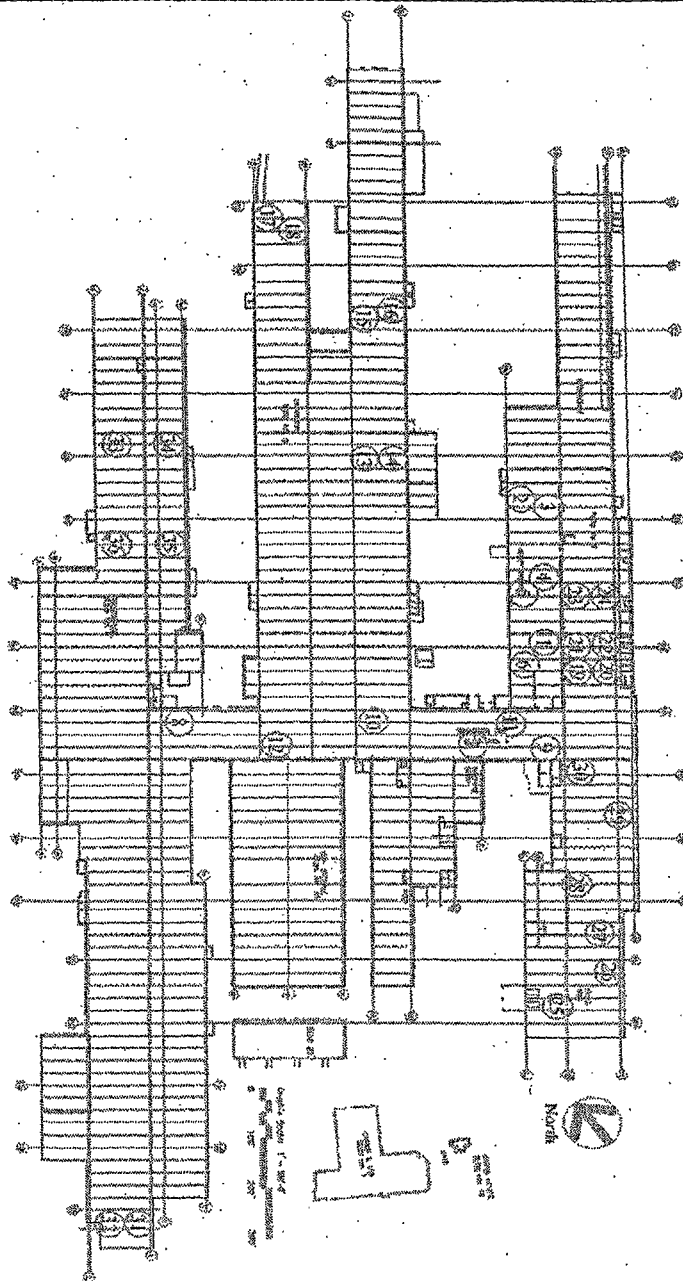
Exhibit C
Radiological Survey Report Form

Page 3 of 3

Description: Characterization of Overhead Beams

Date: 09/30/2004 Time: 1430 Survey No: CH-093004-01 RWP No: N/A

Survey Diagram



Legend: (#) Fixed/Removable Locations # Exposure Rates (μ R/hr) X X X Posted Area Boundary

Remarks: The Origin of Survey Unit (0 ft E, 0 ft N) is marked by X in the SW corner of the SU.

Technician(s) Signature / Date: Matthew Cushman / 12/10/04 N/A /

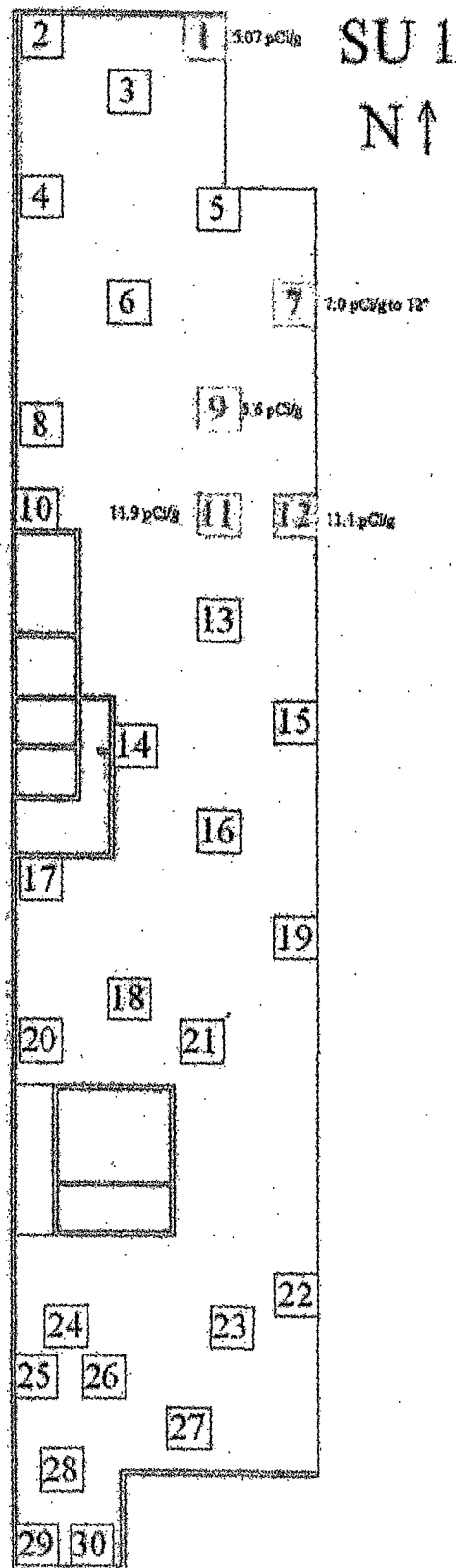
Pangea Review: N/A / Client Review: N/A /

Appendix G

Soil Sampling Data Summary

Appendix G

Soil Sampling Data Summary



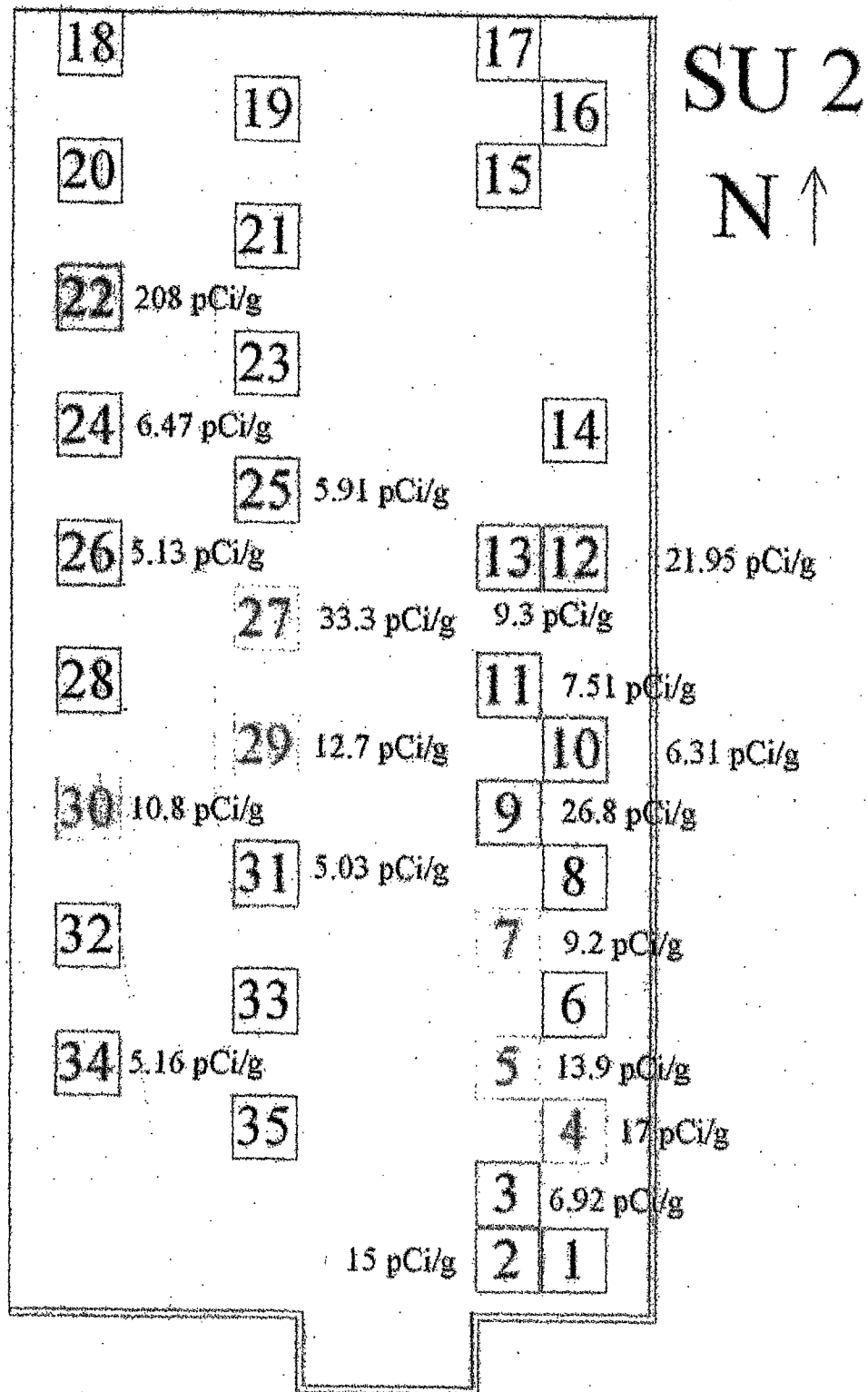
Survey Unit 1 Soil Sampling Locations

SCI Soil Characterization Data

Sample Number	Ac 228	Bk 212	Bk 214	Cs 137	Pb 210	Pb 212	Pb 214	K 40	Ra 226	Ra 224	Ra 228	Tl 208	Th 228	Th 230	Th 232	Th 234	U 238
SCI1SU0101			0.33			0.24					0.21	0.144	0.39	0.87	0.25		
SCI1SU0102	0.6		0.28		1.38	0.76	0.37				0.6	0.292	1.54		0.895		
SCI1SU0103	1.98	1.24	1.48			1.65	1.52				1.98	0.51	2.61		2.47	2.34	2.34
SCI1SU0103 DUP													3.22		3.41		
SCI1SU0104	1.06		1.98		1.74	0.96	2				1.06	0.35	0.79	1.38	1.06	2.49	2.49
SCI1SU0104 DUP													0.83	1.47	0.87		
SCI1SU0105			0.36			0.273	0.27				0.35	0.113	0.31	0.35	0.38		
SCI1SU0201			0.26			0.34		4.6			0.4	0.18	0.66	1.93	0.6		
SCI1SU0202						0.25	0.3				0.26	0.143	0.33	1.12	0.25		
SCI1SU0301			1.01			0.41	0.67				0.53	0.144	0.68	1.97	0.67		
SCI1SU0302	0.63		1.07			0.66	0.7				0.63	0.237	0.88	2.07	0.875		
SCI1SU0401			0.81			0.51	0.81				0.55		0.86	1.45	0.71		
SCI1SU0402			0.37			0.38	0.26	3.9			0.43	0.172	1.04	2.39	0.88		
SCI1SU0501			0.68			0.13	0.74				0.17		0.49	1.88	0.41		
SCI1SU0502	2.36		3.02		1.9	1.79	3.49				2.36	0.64	2.28	3.51	2.235		
SCI1SU0502 DUP	1.8		2.89			1.64	2.8				1.79	0.58	2.14	3.8	1.66		
SCI1SU0503 (Split)	2.9	1.4	2.51			2.64	2.47				2.93	0.69	2.82	4.81	2.92		
SCI1SU0601			0.83			0.321	0.73				0.52		0.61	3.2	0.89		
SCI1SU0601 DUP													0.8	3.1	0.61		
SCI1SU0602			1.04				1.12				0.31		0.2	3	0		
SCI1SU0602 DUP													0.12	3.5	0.44		
SCI1SU0701			0.87		1.4	0.26	0.64				0.17		0.4	3.9	0.02		
SCI1SU0702	1.25	1.91	1.62			1.28	1.89	4.4			1.25	0.45	2.4		1.925	2.3	2.3
SCI1SU0703			0.86			0.54	0.76				0.66	0.204	0.6	1.3	0.59		
SCI1SU0801			0.64				0.66				0.3		0.8	3.4	0.27		
SCI1SU0802			1.06				1.07	3.8			-0.04		0.12	3.4	0.09		
SCI1SU0901			0.8			0.22	0.8				0.15		0.34	2.7	0.47		
SCI1SU0902	0.93		1.81		1.3	1	2.11	3.7			0.93	0.38	1.94		1.525		
SCI1SU0903			0.88			0.57	1.09				0.34	0.24	0.63	1.1	0.81		
SCI1SU1001			0.49			0.22					0.21		0.4	3.7	0.24		
SCI1SU1002			0.68			0.55	0.81				0.74	0.27	0.9	4.4	0.64		
SCI1SU1101			0.87			0.38	0.71				0.33		2.2	4	0.26		
SCI1SU1102	0.95		0.77			1.22	0.96				0.95	0.49	2.2		0.575		
SCI1SU1103	1.73		1.6			1.21	2.1				1.73	0.32	1.25	2.22	1.44		
SCI1SU1104	1.43		2.76		1.8	1.5	3.14				1.43	0.58	1.23	3.82	1.33	3	3
SCI1SU1201			0.47			0.18	0.92				0.3		0.21	3.7	0.75		
SCI1SU1202	2.45		1.7		2.1	1.61	2.16				2.45	0.62	2.86		3.015		
SCI1SU1203 (Split)	3		2.3			2.46	1.72				3.01	0.7	2.2		3.655		
SCI1SU1204	1.06		0.9			0.88	1.14				1.06	0.38	0.85	1.31	1.06		
SCI1SU1205			0.84			0.88	0.85				1.05		0.8	1.18	0.97		
SCI1SU1301	1.12		1.13			0.87	0.75				1.12	0.29	1.73	3.4	1.67		
SCI1SU1302			1.92			1.1	2.11				0.99	0.27	0.47	2.03	0.91		
SCI1SU1401			0.65			0.76	0.61				0.6	0.31	0.93	2.02	1.32		

SCI Soil Characterization Data

Sample Number	Ac 228	Bk 212	Bi 214	Cs 137	Pb 210	Pb 212	Pb 214	K 40	Ra 226	Ra 224	Ra 228	Th 208	Th 228	Th 230	Th 232	Th 234	U 238
SCI1SU1402			0.61			0.69	0.57	9.6			0.41		0.63	2.03	0.73		
SCI1SU1501	1.01		0.75			1.34	0.62	10.3			1.01	0.39	1.69	2.37	1.28		
SCI1SU1502			1.07			0.98	0.98	12			0.68	0.23	1.19	1.69	0.87		
SCI1SU1503 (Split)			0.51			0.4	0.6	12.4			0.39	0.15	1.2	1.81	0.98		
SCI1SU1503 DUP													1.03	1.77	1		
SCI1SU1601			0.85			0.67	0.74	14.3			0.83	0.19	1.01	1.42	0.91		
SCI1SU1602			0.69			0.53	0.7	10.1			0.71	0.2	0.85	1.29	0.72		
SCI1SU1701			0.48			0.88	0.71	11.1			0.91	0.37	1.1	1.91	1.05		
SCI1SU1702			0.84			0.68	1.04	11.3			1.1	0.26	0.89	1.52	1.24		
SCI1SU1801	1.12		0.84			1	0.57	9.8			1.12	0.44	1.33	2.84	1.235		
SCI1SU1802			0.77			0.59	0.51	10.2			0.56	0.21	0.83	1.56	0.72		
SCI1SU1901			0.76			0.44	0.77				0.53	0.24	0.45	1.86	0.63		
SCI1SU1902		1.04	0.4			0.55	0.54	10.7			0.79	0.24	0.76	1.09	0.75		
SCI1SU2001			0.87			0.57		13.3			0.61	0.16	0.45	1.19	0.57		
SCI1SU2002			0.4			0.41	0.39	10.2			0.52		0.55	1.6	0.5		
SCI1SU2101			0.82			0.77	0.77	12.6			0.6	0.271	0.74	1.17	0.77		
SCI1SU2101 DUP			0.82			0.74	0.88	12.1			0.7	0.128	0.76	1.12	0.65		
SCI1SU2102			0.67			0.73	0.88	13.6			0.73	0.22	0.77	1.18	0.78		
SCI1SU2103 (Split)			0.73			0.56	0.68	14.6			0.51	0.21	0.73	1.09	0.99		
SCI1SU2201			0.48			0.69	0.56	13.3			0.83	0.227	0.83	1.75	0.93		
SCI1SU2202			0.62			0.53	0.63	13.8			0.55		0.28	0.85	0.37		
SCI1SU2301	0.87		0.55			0.9	0.84	12.2			0.87	0.276	1.6	3.25	1.255		
SCI1SU2302	0.46		0.44			0.63	0.64	13.6			0.46	0.2	0.63	2.23	0.54		
SCI1SU2401	0.87		0.82			0.52	0.7	13.4			0.87		0.52	1.21	0.665		
SCI1SU2402	0.66		0.64			0.38	0.65	13.2			0.66		0.52	0.99	0.57		
SCI1SU2501			0.59			0.128	0.58				0.07		0.29	1.11	0.4		
SCI1SU2502			0.51			0.39	0.53	13.3			0.61	0.108	0.55	1.08	0.61		
SCI1SU2601	0.47		0.48			0.487	0.52	13.4			0.47	0.151	0.64	1.16	0.58		
SCI1SU2602			0.6			0.45	0.73	13.3			0.56	0.177	0.66	0.97	0.5		
SCI1SU2603 (Split)	0.36		0.51			0.37	0.47	13.3			0.36	0.136	0.48	0.89	0.44		
SCI1SU2701			0.53			0.32	0.46	13.7			0.18	0.146	0.78	1.19	0.37		
SCI1SU2702						0.57	0.63	14.7			0.47	0.224	0.59	0.87	0.42		
SCI1SU2801			0.62			0.57	0.75	15.1			0.51		0.57	1.2	0.41		
SCI1SU2802			0.41			0.37	0.57				0.16		0.29	0.98	0.26		
SCI1SU2901						0.19	0.42				0.4	0.103	0.28	1	0.34		
SCI1SU2902			0.4			0.31		4.7			0.51		0.31	0.7	0.35		
SCI1SU3001	1.07	1.26	0.85		2.2	1.36	0.61	12			1.07	0.52	1.98	4.53	1.635		
SCI1SU3001 DUP	1.44		0.63			1.54	0.72	12.3			1.44	0.4	2.18	1.785			
SCI1SU3002 (Split)			0.46			0.37	0.61	4.7			0.36		0.94	1.34	0.83		
SCI1SU3003	1.09		1.18			1.1	1.1	10.1			1.09	0.37	0.95	1.7	1.11		



Survey Unit 2 Soil Sampling Locations

SCI Soil Characterization Data

Sample Number	As 228	B 212	B 214	Cs 137	Pb 210	Pb 212	Pb 214	K 40	Ra 226	Ra 224	Ra 228	Tl 208	Th 228	Th 230	Th 232	Th 234	U 238
SCI2SU0101					2.7	0.31					0.31		0.4	1.32	0.56		
SCI2SU0101 DUP			0.6		2.11	0.24	0.52				0.32		0.39	1.37	0.47		
SCI2SU0102			0.37		0.95	0.334	0.44				0.41		1.71	3.24	1.57		
SCI2SU0103	1.03		0.36			0.93	0.56	11.7			1.03	0.36	1.16	1.55	0.87		
SCI2SU0104	1.02		0.55			0.54	0.55	14.7			1.02	0.29	0.86	1.18	0.81		
SCI2SU0105	0.71		0.69			0.63	0.7	13.6			0.71	0.23	0.69	0.71	0.7		
SCI2SU0106			0.53			0.58	0.53	16.2			0.82	0.31	0.59	0.97	0.74		
SCI2SU0107			0.4			0.56	0.5	15.3	0.59		0.39	0.18	0.62	0.73	0.65		
SCI2SU0201	5		0.98			4.36	0.91	2.1			5	1.71	5.32	1.43	5.23		
SCI2SU0202			0.73		1.01	0.86	0.81	12.5	0.43	2.6	0.45	0.35	1.15	1.51	0.685		
SCI2SU0203			1.64		1.7	0.69	1.92	9	1.74		0.87	0.13	1.06	2.03	1.01	1.6	1.34
SCI2SU0204	1.36		2.46		1.9	0.95	2.29	11.6	2.38		1.36	0.34	1.23	3.77	1.155	2.1	2.54
SCI2SU0301	3		0.89			3.59	0.83	15		4.3	2.99	1.2	4.73	6.32	3.61		
SCI2SU0302	0.84		1.33			0.83	1.23	16.5			0.84	0.26	0.9	2.08	0.93		
SCI2SU0302 DUP	0.99		1.06			0.8	1.21	10.6			0.99	0.31			0.99		
SCI2SU0303 (Split)			1.37			0.71	1.64	12.9			0.82	0.3	1.03	1.66	0.84		
SCI2SU0304						0.81	2.06	18.4			0.85	0.36	0.88	2.32	1.02	3	1.9
SCI2SU0401	4.7	2.6	0.45			3.88	0.66	9.7			4.71	1.23	5.16	10	4.87		
SCI2SU0402	6.2	3.4	0.8			5.43	0.77	11.3			5.7	1.95	6.98	17	3.7		
SCI2SU0403			0.83			0.89	1.01	16			1.02		0.82	1.99	1.09		
SCI2SU0501	4.5	3.3	0.67			4.25	0.88	5			4.53	1.36	7.2	15.9	2.6		
SCI2SU0502	3.6		0.75			3.51	1.01	12.2			3.65	1.23	4.57	23	4.285		
SCI2SU0503			0.89			0.65	0.74	12.9			0.96		0.88	1.1	0.9		
SCI2SU0601	1.48		0.51			1.5	0.63	33			1.48	0.47	2.86	3.58	2.46		
SCI2SU0602	1.12					0.77	0.59	19.4			1.12	0.35	1.18	1.72	1.06		
SCI2SU0602 DUP													1.19	1.7	0.94		
SCI2SU0701	3.6	3.1	0.82			3.57	0.84	3.2			3.6	1.06	9.2	6.15	6.45		
SCI2SU0702	5.5	3.3	0.7			4.32	0.8	10.6				1.27	6.35	3.76	6.15		
SCI2SU0703	1.05		0.66		1.13	0.98	0.83	10.8			1.05	0.36	1.18	1.47	1.095		
SCI2SU0801	2.25		0.73			1.83	0.76	7.5			2.25	0.62	5	2.48	3.42		
SCI2SU0801 DUP	1.99					1.73	0.81	4.8			1.99	0.65	4.94	2.3	3.345		
SCI2SU0802			0.97			0.69	1.02	16.2			0.41		1.02	1.28	0.93		
SCI2SU0901	2.2	1.4	1.44			1.53	1.78	4.7			2.2	3.96	26.8	15.2	15.5		
SCI2SU0902			0.53				0.6				0.15		3.67	2.81	3.87		
SCI2SU0903	0.79		0.92		1.3	0.74	0.75	13.6			0.79	0.44	1.37	1.28	0.9		
SCI2SU0904			0.7			0.78	0.75	3.8			0.79	0.21	1.02	1.08	0.96		
SCI2SU1001	1.73		0.53			1.63	0.54	1.7			1.73	0.52	3.77		2.905		
SCI2SU1002	1.67		0.72			1.6	1.03	14.4			1.67	0.55	1.95	3.1	1.875	1.22	1.38
SCI2SU1003 (Split)						1.21	0.79	10.5			1.33	0.37	1.95	2.51	1.78		
SCI2SU1101	4.6	2.4	1.36			3.97	1.13				4.62	1.18					
SCI2SU1102	1.28		0.64			1.25	0.63	16			1.28	0.37	1.36	1.39	1.44		
SCI2SU1103 (Split)	1.06		0.62			0.83	0.85	21.8			1.06	0.281	0.88	1.05	1.06		
SCI2SU1201	1.42	1.2	1.46				1.56	3			1.42	4.33	28.2	15.1	21.5		

SCI Soil Characterization Data

Sample Number	Ac 228	Bi 212	Bi 214	Cs 137	Pb 210	Pb 212	Pb 214	K 40	Ra 226	Ra 224	Ra 228	Ti 208	Th 228	Th 230	Th 232	Th 234	U 238
SCI2SU1202	1.3					1.45	0.65	7.7			1.3	0.37	3.18	2.66	1.805		
SCI2SU1301	3.8	2.14				3.58	0.78	1.6			3.75	1.21	3.3	4.99	6.75		
SCI2SU1302						0.19	0.79	6.6			0.31		0.76	0.91	0.59		
SCI2SU1303						0.53	0.96	10.4			0.4	0.28	0.72	0.81	0.74		
SCI2SU1304						0.64	0.99	10.3			0.95	0.23	0.9	1.09	0.79		
SCI2SU1401	1.68		1.34			1.86	1.46	8.5			1.68	0.66	3.34	3.3	2.625		
SCI2SU1401 DUP	1.86		1.26			2.15	1.56	6			1.86	0.73	3.47	2.9	2.505		
SCI2SU1402	1.27		1.27			0.95	1	15.6			1.27	0.28	1.03	1.5	1.33		
SCI2SU1501	0.87		0.64			0.79	0.84	14			0.87	0.3	0.72	1.32	0.86		
SCI2SU1502			0.99			0.8	0.84	16			0.54	0.37	0.72	1.18	0.77		
SCI2SU1503 (Split)			0.69		1.5	0.72	0.51	10.4			0.42		0.99	1.05	0.81		
SCI2SU1601			0.67			0.76	0.74	13.7			0.86		0.87	1.71	0.96		
SCI2SU1602			0.74			0.75	0.79	12.9			0.6	0.33	1	1.23	0.7		
SCI2SU1701	1.88		0.77			1.17	0.73	16.7			1.88	0.53	1.32	1.45	1.815		
SCI2SU1702	1.46		1.04			0.88	0.96	16.3			1.46	0.34	0.98	1.2	1.205		
SCI2SU1801			0.38			0.212	0.47	3.1			0.39		0.33	1.12	0.44		
SCI2SU1802			0.48			0.69	0.82	13.4			0.58	0.136	0.68	1.3	0.57		
SCI2SU1901			0.95			1.03	0.69				0.46	0.21	0.95	1.55	1		
SCI2SU1902			0.68			0.68	0.92	3.9			0.77	0.23	0.7	1.12	0.94		
SCI2SU1903 (SPLIT)			0.77			0.57	0.78	13.6			0.81		0.84	1.33	1.03	0.78	0.78
SCI2SU2001			0.6			0.66	0.88				0.85	0.25	1.06	2.31	0.99		
SCI2SU2002			0.39			0.132	0.42				0.006		0.31	0.83	0.29		
SCI2SU2101	1.32		0.67			0.73	0.7	12.7			1.31	0.37	1.06	2.05	1.295		
SCI2SU2102	0.68		0.65			0.64	0.8	13.7			0.68	0.26	0.83	1.22	0.765		
SCI2SU2103 (SPLIT)			0.7			0.75	0.8	16			0.79	0.37	0.75	0.58	0.75		
SCI2SU2201	0.97		0.78			0.64	0.77	14.4			0.97	0.183	1.16	1.78	1.12		
SCI2SU2201 DUP			0.63			0.6	0.8	2.7			0.39	0.226	1.05	2	0.98		
SCI2SU2202	2.22	1.52	3.63			2.2	3.08				2.22	2.5	1.3	2.06	2.33		
SCI2SU2203			0.36			0.35	0.58	2.45			0.26		1.3	3.97	0.83		
SCI2SU2204 (Split)			0.43			0.33	0.38	2.53			0.34	0.131	0.83	3.91	0.87		
SCI2SU2205			0.46				0.38	3.3			0.2		0.33	0.67	0.34		
SCI2SU2301	1.5		1.26			1.78	1.38	9.3			1.5	0.57	2.75	4.19	2.21		
SCI2SU2302	0.96		0.89			0.84	0.85	17.8			0.96	0.34	1.21	1.4	1.08		
SCI2SU2401	1.92		0.86			1.71	0.99				1.92	0.58	3.49	6.47	2.785		
SCI2SU2402			1			0.74	1.17	9.9			0.76	0.26	0.76	1.42	0.8		
SCI2SU2501	1.13		0.81			1.18	0.56	3.1			1.13	0.5	4.21	5.91	2.61		
SCI2SU2502	0.94	0.71	2.03		1.4	0.9	1.94	1.7			0.94	0.3	3	4.11	1.735	1.04	1.04
SCI2SU2503 (Split)	1.11		1.55			0.98	1.87				1.11	0.31	2.94	3.8	2.04	1.78	1.78
SCI2SU2601	1.37	0.99	0.59			1.4		7.1			1.37	0.39	2.59	3.13	2.11		
SCI2SU2602			0.88			0.35	0.61	4.4			0.15	0.202	0.61	1.43	0.64		
SCI2SU2701	2.39	0.89	0.54			2.28	0.62	4.8			2.39	0.82	1.01	2.91	3.53		
SCI2SU2702	6	3.8	1.94			5.21	2.01	3.5			6	1.87	1.18	3.93	3.92		
SCI2SU2703			0.43			0.53	1.05	14.3			0.38	0.24	0.62	0.96	0.68		

SCI Soil Characterization Data

Sample Number	Ac 228	Bi 212	Bi 214	Cs 137	Pb 210	Pb 212	Pb 214	K 40	Ra 226	Ra 224	Ra 228	Tl 208	Th 228	Th 230	Th 232	Th 234	U 238
SCI2SU2801	2.65	1.3				2.24					2.65	0.88	3.38	4.59	3.135		
SCI2SU2801 DUP	2.05		0.5			2.24	0.34	4.8			2.05	0.77			2.05		
SCI2SU2802	1.02		0.76			1.08	0.82				1.02	0.37	1.54	2.42	1.29		
SCI2SU2901	2.77		0.75			2.36					2.77	0.92	4.17		3.28		
SCI2SU2902	2.38		1.38			2.89	1.38				2.38	0.99			4.335		
SCI2SU2903			0.51				0.42	3.1			0.51	0.154	0.56	0.85	0.59		
SCI2SU3001	1.33		0.72			1.03	0.69				1.33	0.51	2.39		1.995		
SCI2SU3001 DUP													2.39		2.66		
SCI2SU3002	1.45		0.65			1.73	0.84				1.45	0.6	4.77		2.915		
SCI2SU3003 (Split)	1.19		0.55			1.26	0.69				1.19	0.4	3.54		2.66		
SCI2SU3004			0.5					4.1			0.13		0.25	0.78	0.29		
SCI2SU3005			0.91			0.51	0.73				0.64	0.111	0.59	0.78	0.43		
SCI2SU3101	2.07	1.9	0.77			2.32	0.67	5			2.07	0.82	4.39		3.2		
SCI2SU3102	0.74		1.65			1.29	1.59				0.74	0.38	1.36	1.99	1.11		
SCI2SU3301	0.81		0.79			0.55	0.54				0.81	0.31	1.94	4.29	1.46		
SCI2SU3302	0.81		0.59			0.72	0.83				0.81	0.14	0.71	1.84	0.775		
SCI2SU3401	1.31		0.6			1.43					1.31	0.52	2.68		2		
SCI2SU3402						0.73	0.73				0.57	0.19	0.89	1.68	0.97		
SCI2SU3501	1.02		0.54			1.14	0.72		0.54		1.02	0.36	2.36	3.77	1.7		
SCI2SU3502			0.62			0.25	0.8				0.52		0.3	1.28	0.54		

SCI Soil Characterization Data

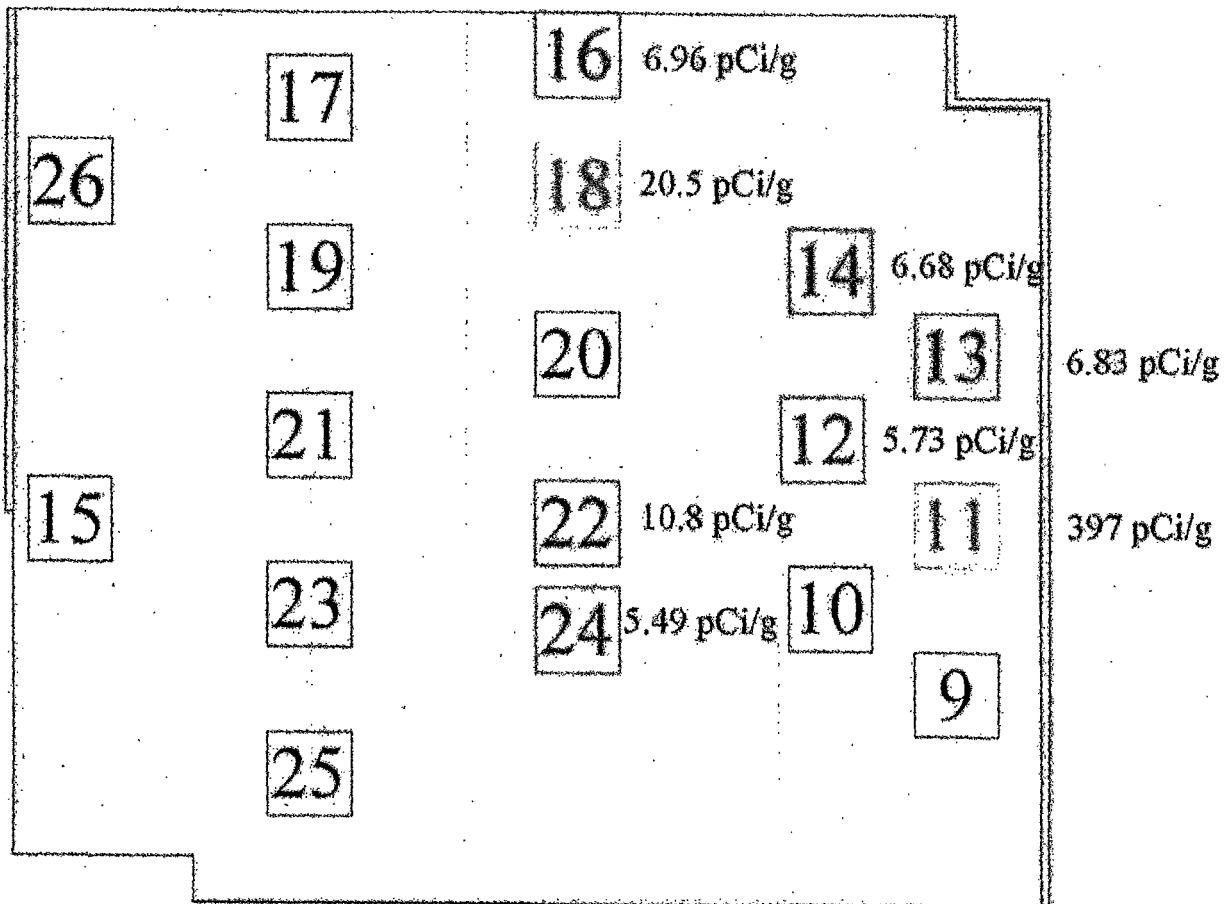
Sample Number	Ac 228	Bi 212	Bi 214	Cs 137	Pb 210	Pb 212	Pb 214	K 40	Ra 226	Ra 224	Ra 228	Tl 208	Th 232	Th 230	Th 232	Th 234	U 238
SCI3SU0101	0.8		0.63			0.79	0.68	10.3			0.8		1.08	1.95	0.97		
SCI3SU0101 DUP			0.59			0.73		12.8			0.53	0.21	1.06	1.53	0.87		
SCI3SU0102			0.69			0.7	0.74	15.5			0.81	0.34	1.37	1.18	0.99		
SCI3SU0201			0.75			0.68	0.58	11.2			0.82	0.27	0.97	1.64	0.98		
SCI3SU0202			0.59			0.85	0.65	11.6			0.66	0.24	0.76	1.17	0.96		
SCI3SU0301	0.67		0.72		1.09	0.62	0.71	10.7			0.67	0.29	1.16	1.76	0.795		
SCI3SU0302			0.67			0.36	0.58	3.9			0.47	0.192	0.98	1.55	0.72		
SCI3SU0401			0.81			0.76	0.81	13.7			0.85	0.28	0.94	1.15	0.72		
SCI3SU0402			0.3			0.183	0.4				0.17		0.29	1.44	0.47		
SCI3SU0501			0.46				0.41				0.25		0.33	1.28	0.3		
SCI3SU0502			0.34			0.14	0.39				0.28		0.001	0.78	0.138		
SCI3SU0503 (Split)			0.34			0.135	0.46				0.04		0.2	0.77	0.088		
SCI3SU0601	4.1	2.3	1.18			4.14	1.38	7.3			4.1	1.44	2.69	1.8	2.1		
SCI3SU0602	6.1	2.4	1.71			4.54	1.6	10.8				1.41	6.82	7.45	5.125		
SCI3SU0603	1.12		0.84			1	0.97	10.3			1.12	0.31	1.05	1.43	1.17		
SCI3SU0604			0.53			0.61		10.7			0.89		1	1.09	0.85		
SCI3SU0701	1.92	1.56	0.93			1.75	0.9	8.8			1.92	0.62	4.49	5.52	3.175		
SCI3SU0702	0.8		0.91			0.9	0.7	11.8			0.8		1.62	2.21	0.97		
SCI3SU0801			1.76			0.22	1.6	1.8			0.39		1.12	3.51	1.11		
SCI3SU0802			0.62			0.65	0.76	14			0.67		0.74	1.12	0.67		
SCI3SU0901	2.09	1.42	0.73				0.84	7.2			2.09	0.6	3.46	4.25	2.89		
SCI3SU0902			0.45			0.71	0.85	15			1.28	0.216	0.67	1.16	0.76		
SCI3SU1001	2.92	2.7	0.97			2.8	0.95	7.6			2.92	1.12	3.84	3.22	4.395		
SCI3SU1002	0.73		0.83			0.86	0.94	12.6			0.73	0.31	0.88	1.14	0.76		
SCI3SU1002 DUP	0.7		0.71			0.79	0.62	13.1			0.7	0.23	0.65	1.19	0.695		
SCI3SU1101	0.8	4.8	1.08			2.5	1.47	8.3			0.8	2.74	4.78	6.6	10.35		
SCI3SU1102	21.4	14.2	4.04			20.8	4.34	9.8			21.4	9.4	19.5	30.7	24.9		
SCI3SU1103 (Split)	17.5	10.5	3.2			18.5	4.16				17.5	7.2	14.9	34.7	30.33		
SCI3SU1104	1.06		1.37			1.03	0.62	12.3			1.06	0.31	1.03	3.25	0.965		
SCI3SU1201	2.32	1.74	0.94			2.63	1.04	12.3			2.32	0.78	3.32	3.73	2.715		
SCI3SU1202			0.81			0.87	0.88	14.8			0.91	0.3	0.85	1.51	0.98		
SCI3SU1301	0.59		0.56		2	1.04	0.72	7.1			0.59	0.26	1.11	1.68	0.965		
SCI3SU1302	3.1		1.03			3.35	1.11	10.9			3.1	1.19	4.28	4.68	3.75		
SCI3SU1303		6.2	1.05			5.32	1.69	8.4				2.45	5.35	4.02	6.815		
SCI3SU1304	1.42		1.06			1.31	1.05	10.9			1.42	0.5	1.54	2.59	1.6		
SCI3SU1401	1.12		0.82			1.18	0.9	11.6	0.82		1.12	0.39	1.38	2.68	1.205		
SCI3SU1402	2.28	2	0.84			2.04	0.77	11.2			2.28	0.78	3.26	3.33	2.83		
SCI3SU1403			0.7			1.06	0.64	12			0.86	0.42	1.74	2.88	1.95		
SCI3SU1601	2.16	1.5	0.53			1.59	0.62	11.7			2.16	0.51	2.73	6.35	2.795		
SCI3SU1602 (Split)	2.08	1.36	0.71			1.69	0.67	9.5			2.08	0.52	2.11	7.15	2.35	1.28	1.28
SCI3SU1603	0.76		0.67			0.74	0.73	3.2			0.76	0.26	1.82	4.99	1.32		
SCI3SU1701			1.36			0.53	1.39	2.9			0.5		0.78	1.76	0.76		
SCI3SU1701 DUP			1.23			0.43	1.32				0.44	0.176	0.79	2.4	0.96		

SCI Soil Characterization Data

Sample Number	Ac 228	Bt 212	Bt 214	Cs 137	Pb 210	Pb 212	Pb 214	K 40	Ra 226	Ra 224	Ra 228	Tl 208	Th 228	Th 230	Th 232	Th 234	U 238
SCI3SU1702			0.95			0.72	0.77	2.2			0.66	0.243	0.95	2.25	0.92		
SCI3SU1801	1.29		0.36			1.08	0.58	5.7			1.29	0.44	1.78	3.45	1.48		
SCI3SU1802		5.2	0.89			3	0.97	10.8			2.1	2.97	2	20.5	2.9		
SCI3SU1803			1.14			0.93	1.26	12.5			0.9	0.28	1.04	1.5	1.03		
SCI3SU1803 DUP			0.99			0.74	1.28	8.7			0.85	0.3					
SCI3SU1804	0.79		2.39			1.18	2.5	2.8			0.79	0.33	1.45	3.27	1.035	2.74	2.74
SCI3SU1901			1.01			0.37	1.23	4.8			0.57	0.24	1.05	2.04	1.19		
SCI3SU1902			0.69			0.68	1.07	3.5			1.2		1.03	1.34	0.86		
SCI3SU2001	1.33		0.67			1.27	0.85	7.8			1.33	0.33	2.5	4.64	1.845		
SCI3SU2002			0.84			0.85	0.69	1.7			1.07	0.35	0.74	1.11	0.92		
SCI3SU2003 (Split)			0.63			0.68		10.2			0.6		0.77	1.47	0.8		
SCI3SU2101			0.35			0.26					0.27	0.192	0.58	2.42	0.6		
SCI3SU2102			0.4			0.08	0.4	3			0.22		0.2	0.75	0.24		
SCI3SU2201	4.1		0.87			4.29	0.51	10.2		5.2	4.11	1.39	7.5	10.8	3.35		
SCI3SU2202			0.7			0.86	0.85	17.7			1.16	0.41	1.04	1.36	1.07		
SCI3SU2301			0.45			0.084	0.41	1.34			0.16		0.48	1.85	0.51		
SCI3SU2302			0.77			0.164	0.8	2.2			0.16		0.61	1.24	0.61		
SCI3SU2401	1.82		0.97			1.66	0.91	10.2			1.82	0.6	2.65	2.3	2.215		
SCI3SU2402			0.99			0.95	0.7	5.1			1.55	0.54	1.96	3.29	1.84		
SCI3SU2501			1.08			1.03	0.89	2.3			1.05	0.47	2.13	4.31	1.73		
SCI3SU2502 (Split)			1.03			0.64	1.19				1.05	0.34	1.73	4.65	1.52		
SCI3SU2503			0.59			0.166	0.57				0.05		0.26	1.43	0.38		
SCI3SU2701	1.65		0.65			1.16	0.86	2.7			1.65	0.56	3.08	3.3	2.325		
SCI3SU2702			0.72			0.43	0.74				0.71	0.17	2.33	8.3	1.91		
SCI3SU2703	1.26		0.59			0.98	0.83	14.6			1.26	0.37	0.108	0.62	1.26		
SCI3SU2704			0.63				0.34				-0.08		0.62	0.92	0.35		
SCI3SU2801	7.2	4.6	1.52			7.6	1.63				7.2	2.7	17	4.3	1.7		
SCI3SU2801 DUP	7.0	3.5	1.78			6.3	1.97	5.6			7.9	2.27	13.1	49.2	13		
SCI3SU2802			0.79			0.55	0.76	12			0.66		1.11	1.19	0.9		
SCI3SU2901			0.74			0.53	0.74				0.69	0.2	1.72	4.64	1.68		
SCI3SU2902			0.53								0.39		0.34	1.37	0.33		
SCI3SU3001			1.09			0.46	0.99	7.2			0.7		0.92	2.71	0.77		
SCI3SU3002	1.26		0.83		1.7	0.87	0.94	10.8			1.26	0.27	1	1.57	1.185		
SCI3SU3003 (Split)			0.43			0.47	0.91	8.7			0.75		1.1	1.39	0.98		
SCI3SU3101			0.64			0.48	0.64	3.3			0.69	0.206	1.51	3.46	1.35		
SCI3SU3102			0.31			0.123	0.36				0.17		0.17	1.39	0.22		
SCI3SU3201	1.54		0.87			1.31	0.85	3.1			1.54	0.5	3	3.91	2.285		
SCI3SU3202			0.69			0.78	0.71	10.4			0.86	0.31	0.84	1.37	0.87		
SCI3SU3301			0.57			0.21	0.54				0.33		1.07	2.49	0.99		
SCI3SU3302							0.3				0.14		0.12	0.98	0.19		
SCI3SU3401			0.41			0.57	0.52				0.45	0.159	1.18	1.94	1.15		
SCI3SU3402			0.9			1.01	0.92	10.2			1.2	0.34	1.13	1.73	1.1		

SU 3

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Survey Unit 3 Soil Sampling Locations

SCI Soil Characterization Data

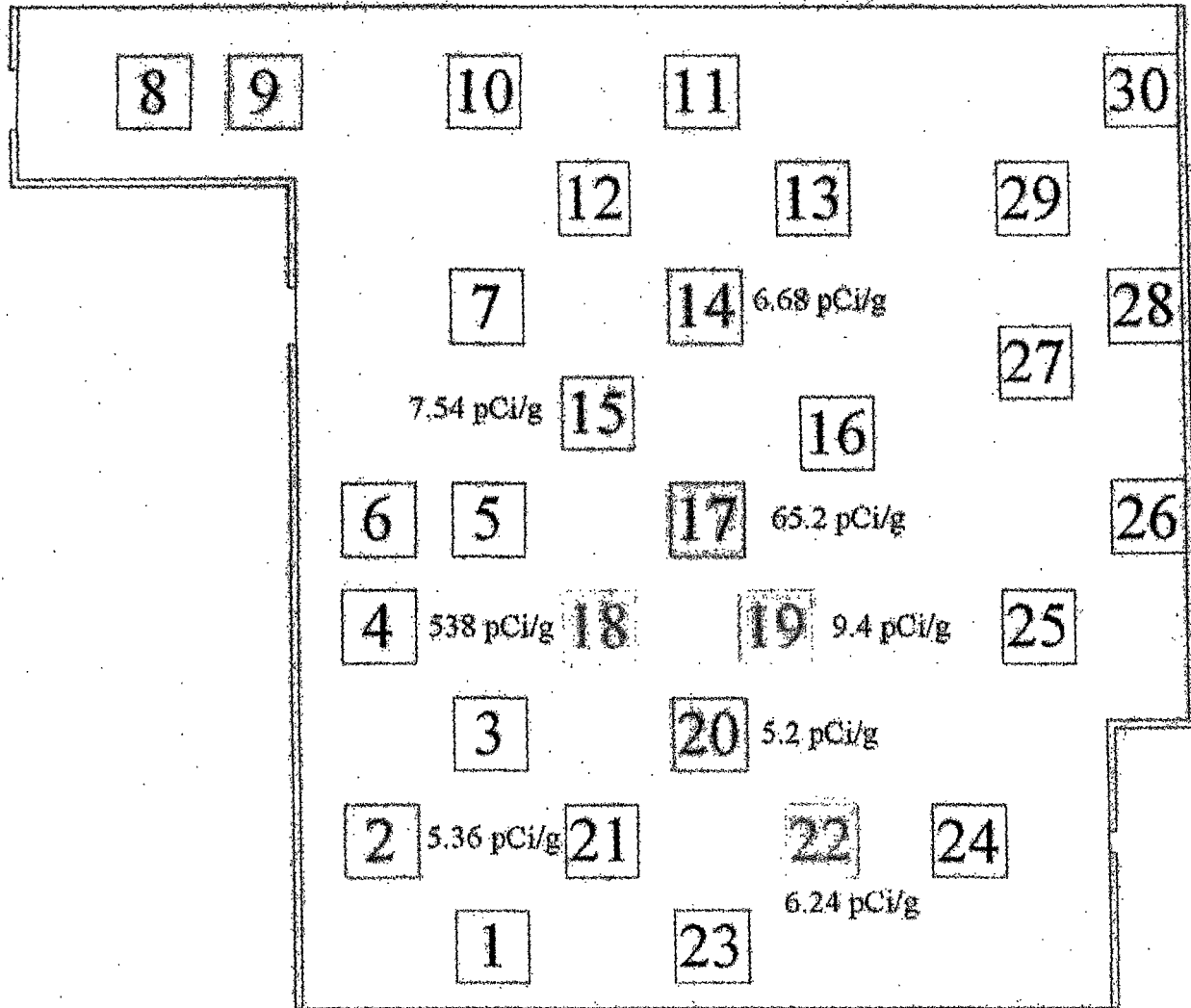
Sample Number	Ac 228	Bi 212	Bi 214	Cs 137	Pb 210	Pb 212	Pb 214	K 40	Ra 226	Ra 224	Ra 228	Tl 208	Th 232	Th 230	Th 232	Th 234	U 238
SCI4SU0101			0.79		1.62	0.37	0.82	5.6			0.55	0.14	1	1.51	0.88		
SCI4SU0102	0.93		0.79			1.06		15.4			0.93	0.25	0.74	1.64	0.825		
SCI4SU0103			0.73			0.65	0.82	11.3			0.35	0.24	1.1	1.74	0.86	1.31	1.31
SCI4SU0201	0.95		1.46			0.79	1.85	4.6			0.95	0.25	1.47	5.35	1.105		
SCI4SU0202	1.34		2.27			0.99	2.94	5.1			1.34	0.35	1.14	2.9	1.24		
SCI4SU0301			0.75			0.43	0.84	5			0.56	0.16	0.79	3.32	0.92		
SCI4SU0302	0.45		0.71			0.71	0.88	12.2			0.45	0.24	1	1.79	0.62		
SCI4SU0401	0.42		0.74			0.51	0.69				0.42	0.17	1.23	3.91	0.735		
SCI4SU0402	1.43		0.7			0.96	0.6	6.9			1.43	0.34	1.34	2.29	1.295		
SCI4SU0501			0.47			0.21	0.57	5.4			0.33		0.56	1.38	0.54		
SCI4SU0502	1.32		0.97			0.99	1.28	14.4			1.32	0.38	0.89	1.12	1.195		
SCI4SU0601			0.7			0.22		3.2			0.13		0.49	1.31	0.47		
SCI4SU0602			0.92			0.56	1.1	7.7			0.45	0.24	0.89	1.35	0.62		
SCI4SU0701			0.54			0.81	0.85				1	0.201	1.37	2.85	1.7		
SCI4SU0702			0.74			0.34	0.68	6.7			0.24	0.186	0.49	1.48	0.53		
SCI4SU0801			0.94			0.82	0.79	1.3			0.59	0.16	0.93	1.31	0.87		
SCI4SU0802			0.79			0.66	0.89	10			0.69	0.3	0.84	2.19	0.87		
SCI4SU0901			0.86			0.98	0.87	14.3			0.73	0.28	1.05	1.93	0.95		
SCI4SU0901 DUP	0.5		1.07			0.83	1.2	12.5			0.5	0.31	0.83	1.89	0.5767		
SCI4SU0902	1.09		1.1			1.02	0.94	14.8			1.09	0.35	1.29	1.66	0.93		
SCI4SU1001	1.64		0.78			1.54	0.7	5.0			1.64	0.41	1.63	4.4	1.755		
SCI4SU1002			0.94			0.93	1.46	16.7			0.67	0.4	0.83	1.67	0.94		
SCI4SU1003 (Split)			1.1			1	1.35	12.7			1.54	0.28	0.91	1.69	0.91		
SCI4SU1101			0.62			0.67	0.79	5.3			0.74	0.14	1	2.62	1.06		
SCI4SU1102			0.75			0.73	0.63	10.6			0.81	0.25	0.82	1.73	0.77		
SCI4SU1201			0.83			0.44	0.83	3.5			0.4	0.15	1.02	1.76	0.87		
SCI4SU1202			0.82			0.19	0.66	5			0.11	0.142	0.67	1.38	0.64		
SCI4SU1301			0.76			0.84	0.8	16.9			1.01	0.26	0.8	1.32	0.64		
SCI4SU1302			0.5			0.91	0.71	8.3			0.89	0.25	1	1.85	0.95		
SCI4SU1401	0.69		0.83			0.73	0.86	2.4			0.69	0.23	2.27	3.8	1.41		
SCI4SU1402			1.14			0.84	1.04	9.5			0.79	0.38	1.5	3.69	1.4		
SCI4SU1501	1.15		0.73			0.76	0.69	3			1.14	0.27	2.29	5.7	1.64		
SCI4SU1501 DUP			0.62			0.61	0.63				0.68	0.306	2.03	5.23	2.16		
SCI4SU1502			0.52			0.28	0.68				0.48		0.62	1.29	0.55		
SCI4SU1601			0.5			0.63	0.77	7			0.53	0.24	0.92	2.01	0.83		
SCI4SU1602	0.7		0.5			0.25		6.6			0.7		0.52	1.17	0.62		
SCI4SU1701	1.3	3.7	1.04			0.86		4.9			1.3	3.39	2.34	0.4			
SCI4SU1702 (Split)	12.9	3.6	1.11			1.26		6.1			12.9	4.2	2.72	0.6			
SCI4SU1703	1.96		0.74			1.69	0.89	6.3			1.96	0.7	2.84		2.385		
SCI4SU1704	0.96		1.71			1.09	1.81	10.7			0.96	0.43	1.33	2.25	1.07	1.45	1.45
SCI4SU1705			1.36			1.04	1.43	11.4			0.85	0.3	1.02	2	0.79		
SCI4SU1801	44	36	3.38			3.49	3.4				98.8	4.4	145	538	7.49		
SCI4SU1801 DUP												152	345	15.7			

SCI Soil Characterization Data

Sample Number	Ac 228	Bi 212	Bi 214	Cs 137	Pb 210	Pb 212	Pb 214	K 40	Ra 226	Ra 224	Ra 228	Tl 208	Th 228	Th 230	Th 232	Th 234	U 238
SCI4SU1802	4.1	3	1.12			4.25	0.73				4.12	1.49					
SCI4SU1803			0.61			0.377	0.8	3			0.46	0.118	0.56	4	1.1		
SCI4SU1901	1.96	1.26	1		2.3	2.13	1.24	4			1.96	0.54	4.07		3.25		
SCI4SU1902	3.9		1.28			3.56	1.16				3.88	1.17	4.86		4.045		
SCI4SU1903			2.03			0.99	2.14				1.2	0.49	1.14	2.5	0.97		
SCI4SU1904			0.8			0.88					0.91	0.35	0.72	1.31	0.86		
SCI4SU2001	1.19		0.66			1.49	0.69	4.3			1.19	0.53	3.29		2.205		
SCI4SU2002	0.89		1.01			0.67	1.17				0.89	0.29	0.92	2.51	0.945		
SCI4SU2101			0.6			0.252	0.57	2.7			0.3	0.137	0.54	2.23	0.54		
SCI4SU2102			0.86			0.3	0.79				0.6		0.51	1.83	0.43		
SCI4SU2201	1.46		0.53			1.16	0.76	4.9			1.46	0.41	2.46		1.835		
SCI4SU2202	1.82		0.93		1.3	1.8	1.13				1.82	0.59	2.64		2.235		
SCI4SU2203 (Split)	2.36	2.37	1.18			2.01	1.42				2.36	0.56	3.64		2.79		
SCI4SU2204			0.79			0.75	0.69				1.08	0.29	0.78	1.87	0.69		
SCI4SU2205			0.46			0.69	0.54				0.34	0.25	0.71	0.7	0.66		
SCI4SU2301	1.34		0.63		1.4	1.09	0.8	4.3			1.34	0.37	2.48	4.92	1.71		
SCI4SU2302	0.99		0.83			1.07	1.07				0.99	0.44	1.41	2.28	1.355		
SCI4SU2302 DUP	1.2		0.88			1.43	1.34				1.2	0.43	1.93	2.64	1.395		
SCI4SU2401			0.69			0.61	0.64				0.71	0.27	1.08	1.49	0.93		
SCI4SU2402			0.78		2.5	0.83	0.94				1.14		1.19	1.38	1.05		
SCI4SU2501			0.89			0.75	0.76				0.87	0.18	1.1	1.92	0.99		
SCI4SU2502			0.79			0.96	0.78				0.93	0.33	0.88	1.63	0.81		
SCI4SU2601			0.19			0.147	0.38	4.1			0.26	0.08	0.54	1.61	0.38		
SCI4SU2602			0.32			0.208	0.48				0.32		0.25	0.62	0.34		
SCI4SU2701			0.64			0.35	0.43				0.54	0.212	0.59	1.42	0.44		
SCI4SU2702			0.59			0.53	0.67				0.32	0.201	0.69	1.41	0.49		
SCI4SU2703 (Split)			0.62			0.37	0.66				0.29	0.254	0.71	1.26	0.63	0.8	0.8
SCI4SU2801			0.71			0.44					0.34		0.57	1.25	0.53		
SCI4SU2802			0.79			0.49	0.81				0.47		1.35	2.07	1.15		
SCI4SU2901			0.59			0.7	0.61				0.85		0.8	1.64	0.73		
SCI4SU2902			0.25			0.212					0.26	0.107	0.31	0.94	0.39		
SCI4SU3001			0.44			0.4					0.54	0.167	0.54	0.79	0.33		
SCI4SU3002	0.5		0.61			0.47	0.4				0.5	0.126	0.59	0.82	0.55	0.45	0.45
SCI4SU3003 (Split)			0.54			0.76	0.62				1.03		0.68	2.13	0.72		
SCI4SU3003 DUP													0.51	1.72	0.73		

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Survey Unit 4 Soil Sampling Locations

SCI Soil Characterization Data

Sample Number	Ac 228	B 212	B 214	Cs 137	Pb 210	Pb 212	Pb 214	K 40	Ra 226	Ra 224	Ra 228	Tl 208	Th 228	Th 230	Th 232	Th 234	U 238
SCI5SU0101			0.28			0.38	0.58	3.9			0.3	0.21	0.79	1.31	0.55		
SCI5SU0102			0.63			0.43	0.54	10.3			0.55	0.254	0.55	1.28	0.46		
SCI5SU0201			0.44			0.47	0.51	4.4			0.39		0.7	1.77	0.56		
SCI5SU0202			0.59			0.52	0.58	9.1			0.85	0.18	0.6	1.05	0.56		
SCI5SU0301			1.02			0.4	0.93	8.8			0.53	0.13		1.47	0.65		
SCI5SU0302			0.74			0.58	0.61	12.3			0.52	0.223	0.71	1.59	0.58		
SCI5SU0401			0.6			0.8	0.6	13.8			0.9		0.74	1.32	0.87		
SCI5SU0402			0.54			0.71	0.66	10.5			0.3	0.27	1.02	1.43	0.87		
SCI5SU0501			0.5			0.55	0.68	7.9			0.29	0.202	0.48	1.04	0.44		
SCI5SU0502			0.3			0.27	0.31				0.2		0.22	0.42	0.37		
SCI5SU0601	0.94		0.73		2.4	0.53	0.74	10.2			0.94	0.29	0.72	1.14	0.79		
SCI5SU0602			0.8			0.54	0.91	15.2			0.85	0.42	0.81	1.75	0.78		
SCI5SU0701			0.56			0.93	0.85	15			0.64		0.87	1.58	1.07		
SCI5SU0702			1.18			0.87	0.77	17.8			0.55	0.46	0.99	1.38	0.99		
SCI5SU0801	1		0.68			1.13	0.62	9.8			1	0.46	0.98	3.41	1.005		
SCI5SU0802			0.86			0.64	0.94	12.6			0.46		1.02	1.31	0.89		
SCI5SU0803 (Split)			0.41			0.63	0.72	14.9			0.29	0.24	0.69	1.15	0.97	0.82	0.82
SCI5SU0901			1.07			1.37	1				1.15	0.3	1.07	1.11	0.92		
SCI5SU0902	1.17					0.93	1.22	19.2			1.17	0.36	1.05	1.66	0.935		
SCI5SU1001			0.53			0.62	0.88	7.7			0.45	0.201	0.73	1.28	0.67		
SCI5SU1001 DUP			0.72			0.66	0.77	8.7			0.59	0.17	0.73	1.27	0.77		
SCI5SU1002			0.87			0.5	0.85	3.8			0.58		0.86	1.13	0.81		
SCI5SU1101			1.07			0.5	0.75	3.8			0.76	0.17	0.7	1.22	0.67		
SCI5SU1102			0.66			0.71	0.72	10.5			0.65	0.22	0.7	1.16	0.59		
SCI5SU1201			0.68			0.74	0.61	10.8			0.84	0.26	0.74	1.17	0.67		
SCI5SU1202	1.21					1.02	1.13	15.2			1.21	0.3	1.16	1.26	1.14		
SCI5SU1301			0.63			0.42	0.56	9.3			0.53	0.111	1.13	2.52	0.93		
SCI5SU1302			0.76			0.77	0.79	15.7			0.92		0.83	1.64	0.76		
SCI5SU1303 (Split)			0.63			0.52	0.68	11.5			0.9	0.22	0.88	1.74	0.94		
SCI5SU1401			0.7			0.62	0.92	11.8			0.54	0.253	0.85	2.12	0.68		
SCI5SU1402			0.97			0.65		9.8			0.48		0.84	1.97	0.72		
SCI5SU1501			0.5			0.178	0.71				0.06		0.32	1.34	0.32		
SCI5SU1502			0.84			0.13	0.89				-0.07		0.25	0.97	0.29		
SCI5SU1601	1.12		0.78			0.98	0.71	2.7			1.12	0.49	1.87	4.33	1.415		
SCI5SU1602			0.85			0.81	0.81				1.2		0.93	1.68	0.95		
SCI5SU1609 (Split)			1.2			1.12	0.98				1.35		0.85	1.84	0.84		
SCI5SU1701	0.87		0.78			1.31	0.69	5			0.87		1.7	4.79	1.13		
SCI5SU1702			0.81			0.81	0.86	6.9			0.99	0.19	0.94	1.74	1.07		
SCI5SU1703 (Split)			0.57			0.89	0.55	14.3			0.77	0.37	0.87	1.68	0.68		
SCI5SU1801			0.94		2.4	0.72	0.9	13.7			0.57	0.2	0.94	1.62	0.87		
SCI5SU1802			0.59			0.92	1.04	17.9			0.63	0.36	0.98	1.18	0.94		
SCI5SU1802 DUP													1.06	1.87	1.3		
SCI5SU1901	0.82		0.71			0.76	0.74	14.2			0.82	0.34	0.86	1.02	0.82		

SCI Soil Characterization Data

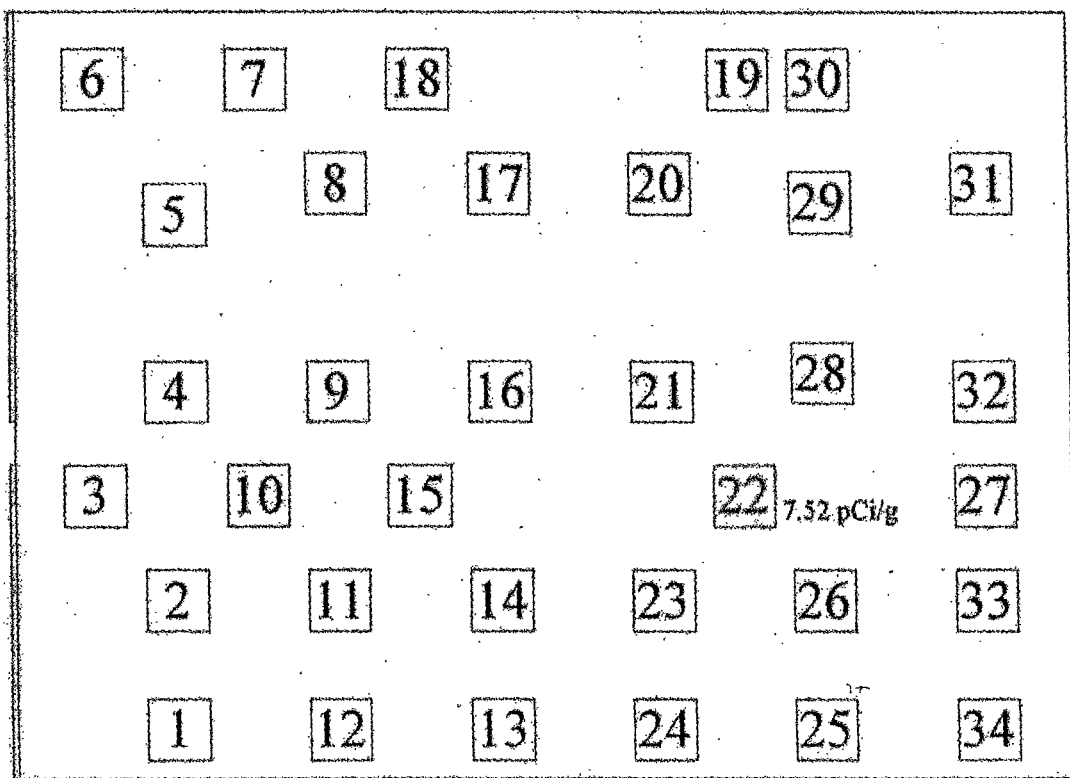
Sample Number	Ac 228	Bi 212	Bi 214	Cs 137	Pb 210	Pb 212	Pb 214	K 40	Ra 226	Ra 224	Ra 228	Tl 208	Th 228	Th 230	Th 232	Th 234	U 238
SCI5SU1902			0.74			0.81					0.63	0.35	1.18	1.5	0.89		
SCI5SU2001			0.54			0.141	0.68	3.6			0.32		0.4	1.72	0.4		
SCI5SU2002			0.82			0.19					0.17		0.34	2.08	0.41		
SCI5SU2101			0.54			0.143	0.51				0.23		0.22	1.5	0.43		
SCI5SU2102			0.83				0.65				0.3	0.19	0.59	1.78	0.39		
SCI5SU2103 (Split)			0.65			0.33	0.83				0.36	0.128	0.58	1.91	0.66		
SCI5SU2201	1.23		0.88			1.2	0.71	4.1			1.23	0.65	3.15		1.23		
SCI5SU2202			0.67			0.42	0.6				0.51	0.155	0.95	1.66	0.8		
SCI5SU2202 DUP	0.46		0.85			0.47	0.76				0.46	0.2	0.94	1.61	0.69		
SCI5SU2301			0.55			0.14	0.52				0.26		0.49	1.74	0.37		
SCI5SU2302			0.74			0.4	0.57				0.21		0.61	1.77	0.49		
SCI5SU2401			1.71		1.8	0.42	1.9	3.4			0.58	0.184	0.6	2.46	0.68		
SCI5SU2402			0.48				0.66	4.4			0.15		0.36	1.26	0.4		
SCI5SU2402 DUP			0.78			0.252	0.47	4.6			0.32	0.12	0.36	1.37	0.44		
SCI5SU2501			0.68			0.77	0.63				0.57	0.27	1	1.66	0.93		
SCI5SU2502			1.34			1.34	1.52				1.26	0.52	1.08	1.57	0.94		
SCI5SU2503			0.72			0.62	0.94				0.38	0.2	1.19	1.6	0.84		
SCI5SU2601			0.42			0.39	0.34				0.37	0.192	0.51	0.92	0.59		
SCI5SU2602			0.52			0.42					0.38		0.42	0.84	0.4		
SCI5SU2701			0.58			0.52					0.66	0.23	0.77	1.35	0.91		
SCI5SU2702			0.86			0.78	0.92				0.54		0.96	2.39	0.89		
SCI5SU2801	1.22		0.62			0.78	0.63				1.22	0.33	1.37	1.64	1.22		
SCI5SU2802			0.46			0.54	0.76				0.84		0.88	1.61	1.22		
SCI5SU2803			0.84			0.58	0.46				0.72	0.19	0.97	1.74	0.84		
SCI5SU2901	0.92		0.48			0.67	0.65				0.92	0.3	0.7	1.42	0.92		
SCI5SU2902			0.19			0.24					0.25		0.44	0.88	0.45		
SCI5SU3001						0.81	0.84				0.69	0.36	1.01	1.29	0.96		
SCI5SU3002			0.35			0.3					0.33	0.084	0.46	0.74	0.42		

SCI Soil Characterization Data

Sample Number	Ac 228	Bi 212	Bi 214	Cs 137	Pb 210	Pb 212	Pb 214	K 40	Ra 226	Ra 224	Ra 228	Tl 208	Th 228	Th 230	Th 232	Th 234	U 238
SCI5SU3101			0.69			0.91	0.51	13			1.01	0.35	0.94	1.55	0.79		
SCI5SU3102			0.42			0.24		12.3			0.46		0.3	0.84	0.33		
SCI5SU3201			0.68			0.61	0.6	15.1			0.79		0.83	1.09	0.76		
SCI5SU3202			0.6			0.45	0.57	8.7			0.52	0.213	0.69	1.69	0.79		
SCI5SU3301			0.8			0.84		17.3			1.02	0.29	0.93	0.95	1.01		
SCI5SU3301 DUP			0.83			0.8		15			0.88	0.29	1.09	1.06	0.99		
SCI5SU3302			0.29			0.46		10.3			0.5	0.138	0.44	0.75	0.69		
SCI5SU3303 (Split)			0.34			0.34	0.34	10.6			0.4		0.39	0.57	0.47		
SCI5SU3401	1.41	1.03	1.65			1.54	1.35	13.5			1.41	0.49	1.39	1.47	1.375		
SCI5SU3402	1.64		1.6			1.87	1.91	6.1			1.64	0.68	2.1	2.6	1.75		
SCI5SU3408			0.8			0.94	1.07	18.2			1.14	0.25	1.18	1.11	1.14		

SU 5

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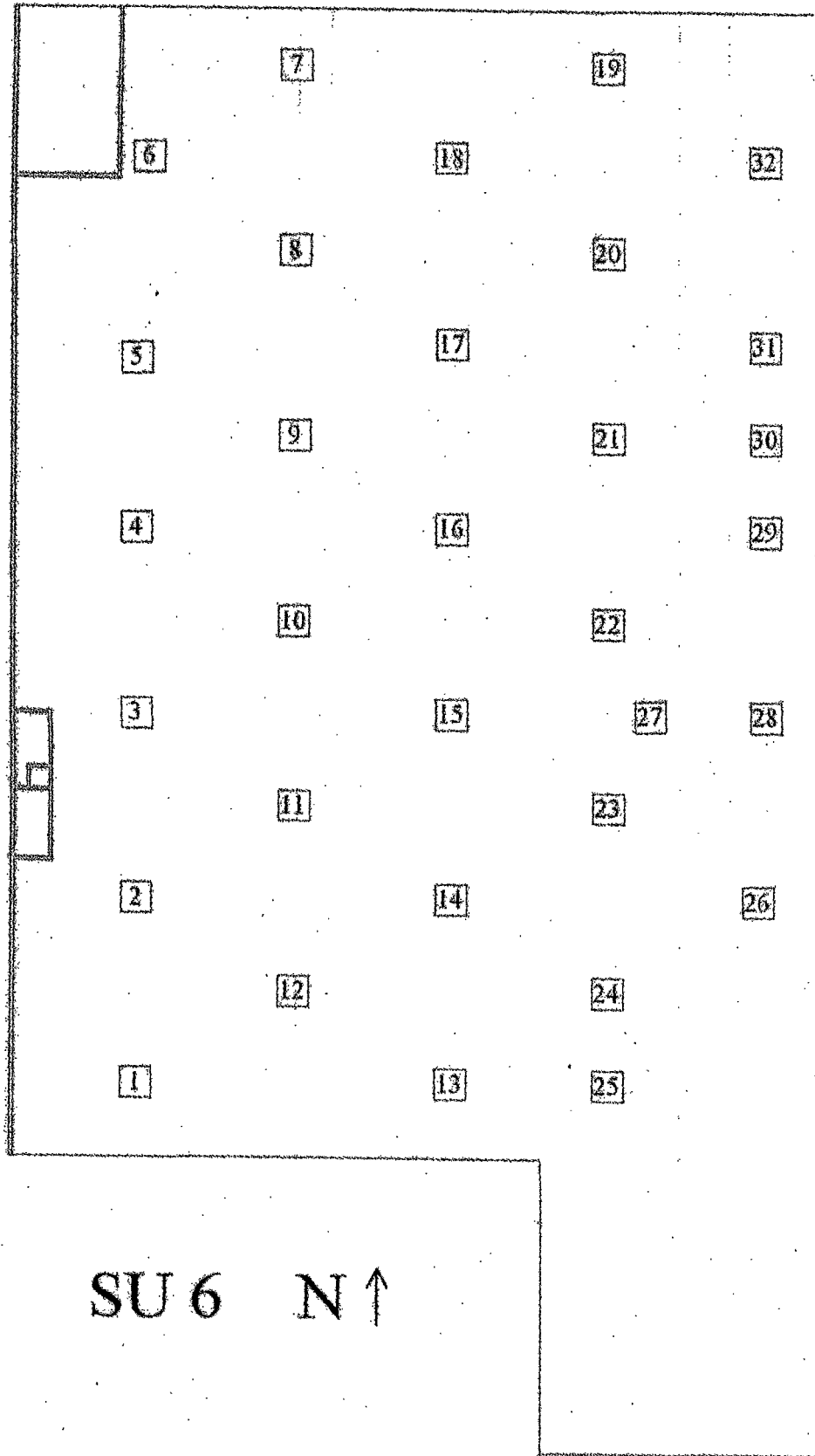
Survey Unit 5 Soil Sampling Locations

SCI Soil Characterization Data

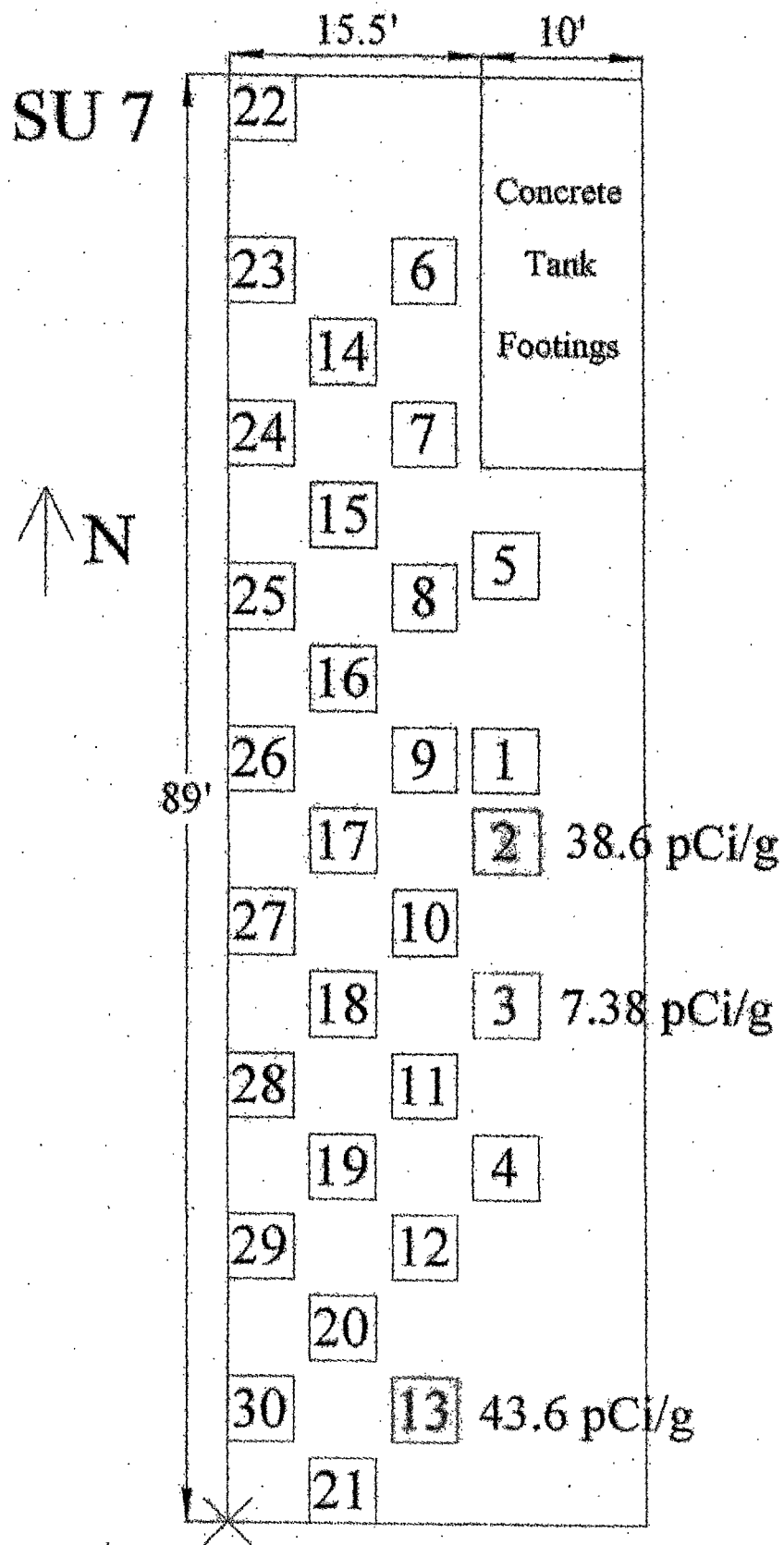
Sample Number	Ac 228	Br 212	Br 214	Cs 137	Pb 210	Pb 212	Pb 214	K 40	Ra 226	Ra 224	Ra 228	Tl 208	Th 228	Th 230	Th 232	Th 234	U 238
SCI6SU0101	1.09		0.74			0.82	0.85	1.1			1.09	0.33	1.25	2.28	1.46		
SCI6SU0102			0.93			0.77	0.77	1.1			0.56	0.25	1.21	1.29	1.04		
SCI6SU0201			1.11			1.24	0.85	1.2			1.36	0.4	1.3	1.99	1.3		
SCI6SU0202			0.71			0.68	0.66	1.2			0.71	0.33	1.15	1.32	0.96		
SCI6SU0301	0.63		0.76			0.71	0.8	1.3			0.63	0.35	0.9	1.31	0.875		
SCI6SU0302	0.89		0.77			0.96	0.77	1.2			0.89	0.35	1	1.26	1.12		
SCI6SU0401	0.75		0.65			0.82	0.98	1.3			0.75	0.27	1.06	1.39	1.06		
SCI6SU0402 (Split)			0.84		1.3	0.66	0.89	1.2			0.64	0.16	0.89	0.89	0.76		
SCI6SU0403			1			0.74	0.74	1.2			0.59	0.17	0.83	1.26	0.62		
SCI6SU0409 (Split)	0.96		1.13			0.98	1.04	1.3			0.96	0.34	0.88	1.1	0.92		
SCI6SU0501			1.6			0.7	1.91	1.3			0.67	0.23	0.96	1.55	1.34		
SCI6SU0502			1.45			0.82	1.19	1.3			0.7	0.27	0.85	1.63	0.92		
SCI6SU0601			1.01			0.6	1.24	1.3			0.7		0.75	1.75	0.89		
SCI6SU0602			1.15			0.69	1.25				0.26		0.92	1.67	0.9		
SCI6SU0701			0.79			0.32	0.87	2.9			0.51	0.187	0.71	1.78	0.73		
SCI6SU0701 DUP			0.74			0.44	0.85	3.4			0.41	0.118	1.01	2.42	0.59		
SCI6SU0702			2.61			0.79	2.72	4.4			0.81	0.29	0.96	2.27	1.06	2.24	2.24
SCI6SU0801	1.12		1.09			0.82	1.24	7.1			1.12	0.36	1.51	1.88	1.265		
SCI6SU0802	0.83		1.15			0.58	1.14	3.8			0.83	0.26	1.15	1.72	0.87		
SCI6SU0901	0.66		0.53		1.5	0.84	0.8	10.3			0.66	0.31	1.35	2.21	0.92		
SCI6SU0902			0.68			0.78	0.57	2.5			0.57	0.29	1.25	1.91	1.31		
SCI6SU1001	1.2		0.79			0.88	0.89	15.3			1.2		0.81	0.95	1.11		
SCI6SU1002			0.64			0.74	0.63	14			1.05	0.23	1.35	1.39	1.03		
SCI6SU1101			0.46			0.56	0.72	3.2			0.65	0.28	0.71	0.84	0.83		
SCI6SU1102			0.76			0.85	0.73	12.9			0.96	0.33	0.87	1.14	0.94		
SCI6SU1201	1.26		0.74			0.95	0.8	19.2			1.26	0.21	0.82	0.81	1.105		
SCI6SU1202						0.308	0.29	14.3			0.38		0.36	0.4	0.31		
SCI6SU1301			0.8			0.67	0.5	11			0.73	0.3	0.99	0.92	0.86		
SCI6SU1302						0.24		11.6			0.22		0.41	0.36	0.27		
SCI6SU1401			0.69			0.61	0.53	12.8			0.73	0.188	0.91	1.12	0.97		
SCI6SU1402						0.17		10.1			0.29		0.26	0.33	0.29		
SCI6SU1501			0.24			0.24	0.3	11.6			0.28	0.067	0.3	0.58	0.47		
SCI6SU1502						0.27		13.3			0.3		0.3	0.36	0.17		
SCI6SU1601			0.61			0.57	0.99	11.5			0.8		1.03	1.6	0.74		
SCI6SU1602			0.73			0.29	0.53	3.6			0.61		0.36	0.73	0.3		
SCI6SU1701			0.81			0.43	0.5	3.1			0.62	0.201	0.53	1.09	0.67		
SCI6SU1702			0.47			0.15	0.44	3			0.17	0.102	0.45	0.57	0.36		
SCI6SU1801			1.17			0.65	1.11				0.54	0.221	0.92	2	0.95		
SCI6SU1802	0.57		1.13			0.7	0.92	3.2			0.57	0.243	0.68	1.26	0.55		
SCI6SU1803 (Split)			0.82			0.45	0.73	5.3			0.3		0.68	1.13	0.92		
SCI6SU1901	0.43		0.95			0.87	1.07	10.8			0.43	0.26	0.81	1.85	0.63		
SCI6SU1902			0.74		1.78	0.39	0.98	9.7			0.35		0.69	1.28	0.69	0.95	0.95
SCI6SU1903 (Split)	0.49		0.98		1.06	0.6	0.83	7.8			0.49	0.22	0.73	1.4	0.665		

SCI Soil Characterization Data

Sample Number	Ac 228	Bi 212	Bi 214	Cs 137	Pb 210	Pb 212	Pb 214	K 40	Ra 226	Ra 224	Ra 228	Tl 208	Th 228	Th 230	Th 232	Th 234	U 238
SCI6SU2001			0.9			0.87	0.83	1.3			1.05	0.27	0.91	1.17	0.97		
SCI6SU2002			0.65			0.52	0.74	3.7			0.59	0.12	0.6	0.72	0.36		
SCI6SU2003 (Split)			0.56			0.45	0.61	2.9			0.66		0.52	0.89	0.66		
SCI6SU2101	1.02		0.63			0.9	0.56	4.3			1.02	0.29	1.06	1.69	1.12		
SCI6SU2102			0.21			0.248	0.28	1.9			0.3		0.37	0.42	0.35		
SCI6SU2102 DUP			0.35			0.23					0.32	0.147	0.3	0.46	0.4		
SCI6SU2201	0.93		0.52			0.91	0.68	10.6			0.93		0.81	1.09	0.84		
SCI6SU2202						0.25		1.1			0.007		0.37	0.4	0.29		
SCI6SU2301			0.29			0.23		12.5			0.19		0.42	0.55	0.37		
SCI6SU2302			0.69		1.33	0.58	0.58	12.4			0.33	0.28	0.83	1.06	0.82		
SCI6SU2401			0.93			1.2		17.3			1.06	0.31	0.93	1.34	0.87		
SCI6SU2402						0.25		1.8			0.33	0.108	0.54	0.35	0.48		
SCI6SU2501			0.79		2.2	0.8	0.82	5.3			0.8	0.21	0.75	0.89	0.82		
SCI6SU2502	0.38		0.54			0.37	0.44	10.2			0.38		0.34	0.56	0.42		
SCI6SU2601			0.44				0.45				-0.04		0.17	0.97	0.106		
SCI6SU2602	0.95		1.28			0.65	1.42	6.1			0.95	0.19	0.85	1.84	0.885	0.99	0.99
SCI6SU2603	0.5		1.57		1.2	0.79	2.06				0.5	0.31	0.97	1.95	0.64	1.78	1.78
SCI6SU2701			0.69			0.135	0.53				0.12		0.1	1.07	0.146		
SCI6SU2702			0.68			0.32	0.76	3.2			0.33	0.164	0.9	1.66	0.7		
SCI6SU2801			0.82				0.76				0.06		0.11	1.02	0.081		
SCI6SU2802			0.72			0.36	0.66	4.6			0.22		0.79	1.31	0.61		
SCI6SU2901	1.18		1.02			1.21	0.61	2.8			1.18	0.43	1.98	2.35	1.55		
SCI6SU2902			0.8				0.71				0.45		0.44	1.18	0.47		
SCI6SU3001			0.54			0.54	0.78	1.3			0.35	0.228	0.83	1.11	0.67	3.4	3.4
SCI6SU3002			0.41			0.39	0.48	1.3			0.54	0.137	0.51	0.9	0.53		
SCI6SU3003 (Split)			0.68			0.34	0.38	2.1			0.6	0.25	0.75	1.07	0.64		
SCI6SU3003 DUP													0.57	0.72	0.53		
SCI6SU3101			0.4				0.55				0.1		0.1	0.99	0.074		
SCI6SU3102			0.61			0.33	0.73				0.7		0.77	1.25	0.74		
SCI6SU3105			2.41			1.32	2.97	9.4			1.22	0.38	1.57	2.83	1.22	2.86	2.86
SCI6SU3201			0.48								0.1		0.2	1.23	0.119		
SCI6SU3202			0.54	0.165		0.153	0.67				0.25		0.28	1.02	0.33		
SCI6SU3301			0.59				0.54				0.16		0.068	1.13	0.075		
SCI6SU3302			0.66	0.26		0.44	0.74	5.3			0.31	0.203	0.7	1.32	0.6		



Survey Unit 6 Soil Sampling Locations



Survey Unit 7 Soil Sampling Locations

SCI Soil Characterization Data

Sample Number	Ac 228	Bi 212	Bi 214	Cs 137	Pb 210	Pb 212	Pb 214	K 40	Ra 226	Ra 224	Ra 228	Tl 208	Th 228	Th 230	Th 232	Th 234	U 238
SCI7SU0101	1.31	1.31	1.24			1.62	1.26				1.31	0.56	3.35	4.56	2.335		
SCI7SU0101 DUP	2.07	1.52	1.25			1.53	1.13				2.07	0.52	3.05	4.57	2.645		
SCI7SU0102	1.32		0.75			1.18	0.79				1.32	0.47	3.31	4.66	2.205		
SCI7SU0201			0.49			0.57	0.69				0.72	0.16	0.74	1.05	1.04		
SCI7SU0202		2.8	0.72			4.53	0.53					1.54					
SCI7SU0209 (Split)	4.8	3.3	0.46			4.16	0.76				4.85	1.38					
SCI7SU0203			0.74				0.72	4.6				3.72					
SCI7SU0204	1.17		0.67			1.09					1.17	0.37	1.31	1.56	1.235		
SCI7SU0301	2.19		0.82			2.04	0.82				2.19	0.61	2.92		2.385		
SCI7SU0302			0.53			0.59	0.67				0.53	0.14	0.74	0.78	0.73		
SCI7SU0401			0.63			0.85	0.79				0.74	0.28	1.5	1.8	1.08		
SCI7SU0402	1.46	0.97	1.65			1.43	1.82				1.45	0.46	1.14	1.8	1.33	2.74	2.74
SCI7SU0501			0.58			0.49	0.74				0.78	0.21	0.84	0.84	0.76	1.08	1.08
SCI7SU0502			0.77			0.58					0.34		1.01	1.02	0.99		
SCI7SU0601			0.82			0.77	0.9				0.87		0.94	0.91	0.95		
SCI7SU0602			0.49			0.42	0.53				0.52	0.235	0.64	0.76	0.82		
SCI7SU0701			0.66			0.37					0.55		0.71	0.92	0.79		
SCI7SU0702			0.77				0.75	4.4			0.4		0.59	1.23	0.51		
SCI7SU0801	1.04		0.66			0.82	0.57				1.04	0.28	0.88	1.11	0.92		
SCI7SU0802			0.78			0.78	0.98				0.84	0.18	1.02	1.28	0.93		
SCI7SU0901	2.24	1.29	1.12			1.41	1.06				2.24	0.36	2.07	4.07	2.08		
SCI7SU0902	1.37		0.93			1.04	0.86				1.37	0.33	1.23	1.09	1.205		
SCI7SU1001	0.51	0.33	0.52		1.17	0.73	0.37				0.51	0.24	1.38	1.21	0.925		
SCI7SU1001 DUP	1.02		0.47			0.7	0.73				1.02	0.175			1.02		
SCI7SU1002	2.35					2.16	0.72				2.35	0.83	4.79	2.3	3.72		
SCI7SU1101			0.64			0.69	0.6				1.08	0.3	1.19	1.27	1.03		
SCI7SU1101 DUP													0.89	1	1.09		
SCI7SU1102	0.65		0.72			0.34	0.84				0.65	0.185	0.9	0.96	0.755		
SCI7SU1201			0.47			0.5					1.17	0.142	0.95	1.34	0.98		
SCI7SU1202	0.94		0.76		1.3	0.74	0.95				0.94	0.25	0.91	1.05	0.94		
SCI7SU1209 (Split)			0.67			0.65	0.65				1.06	0.3	0.83	1	1		
SCI7SU1301			0.48		0.955	0.7					0.71	0.19	1.02	1.09	1.03		
SCI7SU1302			0.53			0.77	0.79				0.85	0.21	0.77	0.92	0.95		
SCI7SU1303			0.69			0.36	0.64				0.57	0.173	1.59	2.25	1.75		
SCI7SU1304		3.1	0.46				0.81					2.25					
SCI7SU1305						0.49	0.35				0.53	0.113	0.79	0.84	1.08		
SCI7SU1401	0.69		0.42			0.59	0.74				0.69	0.27	0.91	0.99	0.65		
SCI7SU1402	0.75		0.6			0.64	0.68				0.75	0.3	0.69	0.96	0.775		
SCI7SU1501	1.05		1.18			0.86	1.18				1.05	0.26	0.98	1.24	1.125		
SCI7SU1502	1.78		2.4		2.7	2.02	2.55				1.78	0.59	1.62	2.55	1.725	2.47	2.47
SCI7SU1601			0.72			0.58	0.7				0.87	0.184	1.04	1.02	1.02		
SCI7SU1602			0.57			0.61	0.7				0.87	0.24	0.83	1.12	0.68		
SCI7SU1701			0.58			0.52	0.51				0.53		0.68	0.64	0.75		

SCI Soil Characterization Data

Sample Number	Ac 226	Bi 212	Bi 214	Cs 137	Pb 210	Pb 212	Pb 214	K 40	Ra 226	Ra 224	Ra 228	Ti 208	Th 226	Th 230	Th 232	Th 234	U 238
SCI7SU1702			0.33			0.55	0.61	1.47			0.49	0.21	0.72	0.74	0.59		
SCI7SU1702 DUP	0.96		0.5			0.71	0.55	1.53			0.96		0.7	0.7	0.79		
SCI7SU1801	0.7		0.55			0.5	0.58	1.43			0.7	0.22	0.98	0.64	0.755		
SCI7SU1802	0.59		0.62			0.58	0.54	1.43			0.59		0.65	0.88	0.59		
SCI7SU1901			0.47		1.32	0.54	0.56	1.43			0.53	0.31	0.74	0.99	0.77		
SCI7SU1902	1.52		0.43			1.28	0.72	1.47			1.52	0.44	1.01	1.15	1.52		
SCI7SU1909 (Split)	1.07		0.53			0.8	0.63	1.53			1.07	0.2	1.01	1.06	0.995		
SCI7SU2001	0.7		1.04			1.08	0.71	1.43			0.7	0.43	1.07	1.43	0.93		
SCI7SU2002			0.51			0.83	0.84	1.43			0.91	0.16	1	1.03	0.94		
SCI7SU2002 DUP			0.67		1.5	0.83	0.78	1.47			0.94	0.33	0.89	1.01	1.17		
SCI7SU2101			0.82			0.61		1.5			0.75		1	1.4	0.97		
SCI7SU2102	0.96		0.84			0.92	0.76	1.7			0.96	0.32	1.1	0.78	0.94		
SCI7SU2201			0.61			0.68	0.95	1.46			1.16	0.22	0.72	0.98	0.95		
SCI7SU2202			0.93		1.6		0.75	2.7			0.38		0.64	1.04	0.54		
SCI7SU2301	0.77		0.7		1.4	0.57	0.79	1.4			0.77		0.88	0.79	0.775		
SCI7SU2302	0.73		0.79			0.72	0.61	1.4			0.73	0.28	1.03	1.09	0.815		
SCI7SU2401			0.63			0.61	0.72	2.3			0.58	0.248	0.47	0.66	0.83		
SCI7SU2409 (Split)			0.71		1.12	0.44	0.52	10.9			0.83	0.19	0.78	0.78	0.93		
SCI7SU2402						0.76		1.43			0.54		1.1	1.03	0.9		
SCI7SU2501			0.93			0.45		13.2			0.44	0.24	0.71	0.91	0.72		
SCI7SU2502			0.36			0.57	0.54	14.1			0.3	0.13	0.97	0.89	0.7		
SCI7SU2601			0.98			0.85	0.84	17.9			0.83	0.36	0.99	1.15	0.88		
SCI7SU2602			0.84			0.8	1.13	16.6			0.75	0.35	0.82	1.13	1.09		
SCI7SU2609 (Split)			0.91			0.63	0.98	20.3			0.67	0.36	0.93	1.09	0.96		
SCI7SU2701			0.65			0.79	0.74	14			0.64	0.21	0.6	0.74	0.83		
SCI7SU2702	1.08		0.85			1.02	0.83	16.5			1.08	0.42	0.95	0.94	1.055		
SCI7SU2801			0.66			0.76		13.1			0.52		0.83	1.04	0.64		
SCI7SU2802			0.52			0.83	0.64	12.1			0.88	0.31	1.09	1.07	0.99		
SCI7SU2809 (Split)			0.91			0.79	0.59	11.7			0.83	0.25	0.92	0.86	0.88		
SCI7SU2901			0.57			0.93	0.67	13.9			0.81	0.2	0.94	0.95	0.78		
SCI7SU2902			0.61			0.54	0.48	12			0.48	0.18	0.62	0.96	0.74		
SCI7SU2909 (Split)	1		0.54			0.41	0.52	12.3			1	0.22	0.71	1.01	0.885		
SCI7SU3001			0.72			0.69	0.58	12			0.66	0.231	1.06	1.18	1.14		
SCI7SU3001 DUP			0.65			0.8	0.76	14.3			0.7	0.26					
SCI7SU3002	1.24		1.01			1.06	0.74	17.3			1.24	0.36	1.07	1.29	1.2		
SCI7SU3003						0.77		13			0.9		0.72	1.07	0.6		