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POST-REMEDIAL ACTION REPORT FOR THE NIAGARA FALLS STORAGE SITE VICINITY PROPERTIES - 1983 AND 1984

Lewiston, New York

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Bechtel National, Inc.

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POST-REMEDIAL ACTION REPORT FOR THE NIAGARA FALLS STORAGE SITE VICINITY PROPERTIES - 1983 AND 1984

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TABLE OF CONTENTS

	Page
Abbreviations	viii
1.0 Introduction	1
2.0 Remedial Action Guidelines	6
3.0 Remedial Action	11
4.0 Post-Remedial Action Sampling	11
5.0 Post-Remedial Action Status	12
References	151
Glossary	156
Appendix A Development of a Supplemental Residual Contamination Guideline for the NFSS Central Drainage Ditch	A-1

LIST OF FIGURES

Figure	Title	Page
1	Location of the NFSS	2
2	Current Boundaries of the NFSS and Locations of Contamination in 1981	5
3	Letter-Designated Vicinity Properties	7
4	Excavated Area on Property A	19
5	Post-Remedial Action Sampling Locations on Property A	20
6	Excavated Area on Property H'	22
7	Post-Remedial Action Sampling Locations on Property H'	23
8	Excavated Areas on Property L	33
9	Post-Remedial Action Sampling Locations on Property L - Section 1	34
10	Post-Remedial Action Sampling Locations on Property L - Section 2	35
11	Excavated Areas on Property M	37
12	Post-Remedial Action Sampling Locations on Property M - Sections 1 and 2	39
13	Excavated Areas on Property N/N' South	40
14	Post-Remedial Action Sampling Locations on Property N/N' South - Section 1	41
15	Post-Remedial Action Sampling Locations on Property N/N' South - Section 2	42
16	Post-Remedial Action Sampling Locations on Property N/N' South - Section 3	43
17	Excavated Areas on Property Q	46
18	Post-Remedial Action Sampling Locations on Property Q - Section 1	47
19	Post-Remedial Action Sampling Locations on Property Q - Section 2	48

Figure	Title	Page
20	Post-Remedial Action Sampling Locations on Property Q - Section 3	49
21	Post-Remedial Action Sampling Locations on Property Q - Section 4	50
22	Post-Remedial Action Sampling Locations on Property Q - Section 5	51
23	Excavated Area on Property R	56
24	Post-Remedial Action Sampling Locations on Property R - Section 1	57
25	Post-Remedial Action Sampling Locations on Property R - Section 2	58
26	Excavated Area on Property S	60
27	Post-Remedial Action Sampling Locations on Property S	61
28	Excavated Areas on Properties U and V	63
29	Post-Remedial Action Sampling Locations on Properties U and V - Section 1	64
30	Post-Remedial Action Sampling Locations on Properties U and V - Section 2	65
31	Excavated Areas on Property X	67
32	Post-Remedial Action Sampling Locations on Property X - Section 1	68
33	Post-Remedial Action Sampling Locations on Property X - Section 2	69
34	Post-Remedial Action Sampling Locations on Property X - Section 3	70
35	Location and Reference Drawing for the West and Central Drainage Ditch Excavations	73
36	Post-Remedial Action Sampling Locations on the West Ditch - Sections 1 and 2	74
37	Post-Remedial Action Sampling Locations on the West Ditch - Section 3	75
38	Post-Remedial Action Sampling Locations on the West Ditch - Section 4	76

Figure	Title	Page
39	Post-Remedial Action Sampling Locations on the West Ditch - Section 5	77
40	Post-Remedial Action Sampling Locations on the West Ditch - Section 6	78
41	Post-Remedial Action Sampling Locations on the West Ditch - Section 7	79
42	Post-Remedial Action Sampling Locations on the West Ditch - Section 8	80
43	Post-Remedial Action Sampling Locations on the Central Drainage Ditch - Sections 1 and 2	89
44	Post-Remedial Action Sampling Locations on the Central Drainage Ditch - Sections 3 and 4	90
45	Post-Remedial Action Sampling Locations on the Central Drainage Ditch - Sections 5 and 6	91
46	Post-Remedial Action Sampling Locations on the Central Drainage Ditch - Sections 7 and 8	92
47	Post-Remedial Action Sampling Locations on the Central Drainage Ditch - Section 9	93
48	Post-Remedial Action Sampling Locations on the Central Drainage Ditch - Sections 10 and 11	94
49	Post-Remedial Action Sampling Locations on the Central Drainage Ditch - Sections 12 and 13	95
50	Post-Remedial Action Sampling Locations on the Central Drainage Ditch - Sections 14 and 15	96
51	Post-Remedial Action Sampling Locations on the Central Drainage Ditch - Sections 16 and 17	97
52	Post-Remedial Action Sampling Locations on the Central Drainage Ditch - Sections 18 and 19	98
53	Post-Remedial Action Sampling Locations on the Central Drainage Ditch - Sections 20 and 21	99
54	Post-Remedial Action Sampling Locations on the Central Drainage Ditch - Sections 22 and 23	100
55	Post-Remedial Action Sampling Locations on the Central Drainage Ditch - Section 24	101

Figure	Title	Page
56	Post-Remedial Action Sampling Locations on the Central Drainage Ditch - Section 25	102
57	Post-Remedial Action Sampling Locations on the Central Drainage Ditch - Section 26	103
58	Post-Remedial Action Sampling Locations on the Central Drainage Ditch - Section 27	104
59	Post-Remedial Action Sampling Locations on the Central Drainage Ditch - Section 28	105
60	Post-Remedial Action Sampling Locations on the Central Drainage Ditch - Section 29	106
61	Post-Remedial Action Sampling Locations on the Central Drainage Ditch - Section 30	107
62	Post-Remedial Action Sampling Locations on the Central Drainage Ditch - Section 31	108

LIST OF TABLES

Table	Title	Page
1	Summary of Residual Contamination Guidelines for the NFSS Vicinity Properties	8
2	Post-Remedial Action Sampling Results for Property A	21
3	Post-Remedial Action Sampling Results for Property H'	24
4	Post-Remedial Action Sampling Results for Property L	36
5	Post-Remedial Action Sampling Results for Property M	39
6	Post-Remedial Action Sampling Results for Property N/N'South	44
7	Post-Remedial Action Sampling Results for Property Q	52
8	Post-Remedial Action Sampling Results for Property R	59
9	Post-Remedial Action Sampling Results for Property S	62
10	Post-Remedial Action Sampling Results for Properties U and V	66
11	Post-Remedial Action Sampling Results for Property X	71
12	Post-Remedial Action Sampling Results for the West Drainage Ditch	81
13	Post-Remedial Action Sampling Results for the Central Drainage Ditch	109

ABBREVIATIONS

cm*	centimeter
ft	foot
ft^2	square feet
g	gram
h	hour
in.	inch
$in.^2$	square inch
m	meter
mi	mile
mrem	millirem
mrem/yr	millirem per year
pCi	picocurie
pCi/g	picocurie per gram
μR	microroentgen
WL	working level
yd^3	cubic yards
yr	year

*Words appearing in boldfaced print are explained in the glossary. Some words do not appear in boldfaced print in the text, but are included in the glossary for additional explanation.

1.0 INTRODUCTION

The Niagara Falls Storage Site (NFSS) is a U.S. Department of Energy (DOE) facility. The site covers approximately 191 acres and is used for the storage of radioactive residues and contaminated soils and rubble. The site is located approximately 10 mi north of the City of Niagara Falls and lies within the Town of Lewiston, New York (Figure 1).

The NFSS is a remnant of the U.S. Army's original Lake Ontario Ordnance Works (LOOW), portions of which were used by the wartime Manhattan Engineer District (MED) for the storage and transshipment of radioactive materials. As a result of these operations, some portions of the former LOOW other than the present NFSS were also contaminated. In addition, some of the radioactive materials stored at the NFSS were subject to water and wind erosion over the years. As a result, radioactive materials migrated off-site, chiefly through on- and off-site drainage ditches. These radioactively contaminated areas located adjacent to or near the NFSS are referred to as "vicinity properties."

The contaminated materials in the off-site drainage ditches and on the vicinity properties are the responsibility of the Formerly Utilized Sites Remedial Action Program (FUSRAP). FUSRAP is a DOE effort to identify, decontaminate, or otherwise control sites where low-activity radioactive contamination remains from the early days of the nation's atomic energy program. Administratively, the vicinity properties are under the jurisdiction of FUSRAP. DOE also has established the Surplus Facilities Management Program (SFMP) to manage and plan the ultimate disposition of DOE-owned facilities such as the NFSS.

Bechtel National, Inc. (BNI) removed radioactively contaminated soil from the vicinity properties in its capacity as DOE's Project Management Contractor for the NFSS. This report documents BNI's post-remedial action sampling of the properties cleaned up in

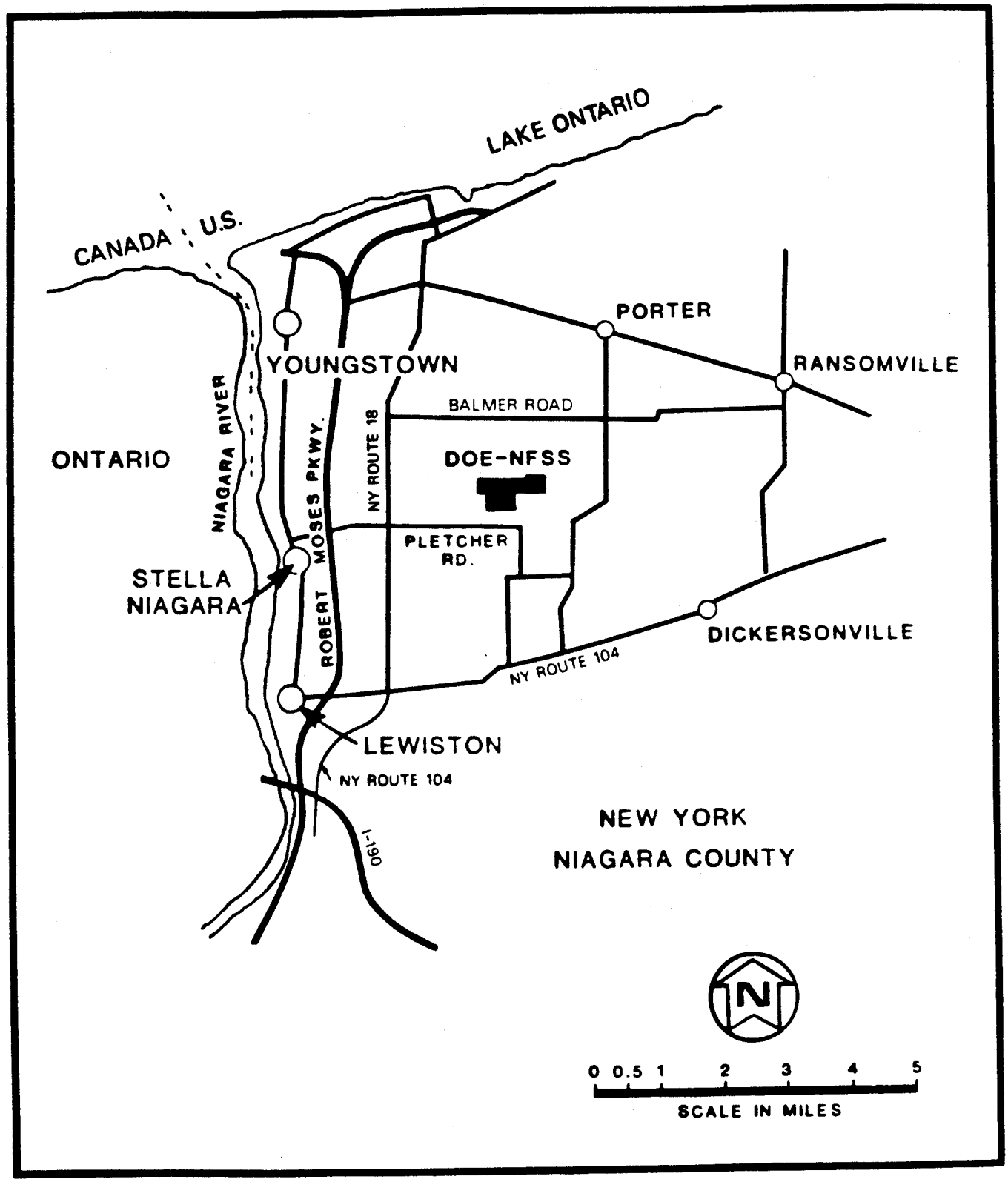


FIGURE 1 LOCATION OF THE NFSS

1983 and 1984 and describes the origin of the radioactive contamination on the properties, the methods used to determine the extent of it, and the types of **remedial action** performed. It also provides the guidelines used in performing the remedial action and data on the current radiological status of the properties.

Background

The NFSS and its adjacent vicinity properties were part of the U.S. Army's original 7500-acre LOOW, which was constructed and used for TNT production early in World War II. When TNT production was stopped, the LOOW was reassigned to the Army Corps of Engineers - MED. From 1944 to 1947, the MED used the LOOW to store uranium ore processing residues from a ceramics plant operated by Linde Air Products in Tonawanda, New York. By 1948, 6000 acres of the LOOW had been transferred or sold by the War Assets Administration, with ownership of the remaining 1500 acres given to the newly formed Atomic Energy Commission (AEC). The AEC continued to use the 1500-acre LOOW site to store additional residues from the Linde plant, as well as residues from the Mallinckrodt Chemical Works in St. Louis, Missouri. In addition to the storage of uranium ore processing residues, the LOOW was also used for interim storage of uranium metal billets (rods) manufactured at the Simonds Saw and Steel Company's plant in Lockport, New York, and as a disposal site for radioactive material wastes from the Knolls Atomic Power Laboratory in Schenectady, New York; the University of Rochester in Rochester, New York; and the MED-AEC's Middlesex Sampling Plant in Middlesex, New Jersey. Other probable sources of radioactive materials at the LOOW include the Harshaw Chemical Company in Cleveland, Ohio; Electromet in Niagara Falls, New York; Eldorado Mining and Refining, Ltd. in Port Hope, Ontario; Alleghany Ludlum Steel Company in Watervliet, New York; and Vitro Corporation of America in Grand Junction, Colorado.

On-site storage operations had ceased by 1953, and an on-site steam plant was modified to separate nonradioactive isotopes of **boron.**

The plant was in operation between 1953 and 1959 and again between 1965 and 1971. During the first period, a major cleanup of the site included consolidating and removing surface debris, and shipping most of these wastes to Oak Ridge, Tennessee. Radioactively contaminated soils and residues were left at the site. After 1971 more than 1300 acres of the LOOW were transferred or sold to private concerns, leaving 191 acres as the current NFSS (Figure 2). Responsibility for the NFSS was transferred from the AEC to the Energy Research and Development Administration, and then to DOE. In 1981, DOE chose BNI as the Project Management Contractor of the NFSS project. Since then, BNI has been custodian of the NFSS with responsibility for conducting remedial action at the site as well as at the off-site or vicinity properties.

Radiological Surveys

During October 1970 and June 1971, radiological surveys of the approximately 1300 acres formerly held by the AEC indicated that about 6.5 acres exceeded the AEC exposure criterion of 50 μR/h. As a result of this survey, 15,000 to 20,000 yd^3 of contaminated soil and debris were removed and transported to the NFSS during 1972.

In 1971 an aerial survey of the greater Niagara Falls area was conducted by EG&G (Ref. 1). This survey identified several areas of elevated **gamma radiation** levels. Most of these areas were later shown to contain a slag-type material similar to wollastonite ($CaSiO_3$). This material was reported to be of natural origin, probably the by-product of a local phosphorous extraction process. Other areas identified as contaminated were locations of known contamination such as the Linde Plant and the NFSS.

In 1979 and 1980, Battelle Columbus Laboratories conducted a comprehensive radiological characterization of the NFSS, including the west and central drainage ditches on- and off-site (Ref. 2). This survey identified contamination in excess of the DOE guidelines along the entire length of the west drainage ditch and most of the central drainage ditch.

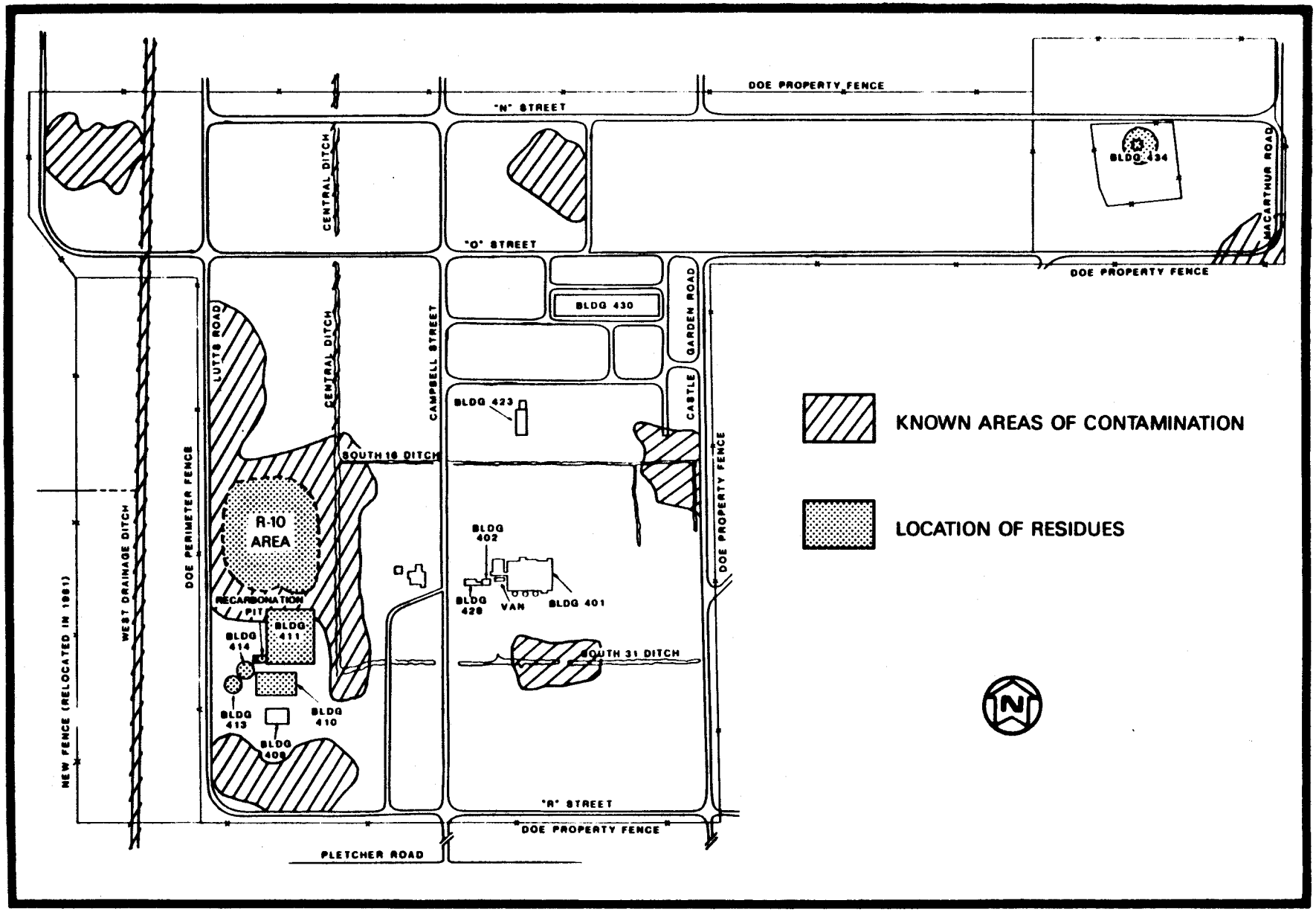


FIGURE 2 CURRENT BOUNDARIES OF THE NFSS AND LOCATIONS OF CONTAMINATION IN 1981

From 1981 to 1985 Oak Ridge Associated Universities (ORAU) and Oak Ridge National Laboratory (ORNL) performed radiological surveys of the approximately 1300 acres, formerly part of the AEC's LOOW, that lie outside the boundaries of the current NFSS (Refs. 3 - 30). This area has been subdivided into letter-designated vicinity properties, as shown in Figure 3. Twenty-four of these properties were surveyed by ORAU; Property O, which was inaccessible until 1985 because of delays in obtaining an access permit, was surveyed by ORNL. Of the 25 properties, 21 were found to be contaminated in excess of DOE guidelines, 2 were found to be free of significant contamination, and 2 were too close to a uranium ore residue storage area to allow accurate measurement of the low-level radiation. Following removal of residues from the storage area, the two properties were surveyed and cleaned. In addition to these properties, the section of Pletcher Road between the entrance to the NFSS and Creek Road was decontaminated in 1985 based on results of an ORAU survey (Ref. 31). Three more properties, one each in the City of Niagara Falls and the Towns of Niagara Falls and Lewiston were designated for remedial action in late 1985 based on results from an ORNL scanning van survey (Ref. 32).

2.0 REMEDIAL ACTION GUIDELINES

All soil contains trace amounts of uranium and thorium because these are naturally occurring elements. Typically, soils in the northeastern U.S. contain about 1 pCi/g each of uranium, radium, and thorium. These radionuclide concentrations are called **background** levels and do not originate from manufacturing operations using radioactive materials.

The DOE guideline for residual radioactivity from **radium-226** (the principal contaminant at the NFSS), thorium-230, thorium-232, and radium-228 in soil is 5 pCi/g above background (see Table 1). The concentrations of these radionuclides are averaged over a 100-m^2 (1076-ft^2) area and to a depth of 15 cm (6 in.). Below the 15-cm (6-in.) depth, the guideline increases to 15 pCi/g above background

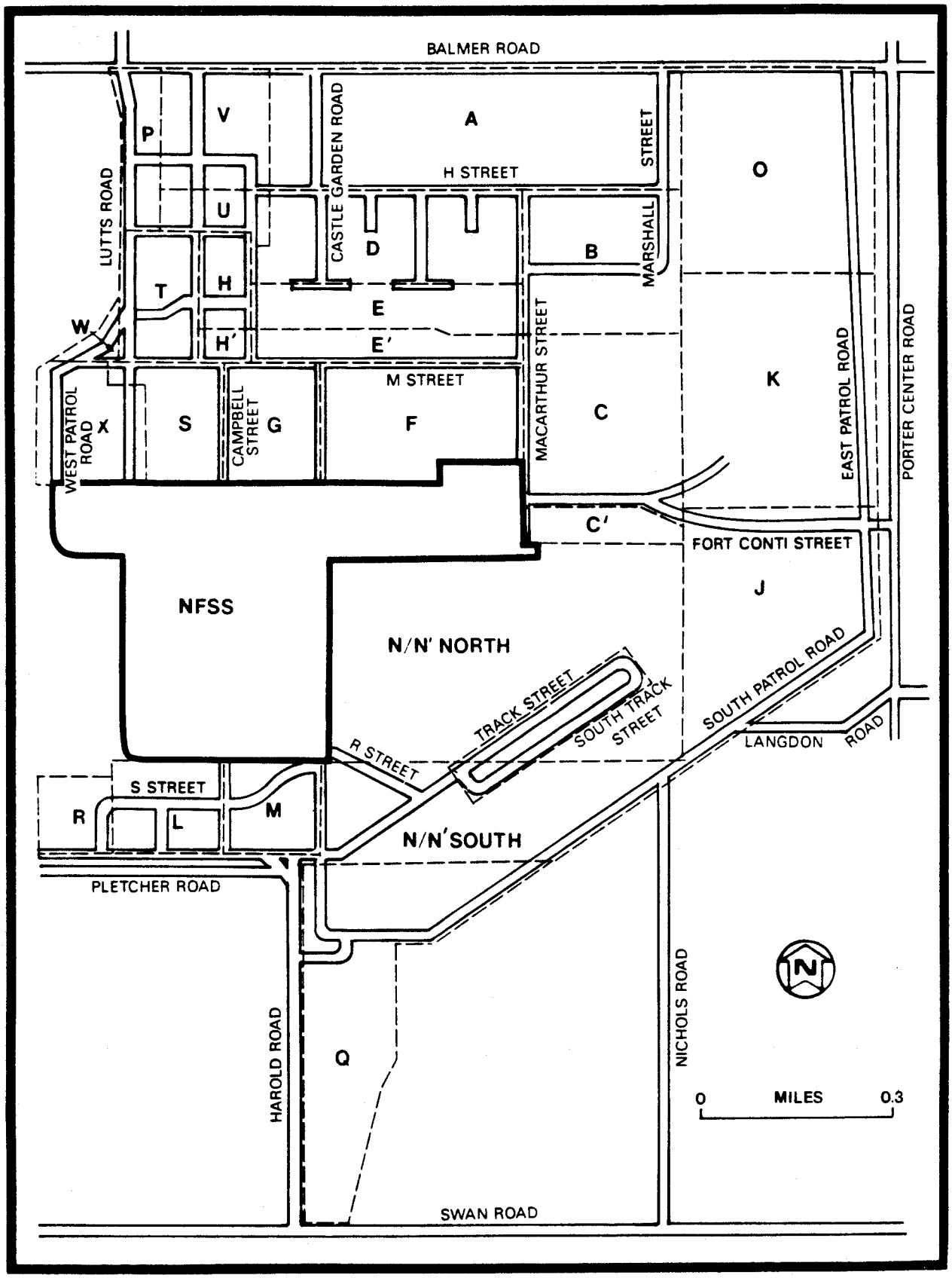


FIGURE 3 LETTER-DESIGNATED VICINITY PROPERTIES

TABLE 1

SUMMARY OF RESIDUAL CONTAMINATION GUIDELINES FOR THE NFSS VICINITY PROPERTIES

BASIC DOSE LIMITS

The basic limit for the annual radiation dose received by an individual member of the general public is 100 mrem/yr.

SOIL (LAND) GUIDELINES (MAXIMUM LIMITS FOR UNRESTRICTED USE)

Radionuclide	Soil Concentration (pCi/g) above background[a,b,c]
Radium-226 Radium-228 Thorium-230 Thorium-232	5 pCi/g, averaged over the first 15 cm of soil below the surface; 15 pCi/g when averaged over any 15-cm-thick soil layer below the surface layer.
Total Uranium	75 pCi/g[d]
Other radionuclides	Soil guidelines will be calculated on a site-specific basis using the DOE manual developed for this use.

STRUCTURE GUIDELINES (MAXIMUM LIMITS FOR UNRESTRICTED USE)

Airborne Radon Decay Products

Generic guidelines for concentrations of airborne radon decay products shall apply to existing occupied or habitable structures on private property that are intended for unrestricted use; structures that will be demolished or buried are excluded. The applicable generic guideline (40 CFR 192) is: In any occupied or habitable building, the objective of remedial action shall be, and reasonable effort shall be made to achieve, an annual average (or equivalent) radon decay product concentration (including background) not to exceed 0.02 WL.[e] In any case, the radon decay product concentration (including background) shall not exceed 0.03 WL. Remedial actions are not required in order to comply with this guideline when there is reasonable assurance that residual radioactive materials are not the cause.

External Gamma Radiation

The average level of gamma radiation inside a building or habitable structure on a site to be released for unrestricted use shall not exceed the background level by more than 20 μR/h.

Indoor/Outdoor Structure Surface Contamination

	Allowable Surface Residual Contamination[f] (dpm/100 cm^2)		
Radionuclide[g]	Average[h,i]	Maximum[i,j]	Removable[i,k]
Transuranics, Ra-226, Ra-228, Th-230, Th-228 Pa-231, Ac-227, I-125, I-129	100	300	20
Th-Natural, Th-232, Sr-90, Ra-223, Ra-224 U-232, I-126, I-131, I-133	1,000	3,000	220
U-Natural, U-235, U-238, and associated decay products	5,000 α	15,000 α	1,000 α

TABLE 1

(continued)

Indoor/Outdoor Structure Surface Contamination (continued)

Radionuclide[g]	Allowable Surface Residual Contamination[f] (dpm/100 cm^2) Average[h,i]	Maximum[i,j]	Removable[i,k]
Beta-gamma emitters (radionuclides with decay modes other than alpha emission or spontaneous fission) except Sr-90 and others noted above	5,000 β-γ	15,000 β-γ	1,000 β-γ

[a]These guidelines take into account ingrowth of radium-226 from thorium-230 and of radium-228 from thorium-232, and assume secular equilibrium. If either thorium-230 and radium-226 or thorium-232 and radium-228 are both present, not in secular equilibrium, the guidelines apply to the higher concentration. If other mixtures of radionuclides occur, the concentrations of individual radionuclides shall be reduced so that the dose for the mixtures will not exceed the basic dose limit.

[b]These guidelines represent unrestricted-use residual concentrations above background averaged across any 15-cm-thick layer to any depth and over any contiguous 100-m^2 surface area.

[c]Localized concentrations in excess of these limits are allowable provided that the average over 100 m^2 is not exceeded.

[d]See Reference 33.

[e]A working level (WL) is any combination of short-lived radon decay products in 1 liter of air that will result in the ultimate emission of 1.3×10^5 MeV of potential alpha energy.

[f]As used in this table, dpm (disintegrations per minute) means the rate of emission by radioactive material as determined by correcting the counts per minute observed by an appropriate detector for background, efficiency, and geometric factors associated with the instrumentation.

[g]Where surface contamination by both alpha- and beta-gamma-emitting radionuclides exists, the limits established for alpha- and beta-gamma-emitting radionuclides should apply independently.

[h]Measurements of average contamination should not be averaged over more than 1 m^2. For objects of less surface area, the average shall be derived for each such object.

[i]The average and maximum radiation levels associated with surface contamination resulting from beta-gamma emitters should not exceed 0.2 mrad/h and 1.0 mrad/h, respectively, at 1 cm.

[j]The maximum contamination level applies to an area of not more than 100 cm^2.

[k]The amount of removable radioactive material per 100 cm^2 of surface area should be determined by wiping that area with dry filter or soft absorbent paper, applying moderate pressure, and measuring the amount of radioactive material on the wipe with an appropriate instrument of known efficiency. When removable contamination on objects of surface area less than 100 cm^2 is determined, the activity per unit area should be based on the actual area and the entire surface should be wiped. The numbers in this column are maximum amounts.

for each successive 15-cm (6-in.) layer within the 100-m^2 (1076-ft^2) area (see Table 1) (Ref. 34). For total uranium, the guideline was 75 pCi/g above background (Ref. 33).

These guidelines were developed to protect the residents from worst-case radiation exposure. This means that if all the soil on a property had the maximum permissible concentration of a given radionuclide (or the appropriate ratios of radionuclides), the resident would not receive a dose greater than the DOE radiation protection standard. This would be true if the resident grew all his own food in the contaminated soil, drank water from a well in the contaminated soil, lived in a house built in the middle of the contamination, drank milk only from cows grazing on grass grown in the contaminated soil, and ate meat only from animals that had grazed on grass grown in the contaminated soil. Since this scenario is highly improbable, these assumptions provide a high margin of safety for members of the general public.

Since the topography and long-term land usage of the Central Drainage Ditch indicated that certain radiation exposure pathways were not realistic, pathway analyses were performed to develop a specific guideline for the ditch. The scenario deemed the most realistic of those evaluated for the purpose of developing this guideline assumed that a house was built beside the ditch on sediment dredged from the bottom of the ditch and spread along the bank. Using this scenario, the maximum permissable concentration of radium-226 in the soil in the Central Drainage Ditch was set at 20 pCi/g. The resulting radiation dose from this scenario would be less than the DOE radiation protection standard of 100 mrem/yr (see Table 1). The methodology used to determine radiation doses received from the various pathways evaluated and the associated calculations are presented in Appendix A. While these evaluations were developed for a specific section of the ditch, they are applicable to its entire length.

3.0 REMEDIAL ACTION

A property was "designated" for remedial action if the results of the ORAU survey showed that it was contaminated in excess of DOE guidelines. After a property was designated, BNI began engineering design work and activities to hire local subcontractors to perform the cleanup work (Refs. 35 and 36). Engineering drawings were prepared using the results from the ORAU surveys to indicate the location(s) of the contamination on a given property. BNI's radiological support subcontractor, Thermo Analytical/Eberline (TMA/E), resurveyed the contaminated area to define the boundaries of the contamination. The contaminated area was then marked for the excavation subcontractor.

The excavation subcontractor removed the contaminated soil from the area(s) as shown on the engineering drawings. The soil was loaded into watertight trucks to prevent the spread of contamination to work areas and haul routes, and was transported to the waste containment area at the NFSS. During excavation, the subcontractor was required to keep all work areas free from airborne dust. This was accomplished by spraying contaminated areas with water. Personnel trained in radiation protection observed all operations to ensure that established safety procedures were followed. Haul trucks were surveyed for radioactive contamination before leaving the loading area. If contamination was found, it was removed before the truck was allowed to leave the loading area.

The remedial action performed in 1983-84 consisted of excavating contaminated soils and rubble; each property was restored after excavation, i.e., excavated soil was replaced with clean fill material and the land returned to its original condition. Similar remedial action was performed on several other vicinity properties in 1985-86 and will be documented in a separate report.

4.0 POST-REMEDIAL ACTION SAMPLING

After the contaminated soil was removed, another radiological survey was conducted to ensure that radiological conditions at a each

excavated area complied with remedial action guidelines before the area was backfilled. Three techniques were used for this survey:

- First, a near-surface scan of the entire area was performed with a gamma radiation detector to ensure that no significant areas of contamination were left after excavation. This process was repeated until the average concentrations were below the applicable DOE guideline values.

- Second, a sampling/measurement grid was established within each area excavated. Typically, grid intersections were spaced 3 m (10 ft) apart. Soil samples were obtained from alternate grid intersections [i.e., 6 m (20 ft) apart] and analyzed by the TMA/E laboratory for uranium, radium, and thorium. The results of these analyses were used to demonstrate that remaining contamination, if any, averaged less than the DOE guidelines.

- Third, a directionalized (downward-looking only) radiation detector was used to obtain the gamma count rate at each grid intersection point. These measurements were made at 30 cm (12 in.) above the ground surface. By calibrating gamma count rate measurements with the results from laboratory analyses of soil samples, surface measurements provided a reliable estimate of radionuclide concentrations of the excavated areas.

Figures 4 through 62 show the 11 vicinity properties and 2 drainage ditches that were cleaned and restored during the 1983 and 1984 work seasons. The locations shown in these figures indicate where the post-remedial action soil samples were collected and correspond to the grid coordinates given in Tables 2 through 13.

5.0 POST-REMEDIAL ACTION STATUS

Analysis results for samples collected following removal of contaminated soils are presented in Tables 2 through 13. Background has not been subtracted from any of the listed data. An independent review of the remedial action performed by BNI will be conducted by the ORAU Radiological Site Assessment Program before the properties can be officially certified as decontaminated and released for unrestricted use. However, the BNI data show that these properties now comply with DOE remedial action guidelines. Summaries of data collected on each property are provided below.

In addition to surveying each property to ensure that contaminated material had been removed, BNI surveyed all haul roads after remedial action was complete to verify that no cross-contamination had occurred. Special attention was given to surveying haul roads and easements along the West Drainage Ditch and Central Drainage Ditch, because these areas had not been included in designation surveys.

Property A

Four small areas on Property A were decontaminated and backfilled (see Figures 4 and 5). Results of soil sample analyses indicate that the remedial action guideline was met (Table 2). The average radium-226 concentration in the two areas was 1.2 pCi/g, including a background concentration of 1 pCi/g. Thus, the average concentration was 0.2 pCi/g above background. This is well below the remedial action guideline of 15 pCi/g for radium-226 concentrations in soil more than 6 in. beneath the ground surface.

Property H'

One large area on Property H' was decontaminated and backfilled (see Figures 6 and 7). Results of soil sample analyses indicate that the remedial action guideline was met (Table 3). The average radium-226 concentration was 1.9 pCi/g, including a background concentration of 1 pCi/g. Thus, the average concentration was 0.9 pCi/g above background. Results from five soil samples exceeded the guideline of 15 pCi/g. The locations of the samples are E1070, N2030; E1150, N2030, E1210, N2010; E1210, N2090; and E1240, N2100. A review of the soil samples and near-surface gamma measurements at locations contiguous with these five locations indicated that the average concentrations per 100 m^2 are each less than 15 pCi/g. For the highest value, 58.8 pCi/g at location E1240, N2100, the average concentration in the immediate area is 12.7 pCi/g. This value is the average of four contiguous samples; background has been subtracted. Near-surface gamma measurements indicated that the area

is much smaller than 100 m^2, probably less than 10 m^2. Thus, the remedial action guideline has been met throughout the decontaminated area.

Property L

Two small areas on Property L were decontaminated and backfilled (see Figures 8-10). Results of soil sample analyses indicate that the remedial action guideline was met (Table 4). The average radium-226 concentration was 2.7 pCi/g, including a background concentration of 1 pCi/g. Thus, the average concentration was 1.7 pCi/g above background. This is well below the remedial action guideline of 15 pCi/g for radium-226 concentrations in soil more than 6 in. beneath the ground surface.

Property M

Three areas on Property M were decontaminated and backfilled (see Figures 11 and 12). Results of soil sample analyses indicate that the remedial action guideline was met (Table 5). The average radium-226 concentration was 3.4 pCi/g, including a background concentration of 1 pCi/g. Thus, the average concentration was 2.4 pCi/g above background. Results from the sample taken at E0920, S2220 exceeded the remedial action guideline of 15 pCi/g. A review of these results and those from three contiguous soil samples indicated that the average concentration per 100 m^2 is 5.6 pCi/g. Background has been subtracted. Thus, the remedial action guideline has been met in all the decontaminated areas.

Property N/N' South

Eleven areas on Property N/N' South were decontaminated and backfilled (see Figures 13-16). Results of soil sample analyses indicate that the remedial action guideline was met (Table 6). The average radium-226 concentration in the decontaminated areas was 2.3 pCi/g, including a background concentration of 1 pCi/g. Thus, the average concentration was 1.3 pCi/g above background. Results

from two soil samples exceeded the guideline of 15 pCi/g. The locations of the samples are E2166, N2242 and E2200, N2260. A review of the soil samples and near-surface gamma measurements at locations contiguous with these two locations indicated that the average concentration per 100 m^2 is 11.2 pCi/g. This value is the average of seven contiguous samples; background has been subtracted. Near-surface gamma measurements indicated that the areas are much smaller than 100 m^2, probably less than 1 m^2. Thus, the remedial action guideline has been met in all the decontaminated areas.

Property Q

Twenty areas on Property Q were decontaminated and backfilled (see Figures 17-22). Results of soil sample analyses indicate that the remedial action guideline was met (Table 7). The average radium-226 concentration was 2.2 pCi/g, including a background concentration of 1 pCi/g. Thus, the average concentration was 1.2 pCi/g above background. Results from two soil samples exceeded the remedial action guideline of 15 pCi/g. The locations of the samples are E1950, S7070 and E1980, S7060. A review of the soil samples and near-surface gamma measurements at locations contiguous with these two locations indicated that the average concentrations per 100 m^2 were each less than 15 pCi/g. For the highest value, 37.4 pCi/g at location E1950, S7070, the average concentration in the immediate area is 10.6 pCi/g. This value is the average of three contiguous samples; background has been subtracted. Near-surface gamma measurements indicated that the area is much smaller than 100 m^2, probably less than 10 m^2. Thus, the remedial action guideline for radium-226 has been met in all decontaminated areas.

Results from only one sample, at location E1950, S7070, exceeded the remedial action guideline of 15 pCi/g for thorium-232. However, a review of the soil samples at locations contiguous with this location indicated that the average concentration (with background subtracted) was 4.5 pCi/g, thus meeting the guideline.

Property R

Three small areas on Property R were decontaminated and backfilled (see Figures 23-25). Results of soil sample analyses indicate that the remedial action guideline was met (Table 8). The average radium-226 concentration was 2.1 pCi/g, including a background concentration of 1 pCi/g. Thus, the average concentration was 1.1 pCi/g above background. This is well below the remedial action guideline of 15 pCi/g for radium-226 concentrations in soil more than 6 in. beneath the ground surface.

Property S

One small area on Property S was decontaminated and backfilled (see Figures 26 and 27). Results of soil sample analyses indicate that the remedial action guideline was met (Table 9). The average radium-226 concentration was 4.5 pCi/g, including a background concentration of 1 pCi/g. Thus, the average concentration was 3.5 pCi/g above background. This is well below the remedial action guideline of 15 pCi/g for radium-226 concentrations in soil more than 6 in. beneath the ground surface.

Properties U and V

Eight small areas on Properties U and V were decontaminated and backfilled (see Figures 28-30). Results of soil sample analyses indicate that the remedial action guideline was met (Table 10). The average radium-226 concentration was 1.1 pCi/g, including a background concentration of 1 pCi/g. Thus, the average concentration was 0.1 pCi/g above background. This is well below the remedial action guideline of 15 pCi/g for radium-226 concentrations in soil more than 6 in. beneath the ground surface.

Property X

Fourteen small areas on Property X were decontaminated and backfilled (see Figures 31-34). Results of soil sample analyses

indicate that the remedial action guideline was met (Table 11). The average radium-226 concentration was 1.0 pCi/g, including a background concentration of 1 pCi/g. Thus, the average concentration was equal to background. This is well below the remedial action guideline of 15 pCi/g for radium-226 concentrations in soil more than 6 in. beneath the ground surface.

West Ditch

The section of the West Ditch extending from the northern boundary of the NFSS to the confluence with the Central Drainage Ditch was decontaminated, but not backfilled (see Figures 35 and 36-42). Results of soil sample analyses indicate that the remedial action guideline was met (Table 12). The average radium-226 concentration was 1.5 pCi/g, including a background concentration of 1 pCi/g. Thus, the average concentration was 0.5 pCi/g above background. Results from seven soil samples exceeded the remedial action guideline of 5 pCi/g for surface concentrations of radium-226. The locations of the samples are E0340, N2940; W0080, N2260; W0167, N0980; W0170, N1160; W0125, N2000; W0150, N2060; and W0120, N2140. A review of the soil samples and near-surface gamma measurements at locations contiguous with these seven locations indicate that the average concentrations per 100 m^2 are each less than 5 pCi/g. For the highest value, 14.3 pCi/g at location W0167, N0980, the average concentration in the immediate area is 2.9 pCi/g. This value is the average of six contiguous samples; background has been subtracted. Near-surface gamma measurements indicated that the area is much smaller than 100 m^2, probably less than 10 m^2. Thus, the remedial action guideline has been met throughout the decontaminated area.

Results from only one sample, at location W0170, N0920, exceeded the remedial action guideline of 15 pCi/g for thorium-232. However, a review of the soil samples contiguous with this location indicated that the average concentration (with background subtracted) was 4.2 pCi/g, thus meeting the guideline.

Central Drainage Ditch

The section of the Central Drainage Ditch extending from the northern boundary of the NFSS to a location 1500 ft west of Lutts Road was decontaminated, but not backfilled along most of the distance cleaned (see Figures 35 and 43-62). Results of soil sample analyses are listed in Table 13. The average radium-226 concentration was 2.2 pCi/g, including a background concentration of 1 pCi/g. Thus, the average concentration was 1.2 pCi/g above background. While this average is well below the remedial action guideline of 5 pCi/g for surface concentrations of radium-226, results from 101 of the 1750 samples collected exceeded 5 pCi/g above background. Each of these results was evaluated using contiguous soil samples and near-surface gamma measurements to determine average concentrations per 100 m^2 and the sizes of areas where results exceeded the guideline. Based on this evaluation, seven areas were identified that exceeded the guideline. The average radium-226 concentration in each of these areas was less than 15 pCi/g. Based on the pathways analysis described in Section 2.0, the resulting dose due to radium-226 contamination in each of these areas was a fraction of the radiation protection standard of 100 mrem/yr. Therefore, it was determined by DOE that decontamination of the Central Drainage Ditch met the radiation protection standard.

In addition to the section cleaned, the section of the ditch from 1500 to 4500 ft west of where Lutts Road crosses the ditch was sampled to determine whether or not remedial action was required. The average concentration of radium-226 in this section is 6.1 pCi/g with a maximum of 11.5 pCi/g. Results of the pathways analysis indicated, however, that the resulting dose to the public would be only a small fraction of the radiation protection standard (100 mrem/yr). Consequently, it was determined by DOE that no remedial action was required along this section of the ditch.

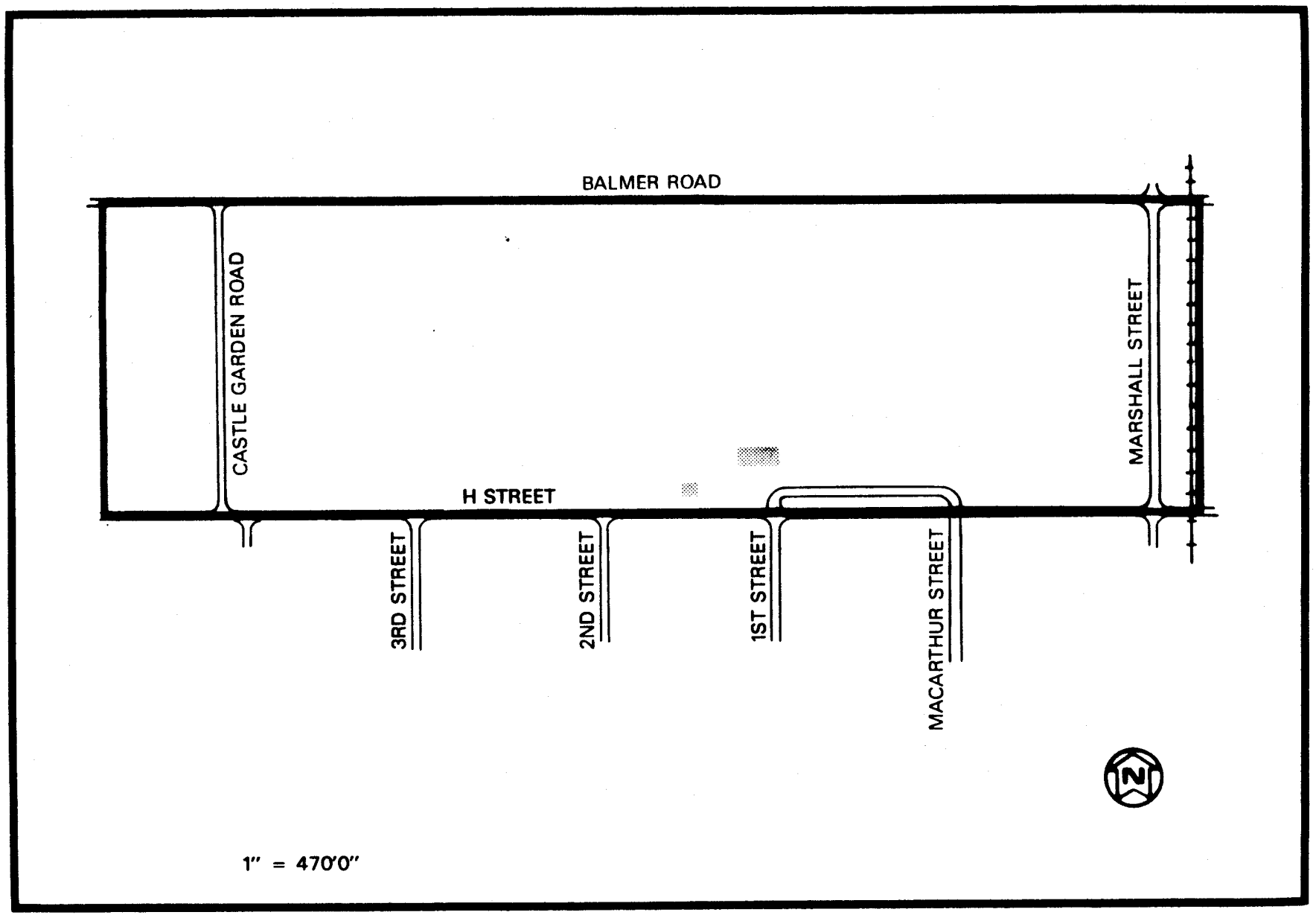
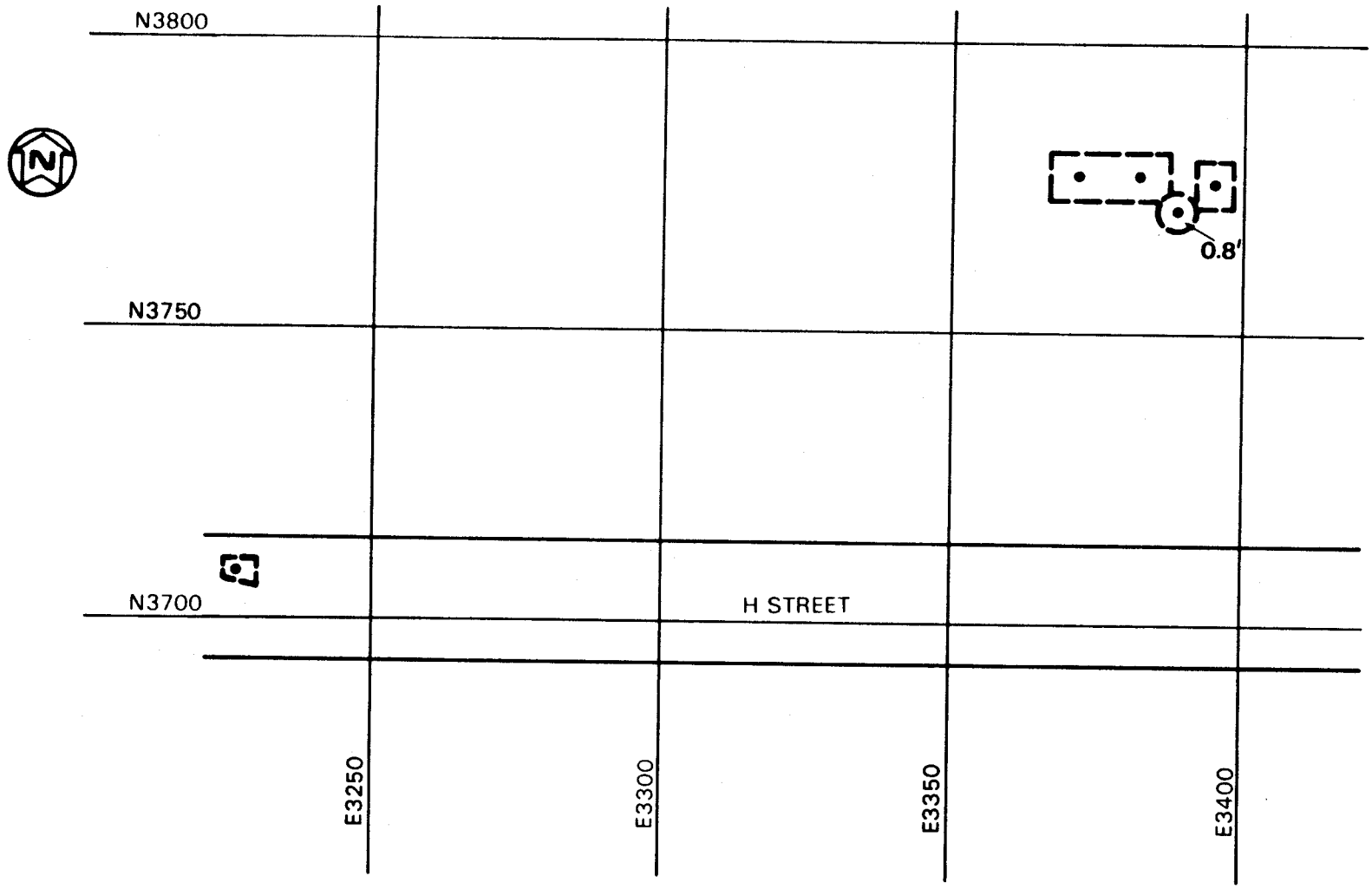


FIGURE 4 EXCAVATED AREA ON PROPERTY A



EXCAVATION DEPTH WAS 1 FOOT UNLESS OTHERWISE NOTED

FIGURE 5 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY A

TABLE 2

POST-REMEDIAL ACTION SAMPLING RESULTS

FOR PROPERTY A

Grid Coordinates		Concentrations (pCi/g +/- 1 sigma)		
E,W	N,S	Uranium-238	Radium-226	Thorium-232
E3228	N3708	A	1.4 ± 0.1	0.6 ± 0.1
E3370	N3780	A	1.2 ± 0.1	0.8 ± 0.1
E3388	N3780	A	0.7 ± 0.1	0.5 ± 0.1
E3390	N3770	A	1.9 ± 0.1	0.9 ± 0.2
E3398	N3777	A	0.9 ± 0.1	1.0 ± 0.2

'A' denotes less than detectable activity.

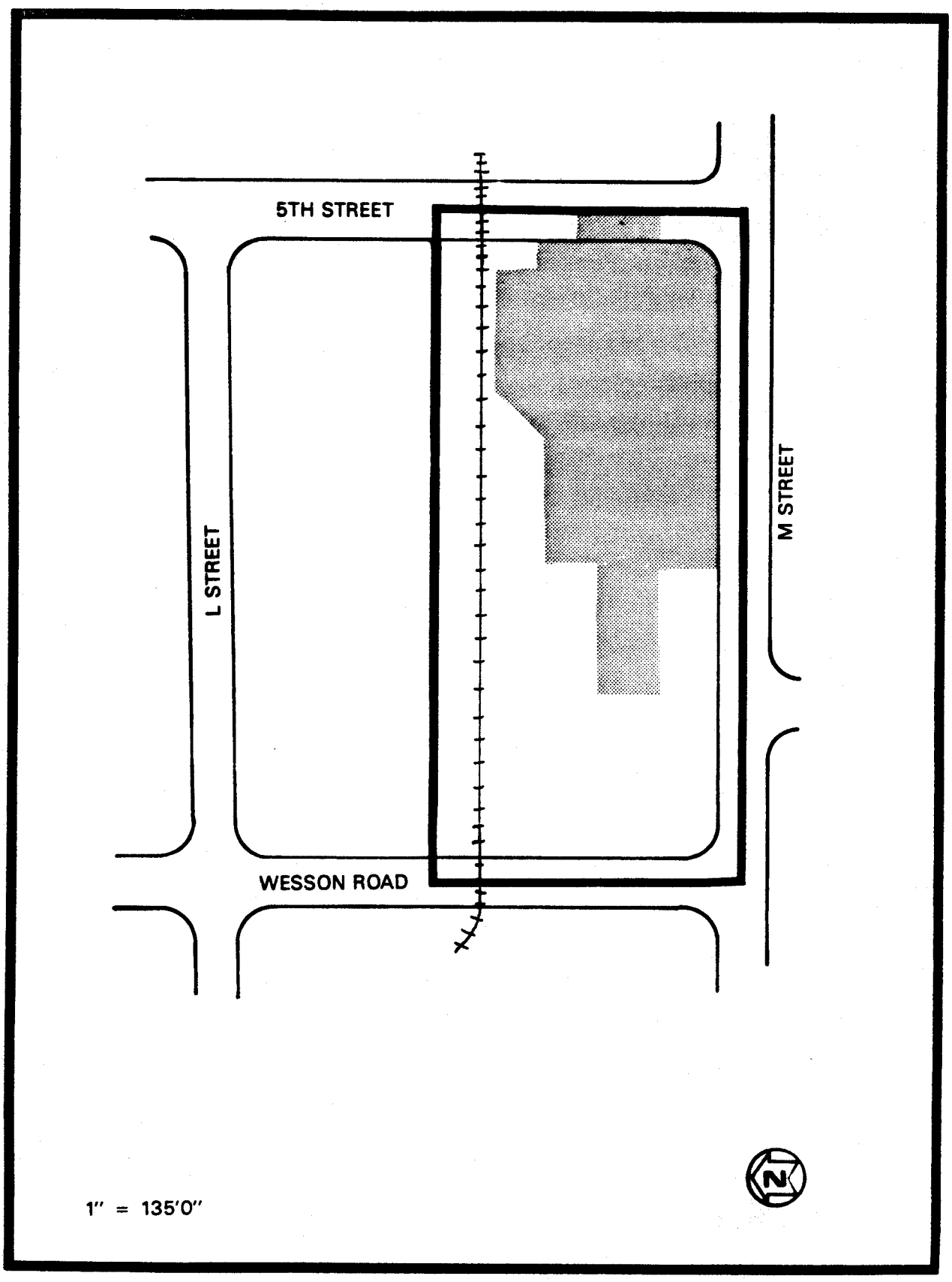


FIGURE 6 EXCAVATED AREA ON PROPERTY H'

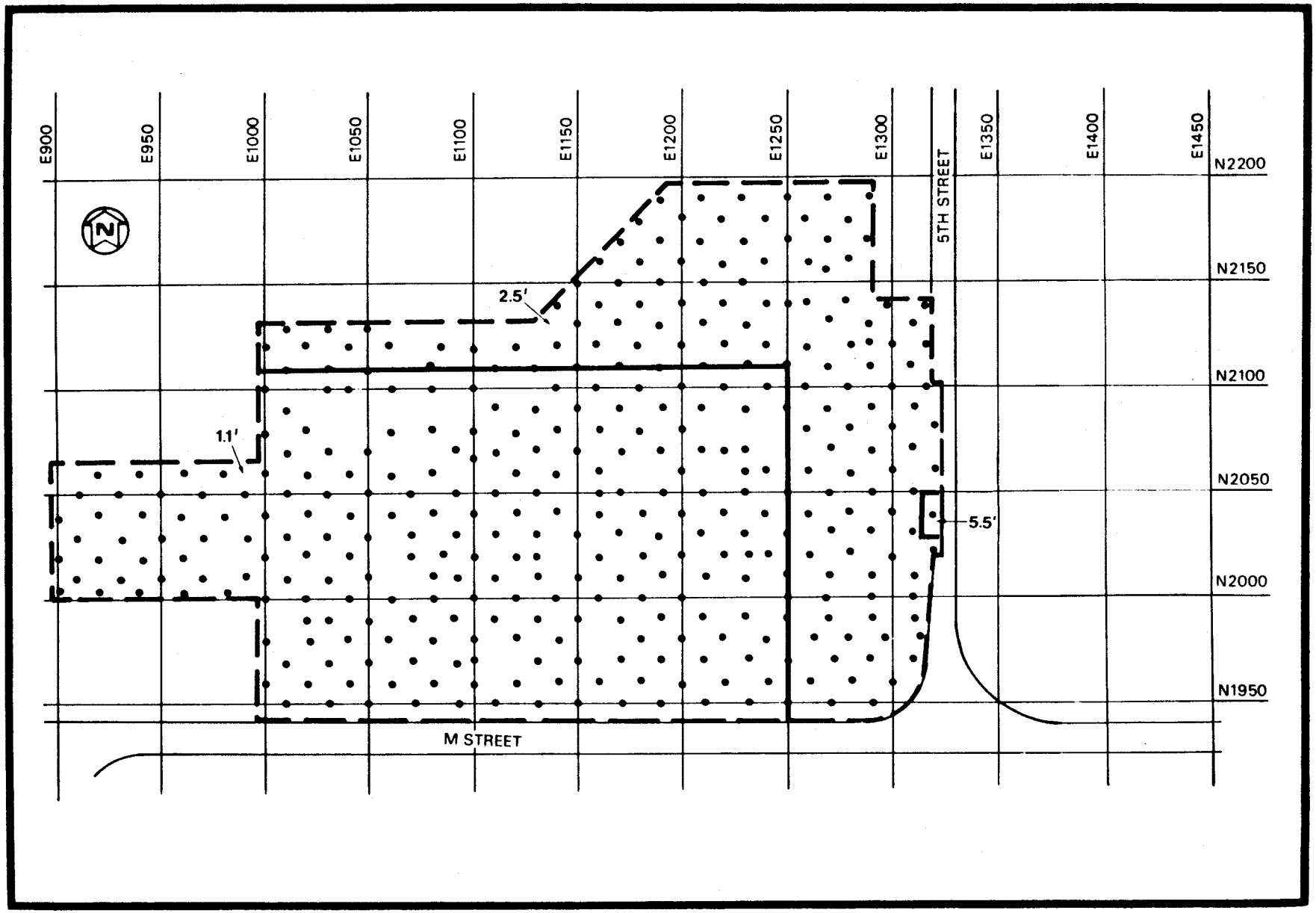


FIGURE 7 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY H'

TABLE 3

POST-REMEDIAL ACTION SAMPLING RESULTS

FOR PROPERTY H'

Grid Coordinates		Concentrations (pCi/g +/- 1 sigma)		
E,W	N,S	Uranium-238	Radium-226	Thorium-232
E0900	N2000	A	1.1 ± 0.1	1.3 ± 0.2
E0900	N2020	2.8 ± 1.3	0.7 ± 0.1	0.7 ± 0.2
E0900	N2040	A	1.0 ± 0.1	1.4 ± 0.2
E0910	N2010	A	1.0 ± 0.1	0.7 ± 0.2
E0910	N2030	A	2.5 ± 0.2	A
E0910	N2050	A	0.8 ± 0.1	0.7 ± 0.1
E0920	N2000	A	1.1 ± 0.1	0.9 ± 0.2
E0920	N2020	A	2.0 ± 0.1	0.9 ± 0.2
E0920	N2040	A	1.0 ± 0.1	0.9 ± 0.2
E0920	N2060	A	0.9 ± 0.1	1.1 ± 0.2
E0930	N2010	A	0.7 ± 0.1	1.2 ± 0.2
E0930	N2030	A	1.9 ± 0.2	1.1 ± 0.2
E0930	N2050	A	1.0 ± 0.1	1.1 ± 0.2
E0940	N2000	A	1.1 ± 0.1	0.1 ± 0.2
E0940	N2020	A	0.7 ± 0.1	0.7 ± 0.2
E0940	N2040	A	2.0 ± 0.1	0.8 ± 0.2
E0940	N2060	5.9 ± 1.5	1.2 ± 0.1	1.0 ± 0.2
E0950	N2010	A	0.9 ± 0.1	1.1 ± 0.2
E0950	N2030	A	1.3 ± 0.1	1.1 ± 0.2
E0950	N2050	A	2.2 ± 0.2	1.0 ± 0.2
E0960	N2000	A	0.7 ± 0.9	1.1 ± 0.1
E0960	N2020	A	1.6 ± 0.1	0.8 ± 0.1
E0960	N2040	1.6 ± 1.4	0.9 ± 0.1	0.9 ± 0.2
E0960	N2060	A	0.9 ± 0.1	1.1 ± 0.2
E0970	N2010	A	0.9 ± 0.1	0.8 ± 0.2
E0970	N2030	A	0.8 ± 0.1	1.2 ± 0.2
E0970	N2050	A	1.3 ± 0.1	0.9 ± 0.1
E0980	N2000	A	1.2 ± 0.1	0.8 ± 0.1
E0980	N2040	2.4 ± 1.1	0.7 ± 0.1	1.0 ± 0.1
E0980	N2060	A	0.9 ± 0.1	1.1 ± 0.2
E0990	N2010	1.3 ± 0.8	1.0 ± 0.1	0.7 ± 0.1
E0990	N2030	A	1.3 ± 0.1	0.8 ± 0.1
E0990	N2050	A	1.0 ± 0.1	0.8 ± 0.3
E1000	N1960	A	7.5 ± 0.1	1.1 ± 0.3
E1000	N1980	A	2.1 ± 0.2	0.9 ± 0.2
E1000	N2000	6.6 ± 1.9	1.9 ± 0.1	1.2 ± 0.2
E1000	N2020	8.3 ± 2.1	2.2 ± 0.2	1.5 ± 0.2
E1000	N2040	A	1.8 ± 0.1	0.6 ± 0.2
E1000	N2060	A	2.4 ± 0.2	0.5 ± 0.2
E1000	N2080	A	1.2 ± 0.1	1.0 ± 0.2
E1000	N2100	A	0.8 ± 0.1	0.9 ± 0.2
E1000	N2120	A	0.8 ± 0.1	0.7 ± 0.2
E1010	N1950	A	0.9 ± 0.1	0.8 ± 0.2

TABLE 3

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
E1010	N1970	A	0.7 ± 0.1	1.0 ± 0.2
E1010	N2010	4.3 ± 1.4	0.8 ± 0.1	0.6 ± 0.2
E1010	N2030	A	0.8 ± 0.1	1.1 ± 0.2
E1010	N2050	A	1.3 ± 0.1	1.0 ± 0.2
E1010	N2070	0.9 ± 1.1	1.1 ± 0.1	0.7 ± 0.2
E1010	N2090	A	0.6 ± 0.1	0.5 ± 0.1
E1010	N2110	A	0.7 ± 0.1	1.0 ± 0.1
E1010	N2130	A	0.7 ± 0.1	0.6 ± 0.1
E1020	N1960	A	1.3 ± 0.1	0.8 ± 0.2
E1020	N1980	A	1.0 ± 0.1	0.8 ± 0.2
E1020	N1990	4.8 ± 1.3	2.0 ± 0.1	0.7 ± 0.2
E1020	N2000	A	1.2 ± 0.1	1.2 ± 0.2
E1020	N2020	8.4 ± 1.5	1.0 ± 0.1	1.1 ± 0.2
E1020	N2040	A	1.1 ± 0.1	1.0 ± 0.2
E1020	N2060	A	1.3 ± 0.1	0.6 ± 0.2
E1020	N2080	A	1.1 ± 0.1	0.9 ± 0.2
E1020	N2120	A	0.7 ± 0.1	1.1 ± 0.2
E1030	N1950	A	0.9 ± 0.1	0.8 ± 0.2
E1030	N1970	A	0.8 ± 0.1	0.7 ± 0.1
E1030	N1990	A	0.8 ± 0.1	0.7 ± 0.2
E1030	N2010	0.9 ± 1.4	1.1 ± 0.1	1.2 ± 0.2
E1030	N2030	A	1.2 ± 0.1	1.1 ± 0.2
E1030	N2050	2.8 ± 1.1	1.0 ± 0.1	0.5 ± 0.2
E1030	N2070	A	0.9 ± 0.1	0.9 ± 0.1
E1030	N2100	A	0.9 ± 0.1	0.7 ± 0.1
E1030	N2110	A	1.1 ± 0.1	1.0 ± 0.2
E1030	N2130	A	0.9 ± 0.1	0.9 ± 0.2
E1040	N1960	A	1.2 ± 0.1	1.1 ± 0.2
E1040	N1980	A	1.1 ± 0.1	0.9 ± 0.2
E1040	N2000	A	1.1 ± 0.1	1.2 ± 0.2
E1040	N2020	A	1.2 ± 0.1	1.6 ± 0.2
E1040	N2040	A	1.3 ± 0.1	1.1 ± 0.2
E1040	N2060	A	4.5 ± 0.2	0.9 ± 0.2
E1040	N2100	A	0.9 ± 0.1	1.2 ± 0.2
E1040	N2120	A	0.5 ± 0.1	0.9 ± 0.2
E1050	N1950	A	1.2 ± 0.1	1.0 ± 0.2
E1050	N1950	A	1.2 ± 0.1	0.8 ± 0.2
E1050	N1970	A	1.2 ± 0.1	1.1 ± 0.2
E1050	N1990	A	1.5 ± 0.1	1.5 ± 0.2
E1050	N2010	A	1.2 ± 0.1	1.2 ± 0.2
E1050	N2030	5.0 ± 1.5	3.7 ± 0.2	1.4 ± 0.2
E1050	N2070	1.3 ± 0.9	1.1 ± 0.1	1.0 ± 0.2
E1050	N2110	A	A	0.5 ± 0.2

TABLE 3

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
E1050	N2130	A	0.9 ± 0.1	0.8 ± 0.3
E1060	N1960	A	1.2 ± 0.1	1.3 ± 0.2
E1060	N1980	A	1.2 ± 0.1	1.6 ± 0.2
E1060	N2000	A	1.3 ± 0.1	1.1 ± 0.2
E1060	N2040	A	3.1 ± 0.2	1.2 ± 0.2
E1060	N2060	A	11.9 ± 0.4	0.8 ± 0.3
E1060	N2080	A	1.6 ± 0.1	0.6 ± 0.2
E1060	N2100	A	1.1 ± 0.1	0.9 ± 0.2
E1060	N2120	A	0.7 ± 0.1	0.5 ± 0.2
E1070	N1950	0.9 ± 1.0	0.9 ± 0.1	0.9 ± 0.2
E1070	N1970	A	1.0 ± 0.1	1.1 ± 0.2
E1070	N1990	A	1.3 ± 0.1	1.1 ± 0.2
E1070	N2010	A	0.8 ± 0.1	0.5 ± 0.2
E1070	N2020	A	13.7 ± 0.4	0.6 ± 0.3
E1070	N2030	A	17.9 ± 0.4	0.4 ± 0.3
E1070	N2050	A	7.2 ± 0.3	0.5 ± 0.2
E1080	N1960	A	1.3 ± 0.1	0.8 ± 0.2
E1080	N1980	A	0.9 ± 0.1	0.9 ± 0.2
E1080	N2000	A	1.5 ± 0.1	1.7 ± 0.2
E1080	N2020	A	1.2 ± 0.1	1.1 ± 0.2
E1080	N2040	A	10.1 ± 0.4	1.1 ± 0.2
E1080	N2060	1.1 ± 1.5	3.6 ± 0.2	0.8 ± 0.2
E1080	N2080	A	1.1 ± 0.1	1.1 ± 0.2
E1080	N2100	A	5.3 ± 0.3	1.0 ± 0.2
E1080	N2110	A	0.9 ± 0.1	0.8 ± 0.2
E1080	N2120	A	1.0 ± 0.1	1.0 ± 0.2
E1090	N1950	A	1.1 ± 0.1	0.7 ± 0.2
E1090	N1970	A	1.0 ± 0.1	1.1 ± 0.2
E1090	N1990	A	1.4 ± 0.1	1.6 ± 0.2
E1090	N2010	A	2.6 ± 0.2	0.9 ± 0.3
E1090	N2030	A	1.4 ± 0.1	1.2 ± 0.2
E1090	N2050	2.6 ± 1.2	1.6 ± 0.1	0.9 ± 0.2
E1090	N2070	A	1.0 ± 0.1	1.0 ± 0.2
E1100	N1960	A	1.3 ± 0.1	0.7 ± 0.2
E1100	N1970	1.4 ± 1.0	1.0 ± 0.1	1.0 ± 0.2
E1100	N1980	A	1.0 ± 0.1	1.1 ± 0.3
E1100	N2000	A	1.3 ± 0.2	1.4 ± 0.2
E1100	N2020	A	1.4 ± 0.2	1.2 ± 0.2
E1100	N2040	A	1.9 ± 0.1	0.9 ± 0.2
E1100	N2065	A	2.0 ± 0.1	1.4 ± 0.2
E1100	N2080	A	1.4 ± 0.1	0.9 ± 0.2
E1100	N2100	A	1.1 ± 0.1	0.8 ± 0.2
E1100	N2120	A	1.2 ± 0.1	0.9 ± 0.2

TABLE 3

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
E1110	N1950	8.5 ± 1.5	1.1 ± 0.1	1.0 ± 0.2
E1110	N1990	A	1.0 ± 0.1	0.9 ± 0.2
E1110	N2010	A	1.1 ± 0.1	1.2 ± 0.2
E1110	N2030	A	1.5 ± 0.1	1.4 ± 0.2
E1110	N2050	A	2.1 ± 0.2	1.6 ± 0.2
E1110	N2070	A	1.2 ± 0.2	1.6 ± 0.2
E1110	N2090	A	0.9 ± 0.1	A
E1110	N2110	A	1.1 ± 0.1	0.7 ± 0.1
E1120	N1960	A	1.6 ± 0.1	0.9 ± 0.2
E1120	N1980	4.0 ± 1.3	1.1 ± 0.2	1.0 ± 0.2
E1120	N2000	2.5 ± 1.6	1.0 ± 0.2	1.3 ± 0.2
E1120	N2020	A	1.2 ± 0.1	1.4 ± 0.2
E1120	N2040	A	1.5 ± 0.2	1.3 ± 0.2
E1120	N2060	A	1.2 ± 0.1	0.9 ± 0.2
E1120	N2080	A	1.2 ± 0.1	0.3 ± 0.2
E1120	N2120	A	0.9 ± 0.1	A
E1130	N1950	A	2.7 ± 0.2	0.5 ± 0.2
E1130	N1970	A	1.2 ± 0.1	0.9 ± 0.2
E1130	N1990	A	1.0 ± 0.1	0.8 ± 0.2
E1130	N2010	A	2.9 ± 1.3	0.8 ± 0.2
E1130	N2020	A	0.6 ± 0.1	0.4 ± 0.2
E1130	N2030	A	1.3 ± 0.1	1.3 ± 0.2
E1130	N2050	A	2.0 ± 0.1	1.2 ± 0.2
E1130	N2070	A	0.9 ± 0.1	1.0 ± 0.1
E1130	N2090	A	1.4 ± 0.1	1.3 ± 0.2
E1130	N2110	A	1.2 ± 0.1	0.9 ± 0.2
E1140	N1960	1.6 ± 1.4	1.4 ± 0.2	1.1 ± 0.2
E1140	N1980	A	1.3 ± 0.1	1.0 ± 0.2
E1140	N2000	7.4 ± 1.7	2.6 ± 0.2	1.2 ± 0.2
E1140	N2040	A	1.5 ± 0.1	1.3 ± 0.2
E1140	N2060	A	0.8 ± 0.2	1.3 ± 0.2
E1140	N2080	A	1.6 ± 0.1	1.1 ± 0.2
E1140	N2100	A	1.2 ± 0.1	0.7 ± 0.2
E1140	N2120	A	1.1 ± 0.1	1.0 ± 0.2
E1140	N2140	A	1.0 ± 0.1	1.1 ± 0.2
E1150	N1950	A	1.2 ± 0.1	0.7 ± 0.1
E1150	N1970	A	1.1 ± 0.1	1.0 ± 0.2
E1150	N2010	19.4 ± 2.4	3.2 ± 0.2	0.9 ± 0.2
E1150	N2030	30.9 ± 5.1	40.3 ± 0.6	0.8 ± 0.4
E1150	N2070	A	13.2 ± 0.4	A
E1150	N2090	A	8.0 ± 0.3	0.8 ± 0.3
E1150	N2110	A	0.7 ± 0.1	0.9 ± 0.1
E1150	N2130	A	1.1 ± 0.1	1.3 ± 0.2

TABLE 3

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
E1150	N2150	A	0.8 ± 0.1	0.6 ± 0.1
E1160	N1960	A	1.0 ± 0.1	1.1 ± 0.4
E1160	N2000	A	1.2 ± 0.1	1.8 ± 0.2
E1160	N2020	4.5 ± 1.0	6.3 ± 0.1	0.1 ± 0.1
E1160	N2040	A	1.3 ± 0.1	0.9 ± 0.2
E1160	N2050	A	2.4 ± 0.2	1.0 ± 0.2
E1160	N2060	A	1.1 ± 0.1	0.7 ± 0.2
E1160	N2080	A	1.3 ± 0.1	1.3 ± 0.2
E1160	N2100	A	1.8 ± 0.1	0.4 ± 0.2
E1160	N2120	A	1.3 ± 0.1	0.8 ± 0.1
E1160	N2140	A	0.9 ± 0.1	0.5 ± 0.1
E1160	N2160	4.4 ± 1.2	0.8 ± 0.1	1.0 ± 0.1
E1170	N1950	A	1.1 ± 0.1	1.2 ± 0.2
E1170	N1970	1.0 ± 1.1	1.0 ± 0.1	1.0 ± 0.2
E1170	N1990	A	1.1 ± 0.1	1.2 ± 0.2
E1170	N2010	A	1.4 ± 0.1	1.7 ± 0.2
E1170	N2030	A	1.1 ± 0.1	1.3 ± 0.2
E1170	N2050	7.6 ± 1.7	1.2 ± 0.1	1.2 ± 0.2
E1170	N2070	2.3 ± 1.1	1.1 ± 0.1	0.9 ± 0.2
E1170	N2090	A	8.4 ± 0.3	1.2 ± 0.2
E1170	N2110	3.7 ± 1.3	0.8 ± 0.1	1.4 ± 0.2
E1170	N2130	A	1.0 ± 0.1	0.8 ± 0.2
E1170	N2150	4.5 ± 1.2	1.2 ± 0.1	1.1 ± 0.2
E1170	N2170	A	1.2 ± 0.1	0.9 ± 0.2
E1180	N1960	A	0.7 ± 0.1	0.5 ± 0.1
E1180	N1980	A	1.1 ± 0.1	0.7 ± 0.1
E1180	N2000	A	0.9 ± 0.1	A
E1180	N2020	A	1.0 ± 0.1	1.4 ± 0.2
E1180	N2040	A	1.7 ± 0.1	0.9 ± 0.2
E1180	N2080	A	0.7 ± 0.1	0.8 ± 0.2
E1180	N2100	A	1.2 ± 0.1	1.5 ± 0.2
E1180	N2120	A	1.1 ± 0.1	1.2 ± 0.2
E1180	N2140	23.8 ± 2.5	1.4 ± 0.1	1.3 ± 0.2
E1180	N2160	A	1.0 ± 0.1	0.7 ± 0.1
E1180	N2180	2.0 ± 1.7	0.7 ± 0.1	0.7 ± 0.1
E1190	N1950	17.9 ± 2.0	0.9 ± 0.1	0.8 ± 0.2
E1190	N1970	4.5 ± 1.3	0.8 ± 0.1	0.8 ± 0.1
E1190	N1990	4.1 ± 0.1	1.2 ± 0.1	1.4 ± 0.2
E1190	N2010	A	1.1 ± 0.1	1.2 ± 0.2
E1190	N2030	A	1.0 ± 0.1	1.2 ± 0.2
E1190	N2050	A	0.9 ± 0.1	1.4 ± 0.2
E1190	N2070	A	2.8 ± 0.2	0.7 ± 0.2
E1190	N2090	A	1.6 ± 0.1	1.0 ± 0.2

TABLE 3

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
E1190	N2110	18.0 ± 2.3	1.1 ± 0.1	1.0 ± 0.2
E1190	N2130	15.3 ± 2.0	0.8 ± 0.1	0.8 ± 0.1
E1190	N2150	A	1.0 ± 0.1	1.0 ± 0.2
E1190	N2170	A	0.8 ± 0.1	0.7 ± 0.2
E1190	N2190	A	0.8 ± 0.1	0.8 ± 0.2
E1200	N1960	3.4 ± 1.5	0.7 ± 0.1	1.4 ± 0.2
E1200	N1980	9.2 ± 1.7	0.9 ± 0.1	0.9 ± 0.2
E1200	N2000	A	1.0 ± 0.1	1.0 ± 0.2
E1200	N2020	2.5 ± 1.1	1.1 ± 0.1	1.6 ± 0.2
E1200	N2040	A	1.7 ± 0.1	1.2 ± 0.2
E1200	N2060	13.4 ± 1.7	1.6 ± 0.1	0.9 ± 0.1
E1200	N2080	A	1.4 ± 0.1	0.8 ± 0.1
E1200	N2100	A	1.0 ± 0.1	0.5 ± 0.1
E1200	N2120	A	2.7 ± 0.2	1.0 ± 0.1
E1200	N2140	11.1 ± 1.8	1.1 ± 0.1	1.2 ± 0.2
E1200	N2160	A	1.0 ± 0.1	1.2 ± 0.2
E1200	N2180	A	1.0 ± 0.1	0.5 ± 0.1
E1210	N1950	A	0.9 ± 0.1	0.6 ± 0.1
E1210	N1970	8.8 ± 1.3	0.6 ± 0.1	A
E1210	N1990	11.2 ± 1.7	1.3 ± 0.1	1.2 ± 0.2
E1210	N2010	11.6 ± 3.8	24.7 ± 0.5	A
E1210	N2030	A	0.4 ± 0.1	0.1 ± 0.2
E1210	N2050	A	1.2 ± 0.1	1.4 ± 0.2
E1210	N2070	A	4.6 ± 0.2	1.2 ± 0.3
E1210	N2090	A	19.3 ± 0.5	1.2 ± 0.3
E1210	N2110	45.2 ± 2.8	1.5 ± 0.1	0.5 ± 0.1
E1210	N2150	3.5 ± 1.7	1.1 ± 0.2	0.9 ± 0.2
E1210	N2170	A	0.8 ± 0.9	0.9 ± 0.2
E1210	N2190	A	0.8 ± 0.1	1.1 ± 0.1
E1212	N2130	45.6 ± 3.5	0.6 ± 0.1	0.9 ± 0.1
E1220	N1960	A	0.8 ± 0.1	0.6 ± 0.1
E1220	N1980	12.3 ± 1.6	1.0 ± 0.1	0.8 ± 0.2
E1220	N2020	A	1.1 ± 0.1	1.4 ± 0.2
E1220	N2040	2.6 ± 1.2	0.7 ± 0.1	0.9 ± 0.1
E1220	N2070	A	4.0 ± 0.2	1.0 ± 0.2
E1220	N2100	A	1.2 ± 0.1	0.9 ± 0.2
E1220	N2120	13.8 ± 2.8	1.3 ± 0.2	1.4 ± 0.3
E1220	N2140	4.7 ± 1.2	1.0 ± 0.1	1.2 ± 0.3
E1220	N2160	A	1.0 ± 0.1	1.4 ± 0.2
E1220	N2180	A	0.9 ± 0.1	1.2 ± 0.2
E1230	N1950	A	1.3 ± 0.1	0.7 ± 0.2
E1230	N1970	A	1.2 ± 0.1	1.2 ± 0.2
E1230	N1990	8.5 ± 1.0	1.7 ± 0.1	1.7 ± 0.2

TABLE 3

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
E1230	N2010	A	0.9 ± 0.1	0.7 ± 0.2
E1230	N2020	A	1.0 ± 0.1	0.8 ± 0.2
E1230	N2030	A	1.0 ± 0.1	0.9 ± 0.2
E1230	N2050	A	1.0 ± 0.1	0.9 ± 0.2
E1230	N2060	A	0.9 ± 0.1	0.8 ± 0.2
E1230	N2070	1.8 ± 1.2	1.1 ± 0.1	0.9 ± 0.2
E1230	N2090	3.0 ± 1.4	1.0 ± 0.1	1.0 ± 0.1
E1230	N2110	2.4 ± 2.0	1.3 ± 0.1	1.0 ± 0.2
E1230	N2130	3.2 ± 1.8	1.0 ± 0.1	1.0 ± 0.2
E1230	N2150	A	1.5 ± 0.1	1.1 ± 0.2
E1230	N2170	A	1.1 ± 0.1	1.1 ± 0.2
E1230	N2190	A	1.0 ± 0.1	0.7 ± 0.2
E1240	N1960	A	1.0 ± 0.1	0.9 ± 0.3
E1240	N1980	A	1.1 ± 0.1	1.6 ± 0.2
E1240	N2020	A	1.2 ± 0.1	0.8 ± 0.2
E1240	N2040	A	0.8 ± 0.1	1.0 ± 0.2
E1240	N2060	A	2.5 ± 0.2	0.9 ± 0.2
E1240	N2100	27.8 ± 5.9	58.8 ± 0.8	A
E1240	N2120	A	1.8 ± 0.1	0.7 ± 0.2
E1240	N2140	6.2 ± 1.4	0.9 ± 0.1	0.7 ± 0.1
E1240	N2160	A	1.0 ± 0.1	1.0 ± 0.2
E1240	N2180	A	0.8 ± 0.1	0.8 ± 0.2
E1250	N1950	A	0.9 ± 0.1	1.1 ± 0.2
E1250	N1970	A	1.3 ± 0.1	0.9 ± 0.2
E1250	N1990	A	1.0 ± 0.1	1.0 ± 0.2
E1250	N2000	A	1.1 ± 0.1	0.6 ± 0.1
E1250	N2010	A	4.8 ± 0.3	A
E1250	N2030	A	0.4 ± 0.7	0.2 ± 0.1
E1250	N2050	A	1.2 ± 0.1	1.2 ± 0.2
E1250	N2090	A	1.0 ± 0.1	1.1 ± 0.2
E1250	N2110	A	1.2 ± 0.1	0.9 ± 0.2
E1250	N2150	15.7 ± 1.9	3.1 ± 0.2	1.0 ± 0.2
E1250	N2170	A	1.0 ± 0.1	1.0 ± 0.2
E1250	N2190	A	1.8 ± 0.2	0.6 ± 0.3
E1260	N1960	A	0.8 ± 0.1	1.2 ± 0.2
E1260	N1984	A	0.9 ± 0.1	1.0 ± 0.1
E1260	N2020	A	0.9 ± 0.1	1.1 ± 0.2
E1260	N2040	A	0.8 ± 0.1	1.1 ± 0.2
E1260	N2060	2.5 ± 1.7	1.0 ± 0.1	1.1 ± 0.2
E1260	N2080	2.5 ± 1.6	1.5 ± 0.1	0.8 ± 0.2
E1260	N2120	4.4 ± 2.1	2.7 ± 0.2	1.2 ± 0.2
E1260	N2140	A	1.2 ± 0.1	1.0 ± 0.2
E1260	N2160	A	0.7 ± 0.1	1.1 ± 0.1

TABLE 3

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
E1260	N2180	A	0.7 ± 0.1	1.3 ± 0.2
E1270	N1950	A	1.2 ± 0.1	0.7 ± 0.2
E1270	N1964	3.9 ± 0.7	1.0 ± 0.1	1.3 ± 0.2
E1270	N1990	A	1.4 ± 0.1	1.0 ± 0.3
E1270	N2000	A	1.0 ± 0.2	0.9 ± 0.2
E1270	N2010	A	1.1 ± 0.1	1.4 ± 0.2
E1270	N2030	A	0.9 ± 0.1	1.3 ± 0.2
E1270	N2050	A	1.1 ± 0.1	1.2 ± 0.2
E1270	N2070	A	1.2 ± 0.1	1.2 ± 0.2
E1270	N2090	A	1.0 ± 0.1	1.8 ± 0.2
E1270	N2110	A	1.1 ± 0.1	1.2 ± 0.2
E1270	N2150	1.6 ± 1.1	0.9 ± 0.1	0.9 ± 0.2
E1270	N2170	A	0.6 ± 0.1	0.9 ± 0.2
E1270	N2190	A	1.4 ± 0.1	1.3 ± 0.2
E1280	N1960	2.2 ± 1.2	1.0 ± 0.1	0.9 ± 0.2
E1280	N1984	A	0.8 ± 0.1	1.1 ± 0.2
E1280	N2020	A	1.5 ± 0.1	1.1 ± 0.2
E1280	N2040	9.8 ± 0.1	0.9 ± 0.1	0.9 ± 0.2
E1280	N2060	13.0 ± 2.5	1.8 ± 0.1	1.4 ± 0.2
E1280	N2080	A	0.8 ± 0.1	1.5 ± 0.2
E1280	N2100	1.1 ± 1.6	1.5 ± 0.1	1.1 ± 0.2
E1280	N2120	A	1.0 ± 0.1	0.9 ± 0.2
E1280	N2140	A	0.8 ± 0.1	1.0 ± 0.2
E1280	N2160	A	1.0 ± 0.1	1.0 ± 0.2
E1280	N2180	A	0.9 ± 0.1	1.0 ± 0.1
E1290	N1950	A	3.8 ± 0.2	1.0 ± 0.2
E1290	N1970	2.2 ± 0.8	1.2 ± 0.1	1.5 ± 0.2
E1290	N1990	A	1.2 ± 0.1	1.2 ± 0.3
E1290	N2000	A	1.5 ± 0.1	0.9 ± 0.2
E1290	N2010	A	1.3 ± 0.1	1.1 ± 0.2
E1290	N2030	A	1.3 ± 0.1	0.3 ± 0.2
E1290	N2050	A	0.9 ± 0.1	1.2 ± 0.2
E1290	N2070	A	1.1 ± 0.1	1.1 ± 0.2
E1290	N2090	A	1.0 ± 0.1	0.8 ± 0.2
E1290	N2110	A	0.7 ± 0.1	0.7 ± 0.1
E1290	N2120	A	2.2 ± 0.2	1.4 ± 0.2
E1290	N2130	A	1.1 ± 0.1	0.5 ± 0.1
E1290	N2170	0.6 ± 1.2	0.9 ± 0.1	0.8 ± 0.2
E1290	N2190	A	1.0 ± 0.1	0.7 ± 0.2
E1300	N1960	2.6 ± 1.3	1.1 ± 0.1	0.8 ± 0.2
E1300	N1984	A	0.8 ± 0.1	1.4 ± 0.2
E1300	N2020	A	1.1 ± 0.1	0.9 ± 0.2
E1300	N2040	8.4 ± 2.2	2.3 ± 0.2	1.1 ± 0.2

TABLE 3

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
E1300	N2060	A	1.1 ± 0.1	1.0 ± 0.2
E1300	N2080	A	1.2 ± 0.1	1.1 ± 0.2
E1300	N2100	A	2.5 ± 0.2	1.3 ± 0.2
E1300	N2120	A	0.8 ± 0.1	1.2 ± 0.2
E1300	N2140	A	1.1 ± 0.1	1.0 ± 0.2
E1310	N1970	A	0.9 ± 0.1	0.6 ± 0.1
E1310	N1990	2.2 ± 1.4	1.3 ± 0.1	1.1 ± 0.2
E1310	N2000	3.3 ± 1.4	1.1 ± 0.1	0.9 ± 0.2
E1310	N2010	7.4 ± 1.6	1.3 ± 0.1	0.7 ± 0.2
E1310	N2030	9.6 ± 2.0	1.6 ± 0.1	0.7 ± 0.2
E1310	N2050	A	1.1 ± 0.1	1.1 ± 0.2
E1310	N2070	A	2.0 ± 0.2	1.6 ± 0.3
E1310	N2090	9.3 ± 1.8	2.0 ± 0.2	0.8 ± 0.1
E1310	N2110	A	0.9 ± 0.1	0.9 ± 0.2
E1310	N2130	A	1.1 ± 0.1	0.8 ± 0.1
E1320	N1980	2.1 ± 1.2	2.2 ± 1.4	0.7 ± 0.1
E1320	N2020	20.8 ± 2.2	2.9 ± 0.2	0.2 ± 0.2
E1320	N2040	A	0.9 ± 0.1	0.9 ± 0.2
E1320	N2060	6.9 ± 2.3	3.9 ± 0.2	0.8 ± 0.2
E1320	N2080	8.7 ± 1.7	1.5 ± 0.1	1.1 ± 0.2
E1320	N2100	14.8 ± 3.8	14.3 ± 0.4	1.0 ± 0.2
E1320	N2120	A	1.8 ± 0.1	1.1 ± 0.2
E1320	N2140	A	3.0 ± 0.2	1.2 ± 0.2

'A' denotes less than detectable activity.

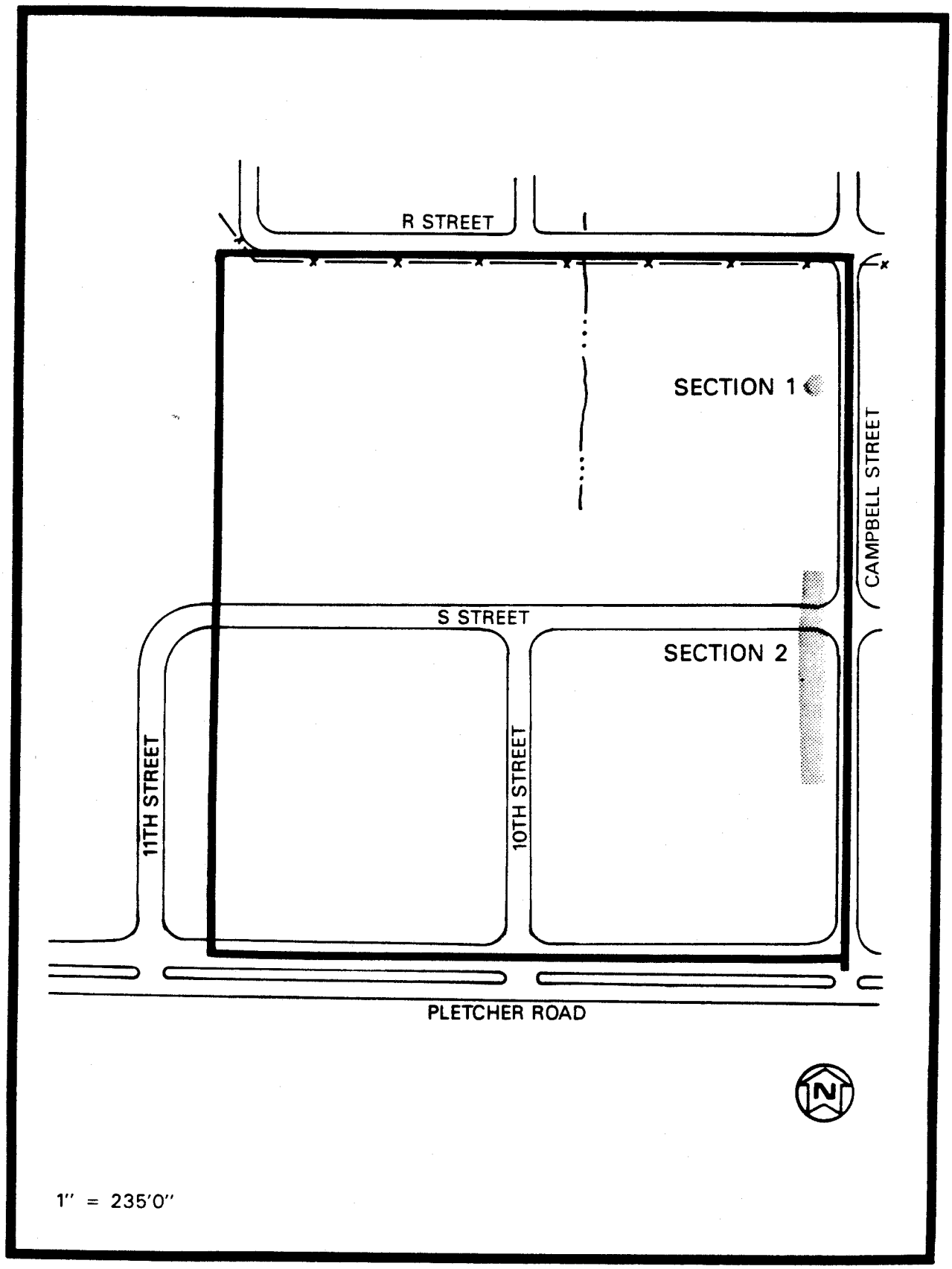
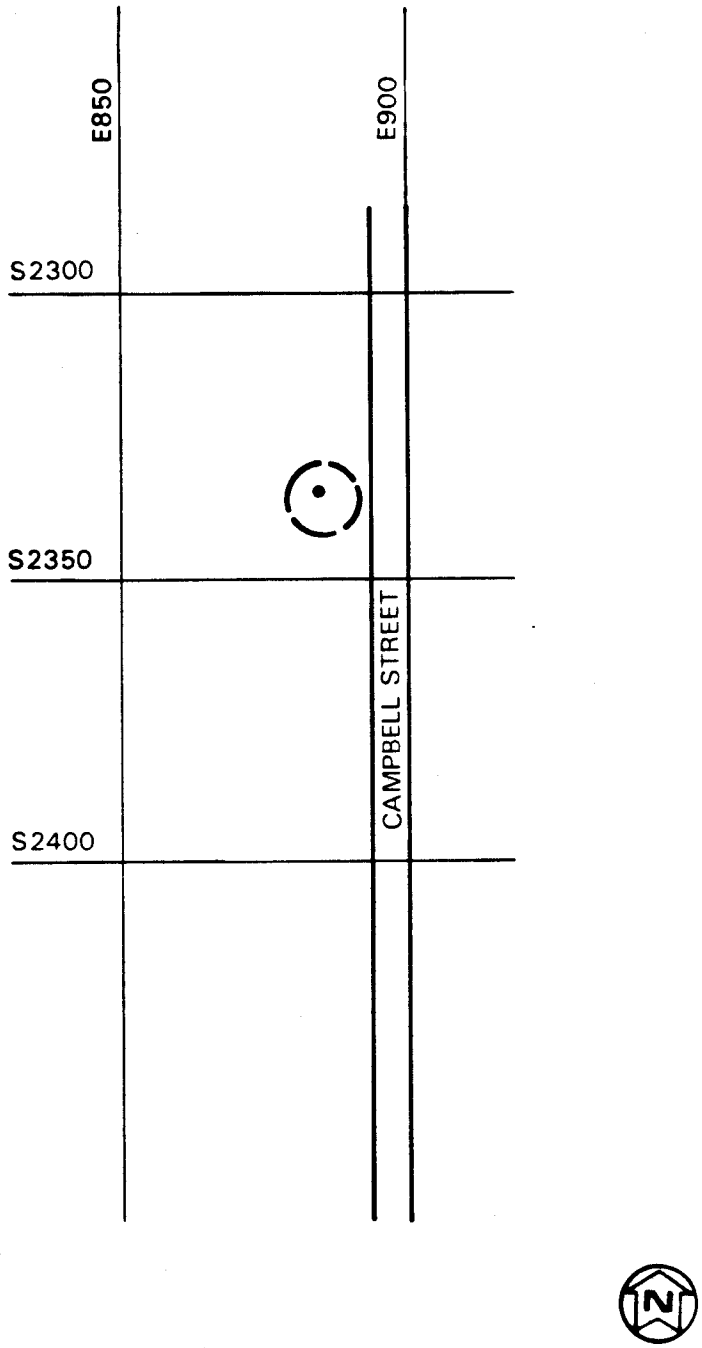


FIGURE 8 EXCAVATED AREAS ON PROPERTY L



EXCAVATION DEPTH WAS 1 FOOT

FIGURE 9 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY L - SECTION 1

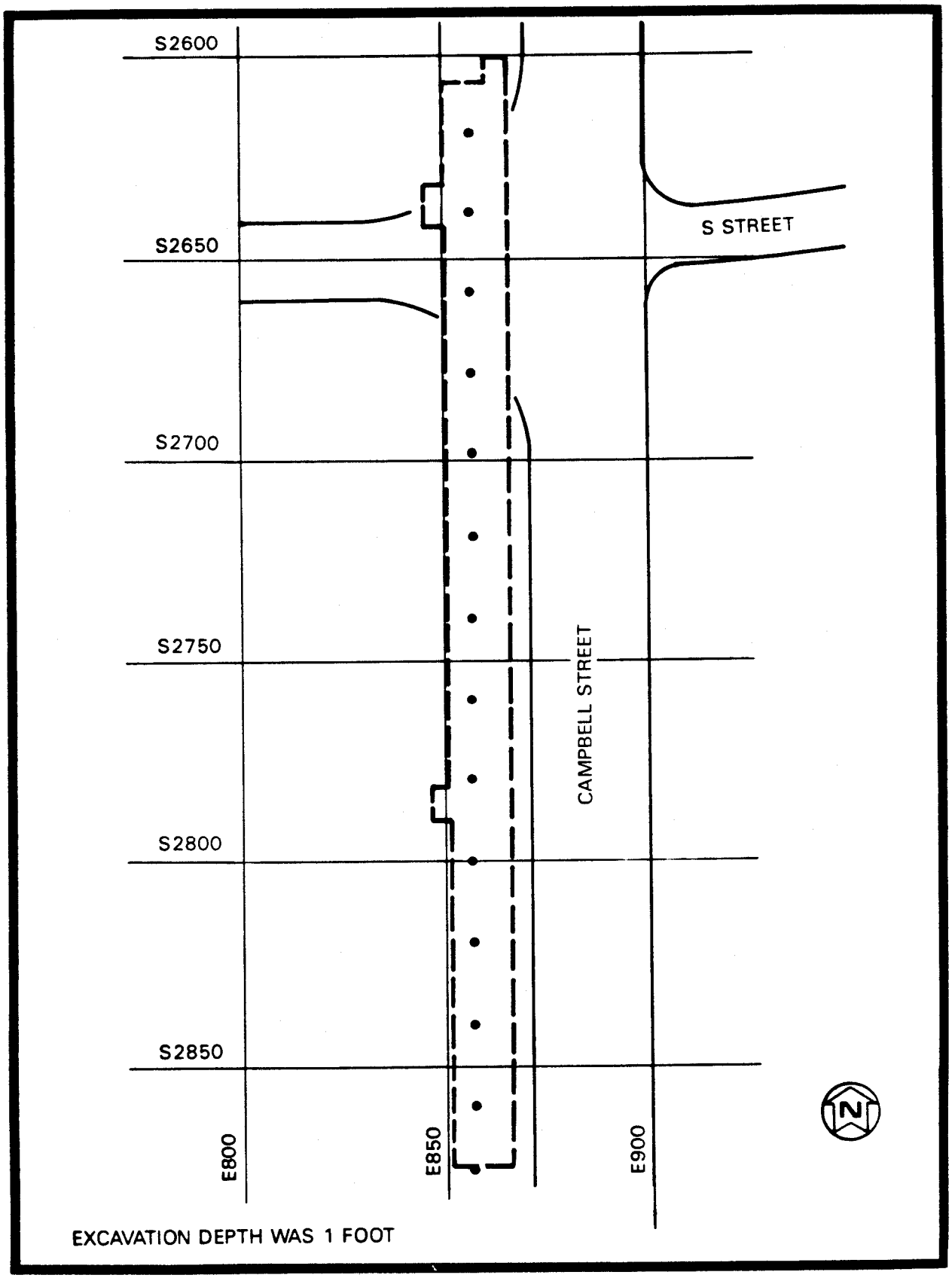


FIGURE 10 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY L - SECTION 2

TABLE 4

POST-REMEDIAL ACTION SAMPLING RESULTS

FOR PROPERTY L

Grid Coordinates		Concentrations (pCi/g +/- 1 sigma)		
E,W	N,S	Uranium-238	Radium-226	Thorium-232
E0880	S2620	A	1.5 ± 0.1	0.5 ± 0.1
E0880	S2640	A	0.9 ± 0.1	0.3 ± 0.1
E0880	S2660	A	4.3 ± 0.2	1.4 ± 0.2
E0880	S2680	4.8 ± 2.4	6.4 ± 0.2	1.4 ± 0.2
E0880	S2700	8.8 ± 3.2	7.7 ± 0.3	1.1 ± 0.3
E0880	S2720	A	1.2 ± 0.1	0.6 ± 0.2
E0880	S2740	A	1.5 ± 0.1	0.8 ± 0.2
E0880	S2760	4.5 ± 1.8	1.9 ± 0.2	1.4 ± 0.2
E0880	S2780	A	0.8 ± 0.1	0.8 ± 0.1
E0880	S2800	A	1.7 ± 0.1	0.8 ± 0.1
E0880	S2820	A	1.4 ± 0.1	0.7 ± 0.1
E0880	S2840	A	2.1 ± 0.2	2.0 ± 0.1
E0880	S2860	A	1.5 ± 0.1	1.4 ± 0.2
E0880	S2875	A	1.1 ± 0.1	1.4 ± 0.3
E0885	S2336	A	5.8 ± 0.2	0.9 ± 0.2

'A' denotes less than detectable activity.

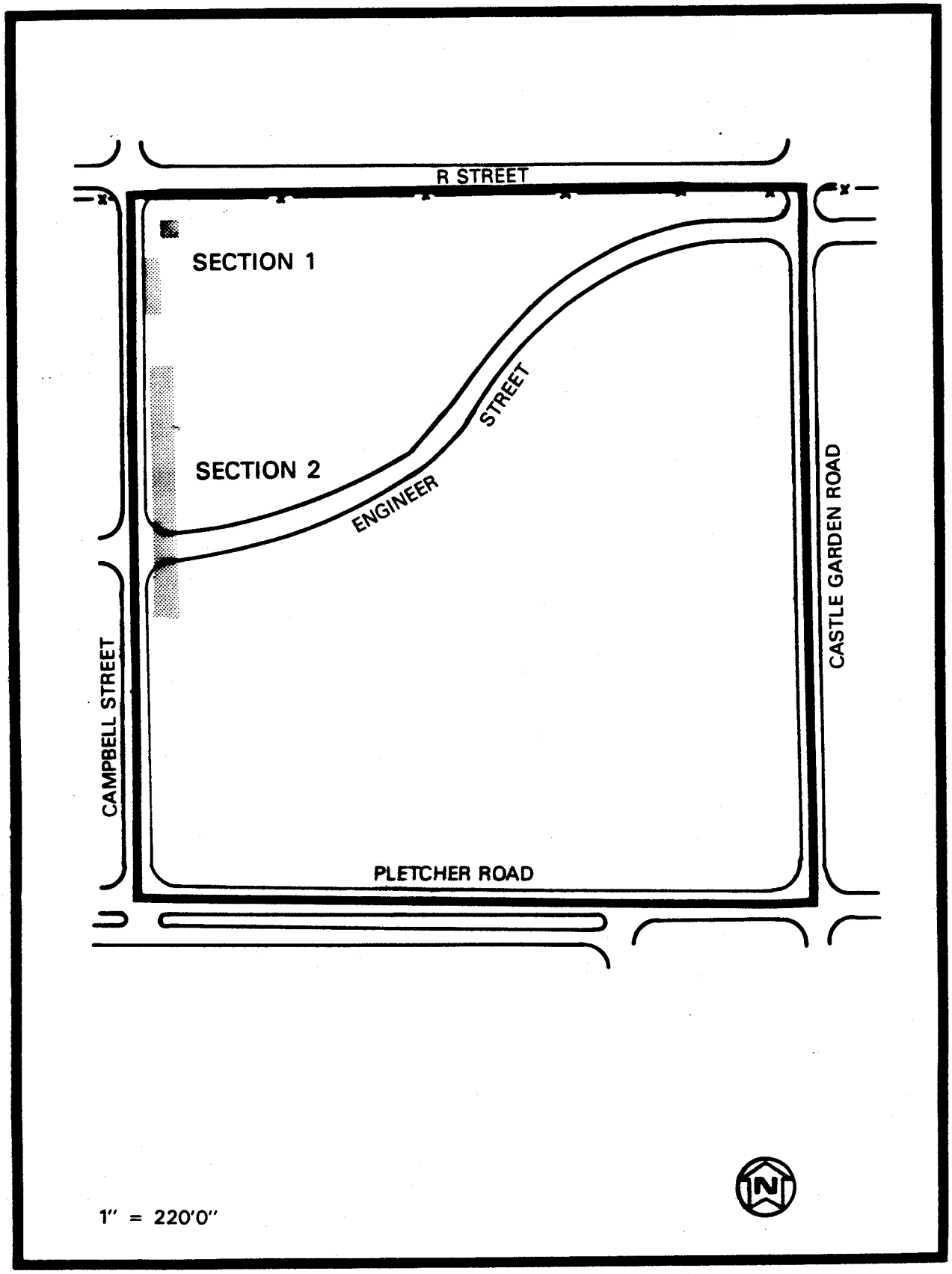


FIGURE 11 EXCAVATED AREAS ON PROPERTY M

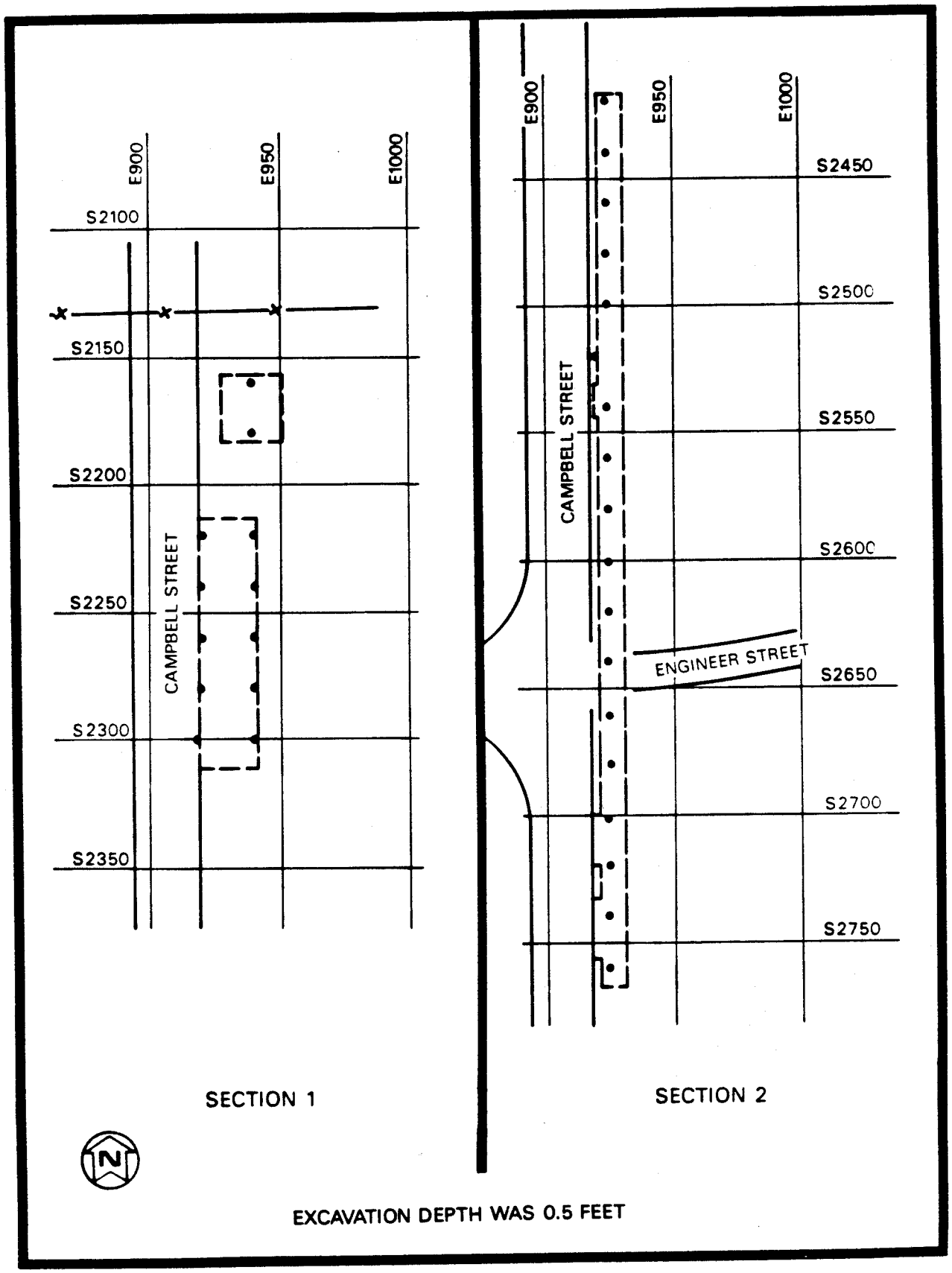


FIGURE 12 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY M - SECTIONS 1 AND 2

TABLE 5

POST-REMEDIAL ACTION SAMPLING RESULTS

FOR PROPERTY M

Grid Coordinates		Concentrations (pCi/g +/- 1 sigma)		
E,W	N,S	Uranium-238	Radium-226	Thorium-232
E0920	S2220	A	21.9 ± 2.1	4.4 ± 1.9
E0920	S2240	A	1.2 ± 0.2	0.3 ± 0.1
E0920	S2260	A	10.6 ± 0.3	A
E0920	S2280	A	9.0 ± 0.3	0.7 ± 0.2
E0920	S2300	A	3.3 ± 0.2	1.0 ± 0.2
E0920	S2520	A	9.2 ± 0.3	0.7 ± 0.2
E0925	S2420	A	2.4 ± 0.2	1.2 ± 0.2
E0925	S2440	A	1.4 ± 0.1	1.2 ± 0.2
E0925	S2460	A	1.9 ± 0.2	0.9 ± 0.2
E0925	S2480	A	1.8 ± 0.2	0.7 ± 0.2
E0925	S2500	A	5.3 ± 0.3	1.4 ± 0.3
E0925	S2540	A	4.0 ± 0.3	A
E0925	S2560	A	1.6 ± 0.1	0.9 ± 0.2
E0925	S2580	1.5 ± 1.4	1.3 ± 0.1	1.4 ± 0.2
E0925	S2600	A	1.2 ± 0.1	1.2 ± 0.2
E0925	S2620	1.1 ± 0.1	1.5 ± 0.1	1.2 ± 0.2
E0925	S2640	A	1.9 ± 0.1	0.9 ± 0.2
E0925	S2660	A	1.2 ± 0.1	A
E0925	S2680	3.3 ± 2.0	2.7 ± 0.2	0.9 ± 0.4
E0925	S2700	A	1.3 ± 0.1	0.9 ± 0.2
E0925	S2720	A	1.0 ± 0.1	0.5 ± 0.2
E0925	S2740	A	2.1 ± 0.2	0.8 ± 0.3
E0925	S2760	1.7 ± 1.2	1.8 ± 0.2	1.2 ± 0.2
E0928	S2150	A	4.2 ± 0.2	A
E0940	S2160	2.9 ± 2.0	1.4 ± 1.3	1.0 ± 0.2
E0940	S2180	A	1.8 ± 0.2	1.2 ± 0.3
E0940	S2220	A	1.9 ± 0.2	1.4 ± 0.2
E0940	S2240	A	1.5 ± 0.1	0.9 ± 0.2
E0940	S2260	2.0 ± 1.4	1.7 ± 0.1	0.9 ± 0.3
E0940	S2280	A	2.6 ± 0.2	1.4 ± 0.2
E0940	S2300	A	1.5 ± 0.1	0.8 ± 0.2

'A' denotes less than detectable activity.

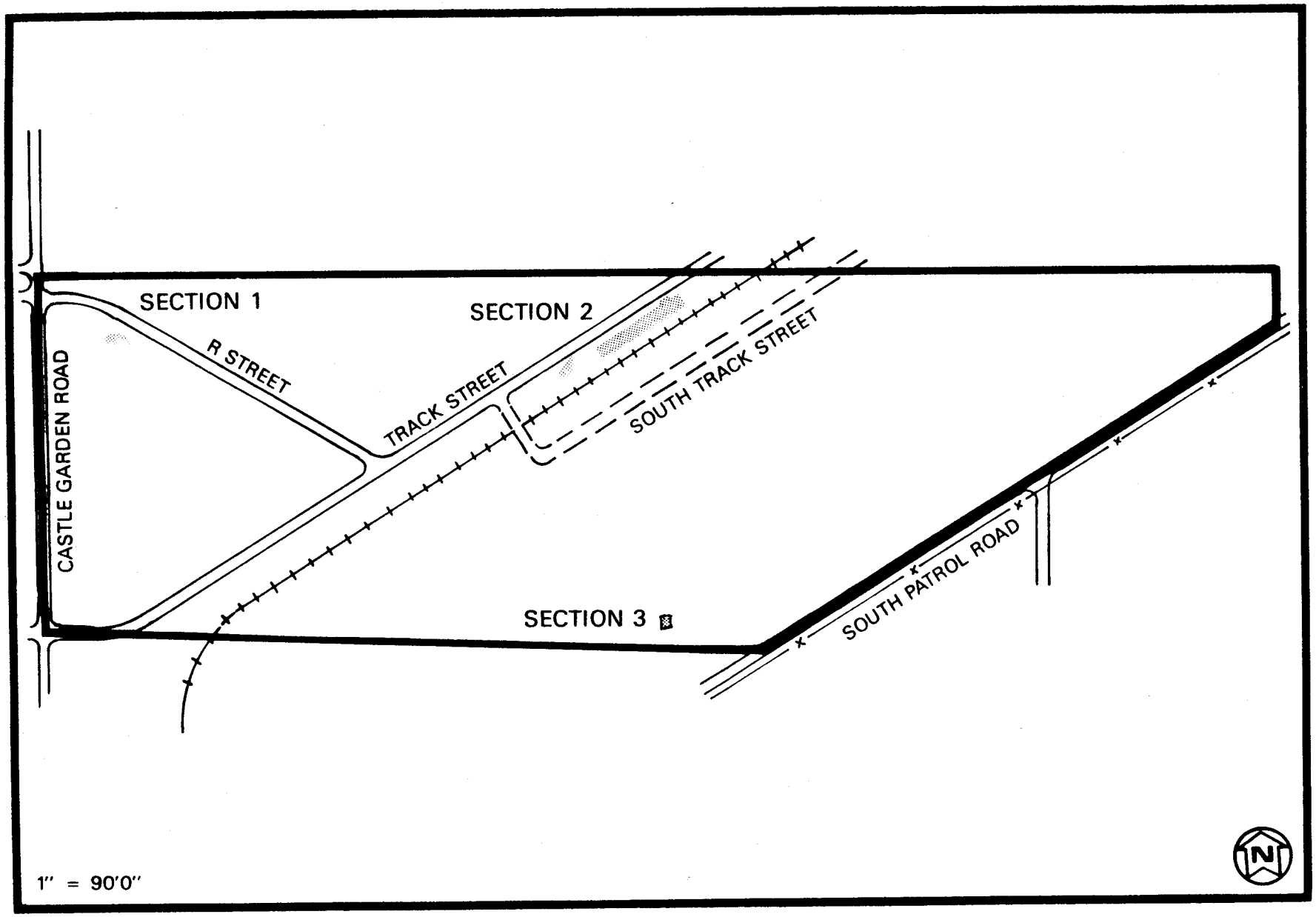
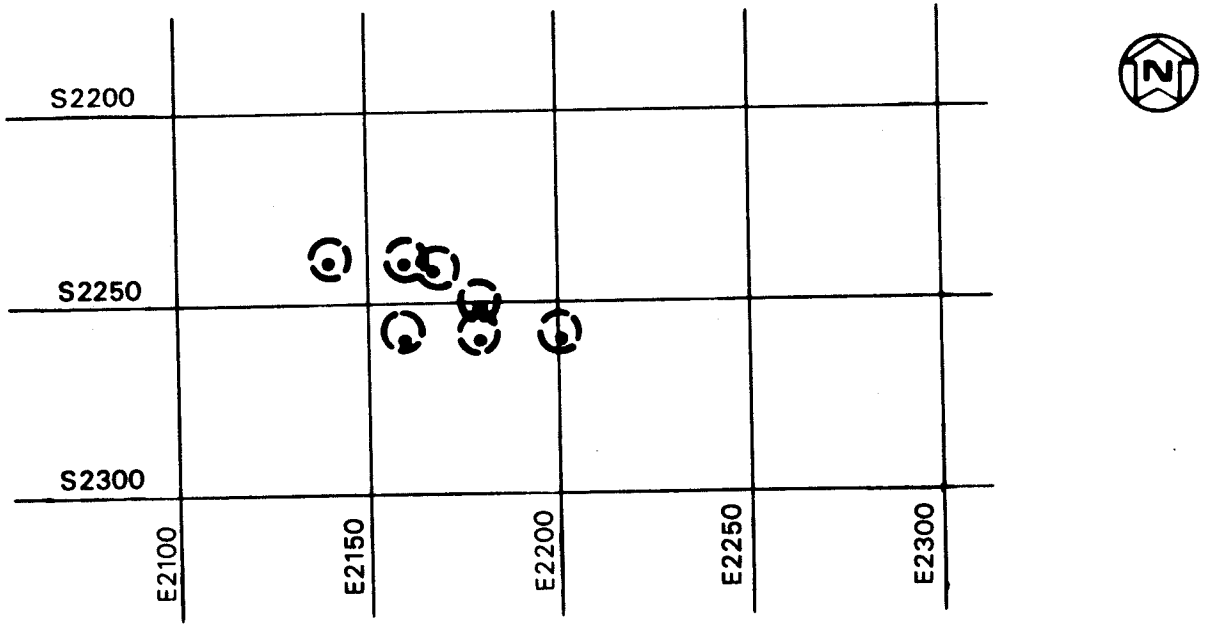


FIGURE 13 EXCAVATED AREAS ON PROPERTY N/N' SOUTH



EXCAVATION DEPTH WAS 1 FOOT

FIGURE 14 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY N/N' SOUTH - SECTION 1

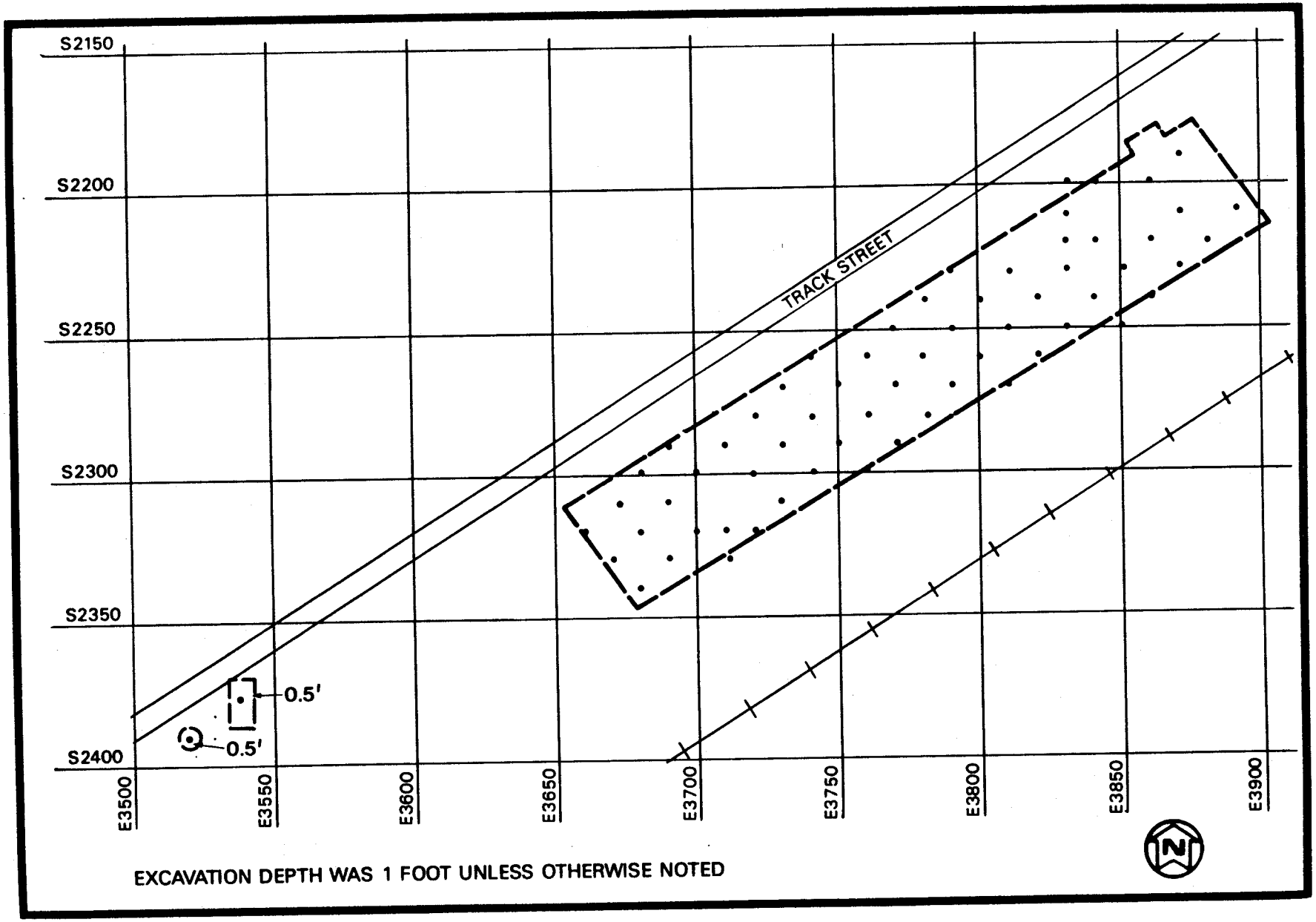


FIGURE 15 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY N/N' SOUTH - SECTION 2

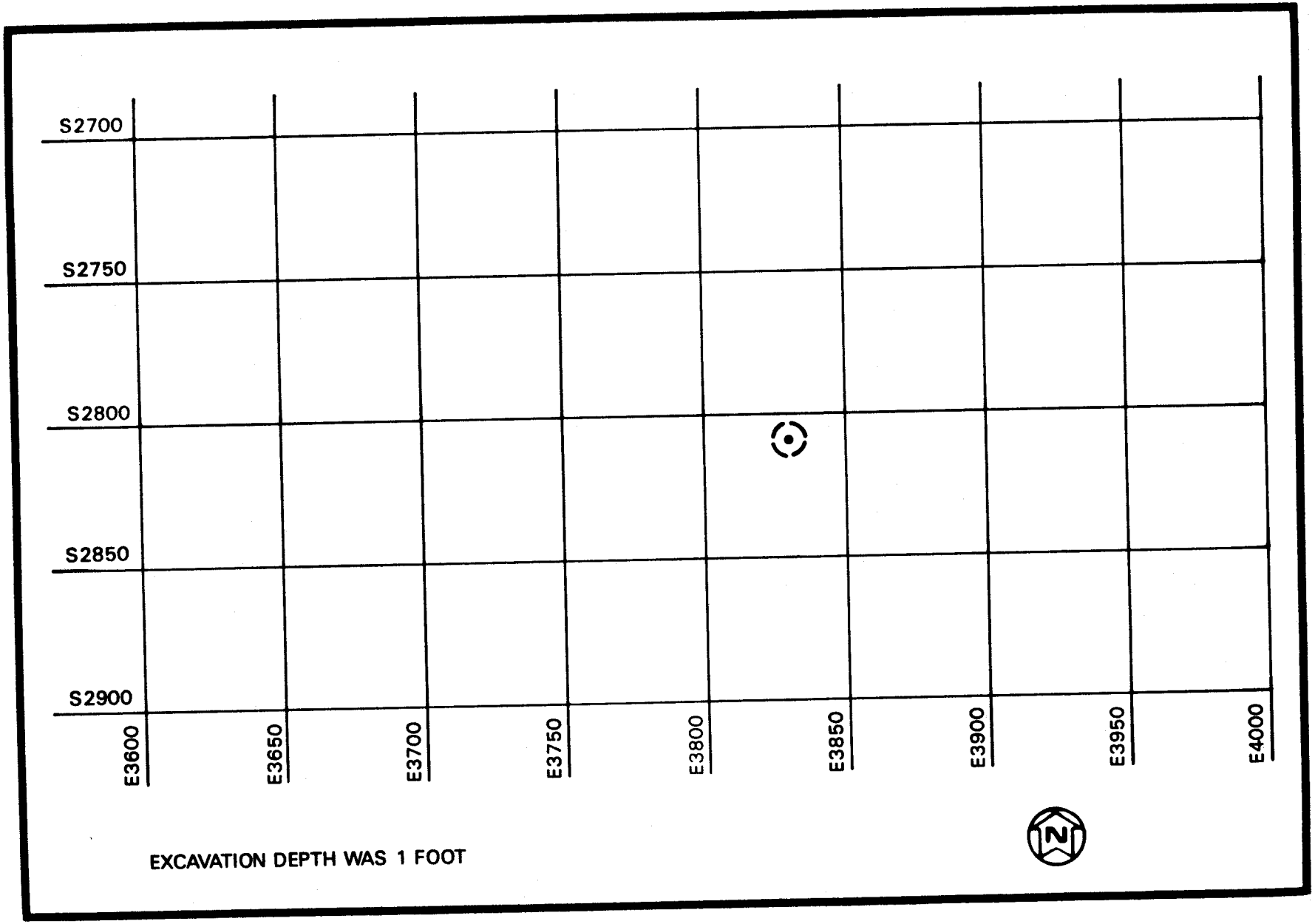


FIGURE 16 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY N/N' SOUTH - SECTION 3

TABLE 6

POST-REMEDIAL ACTION SAMPLING RESULTS

FOR PROPERTY N/N' SOUTH

Page 1 of 2

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
E2140	S2240	A	1.1 ± 0.2	0.7 ± 0.2
E2160	S2240	A	1.2 ± 0.2	1.0 ± 0.2
E2160	S2260	A	0.9 ± 0.1	1.8 ± 0.3
E2166	S2242	30.8 ±10.4	39.3 ± 1.0	A
E2180	S2252	A	11.3 ± 0.5	0.7 ± 0.3
E2180	S2260	A	0.9 ± 0.1	0.6 ± 0.2
E2200	S2260	A	30.3 ± 0.8	A
E3519	S2391	A	1.1 ± 0.1	1.2 ± 0.3
E3537	S2376	A	1.0 ± 0.2	1.1 ± 0.4
E3660	S2320	A	0.8 ± 0.1	1.1 ± 0.1
E3670	S2310	A	1.0 ± 0.1	1.2 ± 0.2
E3670	S2330	A	1.0 ± 0.1	1.4 ± 0.2
E3680	S2300	A	0.7 ± 0.1	0.5 ± 0.2
E3680	S2320	A	0.5 ± 0.1	1.1 ± 0.2
E3680	S2340	A	1.2 ± 0.1	1.0 ± 0.2
E3690	S2290	2.2 ± 0.1	0.8 ± 0.1	1.2 ± 0.1
E3690	S2310	A	0.8 ± 0.1	0.7 ± 0.1
E3690	S2330	A	0.6 ± 0.1	0.7 ± 0.1
E3700	S2300	5.1 ± 1.4	0.7 ± 0.1	0.6 ± 0.1
E3700	S2320	A	1.3 ± 0.1	1.2 ± 0.2
E3710	S2290	A	0.9 ± 0.1	1.6 ± 0.2
E3710	S2320	A	0.9 ± 0.1	1.2 ± 0.2
E3710	S2330	2.0 ± 1.5	3.0 ± 0.2	A
E3720	S2280	A	0.8 ± 0.1	1.3 ± 0.2
E3720	S2300	A	1.0 ± 0.1	1.2 ± 0.2
E3720	S2320	A	1.4 ± 0.2	1.1 ± 0.3
E3730	S2270	A	1.8 ± 0.2	A
E3730	S2290	A	0.7 ± 0.1	0.7 ± 0.2
E3730	S2310	A	1.1 ± 0.1	1.0 ± 0.2
E3740	S2260	A	1.1 ± 0.2	0.9 ± 0.3
E3740	S2280	A	1.0 ± 0.1	1.2 ± 0.2
E3740	S2300	A	0.9 ± 0.1	1.2 ± 0.2
E3750	S2270	A	1.3 ± 0.2	0.4 ± 0.3
E3750	S2290	A	1.1 ± 0.1	1.0 ± 0.2
E3760	S2260	A	0.6 ± 0.1	A
E3760	S2280	A	1.2 ± 0.1	1.4 ± 0.2
E3760	S2300	2.6 ± 1.2	1.2 ± 0.1	1.4 ± 0.2
E3770	S2250	A	1.0 ± 0.1	1.0 ± 0.3
E3770	S2270	A	6.1 ± 0.3	1.2 ± 0.2
E3770	S2290	A	1.2 ± 0.1	1.6 ± 0.2
E3780	S2240	A	1.2 ± 0.2	0.4 ± 0.1
E3780	S2260	A	1.2 ± 0.1	1.4 ± 0.2
E3780	S2280	A	0.9 ± 0.1	0.6 ± 0.1

TABLE 6

(continued)

Grid Coordinates		Concentrations (pCi/g +/- 1 sigma)		
E,W	N,S	Uranium-238	Radium-226	Thorium-232
E3790	S2230	A	0.9 ± 0.1	1.2 ± 0.2
E3790	S2250	A	1.0 ± 0.1	1.3 ± 0.2
E3790	S2270	A	1.0 ± 0.1	1.5 ± 0.2
E3800	S2240	A	0.9 ± 0.1	1.1 ± 0.2
E3800	S2260	A	8.1 ± 0.3	1.4 ± 0.3
E3810	S2230	A	0.7 ± 0.1	1.2 ± 0.3
E3810	S2250	6.4 ± 1.5	1.1 ± 0.1	1.2 ± 0.2
E3810	S2270	A	1.3 ± 0.2	1.3 ± 0.3
E3820	S2240	A	0.9 ± 0.2	1.3 ± 0.2
E3820	S2260	A	1.1 ± 0.2	1.2 ± 0.3
E3830	S2200	A	1.0 ± 0.2	1.2 ± 0.3
E3830	S2210	A	0.7 ± 0.1	0.5 ± 0.1
E3830	S2220	A	1.2 ± 0.2	1.6 ± 0.3
E3830	S2230	A	1.4 ± 0.2	1.9 ± 0.2
E3830	S2250	A	1.4 ± 0.2	1.0 ± 0.3
E3830	S2810	A	1.0 ± 0.1	1.1 ± 0.2
E3840	S2200	A	1.1 ± 0.1	1.1 ± 0.2
E3840	S2220	A	0.6 ± 0.1	0.4 ± 0.2
E3840	S2240	A	0.8 ± 0.1	1.3 ± 0.2
E3850	S2230	A	1.1 ± 0.1	1.3 ± 0.2
E3850	S2250	A	0.9 ± 0.1	0.6 ± 0.3
E3860	S2200	A	1.3 ± 0.1	1.0 ± 0.2
E3860	S2220	A	1.0 ± 0.2	1.2 ± 0.2
E3860	S2240	A	1.1 ± 0.2	A
E3870	S2190	A	1.8 ± 0.2	0.8 ± 0.3
E3870	S2210	A	0.9 ± 0.1	1.3 ± 0.2
E3870	S2230	A	1.0 ± 0.1	1.0 ± 0.1
E3880	S2220	A	1.0 ± 0.1	1.1 ± 0.2
E3890	S2210	0.4 ± 0.7	1.1 ± 0.1	1.4 ± 0.2

'A' denotes less than detectable activity.

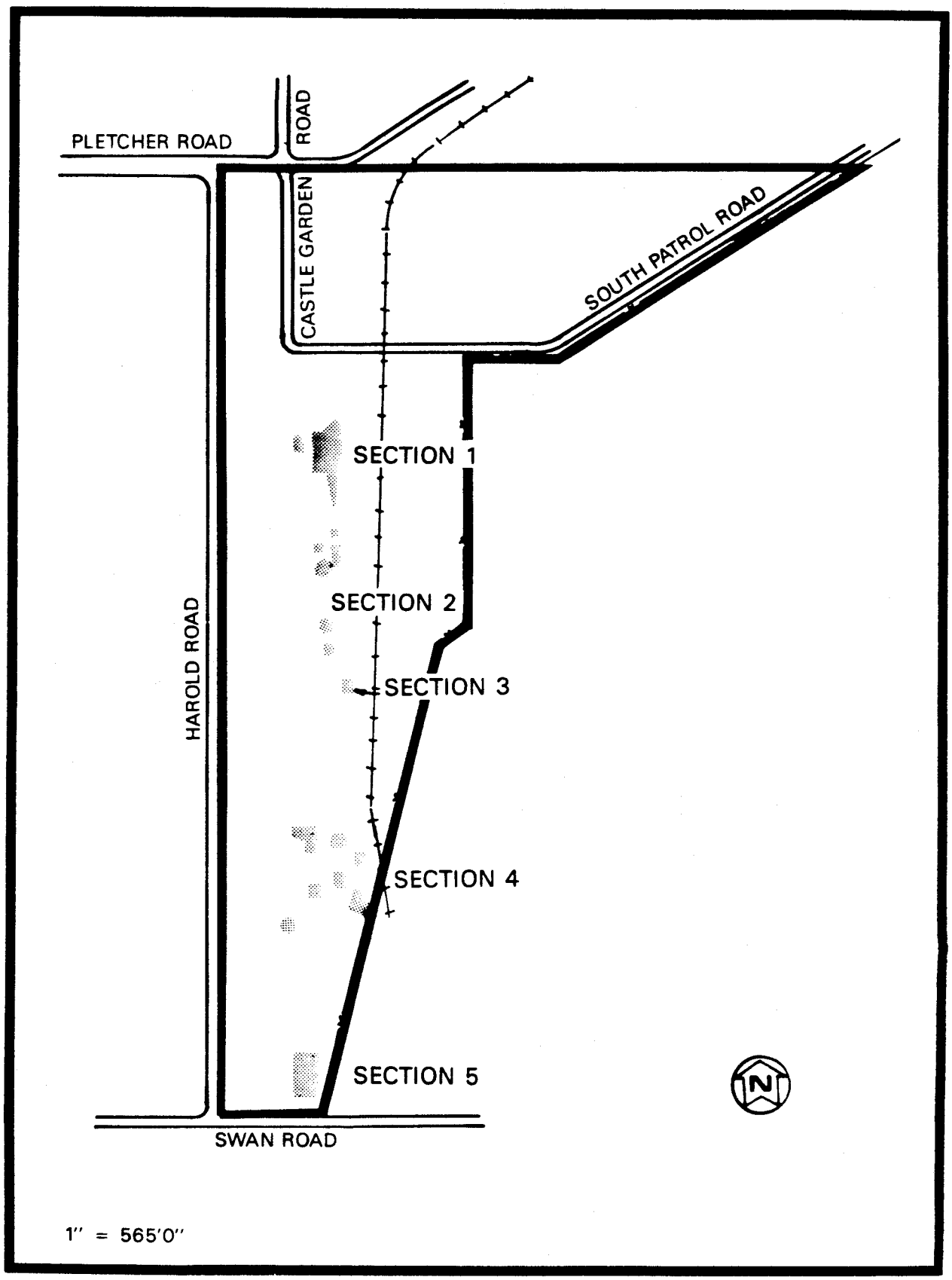


FIGURE 17 EXCAVATED AREAS ON PROPERTY Q

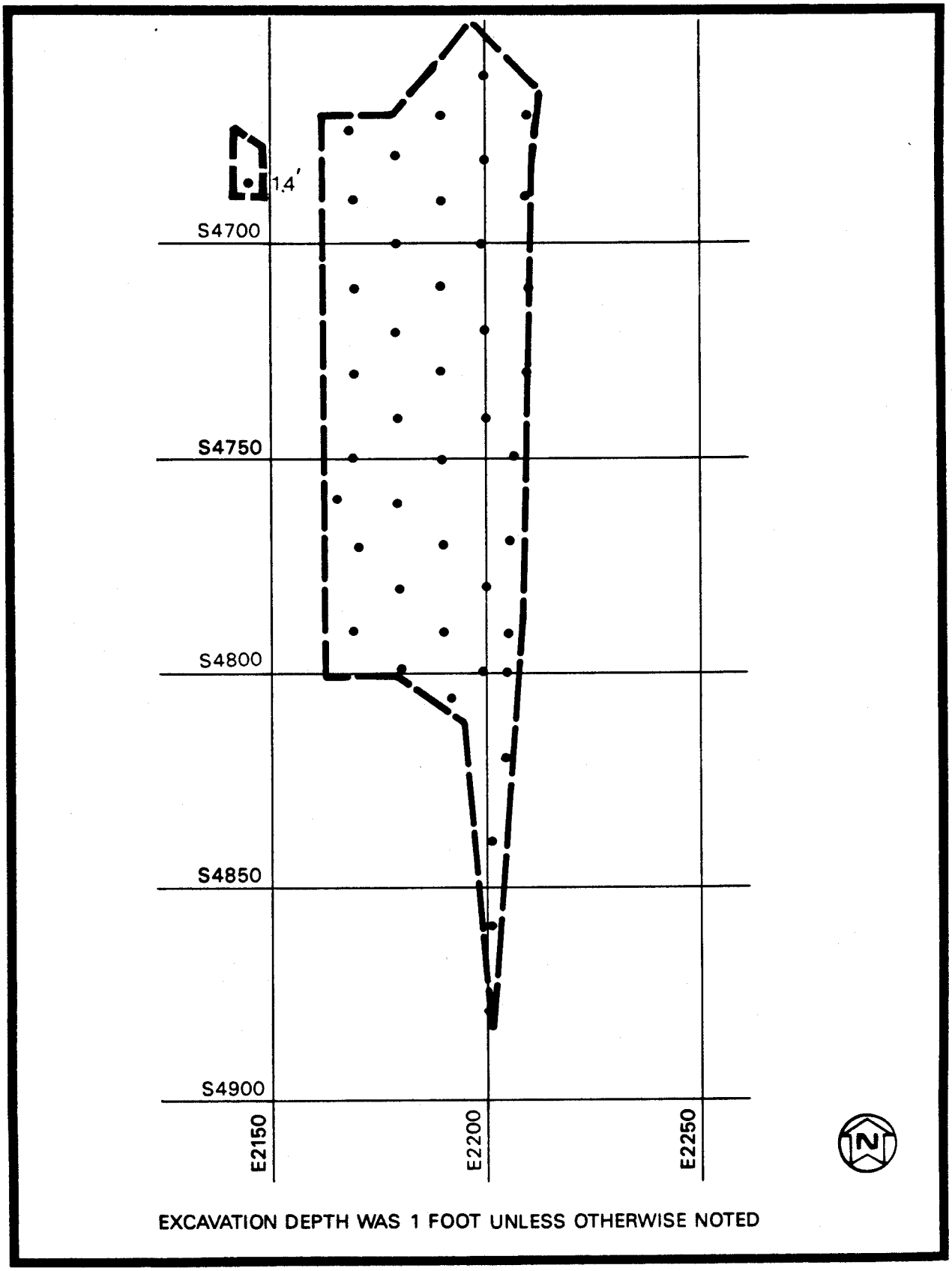


FIGURE 18 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY Q - SECTION 1

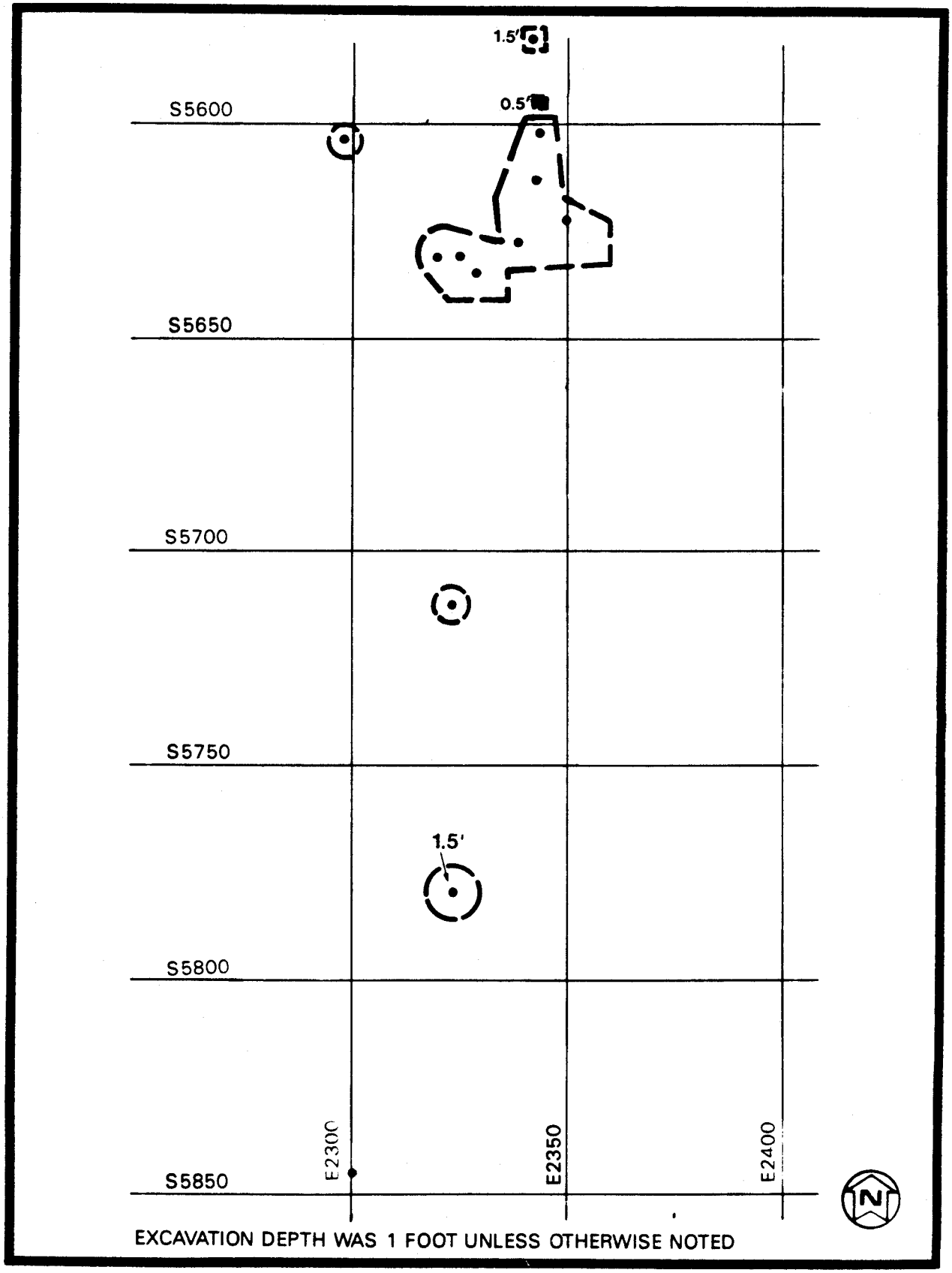


FIGURE 19 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY Q - SECTION 2

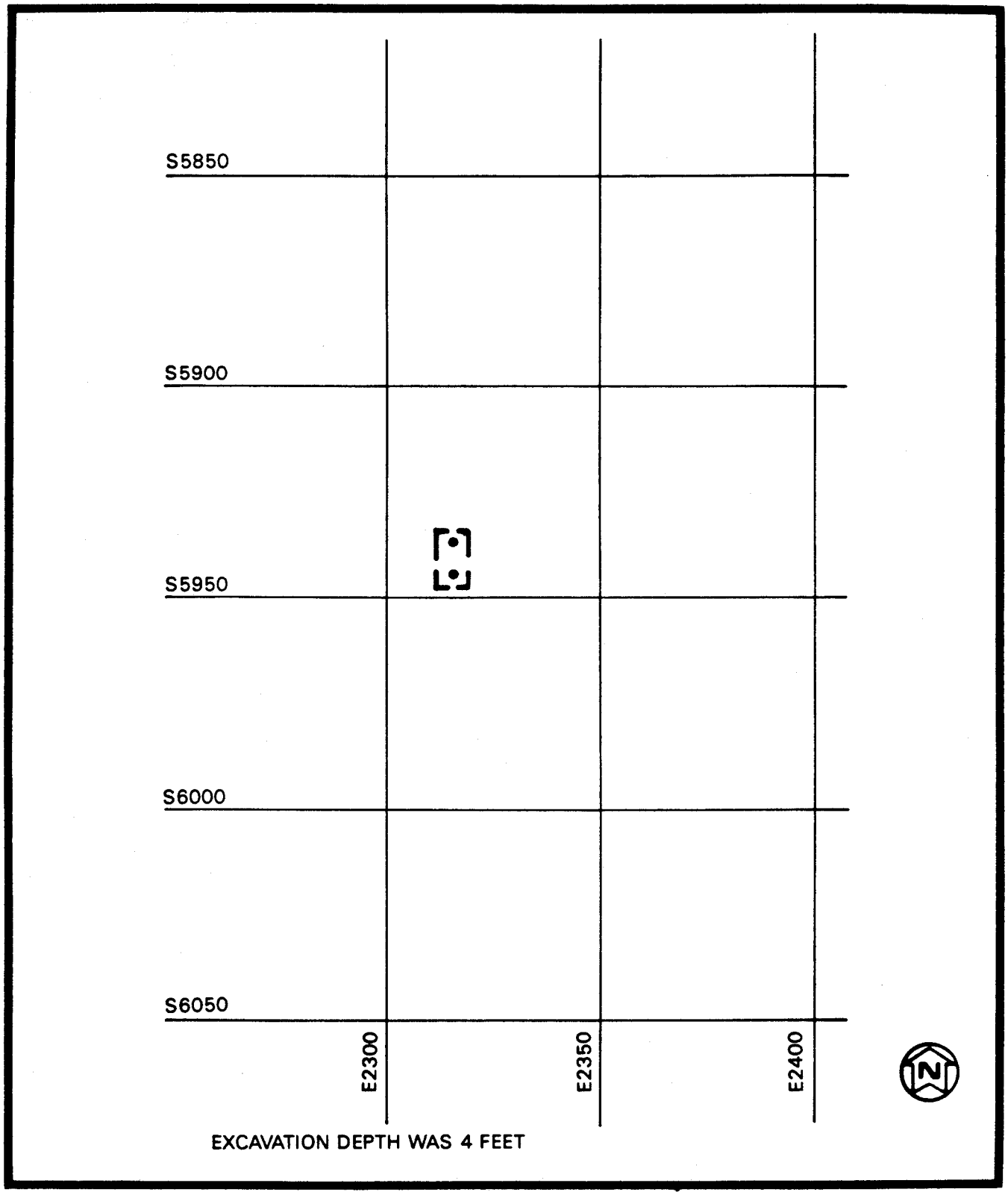


FIGURE 20 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY Q - SECTION 3

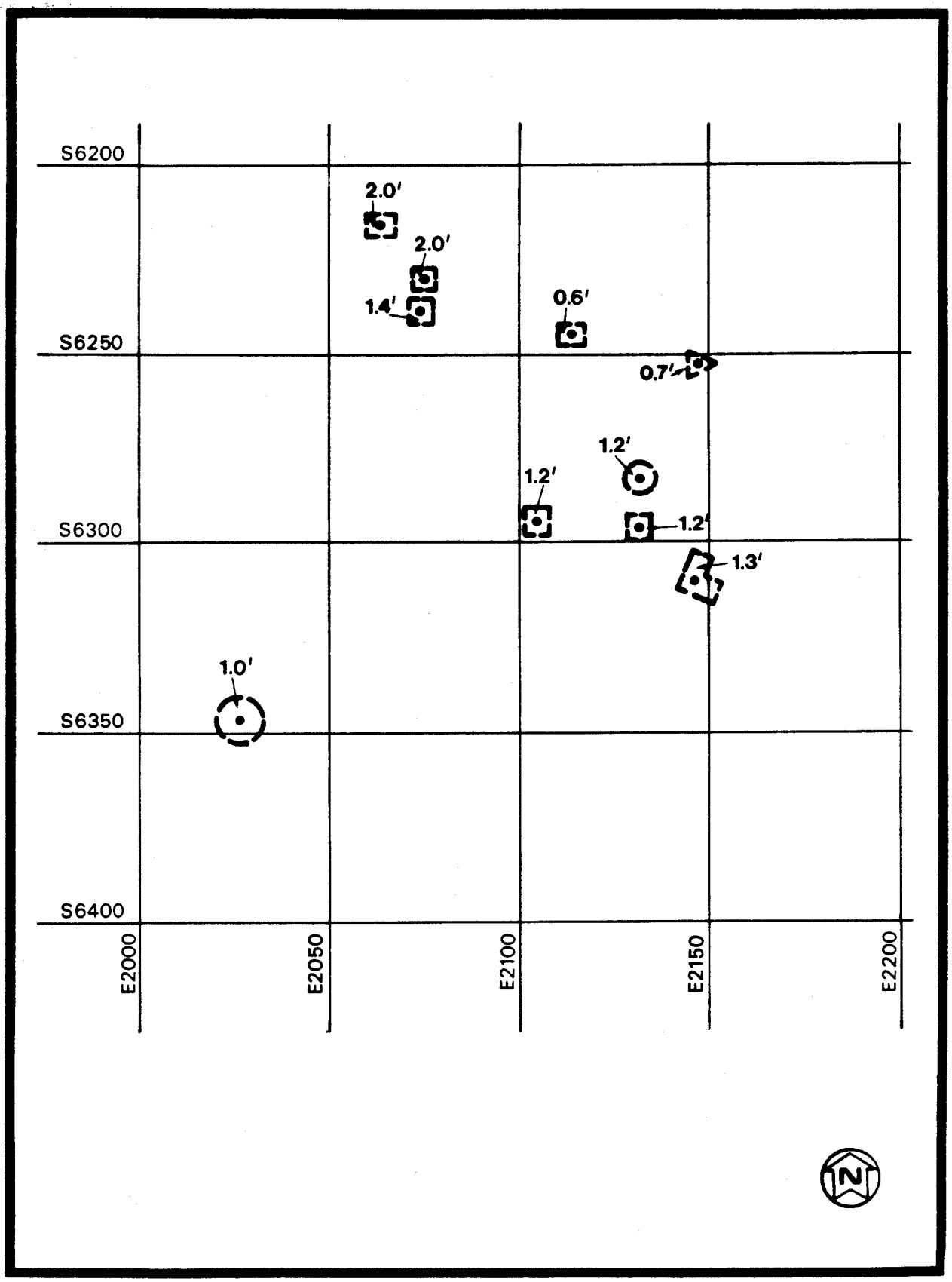


FIGURE 21 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY Q - SECTION 4

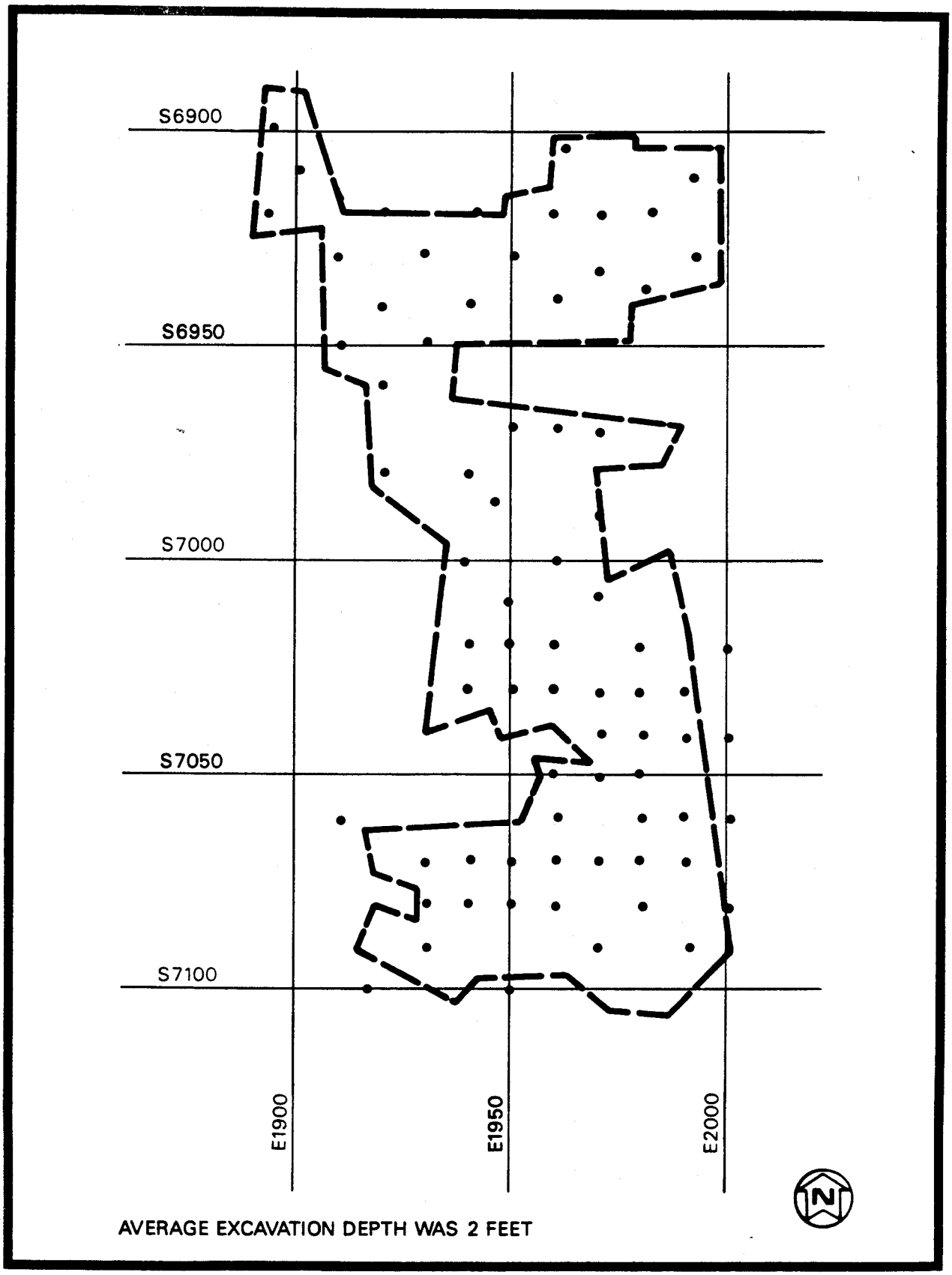


FIGURE 22 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY Q - SECTION 5

TABLE 7

POST-REMEDIAL ACTION SAMPLING RESULTS

FOR PROPERTY Q

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
E1890	S6900	A	1.2 ± 0.1	1.3 ± 0.2
E1890	S6920	0.9 ± 1.3	1.5 ± 0.1	1.0 ± 0.2
E1900	S6910	A	1.3 ± 0.1	1.1 ± 0.2
E1910	S6930	A	0.9 ± 0.1	0.4 ± 0.2
E1910	S6950	A	0.8 ± 0.1	0.7 ± 0.3
E1910	S7060	A	1.4 ± 0.1	1.2 ± 0.2
E1918	S7100	A	12.4 ± 0.6	7.1 ± 0.8
E1920	S6920	A	0.9 ± 0.1	0.7 ± 0.2
E1920	S6940	A	1.0 ± 0.1	1.3 ± 0.2
E1920	S6960	A	1.1 ± 0.1	0.6 ± 0.2
E1920	S6980	A	0.9 ± 0.1	1.1 ± 0.2
E1930	S6920	A	0.9 ± 0.1	1.2 ± 0.2
E1930	S6930	3.6 ± 0.1	0.7 ± 0.1	A
E1930	S6950	A	1.1 ± 0.1	1.6 ± 0.2
E1930	S7070	A	1.3 ± 0.2	A
E1930	S7080	A	1.3 ± 0.1	1.7 ± 0.2
E1930	S7090	A	1.0 ± 0.1	1.2 ± 0.2
E1940	S6920	A	1.0 ± 0.1	0.6 ± 0.1
E1940	S6940	A	1.2 ± 0.2	1.5 ± 0.2
E1940	S6980	A	0.8 ± 0.1	0.7 ± 0.2
E1940	S7000	A	0.7 ± 0.1	0.8 ± 0.2
E1940	S7020	A	0.9 ± 0.1	A
E1940	S7070	A	1.2 ± 0.1	0.7 ± 0.2
E1940	S7080	6.4 ± 2.5	6.6 ± 0.3	4.0 ± 0.3
E1950	S6930	A	2.1 ± 0.1	1.0 ± 0.2
E1950	S6970	2.8 ± 1.3	1.1 ± 0.1	0.9 ± 0.1
E1950	S6990	A	1.2 ± 0.1	1.5 ± 0.2
E1950	S7010	A	0.9 ± 0.1	0.7 ± 0.2
E1950	S7030	3.4 ± 1.6	1.1 ± 0.1	A
E1950	S7070	24.7 ± 4.5	37.4 ± 0.6	16.3 ± 0.8
E1950	S7080	12.7 ± 3.1	6.6 ± 0.3	3.8 ± 0.4
E1950	S7090	A	1.0 ± 0.1	0.8 ± 0.2
E1950	S7100	A	2.3 ± 0.2	1.2 ± 0.2
E1960	S6900	A	1.5 ± 0.1	1.5 ± 0.2
E1960	S6920	A	0.8 ± 0.1	0.5 ± 0.1
E1960	S6940	A	1.4 ± 0.1	1.3 ± 0.2
E1960	S6970	0.8 ± 1.1	0.8 ± 0.1	1.0 ± 0.2
E1960	S7000	A	0.9 ± 0.1	0.9 ± 0.1
E1960	S7020	2.8 ± 1.3	0.7 ± 0.1	1.2 ± 0.2
E1960	S7050	A	11.9 ± 0.3	4.6 ± 0.4
E1960	S7060	4.2 ± 1.7	1.7 ± 0.2	2.0 ± 0.3
E1960	S7070	A	1.1 ± 0.1	0.9 ± 0.2
E1960	S7080	A	1.7 ± 0.1	1.1 ± 0.2

TABLE 7

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
E1970	S6920	A	1.2 ± 0.1	0.6 ± 0.1
E1970	S6930	A	0.8 ± 0.1	0.5 ± 0.1
E1970	S6970	A	1.0 ± 0.1	1.0 ± 0.2
E1970	S6990	A	0.8 ± 0.1	0.9 ± 0.2
E1970	S7010	2.5 ± 1.1	1.1 ± 0.1	0.9 ± 0.1
E1970	S7030	A	1.1 ± 0.2	1.3 ± 0.3
E1970	S7040	A	1.2 ± 0.1	1.3 ± 0.2
E1970	S7050	A	4.5 ± 0.2	3.5 ± 0.3
E1970	S7050	12.2 ± 3.5	11.9 ± 0.4	5.9 ± 0.4
E1970	S7070	A	1.0 ± 0.1	0.7 ± 0.2
E1970	S7090	A	A	1.2 ± 0.2
E1980	S6920	3.6 ± 1.5	1.2 ± 0.1	1.0 ± 0.1
E1980	S6940	A	0.8 ± 0.1	0.9 ± 0.2
E1980	S7020	6.1 ± 2.4	7.1 ± 0.3	3.4 ± 0.4
E1980	S7030	A	0.9 ± 0.1	1.7 ± 0.2
E1980	S7040	A	1.0 ± 0.1	1.0 ± 0.2
E1980	S7050	A	0.9 ± 0.1	1.1 ± 0.2
E1980	S7060	9.4 ± 2.8	19.9 ± 0.5	9.2 ± 0.7
E1980	S7070	3.5 ± 1.5	1.1 ± 0.1	1.4 ± 0.2
E1980	S7080	A	1.9 ± 0.2	1.4 ± 0.3
E1990	S6910	A	1.3 ± 0.1	1.5 ± 0.2
E1990	S6930	A	1.0 ± 0.1	1.2 ± 0.2
E1990	S7030	4.0 ± 1.8	0.7 ± 0.1	0.8 ± 0.3
E1990	S7040	A	1.1 ± 0.1	1.3 ± 0.2
E1990	S7060	A	1.0 ± 0.1	1.1 ± 0.2
E1990	S7070	A	1.0 ± 0.1	1.1 ± 0.2
E1990	S7090	3.0 ± 1.9	3.3 ± 0.2	2.1 ± 0.2
E2000	S7020	A	0.6 ± 0.1	A
E2000	S7040	A	0.6 ± 0.1	0.7 ± 0.2
E2000	S7060	28.5 ± 1.1	1.1 ± 0.1	0.7 ± 0.1
E2000	S7080	A	0.9 ± 0.1	A
E2025	S6347	A	1.2 ± 0.1	1.3 ± 0.2
E2060	S6215	A	1.3 ± 0.1	A
E2076	S6229	A	0.9 ± 0.1	0.4 ± 0.1
E2076	S6238	A	1.0 ± 0.2	0.9 ± 0.2
E2105	S6293	A	0.8 ± 0.1	A
E2114	S6244	A	0.5 ± 0.1	A
E2130	S6281	A	1.4 ± 0.2	1.1 ± 0.2
E2131	S6294	A	1.1 ± 0.1	1.0 ± 0.2
E2142	S6306	A	1.4 ± 0.1	2.1 ± 0.2
E2144	S4715	7.1 ± 5.1	1.0 ± 0.3	1.4 ± 0.3
E2149	S6251	A	1.0 ± 0.1	1.0 ± 0.2
E2170	S4670	A	1.2 ± 0.1	1.4 ± 0.2

TABLE 7

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
E2170	S4690	A	1.4 ± 0.1	1.6 ± 0.2
E2170	S4710	A	1.2 ± 0.1	0.4 ± 0.3
E2170	S4730	A	1.0 ± 0.1	1.7 ± 0.2
E2170	S4750	A	1.4 ± 0.1	1.6 ± 0.2
E2170	S4770	A	0.6 ± 0.1	1.0 ± 0.2
E2170	S4790	A	0.8 ± 0.1	1.2 ± 0.2
E2180	S4680	A	1.3 ± 0.1	1.6 ± 0.2
E2180	S4700	A	1.2 ± 0.1	0.7 ± 0.1
E2180	S4720	A	1.3 ± 0.2	1.4 ± 0.2
E2180	S4740	A	0.8 ± 0.1	0.5 ± 0.1
E2180	S4760	A	1.0 ± 0.1	1.2 ± 0.2
E2180	S4780	A	1.0 ± 0.1	1.0 ± 0.2
E2180	S4800	A	0.8 ± 0.1	0.8 ± 0.2
E2190	S4670	A	0.9 ± 0.1	1.1 ± 0.2
E2190	S4690	A	0.6 ± 0.1	0.6 ± 0.2
E2190	S4710	A	1.3 ± 0.1	1.0 ± 0.2
E2190	S4730	A	1.2 ± 0.1	1.1 ± 0.2
E2190	S4750	A	0.8 ± 0.1	1.2 ± 0.2
E2190	S4770	A	0.8 ± 0.1	1.1 ± 0.2
E2190	S4790	A	0.9 ± 0.1	1.0 ± 0.2
E2190	S4810	A	0.8 ± 0.1	0.6 ± 0.1
E2200	S4660	A	1.7 ± 0.1	0.7 ± 0.1
E2200	S4680	A	0.7 ± 0.1	A
E2200	S4700	A	0.8 ± 0.1	0.7 ± 0.2
E2200	S4720	A	3.2 ± 0.2	1.2 ± 0.2
E2200	S4740	A	0.8 ± 0.1	1.0 ± 0.2
E2200	S4780	A	1.9 ± 0.3	1.5 ± 0.2
E2200	S4800	A	0.7 ± 0.1	1.0 ± 0.2
E2205	S4800	A	0.5 ± 0.1	1.1 ± 0.2
E2205	S4820	0.6 ± 1.4	1.1 ± 0.1	1.4 ± 0.2
E2205	S4840	2.8 ± 1.6	1.0 ± 0.2	A
E2205	S4860	A	0.9 ± 0.1	0.8 ± 0.1
E2205	S4880	A	0.7 ± 0.1	1.0 ± 0.1
E2210	S4670	A	0.9 ± 0.1	0.6 ± 0.1
E2210	S4690	A	0.7 ± 0.1	A
E2210	S4710	A	1.2 ± 0.1	1.2 ± 0.2
E2210	S4730	A	1.0 ± 0.1	1.1 ± 0.2
E2210	S4750	A	0.8 ± 0.1	0.9 ± 0.1
E2210	S4770	4.5 ± 1.2	1.3 ± 0.1	1.3 ± 0.2
E2210	S4790	A	1.1 ± 0.1	0.9 ± 0.2
E2260	S4760	A	1.1 ± 0.1	1.0 ± 0.2
E2298	S5605	A	5.5 ± 0.3	1.3 ± 0.3
E2300	S5845	A	1.0 ± 0.1	0.6 ± 0.2

TABLE 7

(continued)

Grid Coordinates		Concentrations (pCi/g +/- 1 sigma)		
E,W	N,S	Uranium-238	Radium-226	Thorium-232
E2315	S5940	A	1.5 ± 0.4	1.2 ± 0.8
E2315	S5947	A	1.7 ± 0.4	A
E2320	S5631	A	5.0 ± 0.3	1.5 ± 0.4
E2321	S5779	3.9 ± 2.0	1.6 ± 0.2	1.6 ± 0.3
E2323	S5715	A	2.1 ± 0.2	1.8 ± 0.3
E2325	S5635	A	1.7 ± 0.3	1.5 ± 0.3
E2328	S5631	A	2.7 ± 0.2	0.3 ± 0.3
E2336	S5635	A	3.8 ± 0.6	3.9 ± 0.7
E2340	S5605	A	11.9 ± 1.3	0.7 ± 1.4
E2340	S5615	A	7.5 ± 0.7	2.3 ± 0.8
E2342	S5572	A	2.0 ± 0.6	2.5 ± 0.5
E2343	S5590	A	3.7 ± 0.6	2.1 ± 0.5
E2350	S5620	A	7.5 ± 0.9	1.8 ± 1.7

'A' denotes less than detectable activity.

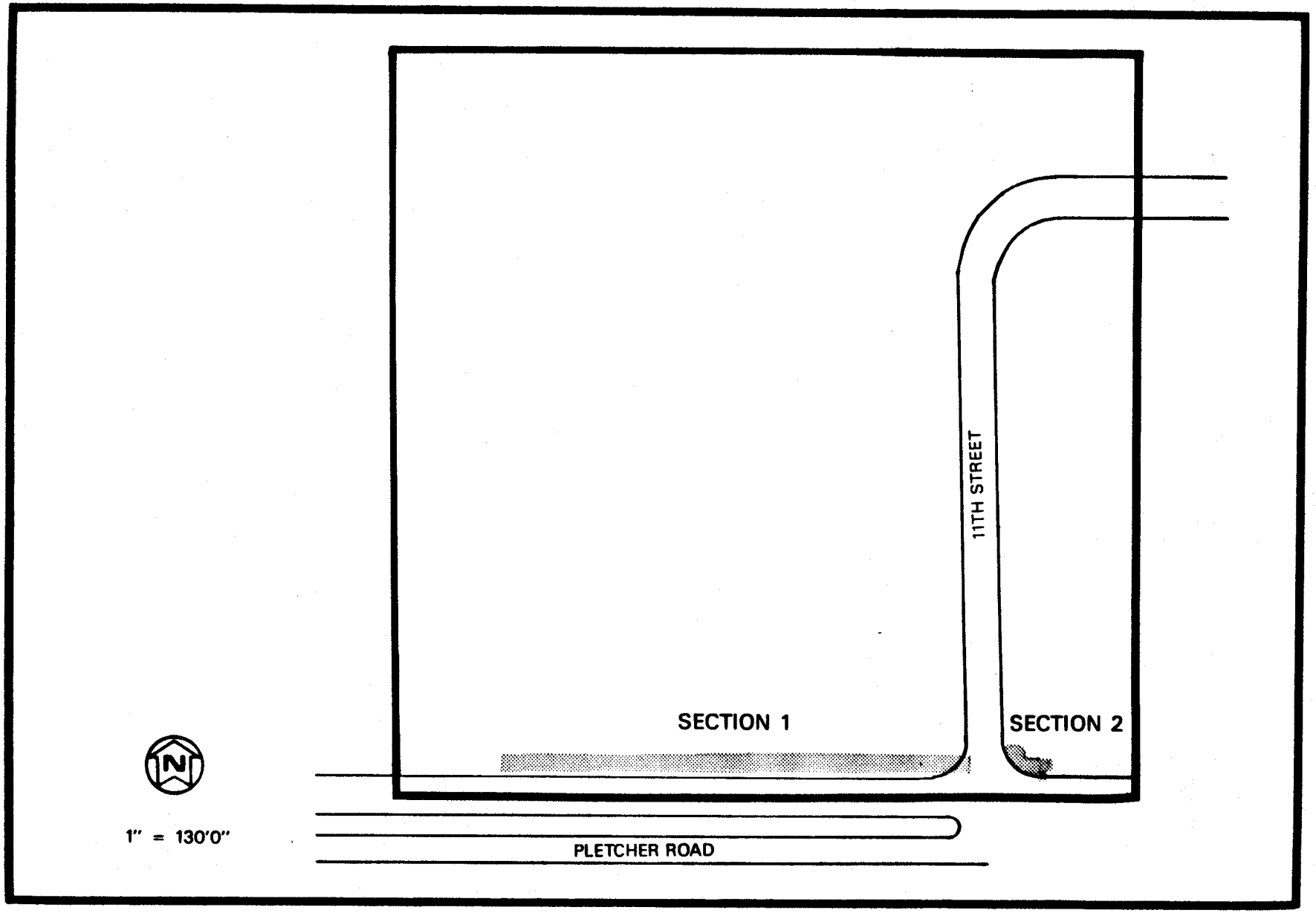


FIGURE 23 EXCAVATED AREA ON PROPERTY R

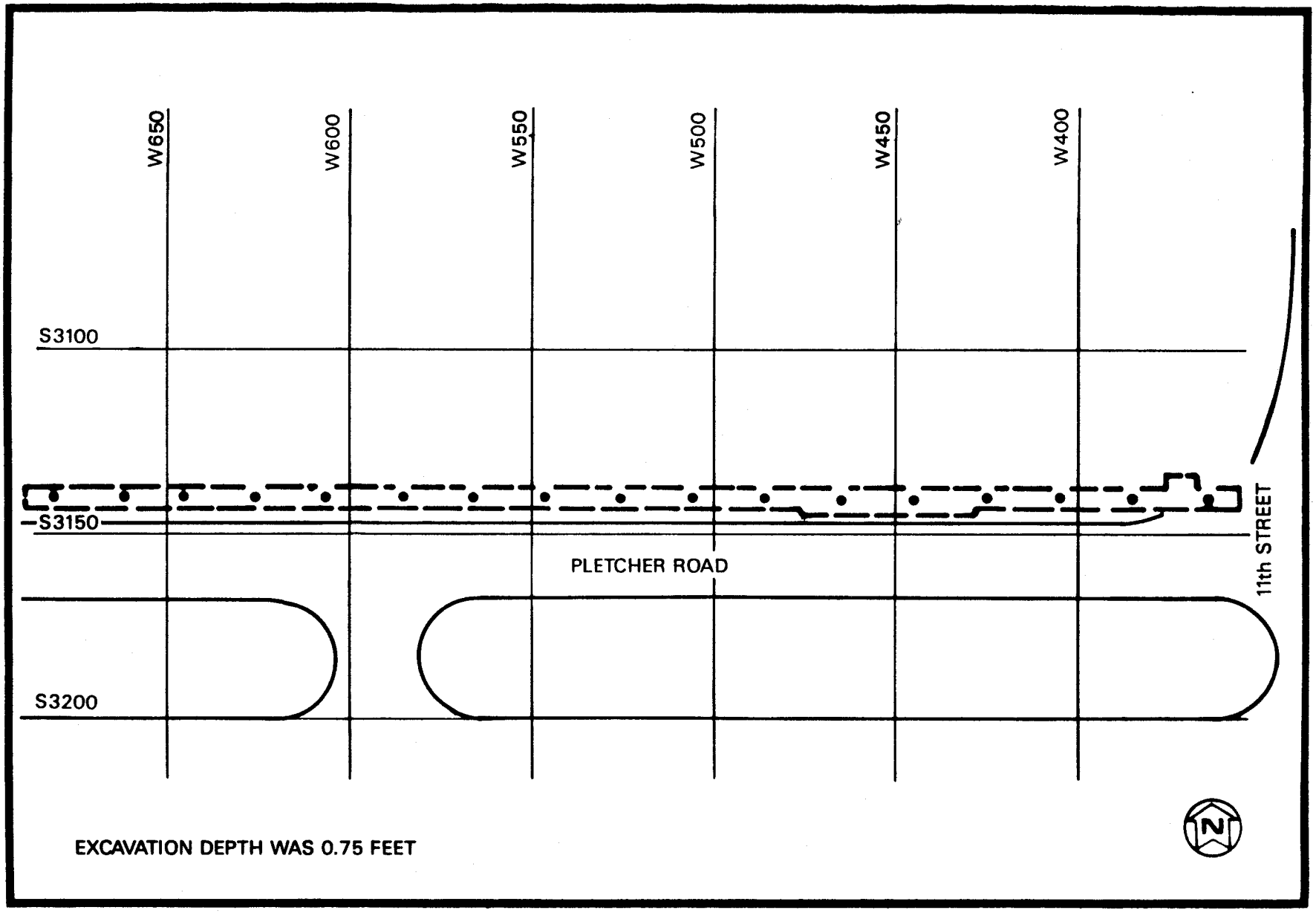
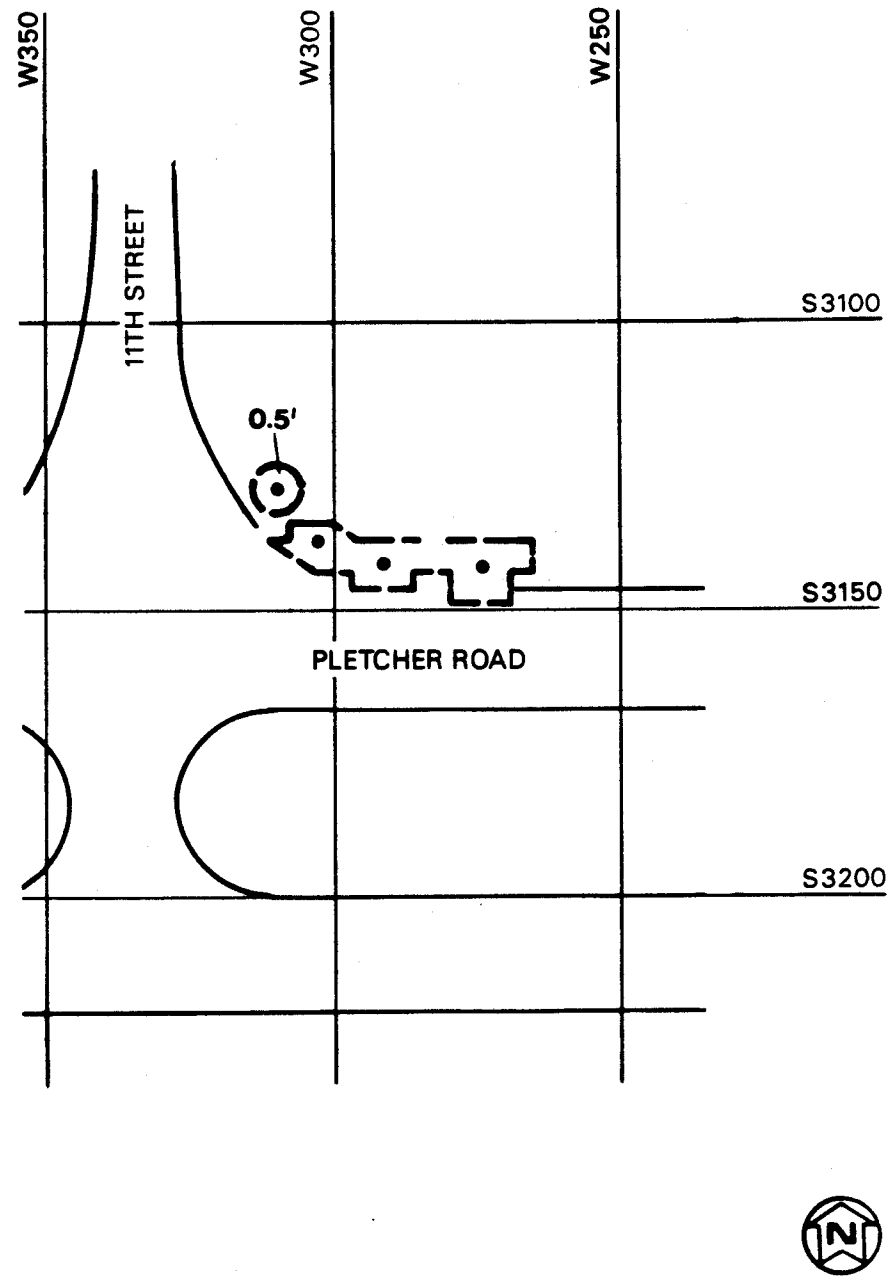


FIGURE 24 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY R - SECTION 1



EXCAVATION DEPTH WAS 1 FOOT UNLESS OTHERWISE NOTED

FIGURE 25 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY R - SECTION 2

TABLE 8

POST-REMEDIAL ACTION SAMPLING RESULTS

FOR PROPERTY R

Grid Coordinates		Concentrations (pCi/g +/- 1 sigma)		
E,W	N,S	Uranium-238	Radium-226	Thorium-232
W0265	S3140	A	1.2 ± 0.2	0.6 ± 0.2
W0285	S3140	A	0.7 ± 0.1	0.7 ± 0.2
W0305	S3140	A	11.7 ± 0.8	A
W0310	S3130	A	1.4 ± 0.1	1.3 ± 0.2
W0367	S3140	A	2.2 ± 0.2	1.1 ± 0.2
W0387	S3140	A	0.9 ± 0.1	1.2 ± 0.2
W0407	S3140	A	1.7 ± 0.1	0.8 ± 0.2
W0427	S3140	A	1.2 ± 0.1	0.6 ± 0.1
W0447	S3140	A	0.8 ± 0.1	1.1 ± 0.2
W0467	S3140	A	1.2 ± 0.1	1.0 ± 0.1
W0487	S3140	A	1.0 ± 0.1	1.2 ± 0.3
W0507	S3140	A	0.7 ± 0.1	0.9 ± 0.2
W0527	S3140	A	1.3 ± 0.1	A
W0547	S3140	A	1.6 ± 0.2	1.0 ± 0.2
W0567	S3140	A	1.5 ± 0.2	1.1 ± 0.2
W0587	S3140	A	0.9 ± 0.1	A
W0607	S3140	A	4.0 ± 0.2	1.1 ± 0.3
W0627	S3140	A	4.2 ± 0.2	1.4 ± 0.2
W0645	S3140	A	1.5 ± 0.1	0.9 ± 0.2
W0665	S3140	4.2 ± 1.4	1.4 ± 0.1	1.4 ± 0.2
W0685	S3140	A	1.4 ± 0.1	1.1 ± 0.2

'A' denotes less than detectable activity.

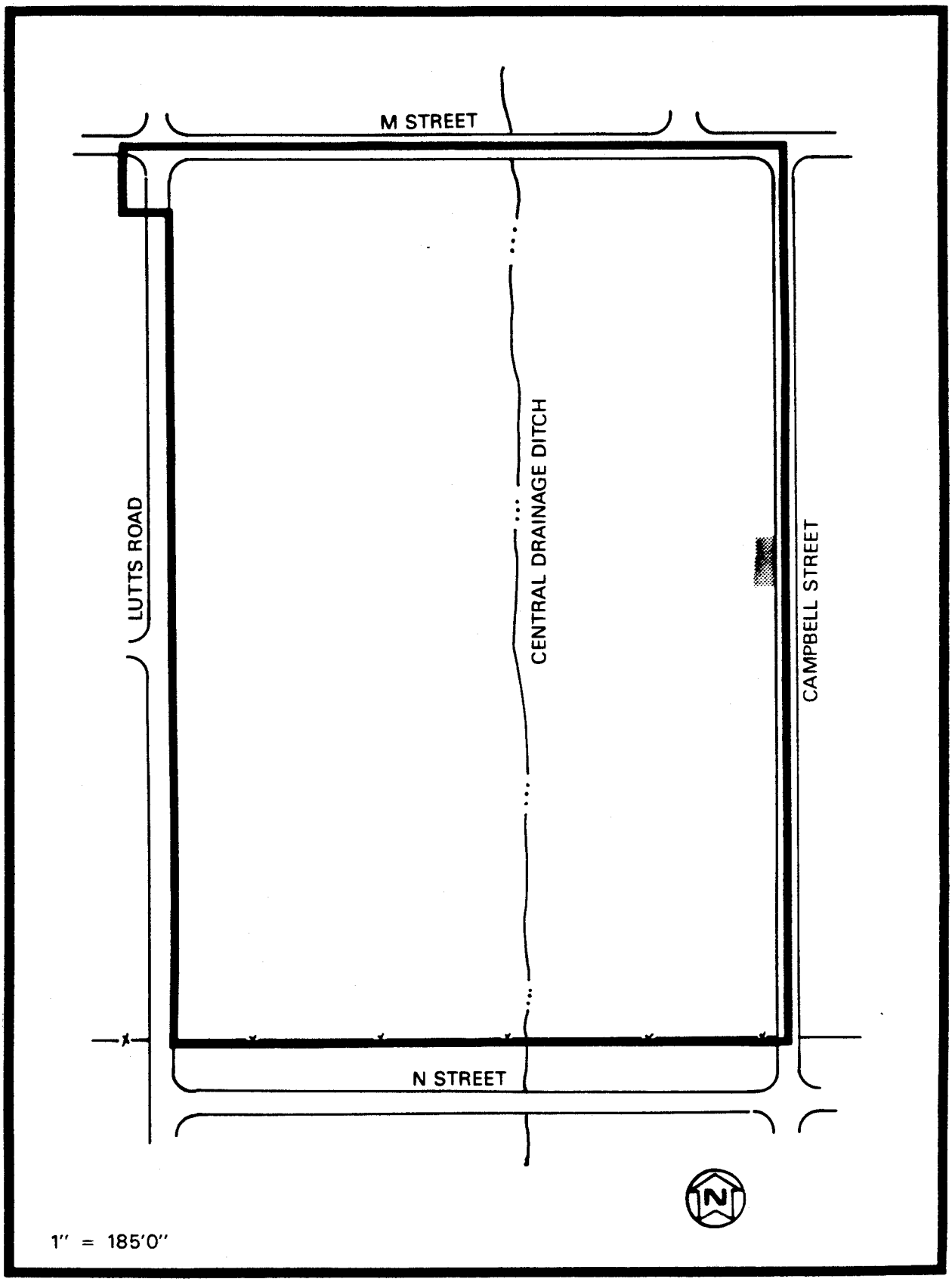
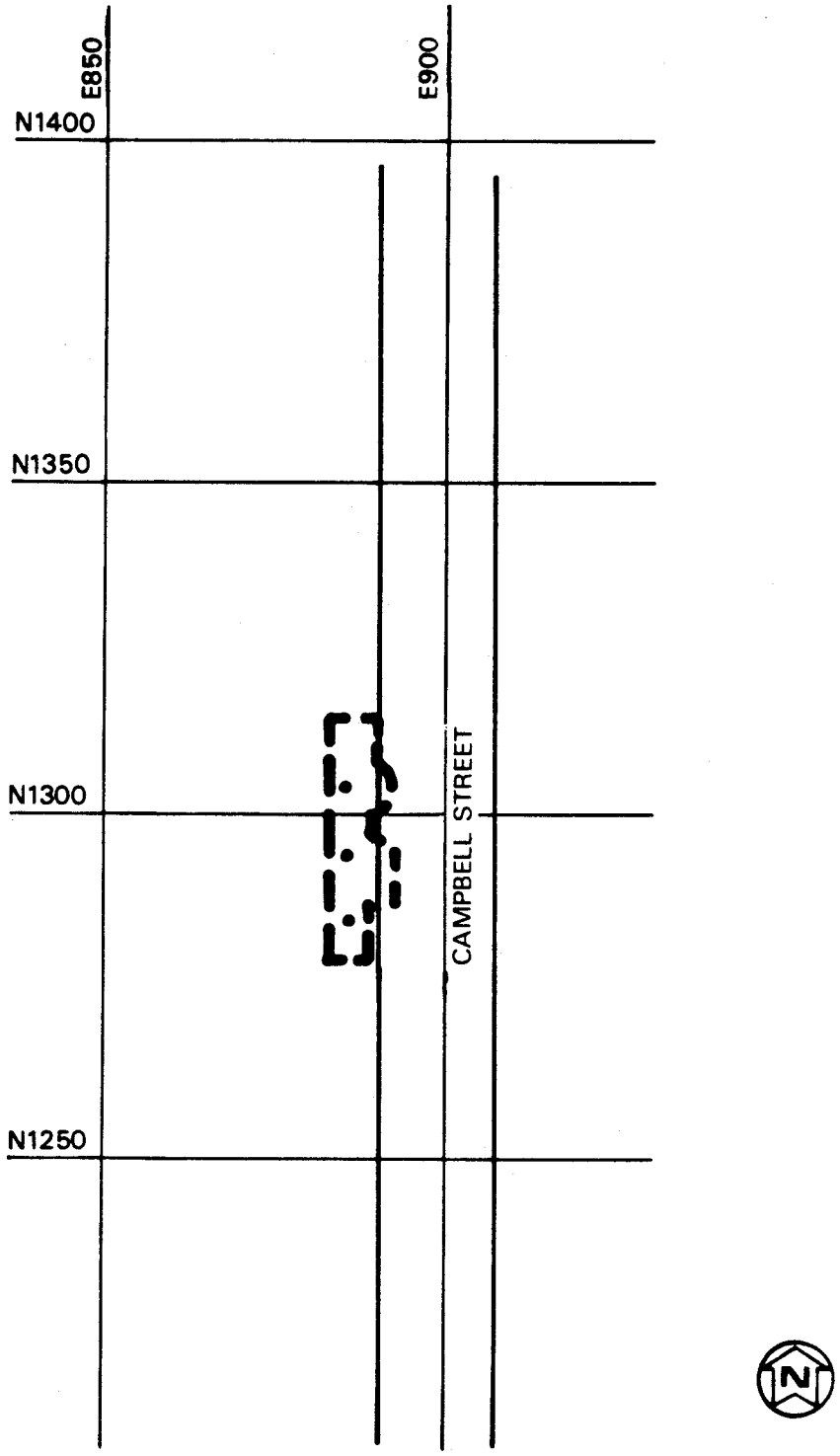


FIGURE 26 EXCAVATED AREA ON PROPERTY S



EXCAVATION DEPTH WAS 1 FOOT

FIGURE 27 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY S

TABLE 9

POST-REMEDIAL ACTION SAMPLING RESULTS

FOR PROPERTY S

Grid Coordinates		Concentrations (pCi/g +/- 1 sigma)		
E,W	N,S	Uranium-238	Radium-226	Thorium-232
E0885	N1305	A	2.8 ± 0.3	0.9 ± 0.2
E0886	N1285	5.3 ± 0.4	5.3 ± 0.4	1.1 ± 0.2
E0895	N1295	A	5.3 ± 0.4	0.8 ± 0.3

'A' denotes less than detectable activity.

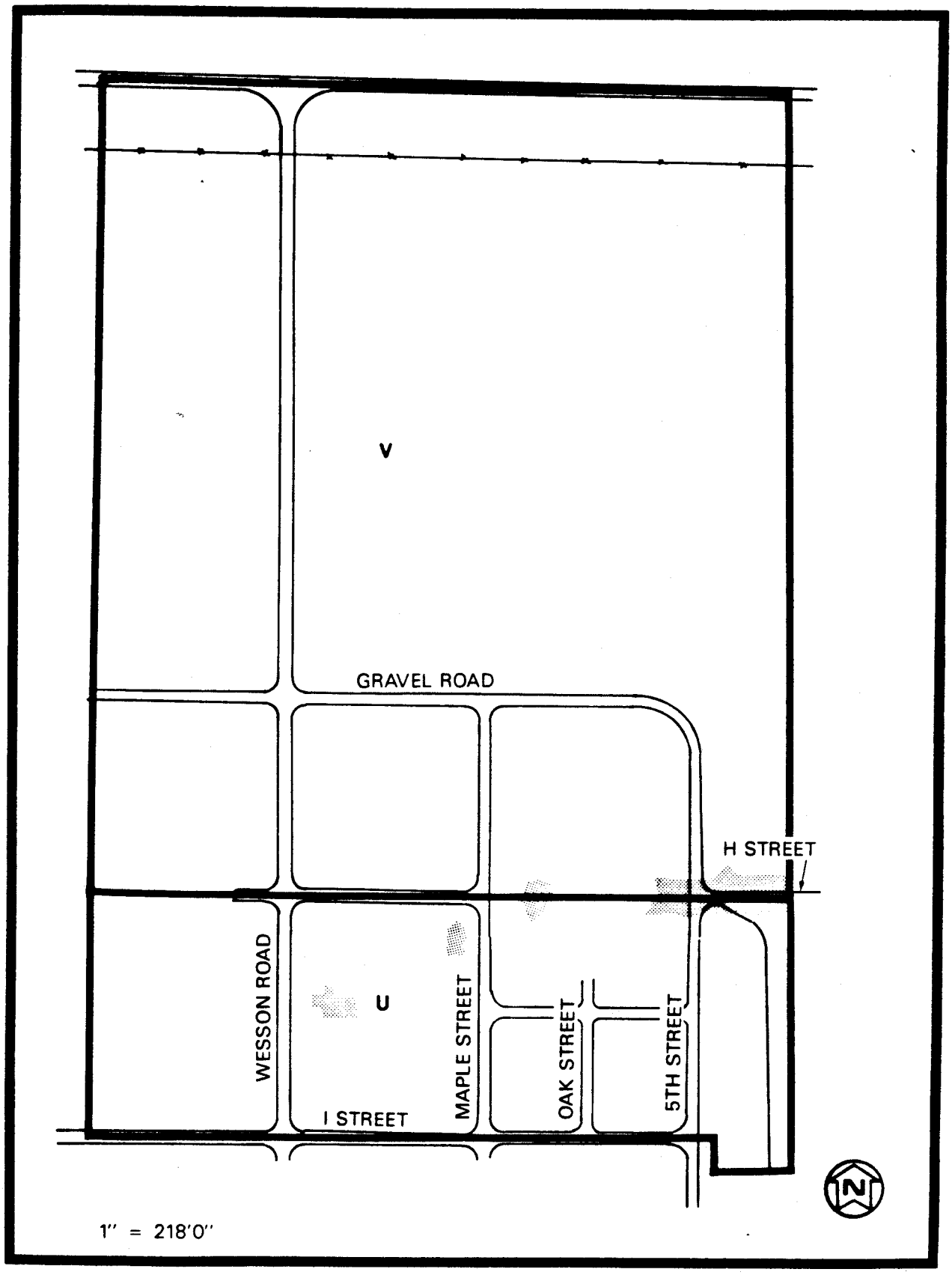


FIGURE 28 EXCAVATED AREAS ON PROPERTIES U AND V

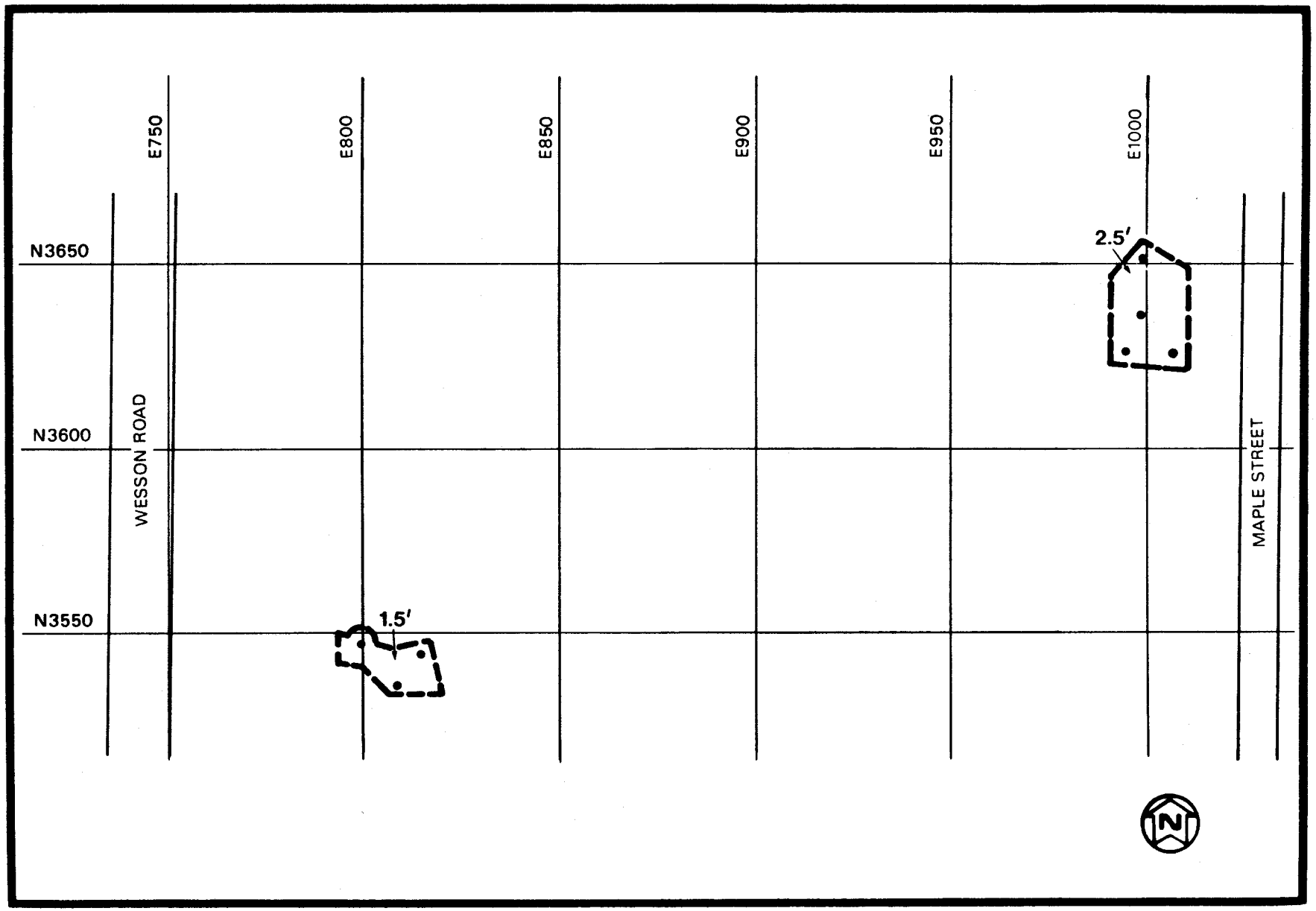


FIGURE 29 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTIES U AND V - SECTION 1

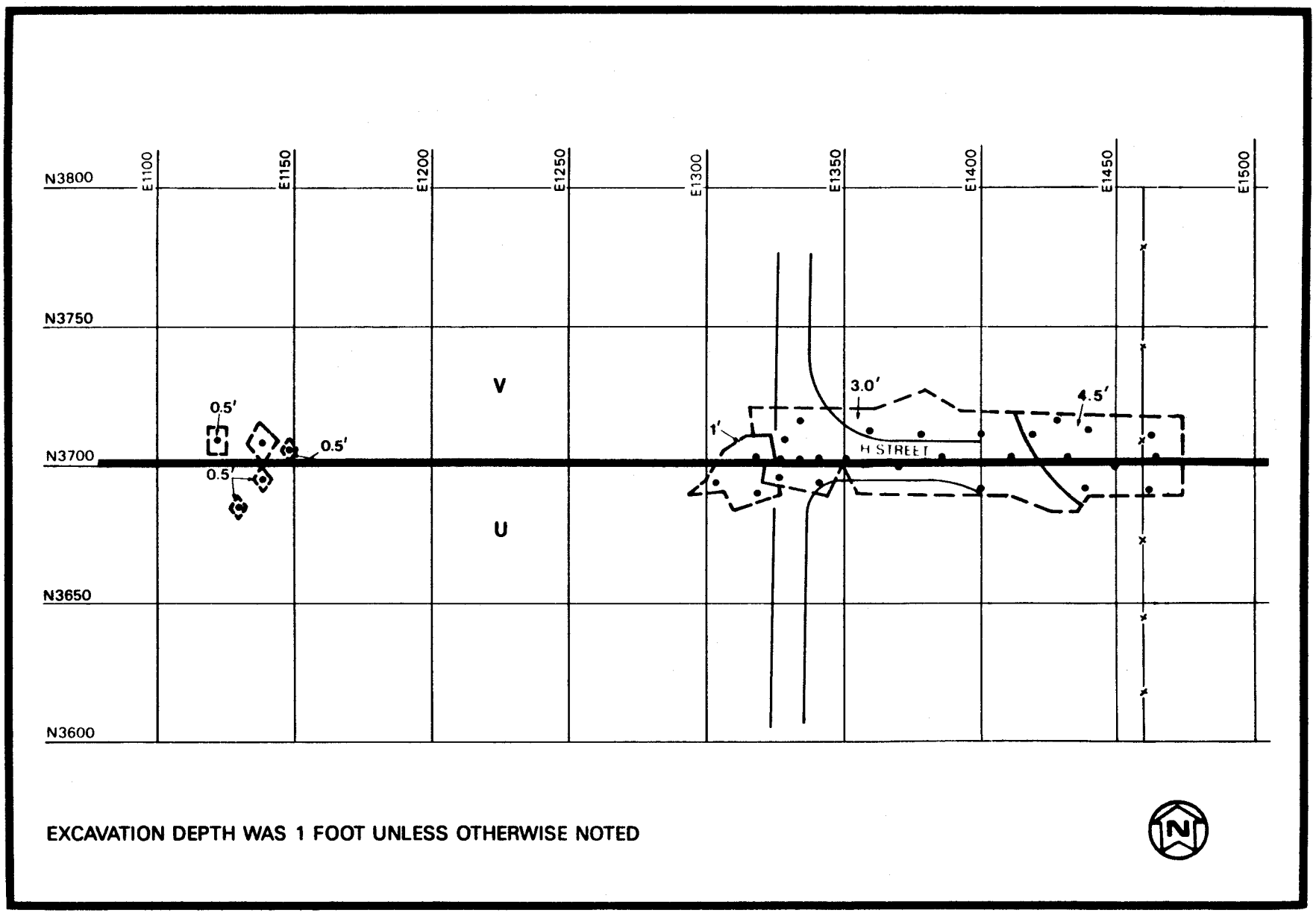


FIGURE 30 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTIES U AND V - SECTION 2

TABLE 10

POST-REMEDIAL ACTION SAMPLING RESULTS

FOR PROPERTIES U AND V

Grid Coordinates		Concentrations (pCi/g +/- 1 sigma)		
E,W	N,S	Uranium-238	Radium-226	Thorium-232
E0800	N3545	A	1.0 ± 0.1	1.3 ± 0.2
E0810	N3535	A	1.5 ± 0.1	0.9 ± 0.2
E0820	N3545	A	1.7 ± 0.1	0.7 ± 0.1
E0987	N3625	A	1.6 ± 0.1	0.8 ± 0.2
E0997	N3635	A	0.7 ± 0.1	0.6 ± 0.1
E0997	N3655	A	0.9 ± 0.1	1.0 ± 0.2
E1009	N3625	A	0.8 ± 0.1	1.1 ± 0.1
E1121	N3709	A	1.1 ± 0.1	1.2 ± 0.2
E1128	N3686	A	0.9 ± 0.1	1.1 ± 0.2
E1138	N3690	A	0.8 ± 0.1	0.9 ± 0.1
E1138	N3709	A	0.8 ± 0.1	1.1 ± 0.2
E1148	N3709	A	1.2 ± 0.1	1.0 ± 0.2
E1297	N3690	A	1.2 ± 0.1	1.5 ± 0.2
E1317	N3690	A	1.3 ± 0.1	1.1 ± 0.2
E1320	N3690	A	1.2 ± 0.4	1.4 ± 0.2
E1320	N3710	A	0.8 ± 0.3	0.9 ± 0.2
E1327	N3700	A	5.2 ± 0.3	1.4 ± 0.4
E1330	N3700	A	0.8 ± 0.3	1.2 ± 0.2
E1330	N3720	A	1.4 ± 0.4	0.8 ± 0.2
E1340	N3690	A	0.8 ± 0.3	1.1 ± 0.2
E1340	N3700	A	3.9 ± 1.2	0.8 ± 0.2
E1350	N3700	A	2.1 ± 0.6	1.3 ± 0.2
E1360	N3710	A	0.6 ± 0.2	1.4 ± 0.2
E1367	N3790	A	0.9 ± 0.1	0.8 ± 0.1
E1370	N3700	A	1.5 ± 0.5	0.9 ± 0.2
E1380	N3710	A	0.9 ± 0.3	1.1 ± 0.2
E1390	N3700	A	1.0 ± 0.3	0.8 ± 0.2
E1400	N3690	A	0.7 ± 0.2	1.1 ± 0.2
E1400	N3710	A	0.8 ± 0.2	0.9 ± 0.1
E1410	N3700	A	0.8 ± 0.2	1.0 ± 0.2
E1420	N3710	A	0.6 ± 0.2	1.0 ± 0.2
E1430	N3700	A	0.7 ± 0.2	0.9 ± 0.2
E1430	N3720	A	0.8 ± 0.3	1.7 ± 0.2
E1440	N3690	A	1.2 ± 0.4	1.0 ± 0.2
E1440	N3710	A	0.9 ± 0.3	1.0 ± 0.2
E1450	N3700	A	0.7 ± 0.2	1.1 ± 0.1
E1460	N3690	2.9 ± 1.6	1.4 ± 0.4	1.5 ± 0.3
E1460	N3700	A	2.0 ± 0.3	1.8 ± 0.6
E1460	N3710	A	3.1 ± 0.9	1.3 ± 0.3

'A' denotes less than detectable activity.

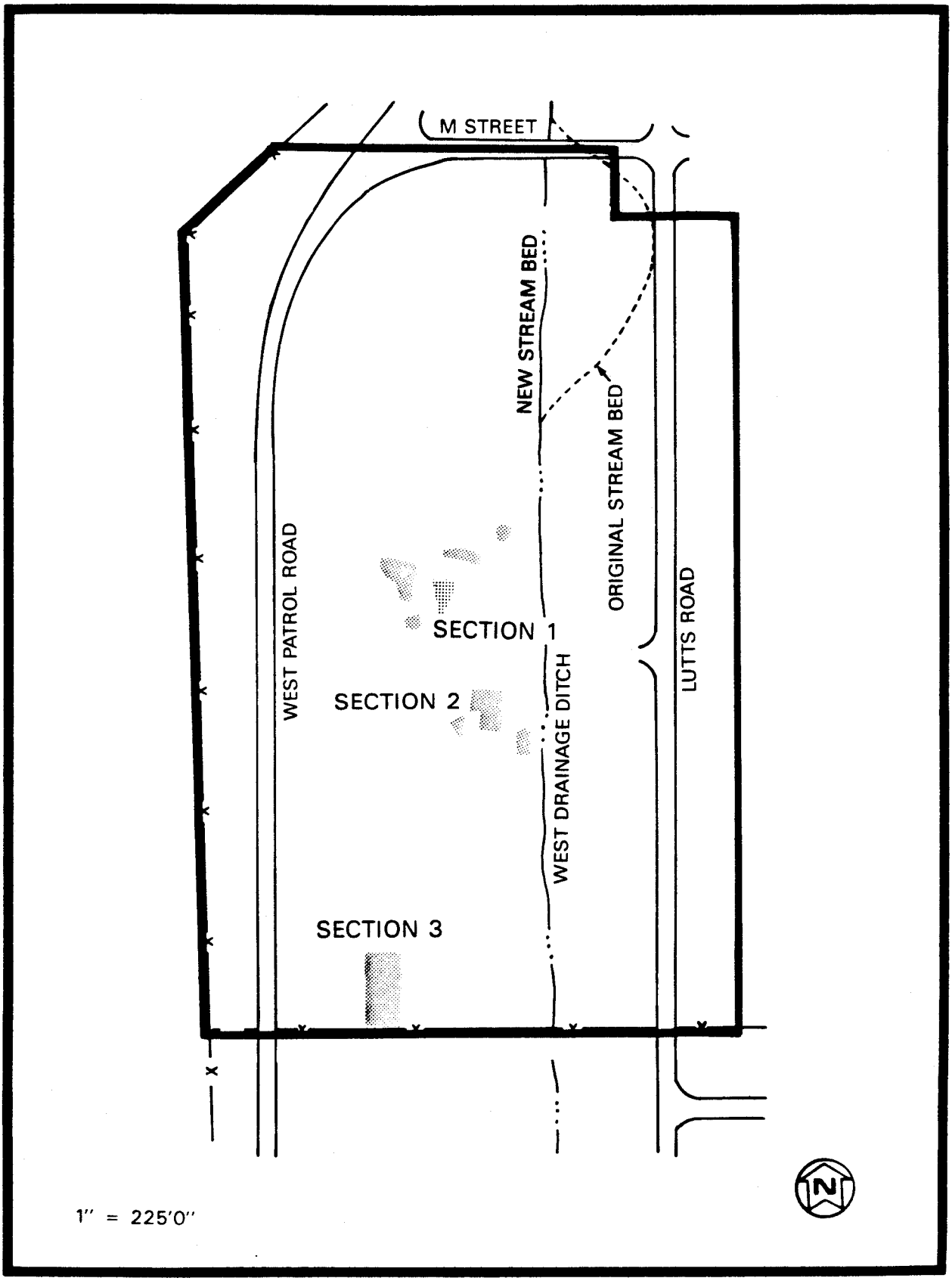


FIGURE 31 EXCAVATED AREAS ON PROPERTY X

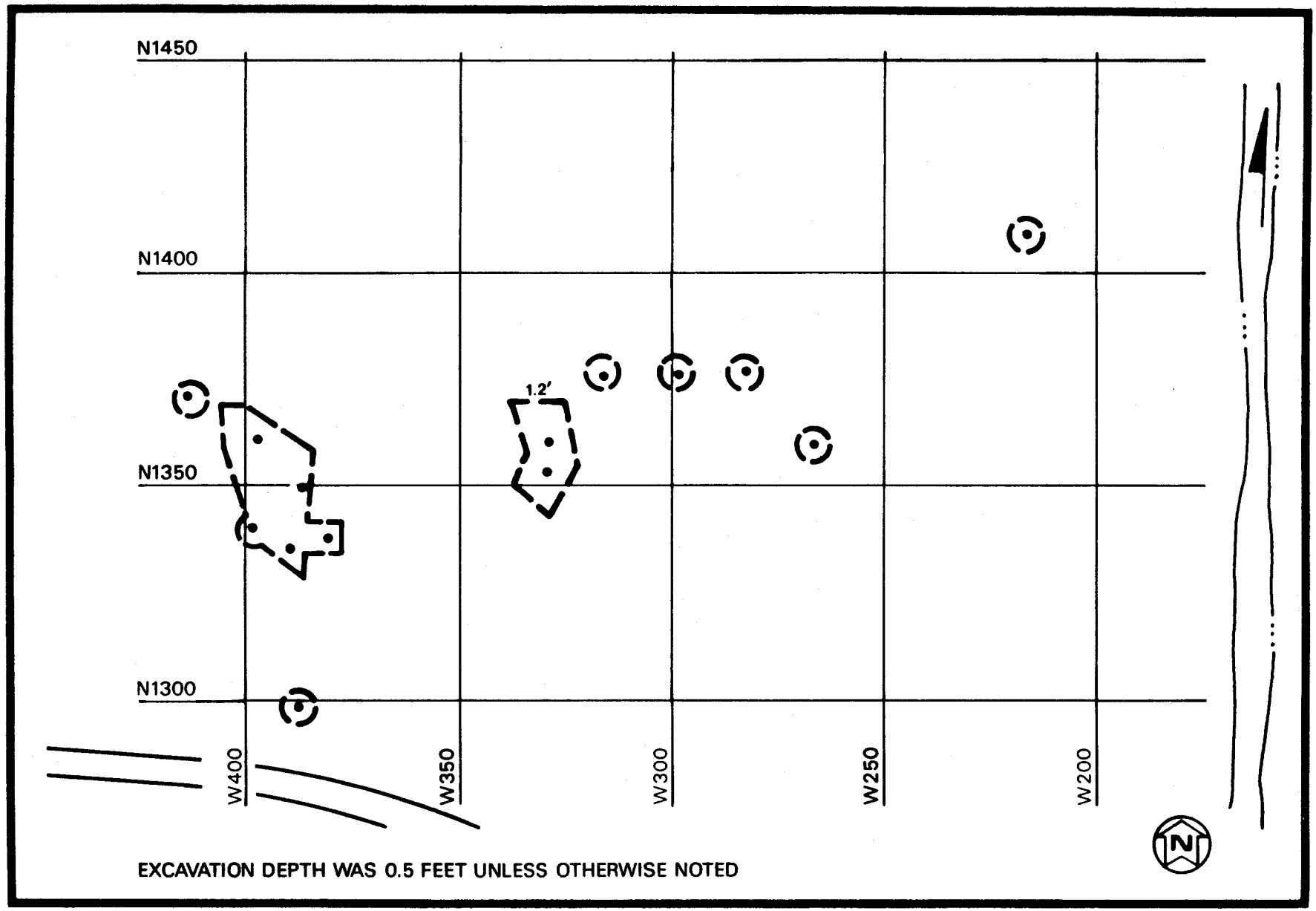


FIGURE 32 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY X - SECTION 1

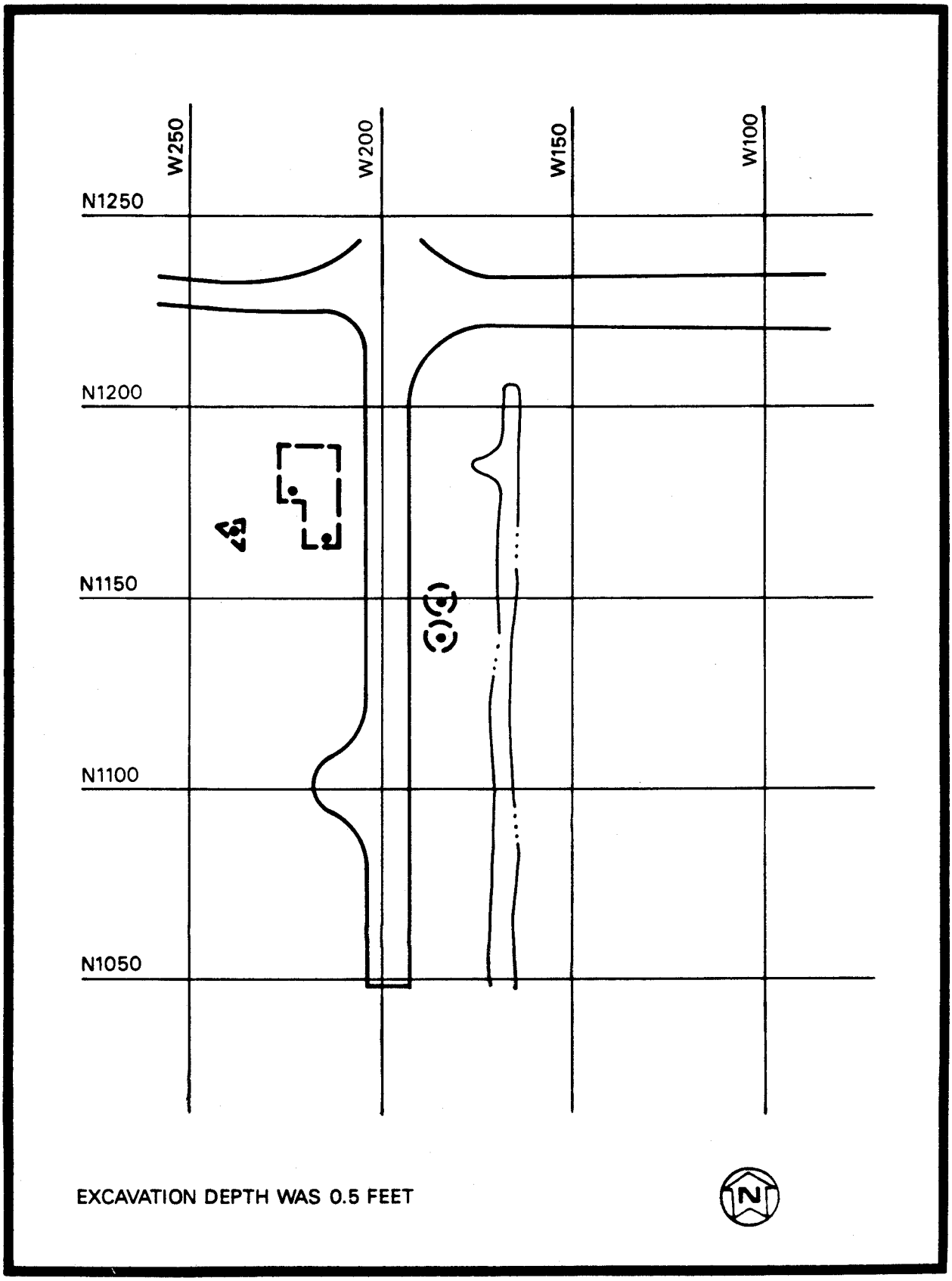


FIGURE 33 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY X - SECTION 2

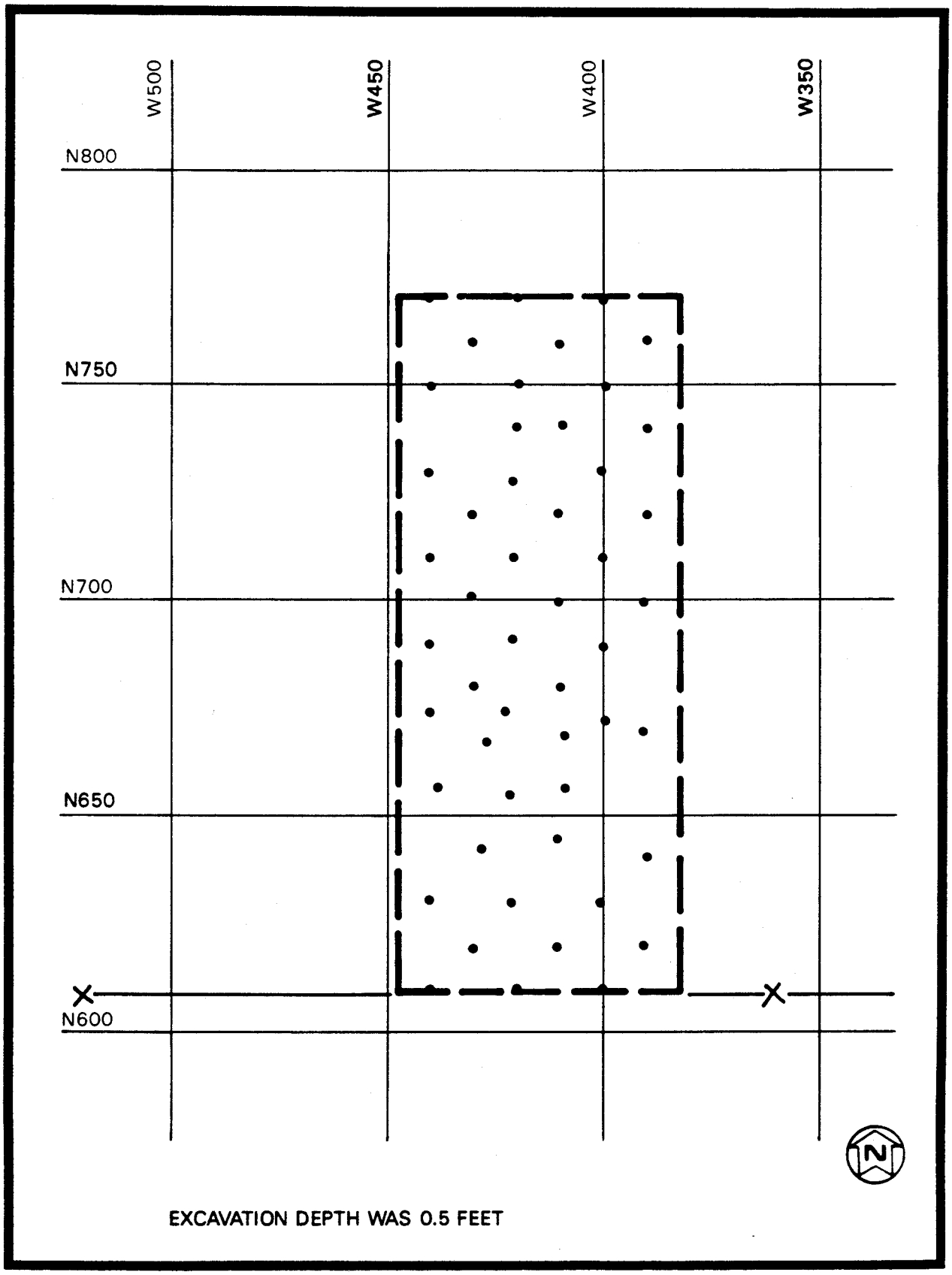


FIGURE 34 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY X - SECTION 3

TABLE 11

POST-REMEDIAL ACTION SAMPLING RESULTS

FOR PROPERTY X

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
W0185	N1140	A	1.1 ± 0.1	0.7 ± 0.2
W0185	N1150	A	1.0 ± 0.1	1.3 ± 0.2
W0215	N1165	A	1.6 ± 0.1	0.9 ± 0.2
W0217	N1409	A	5.1 ± 0.2	1.0 ± 0.2
W0225	N1175	A	1.2 ± 0.1	1.0 ± 0.2
W0240	N1160	A	2.6 ± 0.2	0.8 ± 0.2
W0267	N1360	A	0.9 ± 0.1	1.1 ± 0.2
W0283	N1377	A	1.3 ± 0.1	0.9 ± 0.2
W0299	N1377	A	0.8 ± 0.1	1.1 ± 0.2
W0316	N1377	A	1.3 ± 0.1	0.7 ± 0.2
W0328	N1360	A	1.3 ± 0.4	1.4 ± 0.2
W0335	N1355	A	0.6 ± 0.4	1.0 ± 0.2
W0382	N1300	A	2.1 ± 0.1	1.0 ± 0.2
W0388	N1330	1.7 ± 1.3	1.1 ± 0.1	0.8 ± 0.2
W0388	N1350	A	0.8 ± 0.1	0.7 ± 0.2
W0390	N0620	A	1.1 ± 0.1	1.0 ± 0.2
W0390	N0640	A	0.7 ± 0.1	0.8 ± 0.1
W0390	N0660	A	1.1 ± 0.1	0.5 ± 0.2
W0390	N0700	A	0.8 ± 0.1	A
W0390	N0720	A	1.2 ± 0.1	1.1 ± 0.2
W0390	N0740	A	0.7 ± 0.1	0.8 ± 0.2
W0390	N0760	A	0.8 ± 0.1	1.0 ± 0.1
W0398	N1340	A	1.0 ± 0.1	1.2 ± 0.2
W0398	N1360	A	1.5 ± 0.1	0.9 ± 0.2
W0400	N0610	A	1.2 ± 0.1	0.9 ± 0.2
W0400	N0630	2.1 ± 1.4	0.9 ± 0.1	1.1 ± 0.2
W0400	N0670	A	0.9 ± 0.1	1.3 ± 0.2
W0400	N0690	0.8 ± 1.1	0.6 ± 0.1	0.9 ± 0.2
W0400	N0710	A	1.1 ± 0.1	1.3 ± 0.2
W0400	N0730	A	1.3 ± 0.1	1.5 ± 0.2
W0400	N0750	A	0.8 ± 0.1	0.8 ± 0.2
W0400	N0770	A	1.0 ± 0.1	1.0 ± 0.2
W0410	N0620	4.0 ± 1.0	0.5 ± 0.1	0.6 ± 0.1
W0410	N0640	1.3 ± 1.8	1.2 ± 0.1	0.8 ± 0.2
W0410	N0650	A	1.0 ± 0.1	0.5 ± 0.2
W0410	N0660	8.3 ± 1.6	1.1 ± 0.1	0.4 ± 0.2
W0410	N0680	A	2.7 ± 0.2	0.8 ± 0.2
W0410	N0700	3.3 ± 1.5	0.8 ± 0.1	0.7 ± 0.2
W0410	N0720	A	0.5 ± 0.1	0.8 ± 0.1
W0410	N0740	2.9 ± 1.1	1.1 ± 0.1	0.8 ± 0.2
W0410	N0760	A	1.2 ± 0.1	0.8 ± 0.2
W0414	N1370	A	0.8 ± 0.1	0.9 ± 0.1
W0420	N0610	5.4 ± 1.4	0.8 ± 0.1	A

TABLE 11

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
W0420	N0630	4.5 ± 1.3	0.6 ± 0.1	0.7 ± 0.1
W0420	N0650	3.2 ± 1.2	0.9 ± 0.1	0.7 ± 0.1
W0420	N0670	A	0.6 ± 0.1	0.7 ± 0.1
W0420	N0690	A	1.0 ± 0.1	0.7 ± 0.1
W0420	N0710	A	0.5 ± 0.1	0.7 ± 0.2
W0420	N0730	A	0.7 ± 0.1	0.8 ± 0.2
W0420	N0740	A	0.7 ± 0.1	1.0 ± 0.2
W0420	N0750	A	0.6 ± 0.1	0.7 ± 0.1
W0420	N0770	A	0.8 ± 0.1	0.9 ± 0.2
W0430	N0620	9.2 ± 1.7	0.5 ± 0.1	0.9 ± 0.1
W0430	N0640	0.9 ± 2.0	0.8 ± 0.1	A
W0430	N0660	A	0.9 ± 0.1	0.7 ± 0.1
W0430	N0680	2.9 ± 1.4	0.8 ± 0.1	A
W0430	N0700	2.7 ± 1.6	0.7 ± 0.1	0.7 ± 0.1
W0430	N0720	2.0 ± 1.1	0.6 ± 0.1	0.6 ± 0.1
W0430	N0760	7.0 ± 1.5	1.5 ± 0.1	1.2 ± 0.2
W0440	N0610	3.7 ± 1.2	0.9 ± 0.1	0.8 ± 0.1
W0440	N0630	A	0.5 ± 0.1	0.7 ± 0.1
W0440	N0670	1.4 ± 1.0	0.6 ± 0.1	0.7 ± 0.1
W0440	N0690	2.7 ± 1.2	0.6 ± 0.1	0.4 ± 0.1
W0440	N0710	A	0.7 ± 0.1	1.0 ± 0.2
W0440	N0730	2.4 ± 1.1	0.5 ± 0.1	0.6 ± 0.1
W0440	N0750	A	0.6 ± 0.1	0.7 ± 0.1
W0440	N0770	3.0 ± 1.4	0.6 ± 0.2	1.1 ± 0.2
W0490	N0650	A	0.6 ± 0.1	0.7 ± 0.1

'A' denotes less than detectable activity.

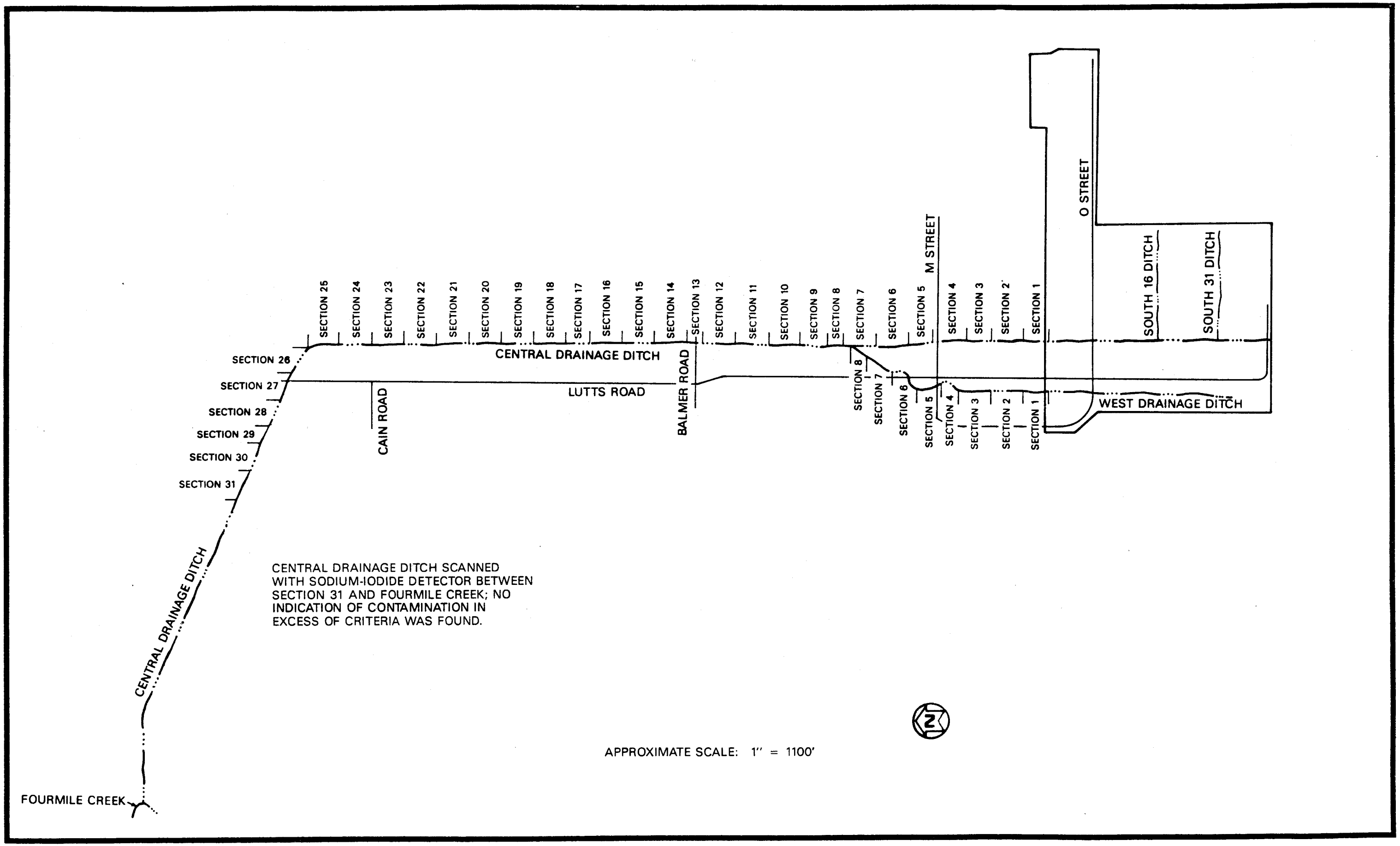


FIGURE 35 LOCATION AND REFERENCE DRAWING FOR THE WEST AND CENTRAL DRAINAGE DITCH EXCAVATIONS

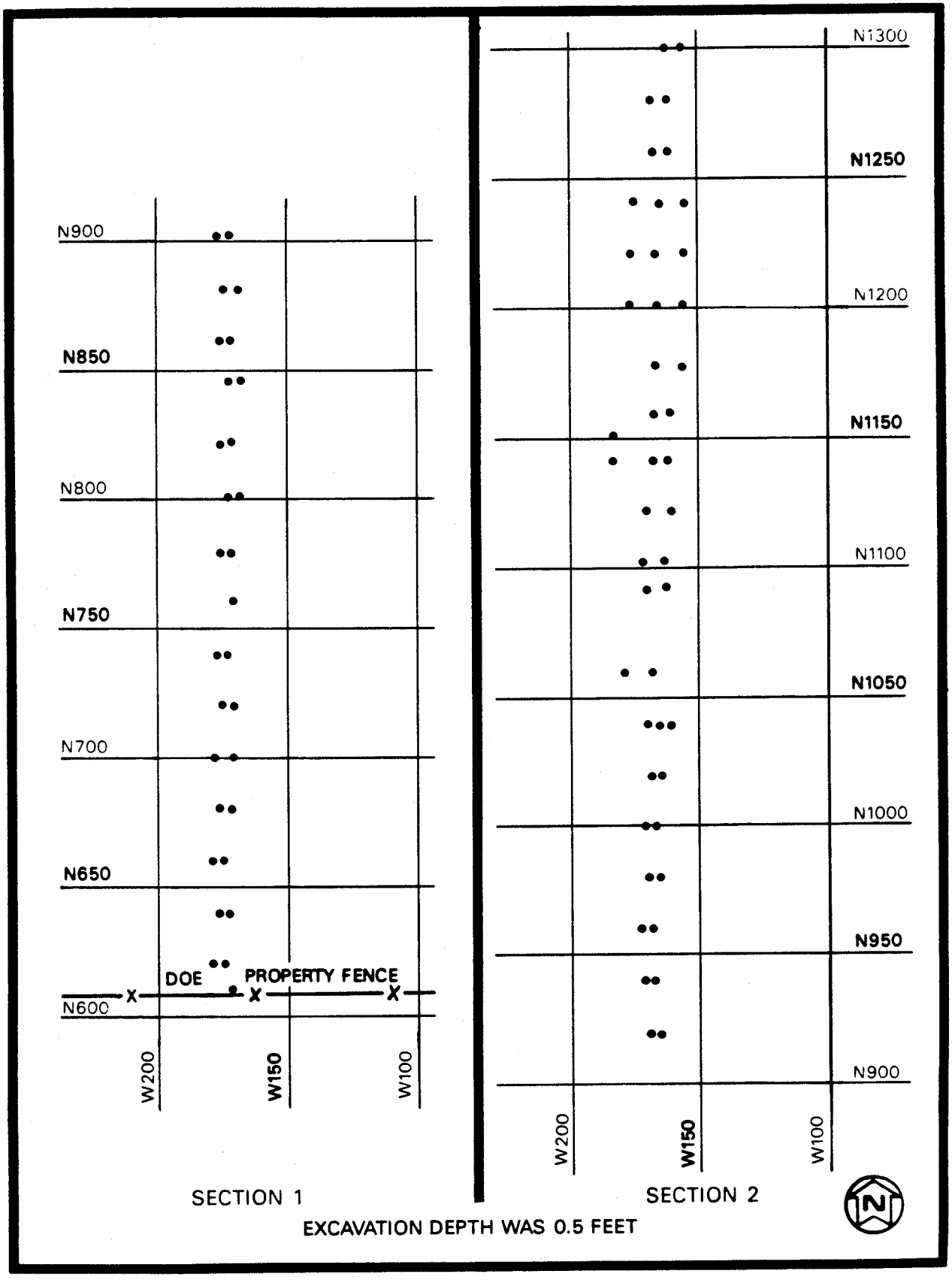


FIGURE 36 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE WEST DITCH - SECTIONS 1 AND 2

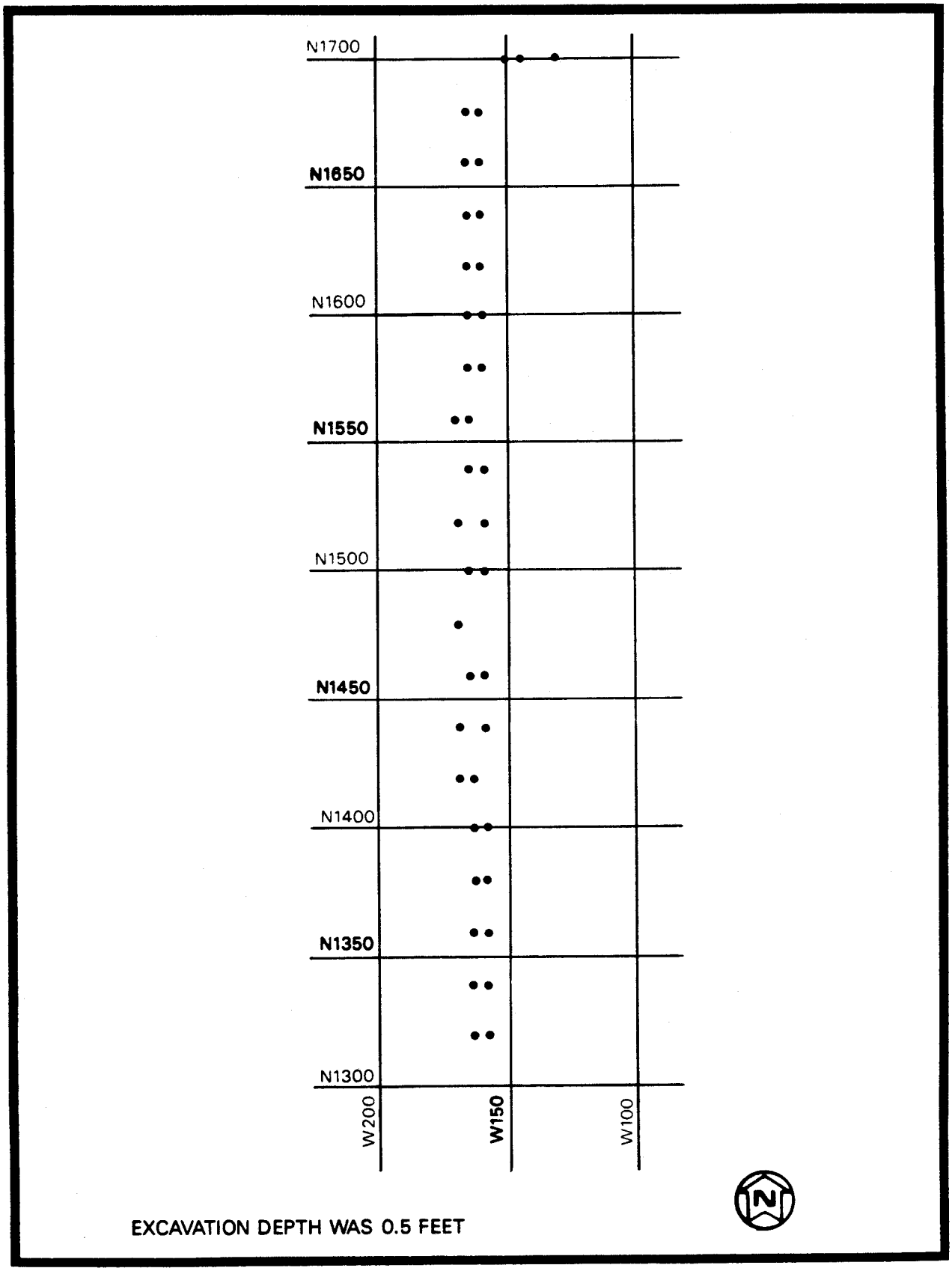


FIGURE 37 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE WEST DITCH - SECTION 3

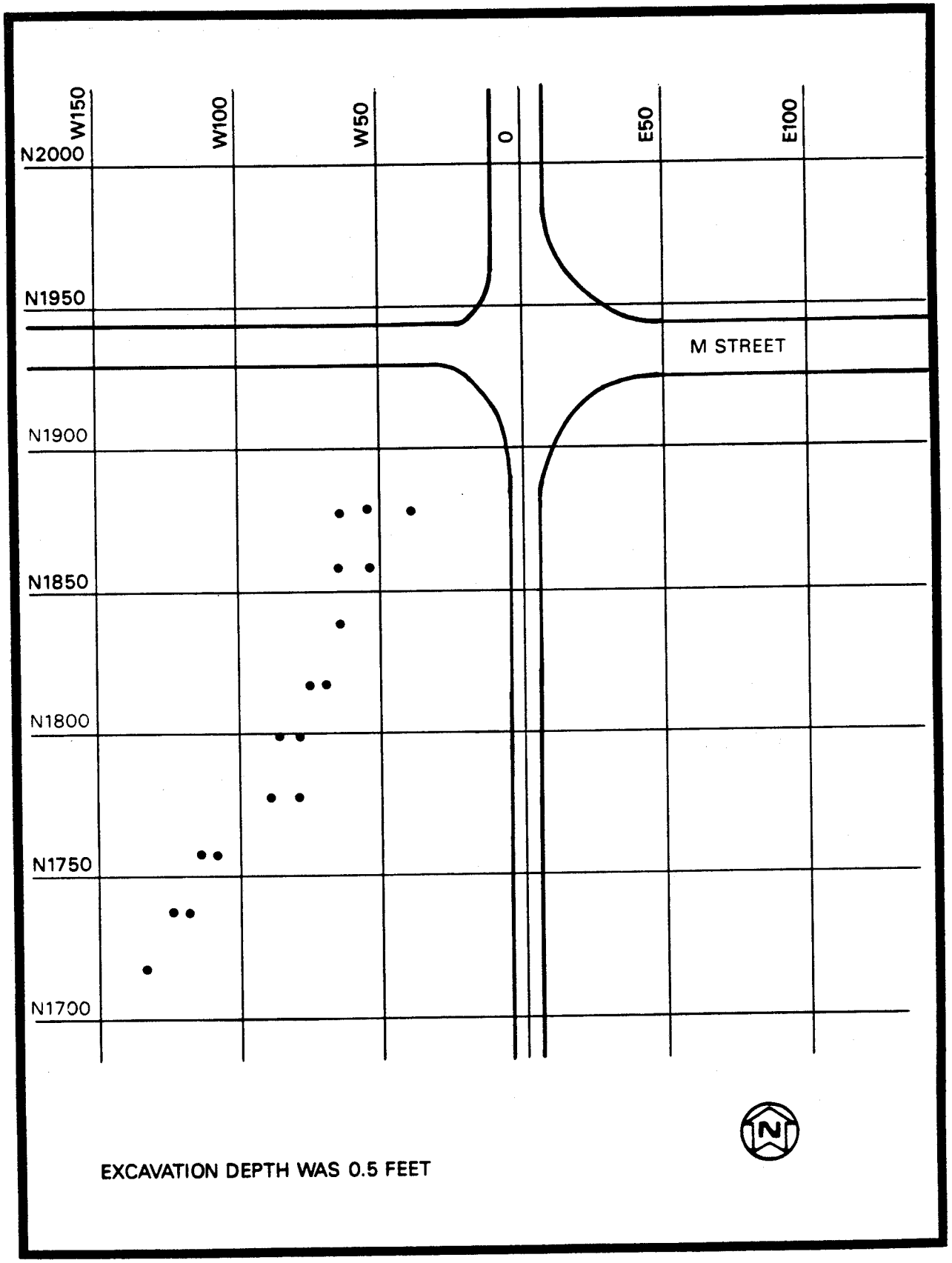


FIGURE 38 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE WEST DITCH - SECTION 4

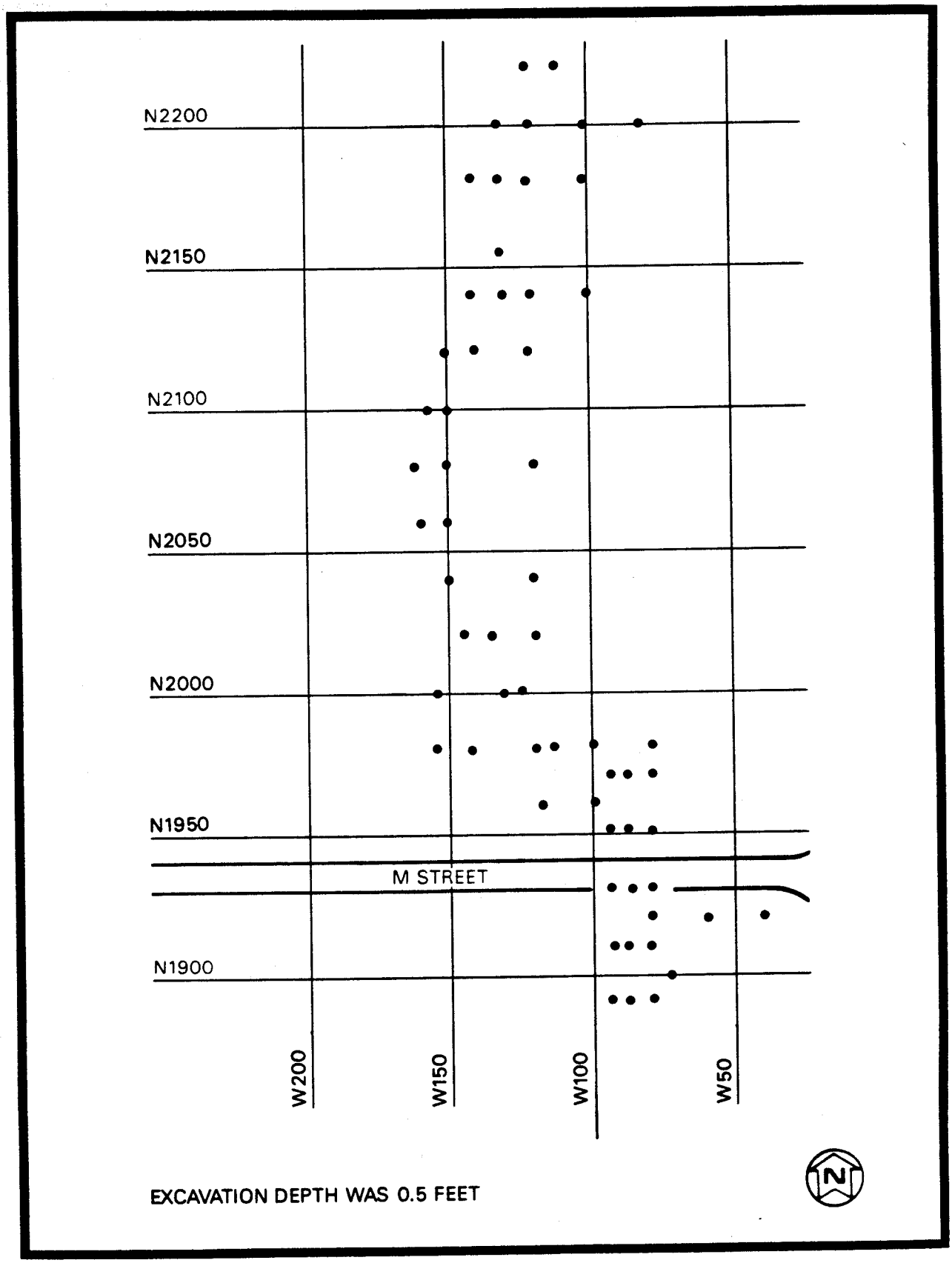


FIGURE 39 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE WEST DITCH - SECTION 5

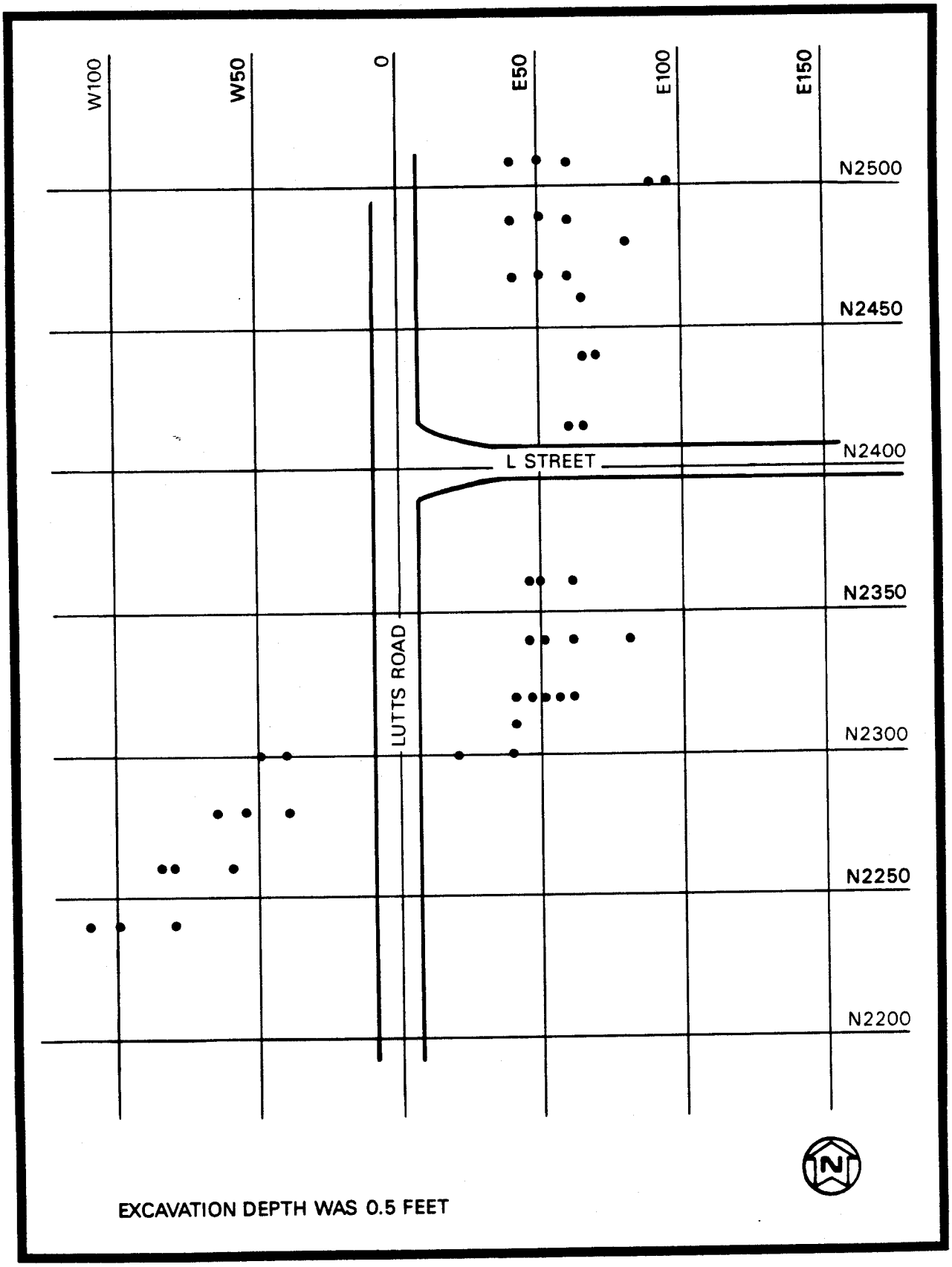


FIGURE 40 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE WEST DITCH - SECTION 6

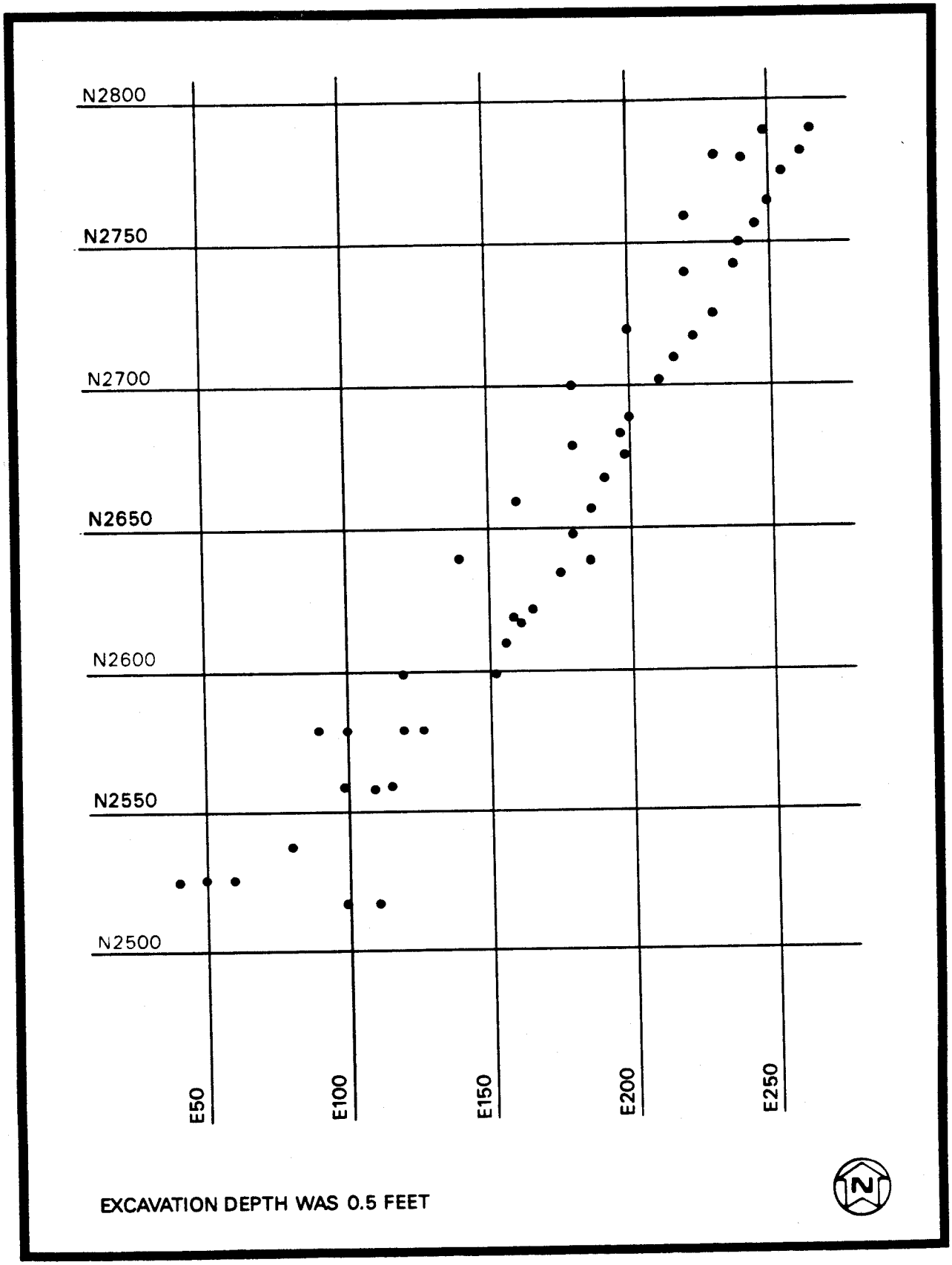


FIGURE 41 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE WEST DITCH - SECTION 7

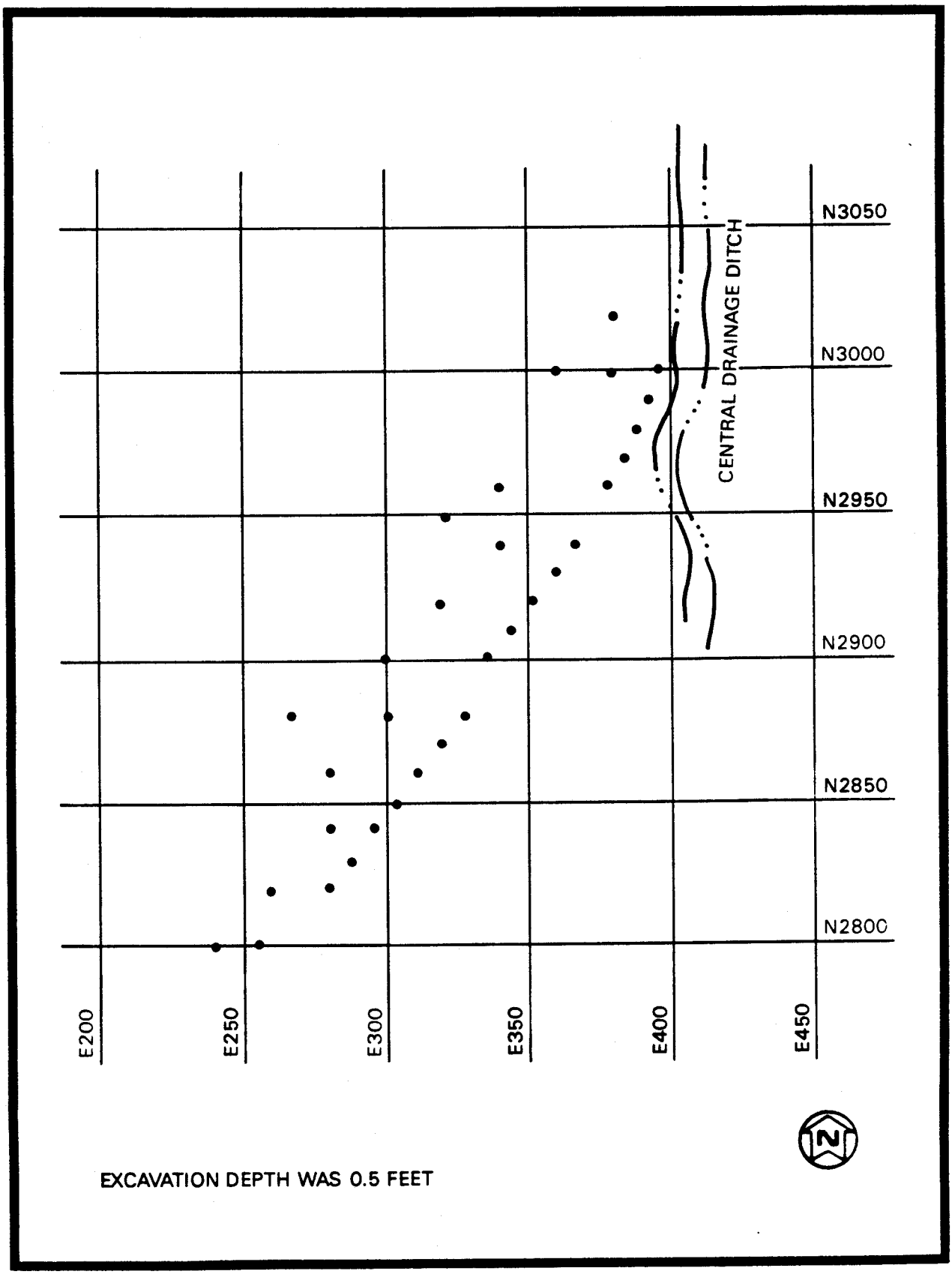


FIGURE 42 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE WEST DITCH - SECTION 8

TABLE 12

POST-REMEDIAL ACTION SAMPLING RESULTS

FOR THE WEST DRAINAGE DITCH

Grid Coordinates		Concentrations (pCi/g +/- 1 sigma)		
E,W	N,S	Uranium-238	Radium-226	Thorium-232
E0020	N2300	A	3.6 ± 0.3	0.7 ± 0.3
E0040	N2300	A	1.8 ± 0.2	1.4 ± 0.2
E0040	N2310	A	1.3 ± 0.2	1.0 ± 0.2
E0040	N2320	A	0.9 ± 0.1	0.7 ± 0.1
E0040	N2468	1.4 ± 0.5	0.6 ± 0.1	0.6 ± 0.1
E0040	N2488	0.2 ± 0.2	0.7 ± 0.1	0.7 ± 0.1
E0040	N2508	0.1 ± 0.1	0.8 ± 0.1	0.8 ± 0.1
E0040	N2528	0.3 ± 0.2	2.0 ± 0.1	0.8 ± 0.1
E0045	N2320	A	0.9 ± 0.1	1.2 ± 0.3
E0045	N2340	A	0.8 ± 0.1	1.3 ± 0.2
E0045	N2360	A	3.6 ± 0.2	1.0 ± 0.3
E0050	N2320	A	1.0 ± 0.2	0.8 ± 0.2
E0050	N2340	A	1.1 ± 0.2	0.9 ± 0.2
E0050	N2360	A	1.1 ± 0.2	0.7 ± 0.2
E0050	N2468	0.1 ± 0.1	0.6 ± 0.1	0.6 ± 0.1
E0050	N2488	0.3 ± 0.2	0.8 ± 0.1	1.0 ± 0.1
E0050	N2508	0.5 ± 0.2	0.8 ± 0.1	1.0 ± 0.1
E0050	N2528	0.4 ± 0.2	0.9 ± 0.1	1.3 ± 0.1
E0055	N2320	A	1.6 ± 0.2	1.0 ± 0.2
E0060	N2320	A	1.2 ± 0.1	0.8 ± 0.2
E0060	N2340	A	0.8 ± 0.1	0.8 ± 0.2
E0060	N2360	A	0.8 ± 0.1	0.7 ± 0.2
E0060	N2420	A	1.6 ± 0.2	1.2 ± 0.2
E0060	N2468	A	4.7 ± 0.1	0.8 ± 0.1
E0060	N2488	0.1 ± 0.2	0.9 ± 0.1	0.8 ± 0.1
E0060	N2508	0.3 ± 0.1	0.7 ± 0.1	0.7 ± 0.1
E0060	N2528	0.3 ± 0.2	1.1 ± 0.1	1.1 ± 0.1
E0065	N2420	A	0.9 ± 0.1	0.8 ± 0.2
E0065	N2440	A	1.8 ± 0.2	0.6 ± 0.2
E0065	N2460	A	2.8 ± 0.2	1.4 ± 0.3
E0070	N2440	A	1.3 ± 0.2	0.8 ± 0.2
E0080	N2340	A	1.5 ± 0.2	1.1 ± 0.2
E0080	N2480	7.2 ± 2.3	1.2 ± 0.2	1.4 ± 0.2
E0080	N2540	A	0.8 ± 0.1	0.7 ± 0.2
E0090	N2500	A	1.0 ± 0.1	0.8 ± 0.2
E0090	N2580	A	1.4 ± 0.2	1.1 ± 0.2
E0095	N2500	A	1.7 ± 0.2	0.9 ± 0.2
E0100	N2520	A	0.8 ± 0.1	0.4 ± 0.2
E0100	N2560	A	0.8 ± 0.1	0.6 ± 0.2
E0100	N2580	A	1.0 ± 0.1	0.6 ± 0.2
E0110	N2520	A	1.4 ± 0.2	1.1 ± 0.2
E0110	N2560	A	0.8 ± 0.1	1.1 ± 0.3
E0115	N2560	A	1.9 ± 0.2	0.9 ± 0.2

TABLE 12

(continued)

Grid Coordinates		Concentrations (pCi/g +/- 1 sigma)		
E,W	N,S	Uranium-238	Radium-226	Thorium-232
E0280	N2860	A	1.0 ± 0.1	1.0 ± 0.2
E0288	N2830	A	0.9 ± 0.1	1.0 ± 0.2
E0296	N2840	A	1.0 ± 0.1	0.9 ± 0.2
E0300	N2880	A	1.0 ± 0.1	0.8 ± 0.2
E0300	N2900	A	0.9 ± 0.1	1.1 ± 0.2
E0304	N2850	A	1.3 ± 0.2	0.9 ± 0.2
E0312	N2860	A	1.4 ± 0.2	0.8 ± 0.2
E0320	N2870	A	1.1 ± 0.1	0.8 ± 0.2
E0320	N2920	A	1.2 ± 0.1	1.1 ± 0.3
E0322	N2950	A	1.1 ± 0.1	1.0 ± 0.2
E0328	N2880	A	0.9 ± 0.1	1.0 ± 0.2
E0336	N2900	A	1.1 ± 0.1	0.8 ± 0.3
E0340	N2940	A	6.8 ± 0.3	0.6 ± 0.2
E0340	N2960	A	0.9 ± 0.1	0.7 ± 0.2
E0344	N2910	A	1.4 ± 0.2	1.3 ± 0.3
E0352	N2920	A	1.2 ± 0.1	0.8 ± 0.3
E0360	N2930	A	1.1 ± 0.1	1.0 ± 0.2
E0360	N3000	A	1.2 ± 0.1	0.9 ± 0.2
E0366	N2940	2.8 ± 2.0	1.1 ± 0.1	0.8 ± 0.2
E0378	N2960	A	1.3 ± 0.1	1.2 ± 0.3
E0380	N3000	5.9 ± 2.5	1.4 ± 0.2	1.0 ± 0.3
E0380	N3020	A	1.1 ± 0.1	0.6 ± 0.2
E0384	N2970	A	0.9 ± 0.1	0.9 ± 0.2
E0388	N2980	7.6 ± 2.5	0.9 ± 0.1	0.7 ± 0.2
E0392	N2990	A	2.6 ± 0.2	0.8 ± 0.3
E0396	N3000	A	0.8 ± 0.1	1.2 ± 0.2
W0040	N1880	A	2.8 ± 0.2	0.8 ± 0.2
W0040	N1920	A	1.3 ± 0.2	0.8 ± 0.2
W0040	N2280	A	1.5 ± 0.2	0.4 ± 0.2
W0040	N2300	A	1.3 ± 0.1	0.9 ± 0.2
W0050	N2300	A	0.9 ± 0.1	0.5 ± 0.2
W0055	N1860	A	1.0 ± 0.1	0.8 ± 0.2
W0055	N1880	2.0 ± 2.3	1.3 ± 0.1	0.8 ± 0.2
W0055	N2280	A	1.1 ± 0.2	1.0 ± 0.2
W0060	N1920	A	1.4 ± 0.2	0.9 ± 0.2
W0060	N2260	A	1.5 ± 0.2	1.1 ± 0.3
W0065	N1840	A	1.5 ± 0.2	1.0 ± 0.3
W0065	N1860	A	1.9 ± 0.2	0.6 ± 0.3
W0065	N1880	A	1.0 ± 0.1	0.9 ± 0.2
W0065	N2280	A	1.4 ± 0.2	0.8 ± 0.2
W0070	N1820	2.2 ± 2.4	1.0 ± 0.1	0.9 ± 0.2
W0070	N1900	A	1.4 ± 0.2	0.9 ± 0.2
W0075	N1820	A	0.9 ± 0.1	1.1 ± 0.2

TABLE 12

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
E0120	N2580	A	1.0 ± 0.1	0.9 ± 0.2
E0120	N2600	A	1.1 ± 0.1	0.9 ± 0.2
E0126	N2580	A	1.0 ± 0.1	0.6 ± 0.2
E0140	N2640	A	1.0 ± 0.1	1.2 ± 0.2
E0152	N2600	4.5 ± 3.2	1.9 ± 0.2	0.5 ± 0.2
E0156	N2610	A	0.9 ± 0.1	1.2 ± 0.3
E0160	N2620	A	0.8 ± 0.1	1.0 ± 0.2
E0160	N2660	A	0.9 ± 0.1	1.1 ± 0.3
E0161	N2618	A	1.1 ± 0.1	1.0 ± 0.2
E0164	N2623	A	1.0 ± 0.1	1.3 ± 0.2
E0176	N2636	A	0.9 ± 0.2	1.2 ± 0.2
E0178	N2642	A	0.9 ± 0.1	0.8 ± 0.3
E0180	N2648	A	0.8 ± 0.1	0.9 ± 0.2
E0180	N2680	4.9 ± 2.0	0.9 ± 0.1	1.1 ± 0.2
E0180	N2700	A	1.1 ± 0.1	0.8 ± 0.2
E0188	N2657	A	0.7 ± 0.1	A
E0191	N2668	A	0.9 ± 0.2	1.0 ± 0.2
E0197	N2685	A	1.0 ± 0.2	0.7 ± 0.2
E0198	N2676	A	1.1 ± 0.1	0.8 ± 0.2
E0200	N2690	A	2.6 ± 0.2	1.2 ± 0.2
E0200	N2720	A	1.0 ± 0.2	0.8 ± 0.2
E0212	N2702	A	0.8 ± 0.1	0.8 ± 0.2
E0216	N2710	5.4 ± 2.4	1.0 ± 0.1	1.1 ± 0.2
E0220	N2740	A	1.1 ± 0.1	1.1 ± 0.2
E0220	N2760	A	0.8 ± 0.1	0.8 ± 0.2
E0222	N2717	A	0.9 ± 0.2	0.7 ± 0.2
E0230	N2724	2.1 ± 2.2	1.2 ± 0.2	0.9 ± 0.2
E0231	N2781	A	0.9 ± 0.2	0.8 ± 0.2
E0237	N2742	A	1.3 ± 0.1	0.7 ± 0.2
E0239	N2750	0.7 ± 0.4	0.8 ± 0.1	0.6 ± 0.2
E0240	N2780	A	1.2 ± 0.2	0.9 ± 0.2
E0240	N2800	A	0.9 ± 0.2	0.8 ± 0.2
E0245	N2757	1.0 ± 0.1	0.8 ± 0.1	0.9 ± 0.2
E0248	N2790	A	0.9 ± 0.1	0.4 ± 0.3
E0250	N2765	A	0.9 ± 0.1	1.2 ± 0.2
E0254	N2775	1.4 ± 0.6	1.0 ± 0.1	0.9 ± 0.1
E0256	N2800	A	0.9 ± 0.1	0.9 ± 0.2
E0260	N2820	A	0.8 ± 0.1	1.0 ± 0.2
E0262	N2782	1.4 ± 0.1	0.9 ± 0.1	1.0 ± 0.1
E0262	N2880	A	1.3 ± 0.2	0.5 ± 0.2
E0265	N2790	A	1.2 ± 0.1	0.5 ± 0.1
E0280	N2820	11.9 ± 3.3	1.0 ± 0.1	0.8 ± 0.2
E0280	N2840	A	1.0 ± 0.1	1.4 ± 0.4

TABLE 12

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
W0080	N1780	A	1.2 ± 0.2	1.0 ± 0.2
W0080	N1800	A	1.5 ± 0.2	1.1 ± 0.3
W0080	N1890	A	0.8 ± 0.1	0.9 ± 0.3
W0080	N1910	A	0.8 ± 0.1	0.8 ± 0.2
W0080	N1920	A	2.2 ± 0.3	0.3 ± 0.1
W0080	N1930	A	0.7 ± 0.1	1.0 ± 0.2
W0080	N1950	A	0.7 ± 0.1	0.7 ± 0.2
W0080	N1970	A	0.6 ± 0.2	0.8 ± 0.2
W0080	N1980	A	1.2 ± 0.2	0.6 ± 0.2
W0080	N2200	A	1.0 ± 0.2	0.9 ± 0.3
W0080	N2240	A	1.7 ± 0.2	1.2 ± 0.3
W0080	N2260	A	12.0 ± 0.5	0.9 ± 0.3
W0085	N1800	A	2.4 ± 0.2	0.9 ± 0.3
W0085	N2260	A	5.0 ± 0.3	1.5 ± 0.2
W0087	N1890	A	0.8 ± 0.1	1.1 ± 0.2
W0087	N1910	A	1.0 ± 0.1	1.9 ± 0.3
W0087	N1930	1.3 ± 2.7	0.6 ± 0.1	0.7 ± 0.2
W0087	N1950	A	0.7 ± 0.1	0.9 ± 0.2
W0087	N1970	A	0.8 ± 0.1	A
W0090	N1780	A	0.9 ± 0.1	0.9 ± 0.2
W0094	N1890	4.4 ± 2.8	0.7 ± 0.2	0.6 ± 0.2
W0094	N1910	A	1.1 ± 0.2	0.7 ± 0.2
W0094	N1930	A	0.8 ± 0.1	0.6 ± 0.2
W0094	N1950	A	0.7 ± 0.1	0.5 ± 0.2
W0094	N1970	A	0.9 ± 0.1	0.9 ± 0.2
W0100	N1960	A	0.9 ± 0.2	1.1 ± 0.3
W0100	N1980	A	1.5 ± 0.2	0.9 ± 0.2
W0100	N2140	2.6 ± 2.4	1.2 ± 0.2	0.8 ± 0.2
W0100	N2180	A	1.4 ± 0.2	1.5 ± 0.2
W0100	N2200	A	2.6 ± 0.2	0.8 ± 0.2
W0100	N2240	A	1.0 ± 0.2	0.7 ± 0.2
W0110	N1760	A	1.2 ± 0.2	1.0 ± 0.3
W0110	N2220	A	1.3 ± 0.2	0.6 ± 0.2
W0110	N2240	A	1.0 ± 0.1	0.7 ± 0.2
W0115	N1760	A	0.9 ± 0.1	0.9 ± 0.3
W0115	N1980	A	1.6 ± 0.2	0.7 ± 0.2
W0120	N1740	A	1.3 ± 0.2	0.7 ± 0.2
W0120	N1960	A	1.3 ± 0.2	1.1 ± 0.2
W0120	N1980	A	1.6 ± 0.2	1.2 ± 0.3
W0120	N2020	A	2.0 ± 0.2	1.1 ± 0.2
W0120	N2040	A	3.7 ± 0.3	1.0 ± 0.2
W0120	N2080	A	1.6 ± 0.2	0.7 ± 0.2
W0120	N2120	A	1.5 ± 0.1	0.5 ± 0.2

TABLE 12

(continued)

Grid Coordinates		Concentrations (pCi/g +/- 1 sigma)		
E,W	N,S	Uranium-238	Radium-226	Thorium-232
W0120	N2140	A	8.6 ± 0.4	0.8 ± 0.3
W0120	N2180	A	0.9 ± 0.2	1.0 ± 0.2
W0120	N2200	A	1.1 ± 0.1	1.3 ± 0.2
W0120	N2220	A	1.8 ± 0.2	1.4 ± 0.3
W0125	N1740	A	1.2 ± 0.2	0.6 ± 0.2
W0125	N2000	A	14.4 ± 0.5	0.6 ± 0.3
W0130	N1700	3.8 ± 3.3	2.0 ± 0.2	1.0 ± 0.3
W0130	N2000	A	2.2 ± 0.2	1.2 ± 0.2
W0130	N2140	A	1.5 ± 0.2	0.7 ± 0.2
W0130	N2160	A	1.4 ± 0.1	1.1 ± 0.2
W0130	N2180	A	1.2 ± 0.1	0.6 ± 0.2
W0130	N2200	A	1.1 ± 0.2	1.0 ± 0.3
W0135	N1720	A	1.3 ± 0.2	1.4 ± 0.2
W0135	N2020	A	1.0 ± 0.1	0.5 ± 0.2
W0140	N1980	A	1.2 ± 0.2	0.8 ± 0.3
W0140	N2120	A	1.8 ± 0.2	0.8 ± 0.2
W0140	N2140	A	3.4 ± 0.3	0.9 ± 0.4
W0140	N2180	5.5 ± 2.0	1.4 ± 0.2	0.6 ± 0.2
W0145	N1700	A	1.4 ± 0.1	1.4 ± 0.3
W0145	N2020	A	0.9 ± 0.2	1.0 ± 0.2
W0150	N1700	3.1 ± 2.3	1.4 ± 0.1	0.7 ± 0.2
W0150	N2040	A	1.5 ± 0.2	1.5 ± 0.2
W0150	N2060	A	12.3 ± 0.7	A
W0150	N2080	A	1.9 ± 0.3	A
W0150	N2100	A	1.6 ± 0.2	0.6 ± 0.3
W0150	N2120	A	1.0 ± 0.1	1.0 ± 0.2
W0155	N1980	A	1.2 ± 0.1	0.9 ± 0.2
W0155	N2000	A	1.0 ± 0.1	0.8 ± 0.2
W0155	N2100	A	1.1 ± 0.2	1.3 ± 0.3
W0158	N1200	A	0.8 ± 0.1	0.7 ± 0.2
W0158	N1220	0.1 ± 0.1	0.7 ± 0.1	0.9 ± 0.1
W0158	N1240	A	0.5 ± 0.1	0.8 ± 0.2
W0160	N1040	A	1.7 ± 0.2	0.9 ± 0.2
W0160	N1300	A	0.9 ± 0.1	0.7 ± 0.2
W0160	N1320	A	1.1 ± 0.2	0.9 ± 0.3
W0160	N1340	A	1.1 ± 0.2	0.8 ± 0.2
W0160	N1360	A	1.1 ± 0.1	1.6 ± 0.2
W0160	N1380	A	1.1 ± 0.1	1.1 ± 0.3
W0160	N1400	A	0.9 ± 0.1	0.9 ± 0.2
W0160	N1440	8.4 ± 2.5	0.1 ± 0.1	0.8 ± 0.2
W0160	N1460	4.5 ± 2.6	1.3 ± 0.2	1.4 ± 0.4
W0160	N1500	A	1.3 ± 0.1	0.9 ± 0.2
W0160	N1520	A	1.1 ± 0.1	1.0 ± 0.2

TABLE 12

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
W0160	N1540	A	0.9 ± 0.1	1.2 ± 0.2
W0160	N1580	A	1.3 ± 0.1	1.0 ± 0.2
W0160	N1600	A	A	0.9 ± 0.6
W0160	N1620	A	1.4 ± 0.1	1.4 ± 0.2
W0160	N1640	A	0.9 ± 0.1	0.9 ± 0.2
W0160	N1660	A	0.1 ± 0.2	1.4 ± 0.3
W0160	N1680	A	1.0 ± 0.1	0.9 ± 0.2
W0160	N2060	A	5.9 ± 0.6	A
W0160	N2080	7.5 ± 2.9	1.2 ± 0.2	1.0 ± 0.2
W0164	N1090	A	0.9 ± 0.1	1.4 ± 0.2
W0164	N1120	3.3 ± 0.9	1.6 ± 0.2	1.0 ± 0.3
W0164	N1180	A	1.0 ± 0.1	1.0 ± 0.2
W0165	N1100	2.5 ± 2.0	1.3 ± 0.2	0.7 ± 0.2
W0165	N1140	A	1.5 ± 0.1	1.0 ± 0.2
W0165	N1160	A	1.3 ± 0.1	1.3 ± 0.1
W0165	N1260	A	0.8 ± 0.1	1.4 ± 0.2
W0165	N1280	A	1.1 ± 0.1	0.6 ± 0.2
W0165	N1300	A	1.1 ± 0.1	1.3 ± 0.2
W0165	N1320	A	1.2 ± 0.2	1.0 ± 0.3
W0165	N1340	A	1.2 ± 0.1	1.1 ± 0.2
W0165	N1360	A	1.1 ± 0.1	0.9 ± 0.2
W0165	N1380	A	1.1 ± 0.1	0.7 ± 0.2
W0165	N1400	A	1.0 ± 0.1	1.2 ± 0.3
W0165	N1420	A	1.0 ± 0.2	1.4 ± 0.2
W0165	N1460	A	0.9 ± 0.1	0.9 ± 0.2
W0165	N1500	A	0.9 ± 0.1	1.0 ± 0.2
W0165	N1540	A	1.0 ± 0.1	1.4 ± 0.2
W0165	N1560	A	1.4 ± 0.1	0.9 ± 0.2
W0165	N1580	2.9 ± 2.2	1.4 ± 0.2	1.2 ± 0.2
W0165	N1600	A	1.3 ± 0.1	1.3 ± 0.2
W0165	N1620	6.0 ± 3.4	1.3 ± 0.2	0.9 ± 0.3
W0165	N1640	A	3.0 ± 0.2	1.1 ± 0.3
W0165	N1660	3.1 ± 2.2	1.7 ± 0.2	1.3 ± 0.2
W0165	N1680	A	1.9 ± 0.2	1.0 ± 0.2
W0166	N1020	A	1.0 ± 0.1	1.1 ± 0.2
W0167	N0920	A	0.7 ± 0.1	0.6 ± 0.2
W0167	N0980	A	14.3 ± 0.5	0.8 ± 0.3
W0168	N0840	3.5 ± 1.6	1.8 ± 0.1	0.9 ± 0.2
W0168	N0880	A	0.9 ± 0.2	1.6 ± 0.2
W0168	N1020	A	1.2 ± 0.2	1.1 ± 0.2
W0168	N1040	A	1.1 ± 0.1	0.9 ± 0.2
W0168	N1060	A	1.0 ± 0.1	0.7 ± 0.2
W0168	N1200	0.7 ± 0.4	0.7 ± 0.1	0.7 ± 0.3

TABLE 12

(continued)

Grid Coordinates		Concentrations (pCi/g +/- 1 sigma)		
E,W	N,S	Uranium-238	Radium-226	Thorium-232
W0168	N1220	0.4 ± 0.2	0.9 ± 0.1	1.1 ± 0.1
W0168	N1240	A	1.0 ± 0.1	0.9 ± 0.2
W0169	N0800	9.2 ± 3.5	1.1 ± 0.2	0.9 ± 0.2
W0169	N0940	A	0.9 ± 0.1	1.0 ± 0.1
W0169	N0960	A	0.8 ± 0.1	0.6 ± 0.2
W0169	N0980	A	1.3 ± 0.1	0.8 ± 0.2
W0169	N1000	3.6 ± 1.8	0.9 ± 0.1	0.7 ± 0.3
W0170	N0760	2.1 ± 2.3	0.9 ± 0.2	1.2 ± 0.3
W0170	N0840	A	1.4 ± 0.2	1.3 ± 0.3
W0170	N0860	A	0.9 ± 0.1	1.5 ± 0.3
W0170	N0880	A	1.0 ± 0.1	1.2 ± 0.3
W0170	N0900	A	1.2 ± 0.1	1.2 ± 0.2
W0170	N0920	A	0.7 ± 0.1	76.0 ± 0.2
W0170	N1040	A	0.9 ± 0.1	0.9 ± 0.2
W0170	N1140	A	2.9 ± 0.2	0.8 ± 0.2
W0170	N1160	A	14.0 ± 0.4	2.2 ± 0.3
W0170	N1260	A	0.7 ± 0.1	1.5 ± 0.3
W0170	N1280	A	1.0 ± 0.1	1.0 ± 0.2
W0170	N1420	A	1.0 ± 0.2	0.8 ± 0.3
W0170	N1440	A	1.3 ± 0.1	0.9 ± 0.2
W0170	N1480	A	0.8 ± 0.1	0.4 ± 0.2
W0170	N1520	A	1.2 ± 0.2	1.1 ± 0.2
W0170	N1560	A	1.3 ± 0.2	1.2 ± 0.3
W0171	N0720	A	1.4 ± 2.0	0.8 ± 0.2
W0171	N0820	A	0.9 ± 0.1	1.2 ± 0.3
W0171	N0940	A	0.8 ± 0.1	1.0 ± 0.2
W0171	N0960	A	0.8 ± 0.1	0.7 ± 0.2
W0171	N1000	A	1.2 ± 0.2	0.9 ± 0.2
W0171	N1120	A	1.3 ± 0.2	1.1 ± 0.3
W0172	N0780	3.3 ± 2.2	1.3 ± 0.2	1.1 ± 0.2
W0172	N0800	4.7 ± 2.6	1.1 ± 0.1	1.0 ± 0.3
W0172	N0900	A	0.9 ± 0.1	1.3 ± 0.3
W0172	N1180	A	1.3 ± 0.1	1.1 ± 0.2
W0173	N0610	A	1.0 ± 0.1	1.0 ± 0.2
W0173	N0640	A	1.2 ± 0.1	1.2 ± 0.2
W0173	N0680	A	1.0 ± 0.1	1.2 ± 0.2
W0173	N0720	A	0.9 ± 0.1	0.8 ± 0.2
W0173	N0820	A	0.9 ± 0.1	1.2 ± 0.2
W0173	N0860	A	0.9 ± 0.2	0.9 ± 0.2
W0173	N1090	A	1.4 ± 0.2	1.0 ± 0.2
W0173	N1100	A	1.1 ± 0.1	1.3 ± 0.2
W0174	N0700	A	0.9 ± 0.1	1.1 ± 0.3
W0174	N0740	A	0.9 ± 0.1	1.2 ± 0.2

TABLE 12

(continued)

Grid Coordinates		Concentrations (pCi/g +/- 1 sigma)		
E,W	N,S	Uranium-238	Radium-226	Thorium-232
W0174	N0780	9.0 ± 3.4	0.9 ± 0.1	1.1 ± 0.2
W0175	N0640	1.1 ± 0.5	0.7 ± 0.1	1.3 ± 0.3
W0175	N0660	A	0.8 ± 0.1	0.7 ± 0.2
W0175	N0680	A	1.1 ± 0.2	0.8 ± 0.2
W0175	N0740	A	0.8 ± 0.1	0.9 ± 0.2
W0176	N0620	A	1.0 ± 0.1	0.8 ± 0.3
W0176	N0700	A	0.9 ± 0.1	0.9 ± 0.2
W0178	N0620	A	0.9 ± 0.1	0.9 ± 0.2
W0178	N0660	A	0.9 ± 0.1	0.8 ± 0.2
W0178	N1200	A	0.7 ± 0.1	0.8 ± 0.2
W0178	N1220	0.1 ± 0.2	0.8 ± 0.1	1.0 ± 0.1
W0178	N1240	0.7 ± 0.1	0.8 ± 0.1	0.8 ± 0.1
W0180	N1060	A	0.9 ± 0.1	0.7 ± 0.2
W0187	N1140	A	1.1 ± 0.1	0.7 ± 0.2
W0187	N1150	A	1.0 ± 0.1	1.3 ± 0.2

'A' denotes less than detectable activity.

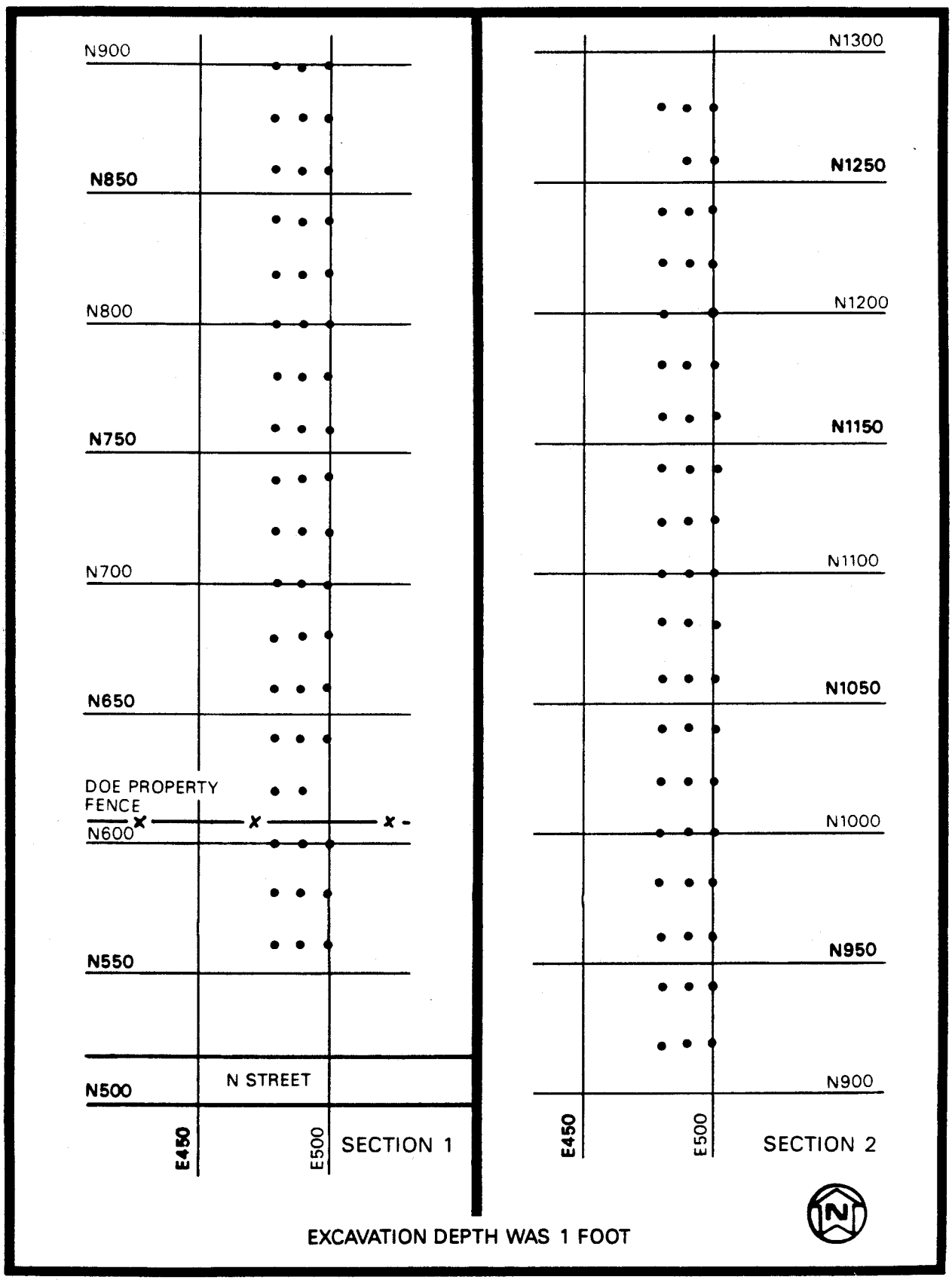


FIGURE 43 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE CENTRAL DRAINAGE DITCH - SECTIONS 1 AND 2

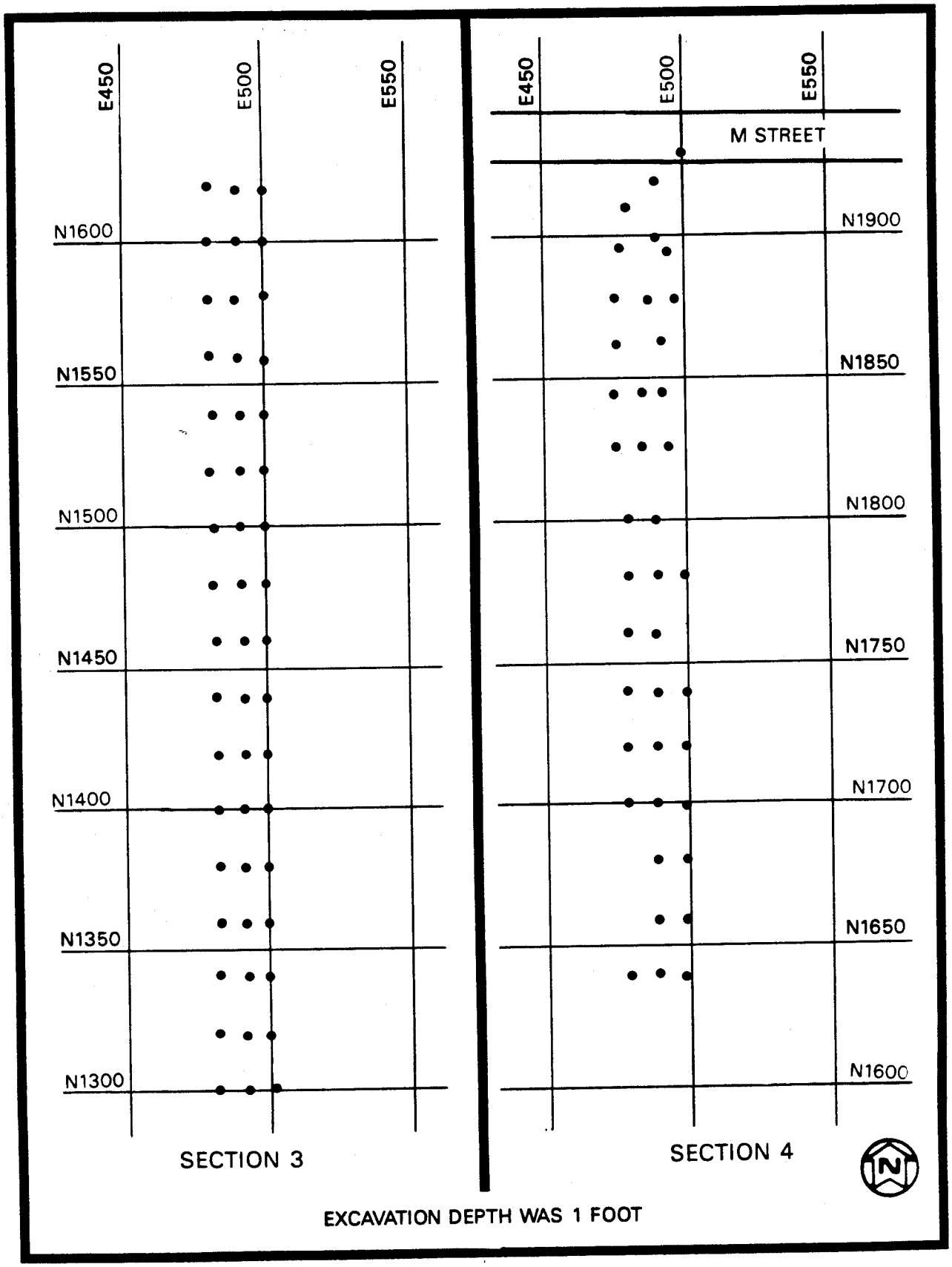


FIGURE 44 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE CENTRAL DRAINAGE DITCH - SECTIONS 3 AND 4

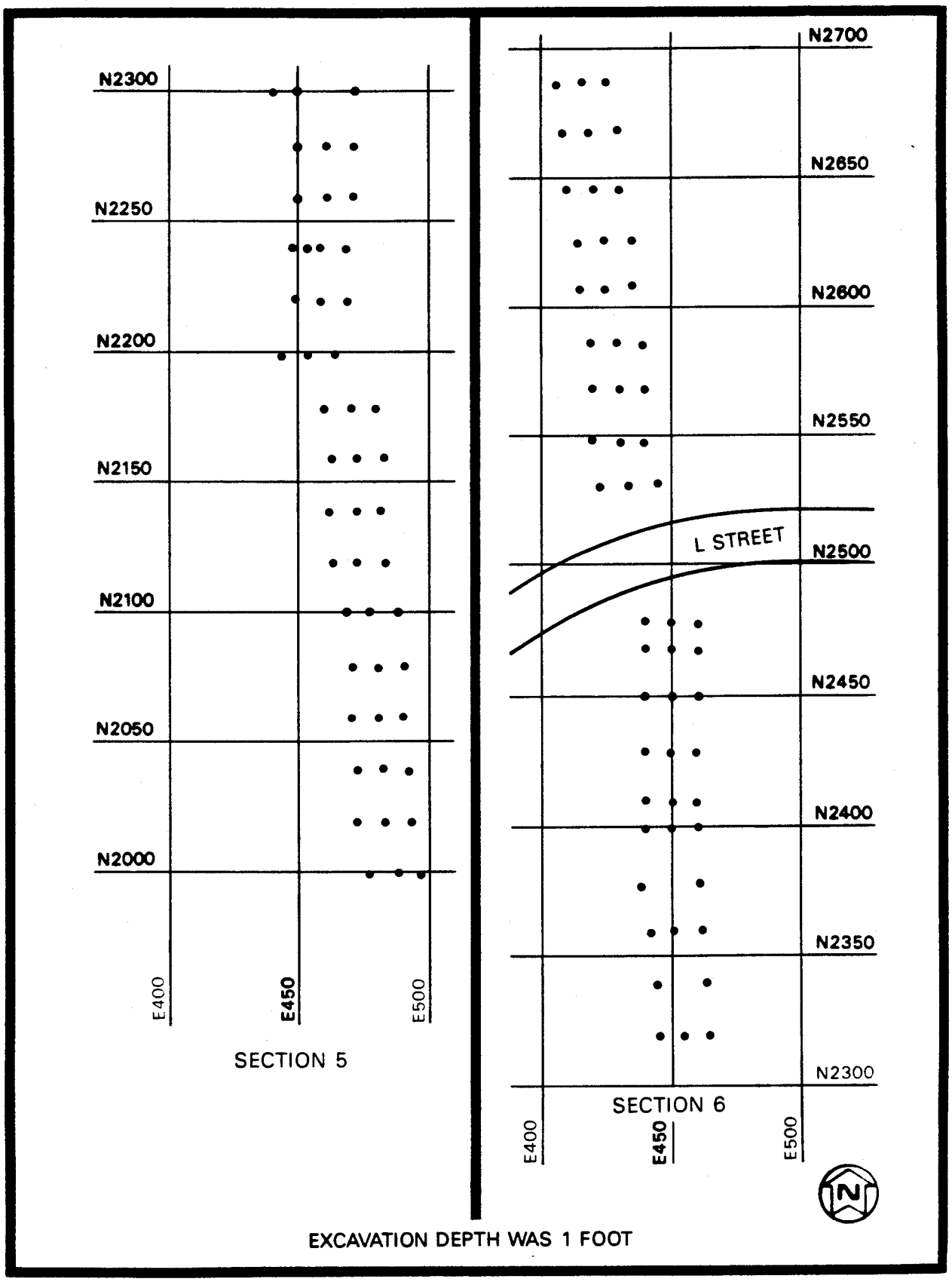


FIGURE 45 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE CENTRAL DRAINAGE DITCH - SECTIONS 5 AND 6

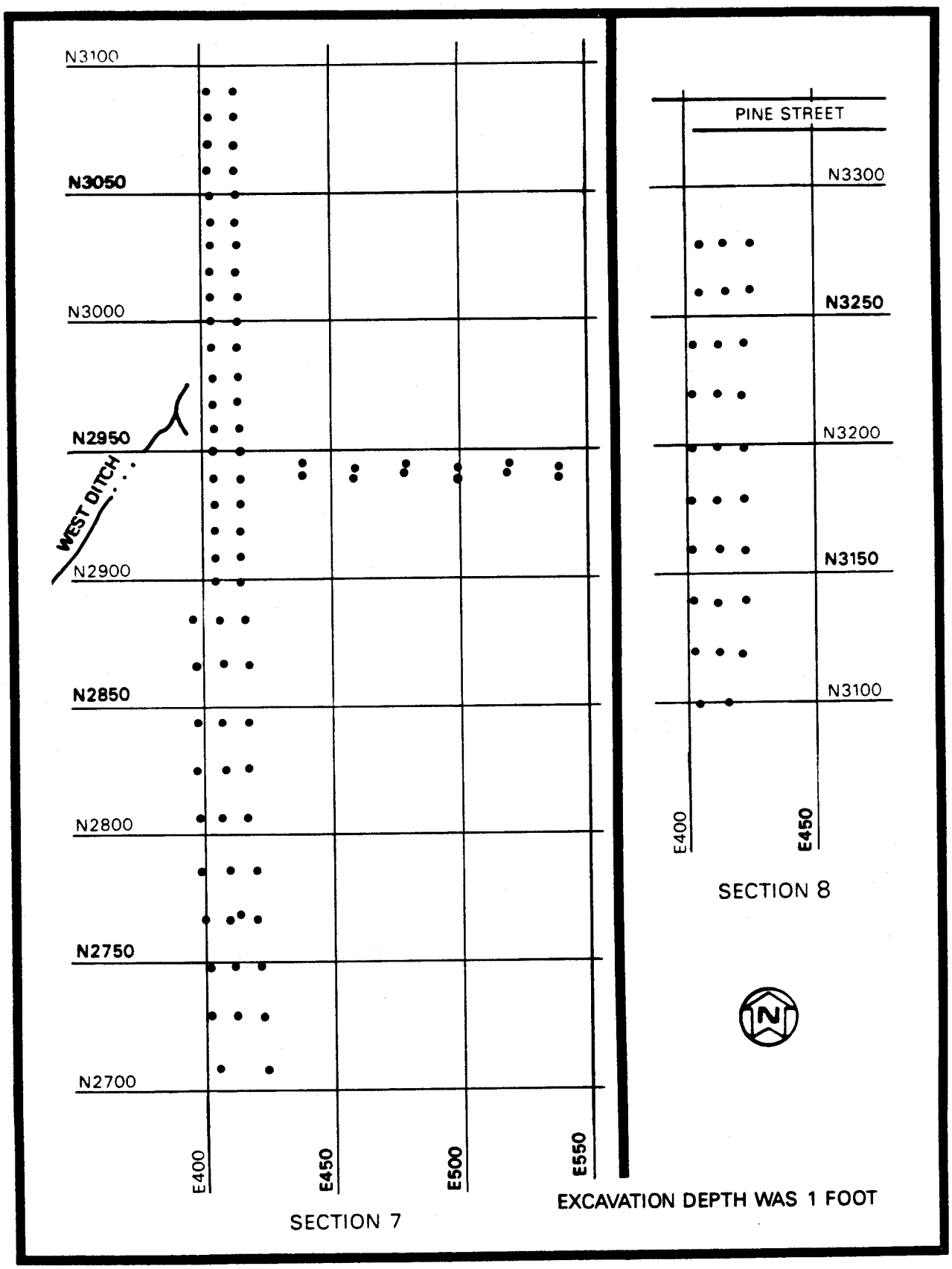
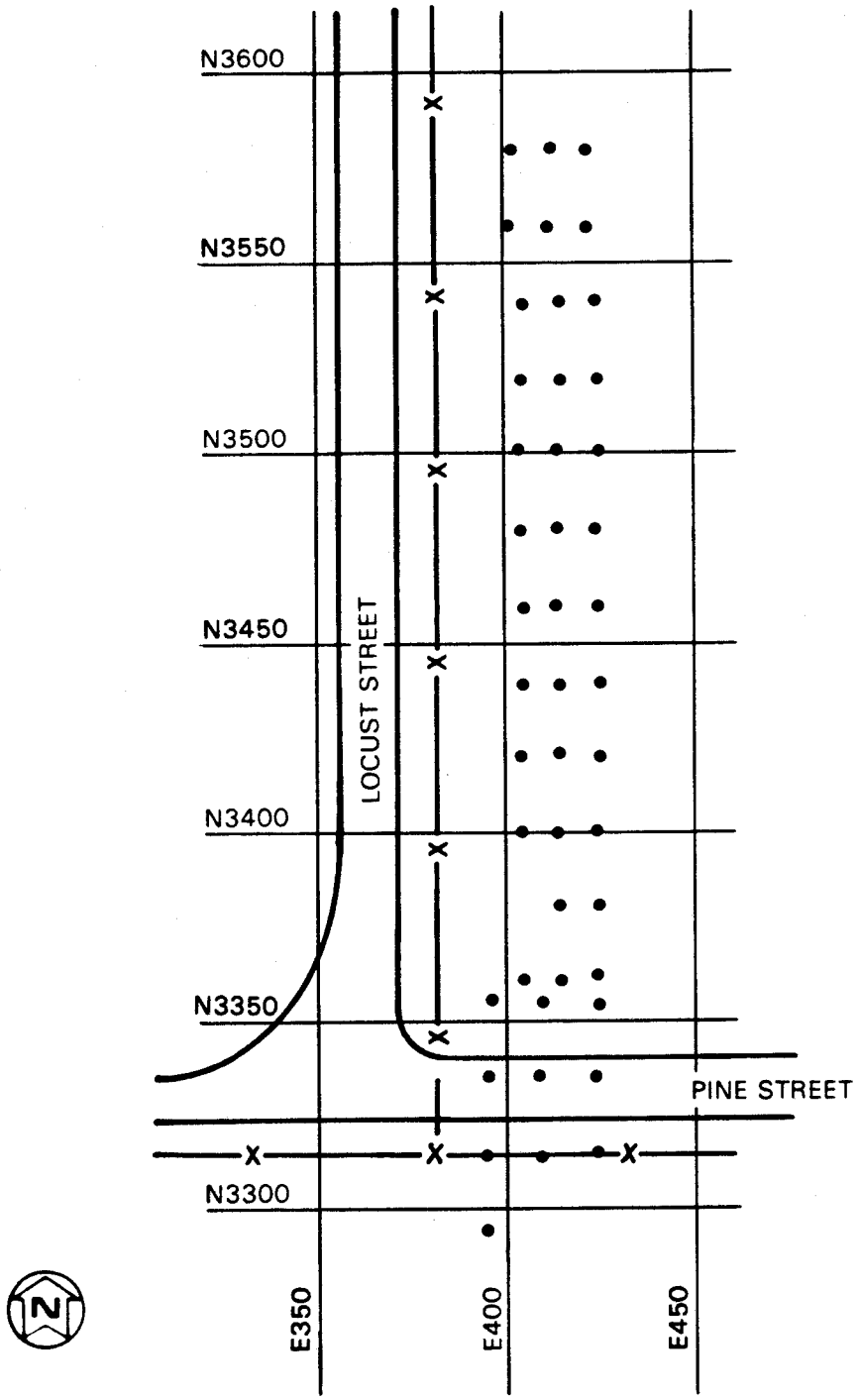


FIGURE 46 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE CENTRAL DRAINAGE DITCH - SECTIONS 7 AND 8



EXCAVATION DEPTH WAS 1 FOOT

FIGURE 47 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE CENTRAL DRAINAGE DITCH - SECTION 9

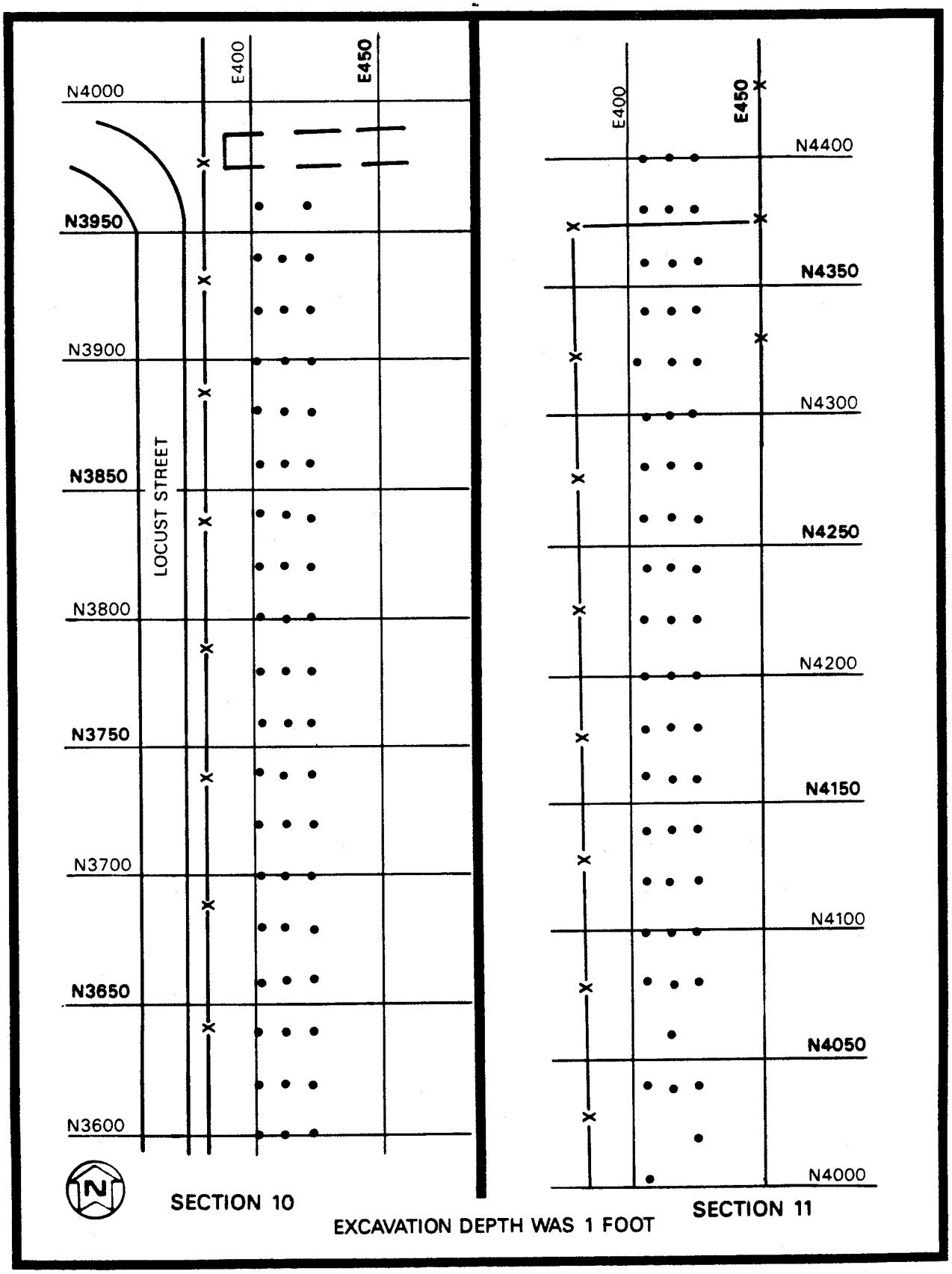


FIGURE 48 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE CENTRAL DRAINAGE DITCH - SECTIONS 10 AND 11

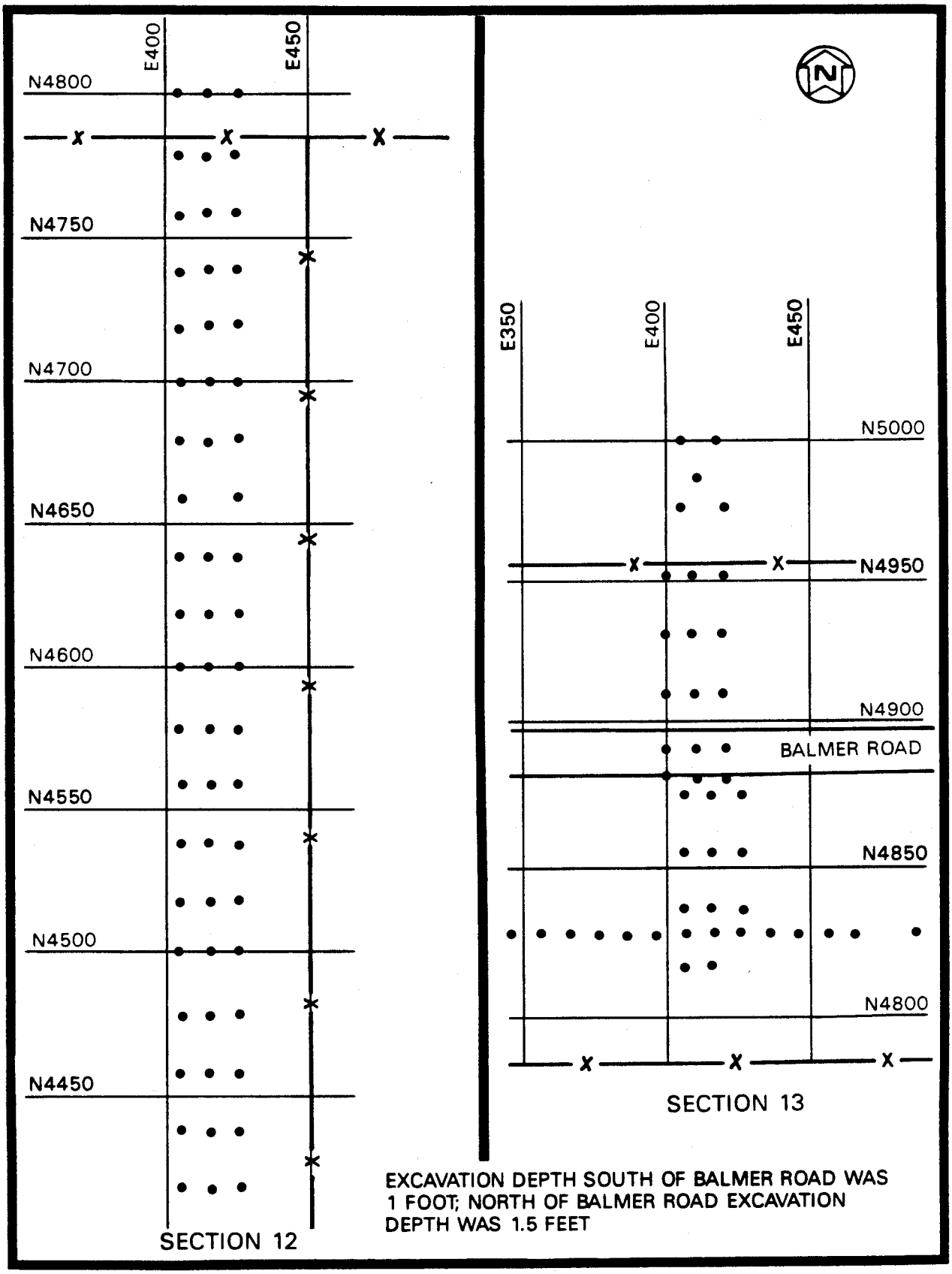


FIGURE 49 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE CENTRAL DRAINAGE DITCH - SECTIONS 12 AND 13

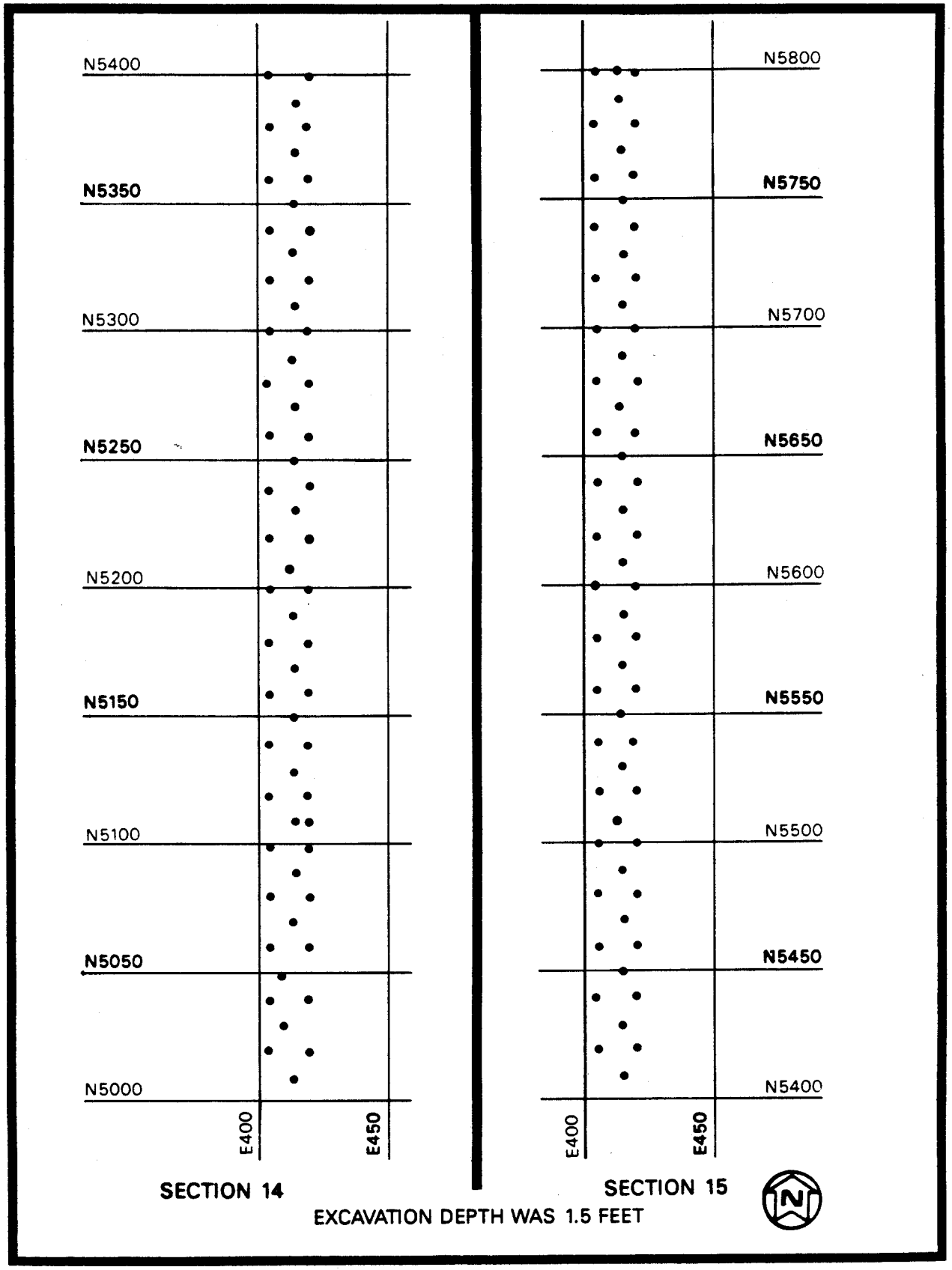


FIGURE 50 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE CENTRAL DRAINAGE DITCH - SECTIONS 14 AND 15

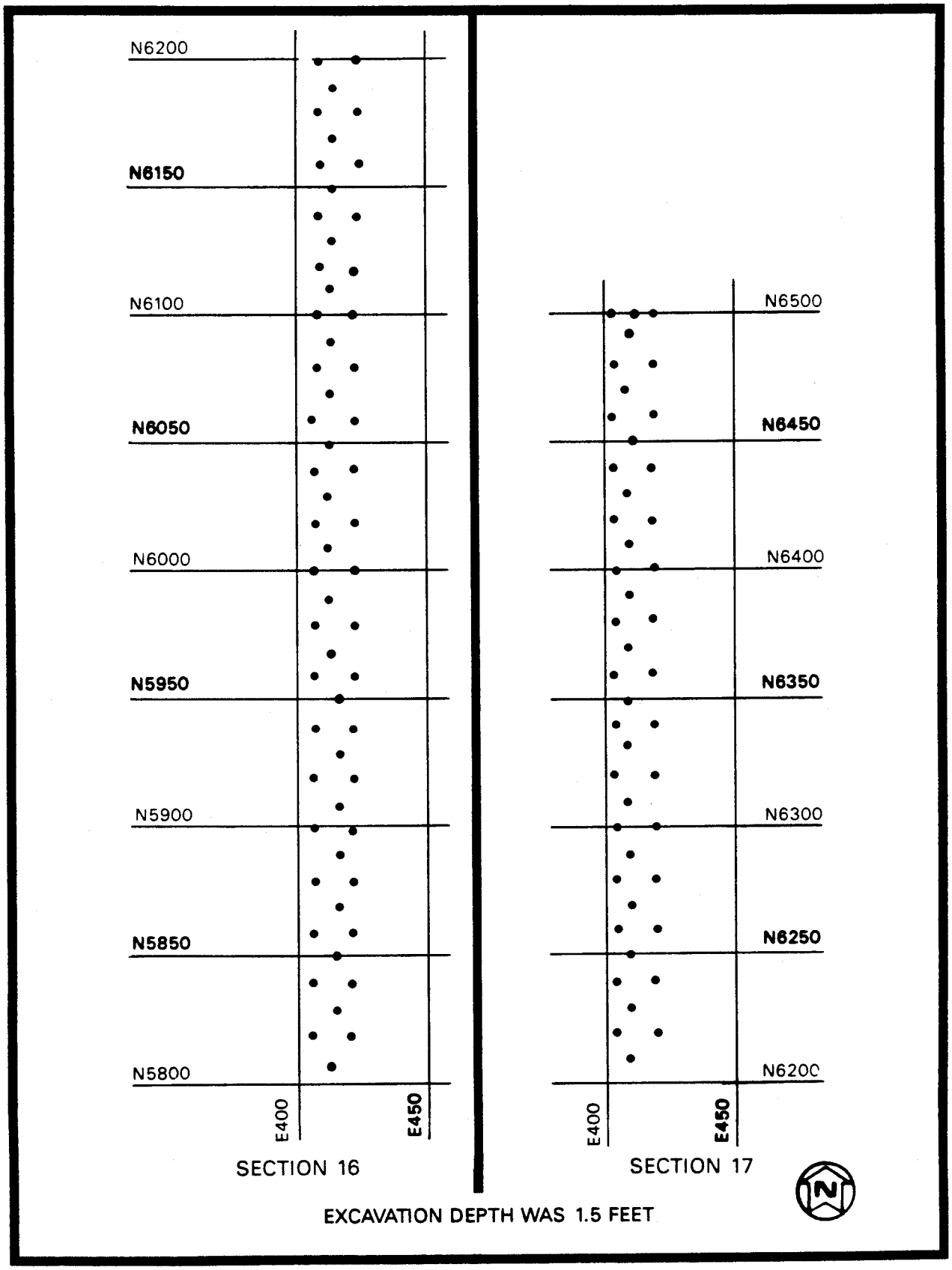


FIGURE 51 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE CENTRAL DRAINAGE DITCH - SECTIONS 16 AND 17

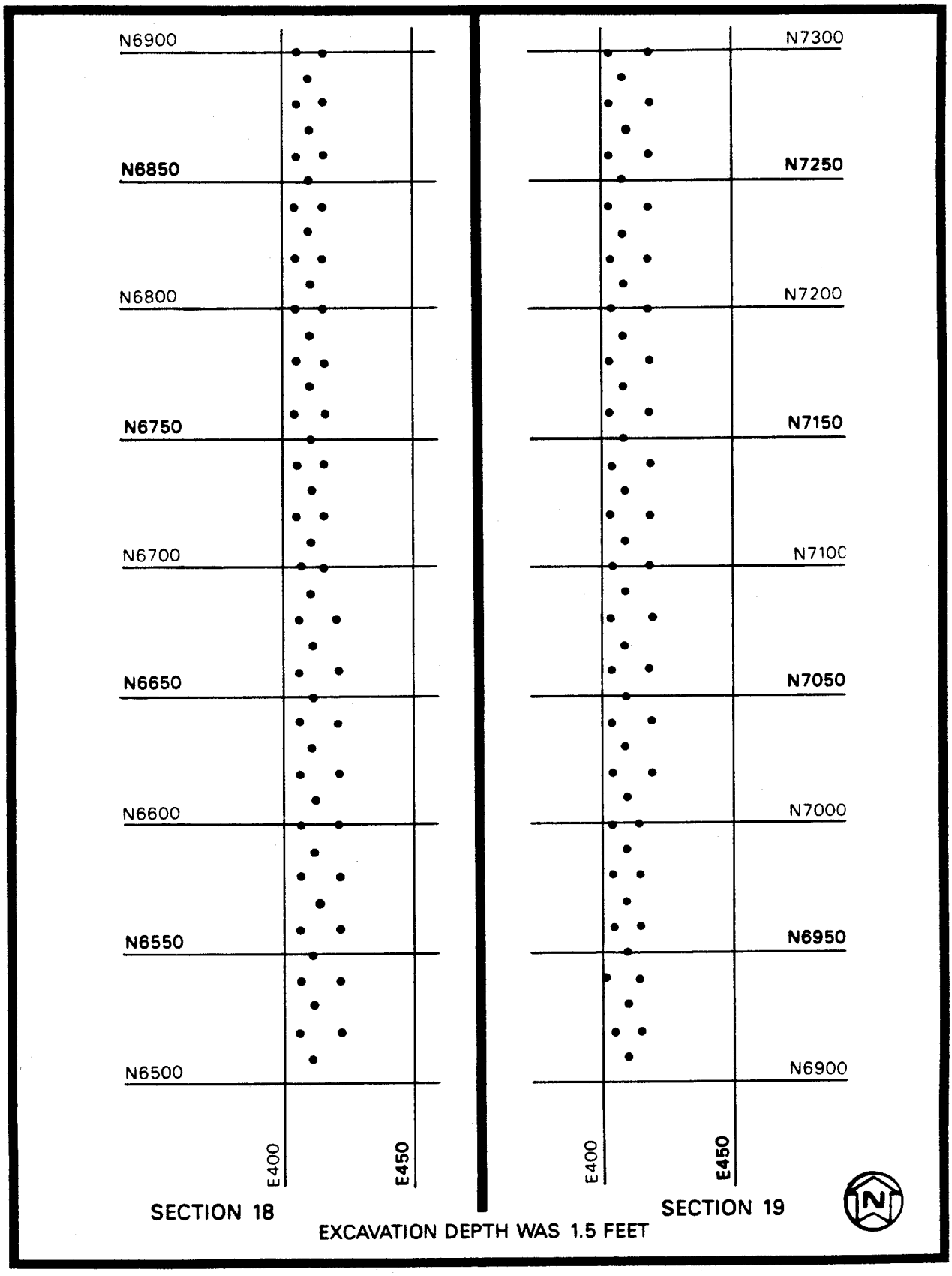


FIGURE 52 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE CENTRAL DRAINAGE DITCH - SECTIONS 18 AND 19

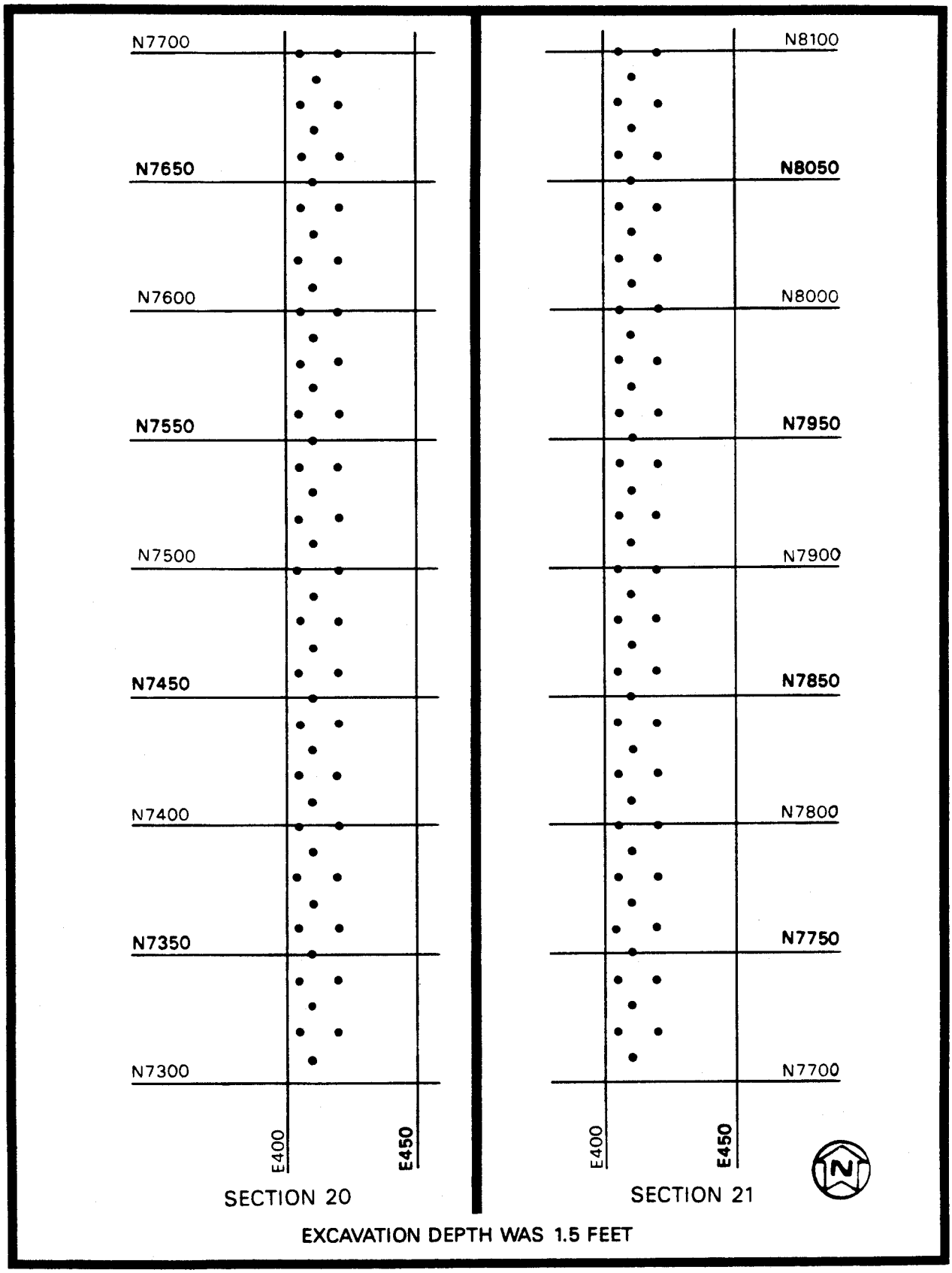


FIGURE 53 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE CENTRAL DRAINAGE DITCH - SECTIONS 20 AND 21

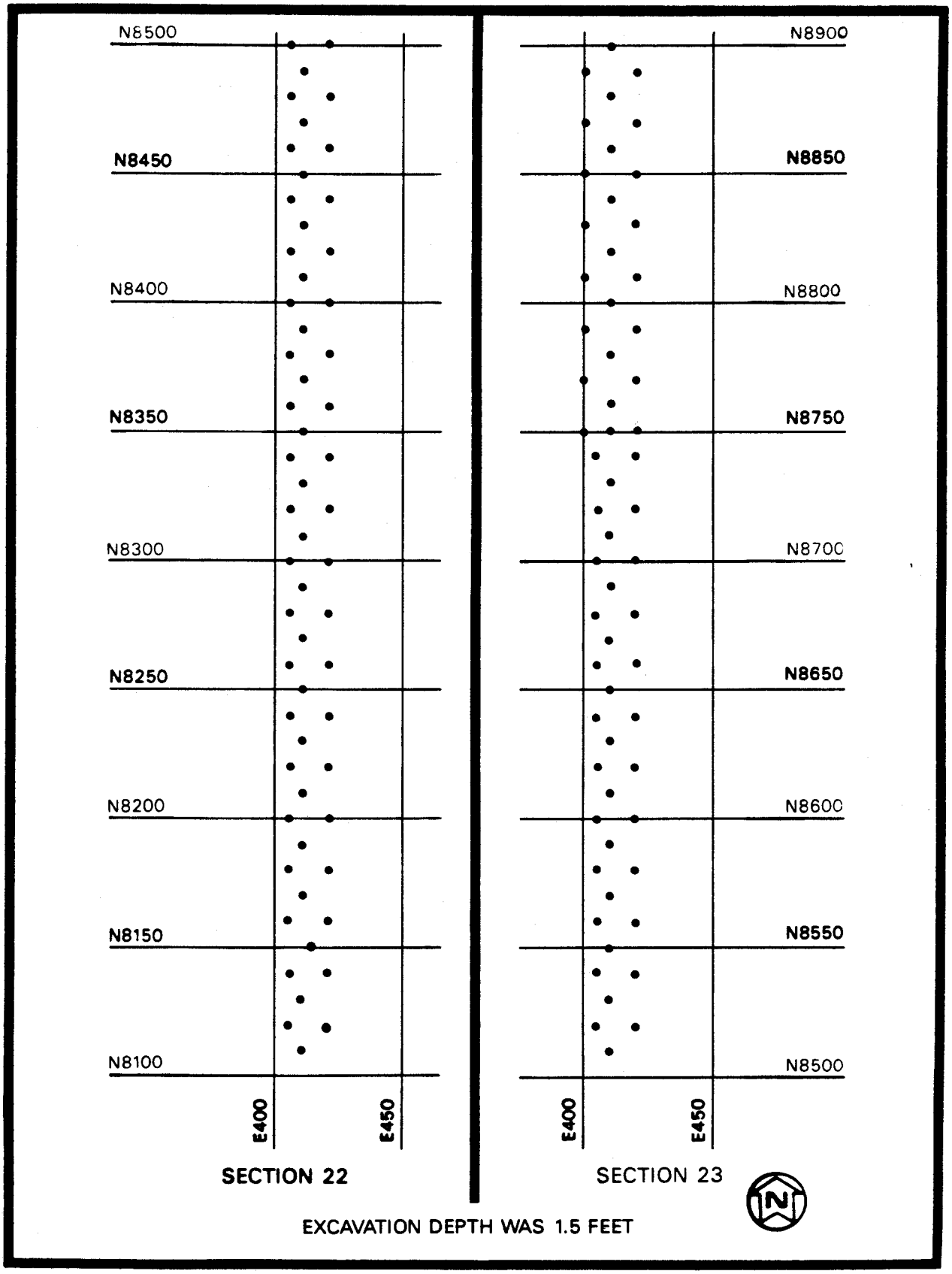


FIGURE 54 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE CENTRAL DRAINAGE DITCH - SECTIONS 22 AND 23

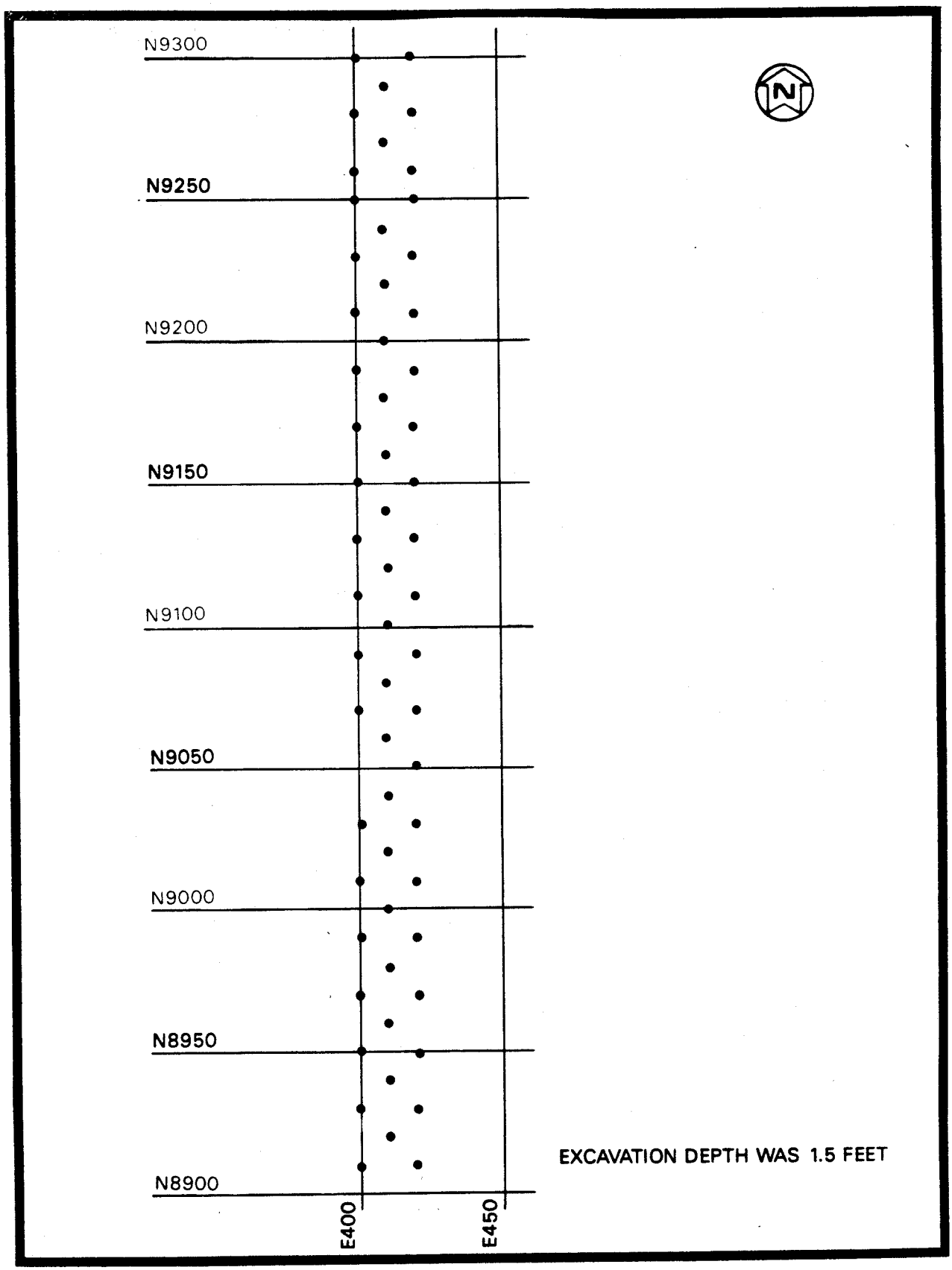


FIGURE 55 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE CENTRAL DRAINAGE DITCH - SECTION 24

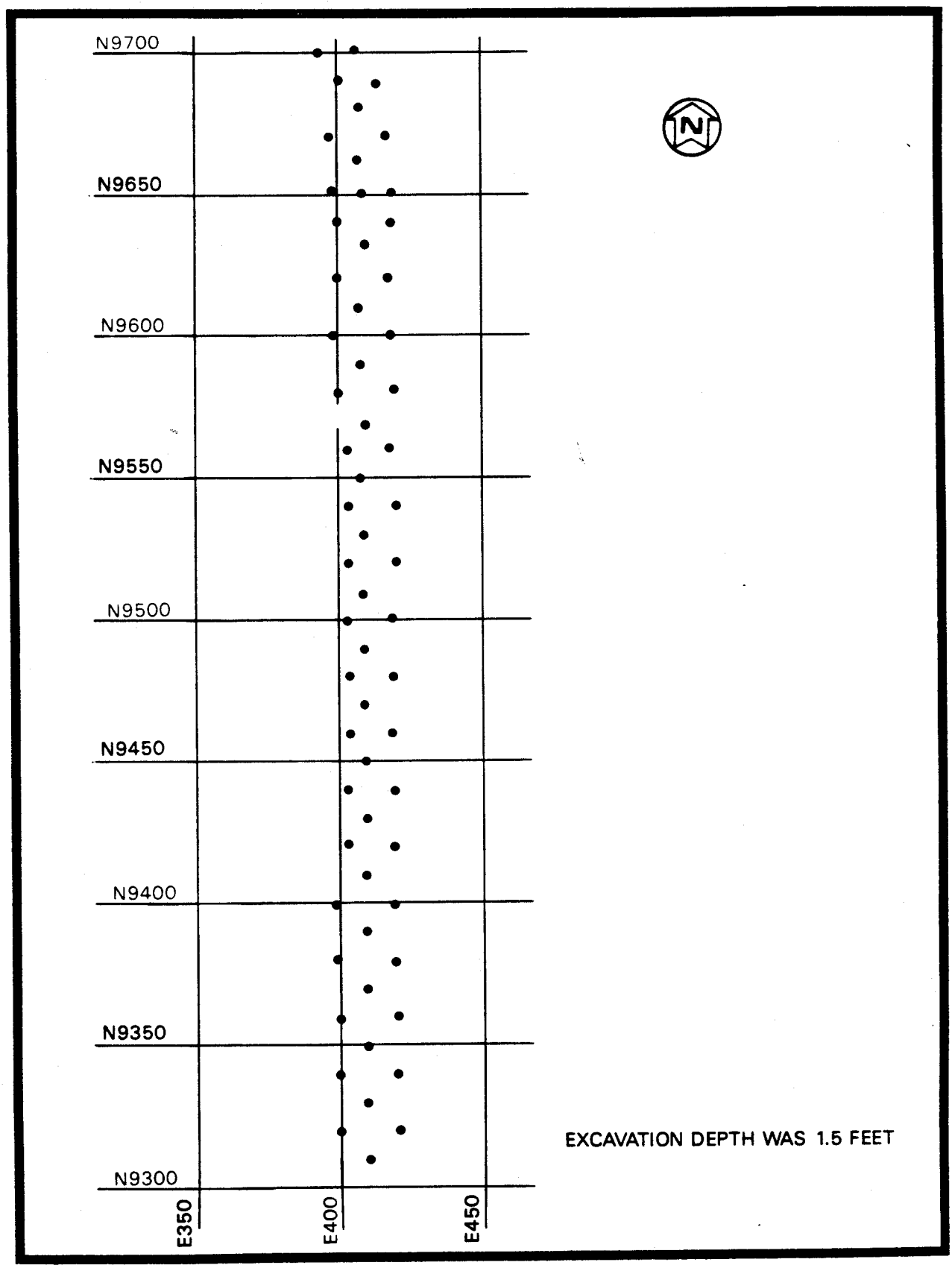


FIGURE 56 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE CENTRAL DRAINAGE DITCH - SECTION 25

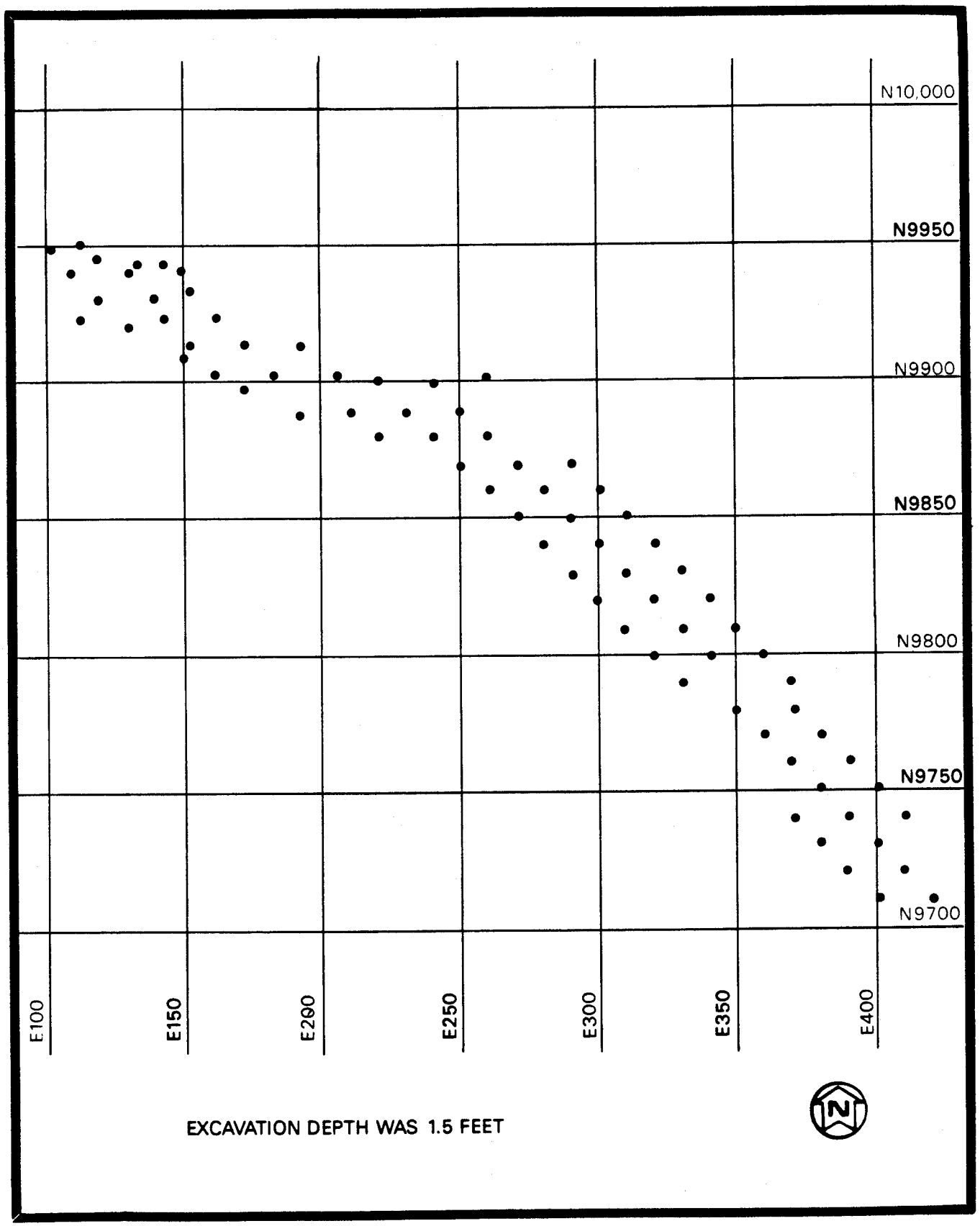
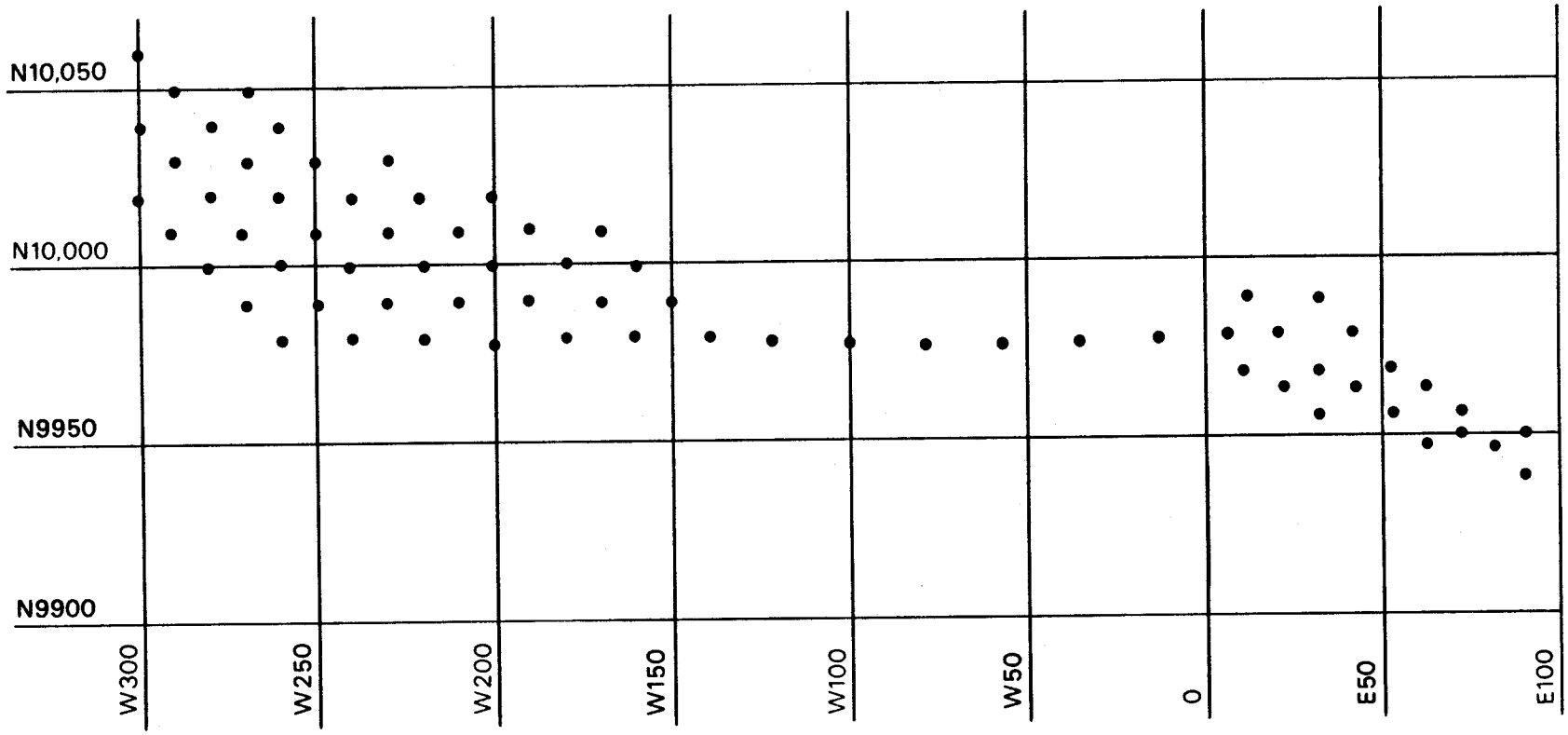


FIGURE 57 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE CENTRAL DRAINAGE DITCH - SECTION 26



EXCAVATION DEPTH WAS 1.5 FEET

AREA BETWEEN 0 AND W140 SCANNED WITH SODIUM-IODIDE DETECTOR; NO INDICATION OF CONTAMINATION IN EXCESS OF CRITERIA WAS FOUND.

FIGURE 58 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE CENTRAL DRAINAGE DITCH - SECTION 27

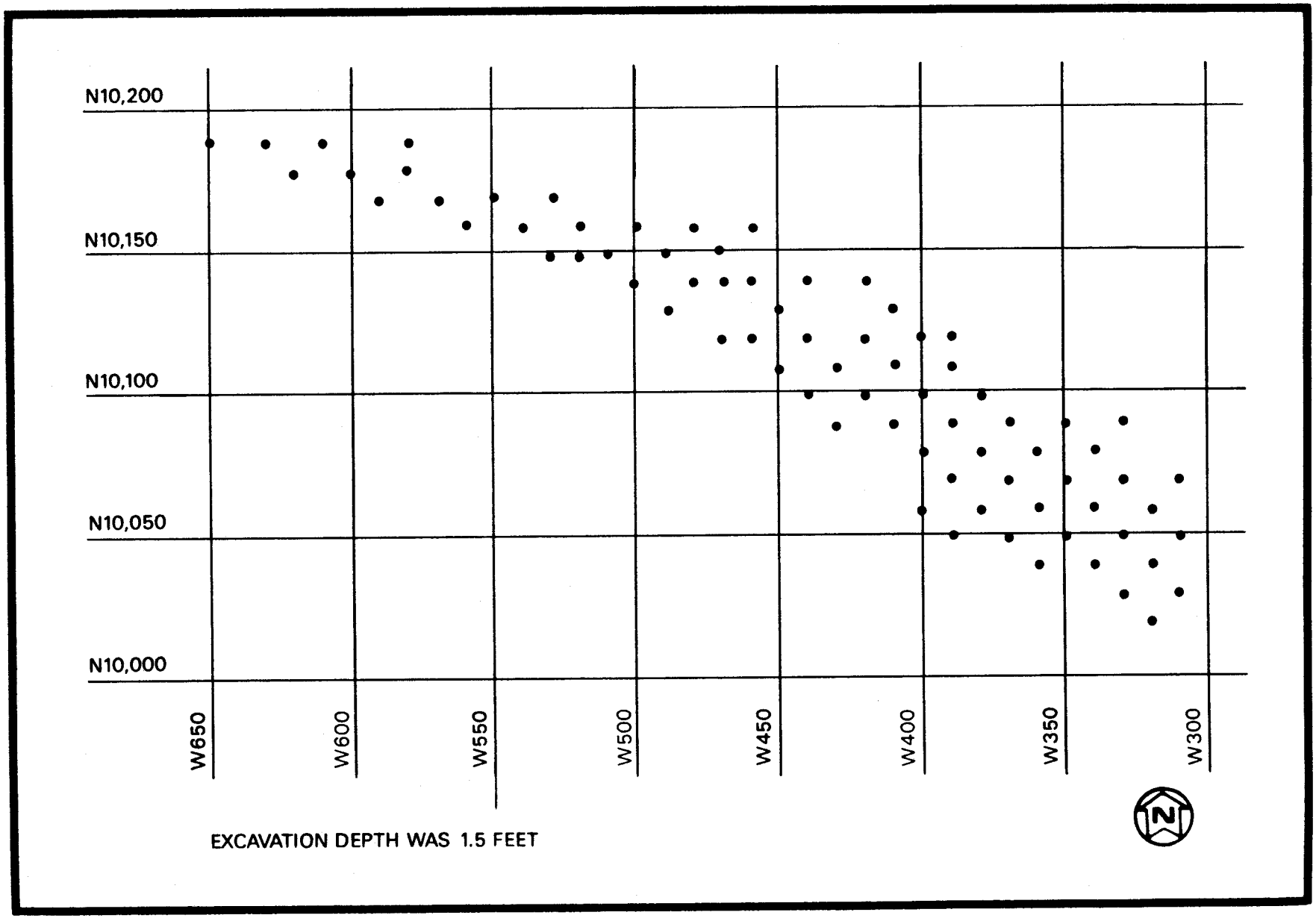
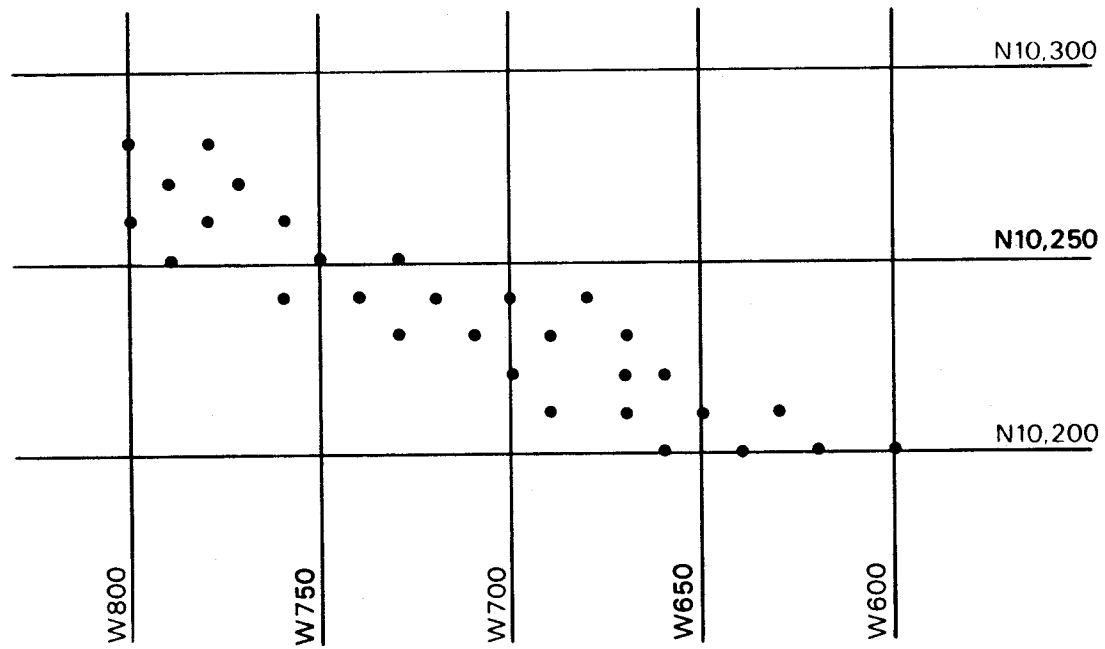


FIGURE 59 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE CENTRAL DRAINAGE DITCH - SECTION 28



EXCAVATION DEPTH WAS 1.5 FEET

FIGURE 60 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE CENTRAL DRAINAGE DITCH - SECTION 29

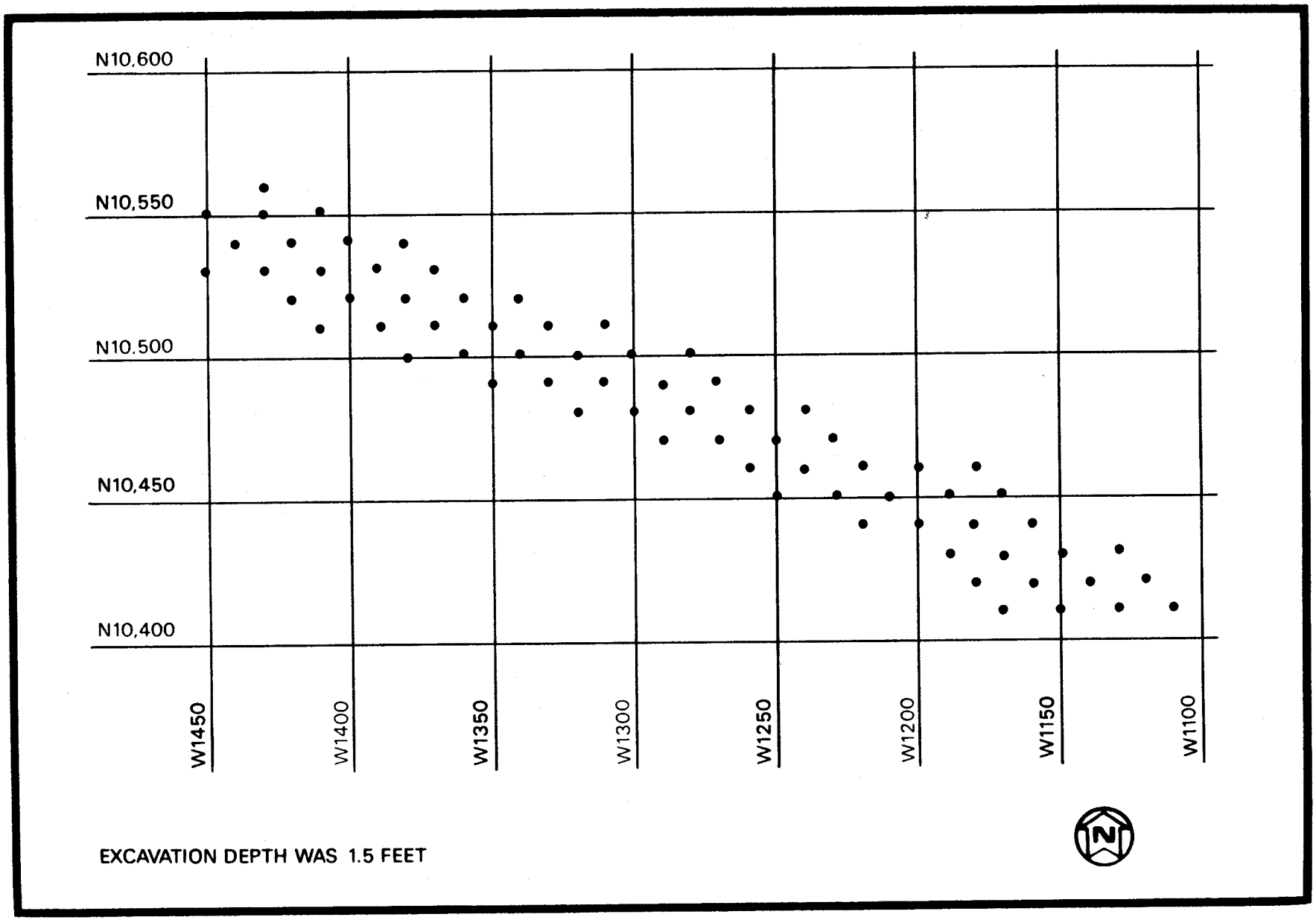
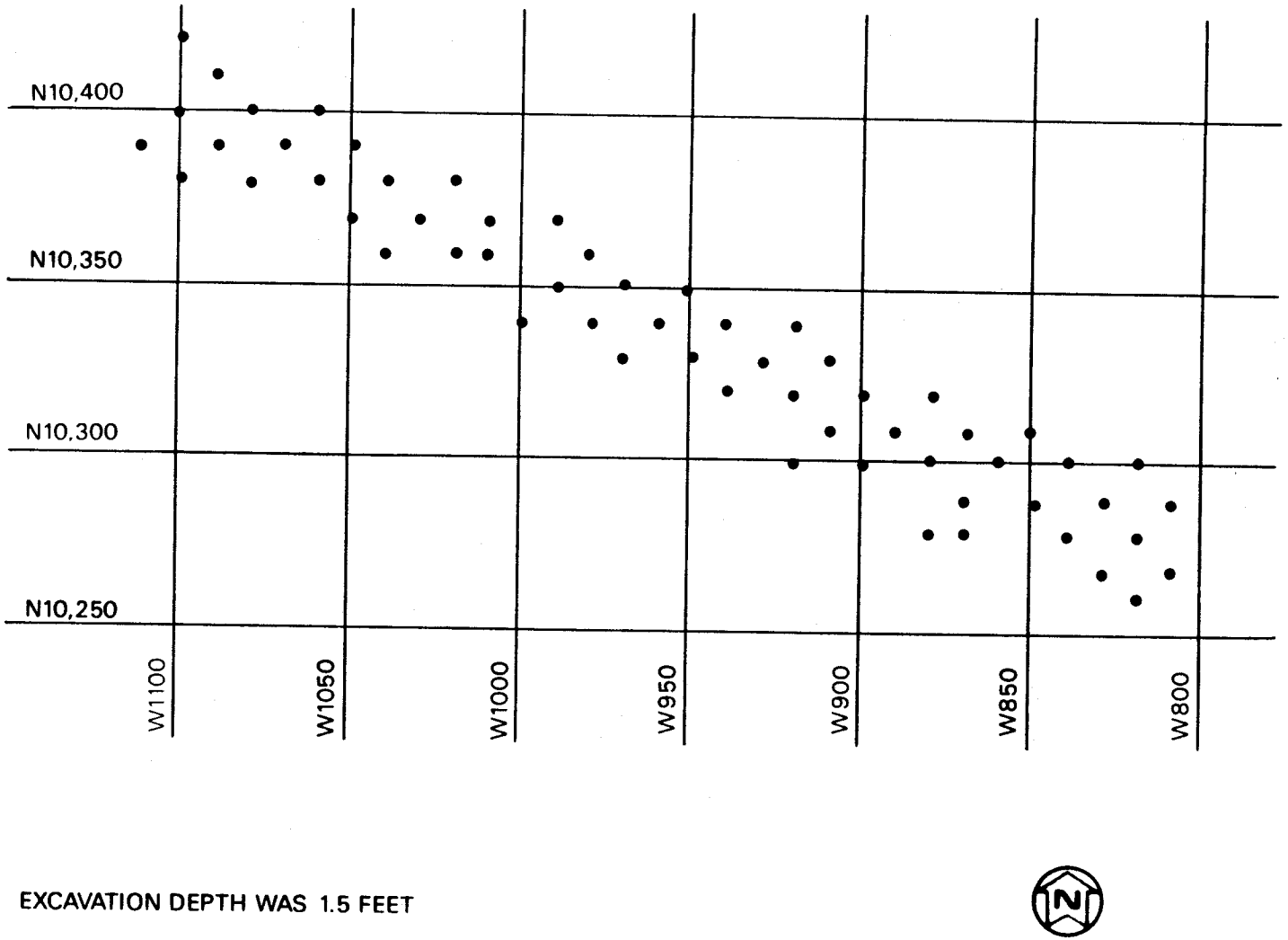


FIGURE 62 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE CENTRAL DRAINAGE DITCH - SECTION 31



EXCAVATION DEPTH WAS 1.5 FEET

FIGURE 61 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON THE CENTRAL DRAINAGE DITCH - SECTION 30

TABLE 13

POST-REMEDIAL ACTION SAMPLING RESULTS

FOR THE CENTRAL DRAINAGE DITCH

Grid Coordinates		Concentrations (pCi/g +/- 1 sigma)		
E,W	N,S	Uranium-238	Radium-226	Thorium-232
E00005	N09980	2.8 ± 2.0	2.7 ± 0.2	1.4 ± 0.3
E00013	N09970	A	3.9 ± 0.2	A
E00013	N09990	A	1.2 ± 0.1	1.7 ± 0.3
E00020	N09980	A	1.2 ± 0.1	0.8 ± 0.2
E00023	N09965	A	1.9 ± 0.1	1.1 ± 0.2
E00033	N09958	A	1.0 ± 0.1	0.7 ± 0.1
E00033	N09970	A	2.6 ± 0.2	0.9 ± 0.2
E00033	N09990	A	1.4 ± 0.2	1.8 ± 0.2
E00043	N09965	A	6.1 ± 0.2	A
E00043	N09980	A	2.9 ± 0.2	1.5 ± 0.3
E00053	N09958	A	1.0 ± 0.2	A
E00053	N09970	0.6 ± 0.1	1.1 ± 0.1	1.2 ± 0.2
E00063	N09949	A	1.8 ± 0.2	A
E00063	N09965	A	8.0 ± 0.3	1.0 ± 0.3
E00073	N09950	A	1.3 ± 0.1	1.1 ± 0.2
E00073	N09958	A	1.3 ± 0.1	1.2 ± 0.2
E00083	N09949	6.6 ± 2.6	1.5 ± 0.2	1.4 ± 0.3
E00090	N09940	A	1.9 ± 0.2	0.9 ± 0.3
E00093	N09950	A	2.4 ± 0.2	0.5 ± 0.2
E00103	N09949	A	1.1 ± 0.1	1.6 ± 0.2
E00110	N09940	A	1.6 ± 0.1	0.9 ± 0.2
E00113	N09950	A	1.3 ± 0.2	0.9 ± 0.2
E00120	N09930	A	1.0 ± 0.1	1.2 ± 0.2
E00123	N09923	A	1.8 ± 0.3	A
E00130	N09920	A	1.4 ± 0.1	1.1 ± 0.2
E00130	N09940	A	1.2 ± 0.1	1.2 ± 0.2
E00132	N09942	0.7 ± 1.4	1.4 ± 0.2	0.9 ± 0.2
E00140	N09930	A	0.7 ± 0.1	0.9 ± 0.2
E00143	N09923	A	6.2 ± 0.3	0.6 ± 0.3
E00143	N09942	A	1.7 ± 0.1	1.1 ± 0.2
E00150	N09910	A	2.3 ± 0.2	0.5 ± 0.3
E00150	N09940	A	1.3 ± 0.2	0.9 ± 0.3
E00153	N09913	A	7.2 ± 0.3	0.9 ± 0.2
E00153	N09933	0.9 ± 0.6	1.0 ± 0.1	1.3 ± 0.2
E00163	N09903	A	3.0 ± 0.5	1.1 ± 0.4
E00163	N09923	A	4.1 ± 0.3	0.7 ± 0.3
E00173	N09897	A	1.5 ± 0.2	0.8 ± 0.2
E00173	N09913	5.5 ± 2.0	4.4 ± 0.2	1.1 ± 0.2
E00183	N09903	A	3.6 ± 0.2	1.4 ± 0.2
E00193	N09887	A	7.0 ± 0.3	1.1 ± 0.3
E00193	N09913	A	1.9 ± 0.2	1.6 ± 0.3
E00207	N09903	A	5.6 ± 0.4	0.4 ± 0.2
E00210	N09890	A	1.0 ± 0.1	1.1 ± 0.2

TABLE 13

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
E00220	N09880	A	1.0 ± 0.1	1.1 ± 0.2
E00220	N09900	A	9.0 ± 0.3	A
E00230	N09890	A	4.7 ± 0.2	1.1 ± 0.2
E00240	N09880	A	5.1 ± 0.2	1.2 ± 0.2
E00240	N09900	A	1.3 ± 0.1	1.3 ± 0.3
E00250	N09870	1.5 ± 1.5	1.8 ± 0.1	1.2 ± 0.2
E00250	N09890	A	2.0 ± 0.2	1.4 ± 0.3
E00260	N09860	A	1.2 ± 0.1	1.1 ± 0.2
E00260	N09880	A	1.9 ± 0.2	1.5 ± 0.2
E00260	N09903	A	2.5 ± 0.2	1.4 ± 0.2
E00270	N09850	A	1.3 ± 0.3	0.4 ± 0.2
E00270	N09870	A	1.2 ± 0.2	A
E00280	N09840	A	1.1 ± 0.1	A
E00280	N09860	7.2 ± 0.2	4.6 ± 0.2	1.0 ± 0.2
E00290	N09830	A	1.0 ± 0.1	1.5 ± 0.2
E00290	N09850	A	5.7 ± 0.2	1.1 ± 0.2
E00290	N09870	A	1.1 ± 0.1	0.8 ± 0.2
E00300	N09820	A	1.1 ± 0.1	1.0 ± 0.2
E00300	N09840	A	3.2 ± 0.2	A
E00300	N09860	A	1.2 ± 0.1	1.2 ± 0.3
E00310	N09810	A	1.4 ± 0.2	1.8 ± 0.3
E00310	N09830	A	3.2 ± 0.2	A
E00310	N09850	A	1.0 ± 0.2	1.6 ± 0.3
E00320	N09800	A	4.0 ± 0.3	0.7 ± 0.2
E00320	N09820	A	2.3 ± 0.2	0.6 ± 0.2
E00320	N09840	A	2.8 ± 0.2	1.2 ± 0.2
E00330	N09790	A	0.7 ± 0.1	1.0 ± 0.2
E00330	N09810	13.0 ± 3.8	12.6 ± 0.4	0.9 ± 0.4
E00330	N09830	2.6 ± 0.7	1.8 ± 0.2	0.8 ± 0.2
E00340	N09800	A	5.0 ± 0.2	0.8 ± 0.2
E00340	N09820	A	1.3 ± 0.1	1.1 ± 0.2
E00345	N04832	A	0.9 ± 0.1	0.8 ± 0.2
E00350	N09780	A	4.4 ± 0.3	1.0 ± 0.3
E00350	N09810	A	2.4 ± 0.2	1.0 ± 0.2
E00355	N04832	A	1.0 ± 0.1	0.9 ± 0.2
E00360	N09770	A	2.7 ± 0.2	1.0 ± 0.2
E00360	N09800	A	1.3 ± 0.1	1.0 ± 0.2
E00365	N04832	A	0.9 ± 0.1	0.9 ± 0.2
E00370	N09740	A	1.0 ± 0.1	1.1 ± 0.2
E00370	N09760	A	1.6 ± 0.1	1.3 ± 0.2
E00370	N09780	A	4.3 ± 0.3	1.5 ± 0.2
E00370	N09790	A	1.3 ± 0.1	1.3 ± 0.2
E00375	N04832	A	0.9 ± 0.2	0.9 ± 0.3

TABLE 13

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
E00380	N09730	A	3.1 ± 0.2	0.6 ± 0.2
E00380	N09750	2.3 ± 1.0	6.2 ± 0.3	1.0 ± 0.3
E00380	N09770	3.2 ± 2.1	5.7 ± 0.3	0.7 ± 0.3
E00385	N04832	A	5.5 ± 0.3	0.8 ± 0.2
E00390	N09700	A	5.1 ± 0.3	1.1 ± 0.2
E00390	N09720	A	4.6 ± 0.2	A
E00390	N09740	A	9.1 ± 0.4	1.0 ± 0.4
E00390	N09760	A	6.4 ± 0.3	1.4 ± 0.3
E00395	N04832	A	2.7 ± 0.3	0.7 ± 0.2
E00396	N02885	A	1.3 ± 0.2	1.2 ± 0.3
E00396	N03295	A	0.8 ± 0.1	0.9 ± 0.3
E00396	N03315	A	1.2 ± 0.2	0.9 ± 0.3
E00396	N03335	6.3 ± 2.1	1.1 ± 0.2	0.8 ± 0.2
E00396	N03355	A	1.0 ± 0.1	1.0 ± 0.2
E00398	N02808	A	0.8 ± 0.1	1.1 ± 0.2
E00398	N02826	A	1.2 ± 0.1	0.9 ± 0.2
E00398	N02845	A	0.8 ± 0.1	0.5 ± 0.2
E00398	N02867	A	0.9 ± 0.2	1.0 ± 0.3
E00399	N02786	A	1.2 ± 0.2	1.2 ± 0.2
E00400	N02767	A	1.1 ± 0.1	1.1 ± 0.3
E00400	N04886	0.7 ± 0.2	0.8 ± 0.1	1.0 ± 0.1
E00400	N04896	0.4 ± 0.2	1.4 ± 0.1	0.7 ± 0.1
E00400	N04916	0.2 ± 0.2	4.2 ± 0.1	0.7 ± 0.1
E00400	N04936	0.5 ± 0.2	1.0 ± 0.1	0.8 ± 0.1
E00400	N04956	0.3 ± 0.2	0.9 ± 0.1	0.9 ± 0.1
E00400	N08750	A	0.9 ± 0.1	1.0 ± 0.2
E00400	N08770	A	0.8 ± 0.1	0.6 ± 0.2
E00400	N08790	4.2 ± 1.4	1.3 ± 0.1	0.7 ± 0.1
E00400	N08810	A	1.2 ± 0.1	1.1 ± 0.2
E00400	N08830	A	1.3 ± 0.1	1.1 ± 0.2
E00400	N08850	A	0.8 ± 0.3	1.3 ± 0.7
E00400	N08870	A	2.6 ± 0.2	0.9 ± 0.2
E00400	N08890	A	1.3 ± 0.1	1.1 ± 0.2
E00400	N08910	A	1.1 ± 0.1	0.9 ± 0.1
E00400	N08930	A	2.2 ± 0.1	0.9 ± 0.2
E00400	N08950	A	0.9 ± 0.1	1.7 ± 0.2
E00400	N08970	A	1.7 ± 0.1	1.1 ± 0.2
E00400	N08990	A	1.1 ± 0.1	0.9 ± 0.1
E00400	N09010	A	7.5 ± 0.3	1.2 ± 0.3
E00400	N09030	A	5.2 ± 0.3	0.6 ± 0.2
E00400	N09070	A	1.6 ± 0.2	1.7 ± 0.1
E00400	N09090	A	1.2 ± 0.1	1.4 ± 0.2
E00400	N09110	A	1.6 ± 0.1	1.4 ± 0.2

TABLE 13

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
E00400	N09130	A	1.0 ± 0.1	1.0 ± 0.2
E00400	N09150	A	1.5 ± 0.1	0.9 ± 0.2
E00400	N09170	A	1.0 ± 0.1	1.4 ± 0.2
E00400	N09190	A	1.4 ± 0.1	1.5 ± 0.2
E00400	N09210	A	10.8 ± 0.3	0.8 ± 0.3
E00400	N09230	3.6 ± 1.7	2.1 ± 0.2	0.9 ± 0.2
E00400	N09250	A	1.3 ± 0.1	1.0 ± 0.2
E00400	N09260	A	1.1 ± 0.1	1.7 ± 0.2
E00400	N09280	A	1.6 ± 0.1	0.9 ± 0.2
E00400	N09300	A	7.6 ± 0.3	1.6 ± 0.3
E00400	N09320	A	1.3 ± 0.1	0.9 ± 0.2
E00400	N09340	A	2.1 ± 0.2	0.6 ± 0.2
E00400	N09360	A	1.4 ± 0.1	1.1 ± 0.2
E00400	N09380	A	2.5 ± 0.2	0.9 ± 0.2
E00400	N09400	A	2.2 ± 0.2	1.0 ± 0.2
E00400	N09580	A	1.7 ± 0.1	1.4 ± 0.2
E00400	N09600	3.7 ± 3.3	11.9 ± 0.4	1.6 ± 0.3
E00400	N09620	A	5.1 ± 0.3	A
E00400	N09640	3.5 ± 2.7	9.1 ± 0.4	1.2 ± 0.3
E00400	N09650	A	1.1 ± 0.2	1.1 ± 0.2
E00400	N09670	A	2.3 ± 0.2	1.3 ± 0.2
E00400	N09690	A	5.1 ± 0.3	0.9 ± 0.3
E00400	N09710	A	3.9 ± 0.2	0.9 ± 0.2
E00400	N09730	A	1.9 ± 0.2	0.8 ± 0.3
E00400	N09750	A	2.3 ± 0.2	1.4 ± 0.2
E00402	N02729	A	0.8 ± 0.2	0.9 ± 0.2
E00402	N02748	A	1.8 ± 0.2	1.4 ± 0.2
E00402	N03120	A	0.8 ± 0.1	0.6 ± 0.2
E00402	N03140	1.4 ± 0.5	0.9 ± 0.1	1.3 ± 0.1
E00402	N03160	A	0.7 ± 0.1	0.8 ± 0.1
E00402	N03180	A	1.0 ± 0.1	0.6 ± 0.2
E00402	N03200	A	0.9 ± 0.2	0.7 ± 0.2
E00402	N03220	A	0.9 ± 0.2	1.0 ± 0.2
E00402	N03240	A	1.1 ± 0.1	0.8 ± 0.2
E00402	N03560	A	1.0 ± 0.1	0.7 ± 0.3
E00402	N03580	A	0.6 ± 0.2	1.0 ± 0.2
E00402	N03600	A	0.8 ± 0.2	0.8 ± 0.2
E00402	N03620	A	0.8 ± 0.1	0.9 ± 0.1
E00402	N03640	A	1.3 ± 0.2	1.3 ± 0.3
E00402	N03660	2.2 ± 3.0	1.0 ± 0.1	1.0 ± 0.2
E00402	N03680	A	0.9 ± 0.2	0.8 ± 0.2
E00402	N03700	A	0.7 ± 0.1	0.8 ± 0.2
E00402	N03720	A	0.9 ± 0.2	0.6 ± 0.2

TABLE 13

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
E00402	N03740	A	0.7 ± 0.1	0.8 ± 0.2
E00402	N03760	A	1.1 ± 0.1	0.9 ± 0.2
E00402	N03780	A	0.9 ± 0.1	1.2 ± 0.2
E00402	N03800	A	0.8 ± 0.1	0.8 ± 0.1
E00402	N03820	A	0.9 ± 0.2	0.6 ± 0.3
E00402	N03840	A	2.6 ± 0.2	0.4 ± 0.2
E00402	N03860	A	0.7 ± 0.1	0.7 ± 0.2
E00402	N03880	A	0.8 ± 0.1	0.9 ± 0.2
E00402	N03900	A	1.0 ± 0.1	0.8 ± 0.2
E00402	N03920	A	1.8 ± 0.1	0.5 ± 0.1
E00402	N03940	A	1.0 ± 0.1	1.2 ± 0.2
E00402	N03960	A	0.8 ± 0.1	1.1 ± 0.2
E00402	N04320	A	0.9 ± 0.1	0.7 ± 0.2
E00402	N06940	A	1.3 ± 0.1	1.0 ± 0.2
E00405	N02686	A	0.9 ± 0.2	0.9 ± 0.3
E00405	N02709	A	0.5 ± 0.2	1.1 ± 0.3
E00405	N02900	A	1.3 ± 0.2	0.4 ± 0.2
E00405	N02910	A	0.9 ± 0.1	0.7 ± 0.2
E00405	N02920	A	1.4 ± 0.2	0.9 ± 0.2
E00405	N02930	A	2.7 ± 0.2	1.1 ± 0.2
E00405	N02940	A	1.7 ± 0.2	1.0 ± 0.2
E00405	N02950	A	1.7 ± 0.2	1.4 ± 0.2
E00405	N02960	A	2.2 ± 0.2	0.6 ± 0.2
E00405	N02970	A	1.2 ± 0.2	0.6 ± 0.2
E00405	N02980	A	1.2 ± 0.2	0.6 ± 0.2
E00405	N02990	A	1.0 ± 0.1	0.9 ± 0.3
E00405	N03000	A	1.0 ± 0.1	1.1 ± 0.2
E00405	N03010	A	0.9 ± 0.1	0.8 ± 0.2
E00405	N03020	A	1.3 ± 0.2	1.1 ± 0.2
E00405	N03030	A	1.0 ± 0.1	0.2 ± 0.2
E00405	N03040	A	0.8 ± 0.1	1.2 ± 0.3
E00405	N03050	3.7 ± 2.2	0.8 ± 0.1	0.8 ± 0.3
E00405	N03060	A	1.0 ± 0.1	1.0 ± 0.2
E00405	N03070	A	1.8 ± 0.2	0.8 ± 0.2
E00405	N03080	1.8 ± 2.4	1.1 ± 0.2	0.8 ± 0.2
E00405	N03090	A	1.1 ± 0.1	0.7 ± 0.3
E00405	N03100	A	0.5 ± 0.2	0.6 ± 0.3
E00405	N03260	A	0.8 ± 0.1	1.0 ± 0.3
E00405	N03280	A	0.8 ± 0.1	0.6 ± 0.2
E00405	N03360	A	1.1 ± 0.2	1.2 ± 0.3
E00405	N03400	A	0.8 ± 0.1	1.2 ± 0.2
E00405	N03420	A	0.9 ± 0.2	1.0 ± 0.2
E00405	N03440	0.7 ± 0.4	0.7 ± 0.1	1.3 ± 0.2

TABLE 13

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
E00405	N03460	A	0.8 ± 0.2	1.3 ± 0.2
E00405	N03480	A	1.4 ± 0.2	0.8 ± 0.3
E00405	N03500	A	0.9 ± 0.1	0.8 ± 0.2
E00405	N03520	2.4 ± 1.3	2.9 ± 0.3	1.4 ± 0.7
E00405	N03540	A	2.2 ± 0.2	1.0 ± 0.2
E00405	N04040	A	0.9 ± 0.2	0.9 ± 0.3
E00405	N04080	A	0.8 ± 0.1	0.8 ± 0.2
E00405	N04100	A	1.0 ± 0.1	0.5 ± 0.2
E00405	N04120	A	1.0 ± 0.1	0.8 ± 0.3
E00405	N04140	A	0.9 ± 0.1	0.9 ± 0.1
E00405	N04160	A	1.3 ± 0.1	1.3 ± 0.2
E00405	N04180	A	0.7 ± 0.1	0.6 ± 0.2
E00405	N04200	A	0.6 ± 0.1	0.5 ± 0.2
E00405	N04220	A	1.0 ± 0.1	0.7 ± 0.2
E00405	N04240	A	1.2 ± 0.2	0.5 ± 0.2
E00405	N04260	A	0.9 ± 0.1	1.0 ± 0.2
E00405	N04280	A	0.7 ± 0.2	0.4 ± 0.3
E00405	N04300	A	0.8 ± 0.1	0.8 ± 0.2
E00405	N04340	A	2.1 ± 0.1	0.9 ± 0.1
E00405	N04360	1.6 ± 0.7	0.9 ± 0.1	0.9 ± 0.1
E00405	N04380	A	0.8 ± 0.1	0.6 ± 0.3
E00405	N04400	A	1.0 ± 0.1	0.8 ± 0.2
E00405	N04420	A	0.8 ± 0.1	0.9 ± 0.2
E00405	N04440	A	1.1 ± 0.2	1.1 ± 0.2
E00405	N04460	A	1.1 ± 0.1	0.6 ± 0.2
E00405	N04480	A	0.6 ± 0.1	0.7 ± 0.2
E00405	N04500	A	0.7 ± 0.1	1.2 ± 0.2
E00405	N04520	A	1.1 ± 0.1	1.0 ± 0.2
E00405	N04540	A	0.5 ± 0.2	1.2 ± 0.3
E00405	N04560	A	0.7 ± 0.1	1.2 ± 0.2
E00405	N04580	A	0.9 ± 0.1	1.3 ± 0.2
E00405	N04600	A	0.7 ± 0.1	0.7 ± 0.3
E00405	N04620	A	0.1 ± 0.1	0.8 ± 0.2
E00405	N04640	A	1.1 ± 0.1	0.6 ± 0.2
E00405	N04660	A	0.9 ± 0.1	1.2 ± 0.2
E00405	N04680	A	0.8 ± 0.1	0.9 ± 0.3
E00405	N04700	A	0.8 ± 0.1	0.7 ± 0.2
E00405	N04720	A	1.0 ± 0.1	0.3 ± 0.2
E00405	N04740	A	0.7 ± 0.2	0.6 ± 0.2
E00405	N04760	0.4 ± 0.3	0.6 ± 0.1	0.5 ± 0.2
E00405	N04780	0.4 ± 0.4	0.8 ± 0.1	0.9 ± 0.2
E00405	N04800	A	1.4 ± 0.2	0.7 ± 0.2
E00405	N04820	A	4.2 ± 0.2	0.7 ± 0.2

TABLE 13

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
E00405	N04832	A	2.2 ± 0.2	0.8 ± 0.2
E00405	N04840	A	6.7 ± 0.4	0.8 ± 0.3
E00405	N04860	A	2.2 ± 0.2	1.0 ± 0.3
E00405	N04880	A	1.0 ± 0.1	0.8 ± 0.2
E00405	N04980	A	0.8 ± 0.1	0.4 ± 0.1
E00405	N05000	A	0.8 ± 0.1	1.0 ± 0.2
E00405	N05020	A	1.2 ± 0.1	0.5 ± 0.2
E00405	N05040	A	1.0 ± 0.1	A
E00405	N05060	A	1.1 ± 0.1	1.5 ± 0.2
E00405	N05080	A	0.9 ± 0.1	0.9 ± 0.1
E00405	N05100	A	2.7 ± 0.1	0.9 ± 0.1
E00405	N05120	A	1.1 ± 0.1	1.0 ± 0.2
E00405	N05140	A	1.1 ± 0.1	1.0 ± 0.2
E00405	N05160	A	4.0 ± 0.2	0.8 ± 0.2
E00405	N05180	A	0.8 ± 0.2	0.8 ± 0.4
E00405	N05200	A	1.0 ± 0.1	0.6 ± 0.1
E00405	N05220	A	0.8 ± 0.2	1.0 ± 0.1
E00405	N05240	A	1.2 ± 0.1	1.6 ± 0.2
E00405	N05260	A	0.8 ± 0.1	0.9 ± 0.2
E00405	N05280	A	0.7 ± 0.1	0.2 ± 0.1
E00405	N05300	A	0.9 ± 0.1	0.6 ± 0.1
E00405	N05320	A	0.9 ± 0.1	0.9 ± 0.2
E00405	N05340	A	2.3 ± 0.1	0.6 ± 0.2
E00405	N05360	A	0.7 ± 0.1	A
E00405	N05380	A	0.9 ± 0.1	0.7 ± 0.1
E00405	N05400	A	0.9 ± 0.1	1.8 ± 0.3
E00405	N05420	A	0.8 ± 0.1	0.7 ± 0.2
E00405	N05440	A	0.9 ± 0.1	1.4 ± 0.2
E00405	N05460	A	0.7 ± 0.1	0.8 ± 0.2
E00405	N05480	0.7 ± 0.5	0.8 ± 0.1	1.1 ± 0.2
E00405	N05500	A	0.9 ± 0.1	0.6 ± 0.2
E00405	N05520	A	0.7 ± 0.1	0.5 ± 0.2
E00405	N05540	A	1.4 ± 0.1	A
E00405	N05560	A	1.0 ± 0.1	0.9 ± 0.2
E00405	N05580	A	0.9 ± 0.1	1.0 ± 0.2
E00405	N05600	A	1.1 ± 0.1	0.9 ± 0.2
E00405	N05620	A	0.6 ± 0.1	A
E00405	N05640	A	1.3 ± 0.1	0.9 ± 0.2
E00405	N05660	A	1.1 ± 0.1	0.9 ± 0.2
E00405	N05680	A	1.1 ± 0.1	0.5 ± 0.2
E00405	N05700	A	0.8 ± 0.1	1.1 ± 0.2
E00405	N05720	A	6.9 ± 0.3	0.9 ± 0.3
E00405	N05740	A	13.6 ± 0.4	1.1 ± 0.2

TABLE 13

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
E00405	N05760	A	6.4 ± 0.3	0.4 ± 0.2
E00405	N05780	A	1.1 ± 0.1	0.9 ± 0.1
E00405	N05800	A	1.2 ± 0.1	0.9 ± 0.1
E00405	N05820	A	1.2 ± 0.1	1.3 ± 0.2
E00405	N05840	A	1.9 ± 0.1	0.5 ± 0.2
E00405	N05860	A	2.7 ± 0.2	1.0 ± 0.2
E00405	N05880	A	A	1.2 ± 0.7
E00405	N05900	A	1.2 ± 0.1	1.1 ± 0.2
E00405	N05920	1.8 ± 1.3	1.0 ± 0.1	1.0 ± 0.2
E00405	N05940	A	1.1 ± 0.1	1.3 ± 0.2
E00405	N05960	A	0.8 ± 0.1	0.9 ± 0.2
E00405	N05980	A	4.7 ± 0.2	0.7 ± 0.2
E00405	N06000	A	0.9 ± 0.1	0.9 ± 0.2
E00405	N06020	A	1.2 ± 0.1	0.7 ± 0.2
E00405	N06040	A	0.3 ± 0.1	A
E00405	N06060	A	0.8 ± 0.1	0.5 ± 0.2
E00405	N06080	A	0.2 ± 0.1	0.3 ± 0.1
E00405	N06100	A	1.0 ± 0.1	1.0 ± 0.2
E00405	N06120	A	0.5 ± 0.1	0.8 ± 0.2
E00405	N06140	A	1.2 ± 0.1	1.1 ± 0.2
E00405	N06160	A	1.1 ± 0.1	0.6 ± 0.1
E00405	N06180	A	0.9 ± 0.1	0.9 ± 0.2
E00405	N06200	A	1.3 ± 0.2	1.4 ± 0.3
E00405	N06220	A	0.7 ± 0.1	0.9 ± 0.2
E00405	N06240	A	0.8 ± 0.1	0.6 ± 0.2
E00405	N06260	A	0.9 ± 0.1	0.5 ± 0.1
E00405	N06280	A	1.0 ± 0.1	0.9 ± 0.2
E00405	N06300	1.7 ± 1.4	1.0 ± 0.1	1.6 ± 0.2
E00405	N06320	A	1.1 ± 0.1	1.1 ± 0.2
E00405	N06340	A	5.1 ± 0.3	1.0 ± 0.3
E00405	N06360	A	0.9 ± 0.1	A
E00405	N06380	A	1.7 ± 0.1	1.0 ± 0.2
E00405	N06400	A	11.4 ± 0.4	A
E00405	N06420	A	1.0 ± 0.1	0.4 ± 0.2
E00405	N06440	A	0.8 ± 0.1	0.5 ± 0.1
E00405	N06460	A	0.8 ± 0.1	0.5 ± 0.1
E00405	N06480	A	0.9 ± 0.1	1.2 ± 0.2
E00405	N06500	A	1.4 ± 0.2	A
E00405	N06520	A	2.0 ± 0.1	1.1 ± 0.2
E00405	N06540	A	1.0 ± 0.1	1.1 ± 0.2
E00405	N06560	A	8.5 ± 1.0	7.0 ± 1.4
E00405	N06580	A	0.9 ± 0.1	1.4 ± 0.2
E00405	N06600	A	0.7 ± 0.1	0.4 ± 0.2

TABLE 13

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
E00405	N06620	A	A	1.1 ± 0.1
E00405	N06640	A	0.8 ± 0.1	0.6 ± 0.1
E00405	N06660	A	0.8 ± 0.1	0.9 ± 0.2
E00405	N06680	A	0.7 ± 0.1	0.6 ± 0.1
E00405	N06700	A	1.0 ± 0.1	1.2 ± 0.2
E00405	N06720	A	1.0 ± 0.1	1.0 ± 0.1
E00405	N06740	A	0.8 ± 0.1	0.9 ± 0.2
E00405	N06760	A	3.0 ± 0.2	A
E00405	N06780	A	1.0 ± 0.1	1.1 ± 0.2
E00405	N06800	A	1.0 ± 0.1	1.2 ± 0.2
E00405	N06820	A	0.6 ± 0.1	1.0 ± 0.1
E00405	N06840	A	1.1 ± 0.1	1.1 ± 0.2
E00405	N06860	A	7.9 ± 0.3	1.0 ± 0.2
E00405	N06880	A	1.9 ± 0.1	1.1 ± 0.2
E00405	N06900	A	1.5 ± 0.1	1.1 ± 0.2
E00405	N06920	A	1.6 ± 0.2	1.4 ± 0.2
E00405	N06960	A	0.7 ± 0.1	0.2 ± 0.2
E00405	N06980	A	0.9 ± 0.1	0.7 ± 0.2
E00405	N07000	A	1.3 ± 0.2	0.9 ± 0.2
E00405	N07020	A	1.1 ± 0.1	1.1 ± 0.2
E00405	N07040	A	1.1 ± 0.1	0.9 ± 0.2
E00405	N07060	A	1.3 ± 0.1	1.1 ± 0.2
E00405	N07080	A	0.8 ± 0.1	0.9 ± 0.1
E00405	N07100	A	0.5 ± 0.1	0.6 ± 0.1
E00405	N07120	A	1.4 ± 0.2	1.4 ± 0.2
E00405	N07140	A	4.7 ± 0.2	1.1 ± 0.2
E00405	N07160	1.4 ± 1.1	1.3 ± 0.1	0.7 ± 0.1
E00405	N07180	A	1.0 ± 0.1	0.7 ± 0.2
E00405	N07200	A	1.0 ± 0.1	1.4 ± 0.2
E00405	N07220	A	3.5 ± 0.2	0.8 ± 0.2
E00405	N07240	A	1.3 ± 0.1	1.4 ± 0.2
E00405	N07260	A	0.8 ± 0.1	1.0 ± 0.2
E00405	N07280	A	1.1 ± 0.1	1.0 ± 0.2
E00405	N07300	A	1.3 ± 0.1	1.5 ± 0.2
E00405	N07320	A	0.7 ± 0.1	0.6 ± 0.2
E00405	N07340	0.8 ± 0.8	0.9 ± 0.1	0.8 ± 0.2
E00405	N07360	A	0.2 ± 0.2	0.5 ± 0.4
E00405	N07380	A	1.2 ± 0.1	1.5 ± 0.2
E00405	N07400	A	0.8 ± 0.1	0.9 ± 0.1
E00405	N07420	A	1.3 ± 0.1	1.8 ± 0.2
E00405	N07440	A	0.9 ± 0.1	0.8 ± 0.1
E00405	N07460	A	0.9 ± 0.1	1.0 ± 0.2
E00405	N07480	A	0.9 ± 0.1	1.2 ± 0.1

TABLE 13

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
E00405	N07500	A	0.8 ± 0.1	0.8 ± 0.2
E00405	N07520	A	1.0 ± 0.1	1.1 ± 0.2
E00405	N07540	A	0.8 ± 0.1	0.8 ± 0.1
E00405	N07560	A	0.9 ± 0.1	1.3 ± 0.2
E00405	N07580	A	0.8 ± 0.1	1.0 ± 0.1
E00405	N07600	A	4.3 ± 0.2	1.3 ± 0.2
E00405	N07620	A	1.0 ± 0.1	A
E00405	N07640	A	1.1 ± 0.1	1.1 ± 0.2
E00405	N07660	5.7 ± 1.6	0.6 ± 0.1	1.1 ± 0.2
E00405	N07680	A	0.8 ± 0.1	0.6 ± 0.1
E00405	N07700	A	1.7 ± 0.1	0.8 ± 0.2
E00405	N07720	A	0.7 ± 0.1	0.8 ± 0.2
E00405	N07740	A	0.9 ± 0.1	0.8 ± 0.1
E00405	N07760	2.3 ± 1.2	1.1 ± 0.1	1.5 ± 0.2
E00405	N07780	2.2 ± 1.1	0.6 ± 0.1	0.8 ± 0.2
E00405	N07800	3.9 ± 1.3	A	0.9 ± 0.2
E00405	N07820	A	1.0 ± 0.1	1.0 ± 0.2
E00405	N07840	A	1.0 ± 0.1	0.6 ± 0.1
E00405	N07860	A	2.3 ± 0.2	0.8 ± 0.2
E00405	N07880	A	0.7 ± 0.1	0.9 ± 0.1
E00405	N07900	A	0.9 ± 0.1	1.0 ± 0.1
E00405	N07920	A	0.9 ± 0.1	0.8 ± 0.1
E00405	N07940	A	1.2 ± 0.1	0.7 ± 0.2
E00405	N07960	A	0.7 ± 0.1	0.5 ± 0.1
E00405	N07980	A	1.0 ± 0.1	0.4 ± 0.2
E00405	N08000	A	1.3 ± 0.1	1.4 ± 0.2
E00405	N08020	A	1.0 ± 0.1	0.7 ± 0.2
E00405	N08040	A	0.8 ± 0.1	0.4 ± 0.1
E00405	N08060	A	1.6 ± 0.1	0.7 ± 0.2
E00405	N08080	A	1.2 ± 0.1	1.1 ± 0.2
E00405	N08100	A	2.4 ± 0.2	1.0 ± 0.2
E00405	N08120	A	4.5 ± 0.2	1.7 ± 0.2
E00405	N08140	A	3.9 ± 0.2	A
E00405	N08160	A	0.7 ± 0.1	1.0 ± 0.2
E00405	N08180	A	3.7 ± 0.2	1.0 ± 0.2
E00405	N08200	A	1.2 ± 0.1	0.9 ± 0.1
E00405	N08220	A	0.8 ± 0.1	0.8 ± 0.2
E00405	N08240	5.0 ± 1.3	0.9 ± 0.1	0.7 ± 0.2
E00405	N08260	A	3.4 ± 0.2	0.7 ± 0.2
E00405	N08280	A	1.1 ± 0.1	0.8 ± 0.1
E00405	N08300	A	0.8 ± 0.1	1.0 ± 0.2
E00405	N08320	A	1.5 ± 0.1	0.9 ± 0.1
E00405	N08340	A	1.1 ± 0.1	0.8 ± 0.1

TABLE 13

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
E00405	N08360	A	2.4 ± 0.2	0.8 ± 0.2
E00405	N08380	A	1.8 ± 0.1	1.2 ± 0.2
E00405	N08400	A	1.3 ± 0.1	0.8 ± 0.2
E00405	N08420	A	5.1 ± 0.2	1.2 ± 0.2
E00405	N08440	A	11.8 ± 0.4	1.0 ± 0.2
E00405	N08460	A	0.8 ± 0.1	0.6 ± 0.2
E00405	N08480	A	2.2 ± 0.1	0.5 ± 0.2
E00405	N08500	A	0.9 ± 0.1	0.6 ± 0.1
E00405	N08520	A	1.0 ± 0.1	0.7 ± 0.2
E00405	N08540	A	0.7 ± 0.1	0.7 ± 0.2
E00405	N08560	A	0.9 ± 0.1	0.9 ± 0.2
E00405	N08580	A	0.9 ± 0.1	A
E00405	N08600	7.7 ± 1.6	0.9 ± 0.1	0.7 ± 0.1
E00405	N08620	A	1.0 ± 0.1	1.5 ± 0.2
E00405	N08640	A	0.7 ± 0.1	1.2 ± 0.2
E00405	N08660	A	1.0 ± 0.1	0.9 ± 0.2
E00405	N08680	A	1.2 ± 0.1	0.8 ± 0.2
E00405	N08700	A	2.7 ± 0.2	0.6 ± 0.2
E00405	N08720	3.1 ± 1.6	1.1 ± 0.1	0.9 ± 0.3
E00405	N08740	A	3.7 ± 0.2	0.9 ± 0.3
E00405	N09420	A	1.0 ± 0.1	1.3 ± 0.2
E00405	N09440	A	7.5 ± 0.3	1.4 ± 0.3
E00405	N09460	A	1.2 ± 0.1	1.2 ± 0.2
E00405	N09480	A	1.3 ± 0.1	1.0 ± 0.2
E00405	N09500	A	2.0 ± 0.2	1.2 ± 0.2
E00405	N09520	A	1.0 ± 0.1	1.1 ± 0.2
E00405	N09540	A	2.4 ± 0.2	1.1 ± 0.3
E00405	N09560	A	1.7 ± 0.2	1.4 ± 0.2
E00406	N02885	A	2.0 ± 0.2	0.9 ± 0.2
E00406	N04005	A	0.9 ± 0.1	1.0 ± 0.2
E00408	N02668	A	1.0 ± 0.1	0.7 ± 0.2
E00408	N02808	A	1.1 ± 0.2	0.4 ± 0.2
E00408	N02826	A	0.8 ± 0.2	1.2 ± 0.4
E00408	N02845	3.1 ± 0.6	1.0 ± 0.1	1.3 ± 0.1
E00408	N02867	A	1.0 ± 0.1	0.9 ± 0.2
E00409	N02786	A	1.6 ± 0.1	A
E00410	N02645	A	1.5 ± 0.2	1.4 ± 0.3
E00410	N02767	A	0.9 ± 0.1	0.8 ± 0.2
E00410	N03315	A	A	0.6 ± 0.2
E00410	N03335	A	A	1.1 ± 0.2
E00410	N03355	A	A	0.9 ± 0.2
E00410	N04886	0.7 ± 0.2	1.2 ± 0.1	1.3 ± 0.1
E00410	N04896	0.9 ± 0.1	0.9 ± 0.1	1.0 ± 0.1

TABLE 13

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
E00410	N04916	0.8 ± 0.2	1.3 ± 0.1	0.9 ± 0.1
E00410	N04936	1.3 ± 0.2	1.4 ± 0.1	0.9 ± 0.1
E00410	N04956	1.6 ± 0.2	1.8 ± 0.1	0.8 ± 0.1
E00410	N05990	A	1.2 ± 0.1	0.7 ± 0.2
E00410	N06010	A	1.1 ± 0.1	1.0 ± 0.1
E00410	N06030	A	1.0 ± 0.1	0.9 ± 0.2
E00410	N06050	A	0.8 ± 0.1	0.8 ± 0.2
E00410	N06070	A	0.7 ± 0.1	0.2 ± 0.1
E00410	N06090	A	1.0 ± 0.1	0.9 ± 0.1
E00410	N06110	A	2.0 ± 0.1	1.1 ± 0.2
E00410	N06130	A	2.3 ± 0.2	0.9 ± 0.2
E00410	N06150	A	1.1 ± 0.1	8.0 ± 0.1
E00410	N06170	A	1.4 ± 0.2	1.4 ± 0.5
E00410	N06190	A	0.9 ± 0.1	0.7 ± 0.1
E00410	N06210	A	0.9 ± 0.1	0.7 ± 0.2
E00410	N06230	A	0.6 ± 0.1	0.6 ± 0.2
E00410	N06250	A	1.2 ± 0.1	0.9 ± 0.2
E00410	N06270	2.0 ± 1.0	0.7 ± 0.3	A
E00410	N06290	A	1.0 ± 0.1	A
E00410	N06310	A	0.6 ± 0.2	0.6 ± 0.3
E00410	N06330	A	0.6 ± 0.1	1.0 ± 0.2
E00410	N06350	A	0.7 ± 0.2	0.9 ± 0.3
E00410	N06370	A	0.9 ± 0.1	0.9 ± 0.1
E00410	N06390	A	1.3 ± 0.1	0.6 ± 0.1
E00410	N06410	A	1.8 ± 0.1	A
E00410	N06430	A	1.4 ± 0.1	0.5 ± 0.2
E00410	N06450	A	1.0 ± 0.1	1.2 ± 0.2
E00410	N06470	A	1.3 ± 0.1	0.9 ± 0.2
E00410	N06490	A	7.0 ± 0.2	A
E00410	N06500	A	1.1 ± 0.1	0.7 ± 0.1
E00410	N06510	A	1.1 ± 0.1	A
E00410	N06530	A	1.3 ± 0.1	1.1 ± 0.1
E00410	N06550	A	0.9 ± 0.1	1.1 ± 0.2
E00410	N06570	A	1.3 ± 0.4	A
E00410	N06590	A	0.8 ± 0.1	0.7 ± 0.2
E00410	N06610	A	1.2 ± 0.1	0.8 ± 0.2
E00410	N06630	1.7 ± 0.8	0.6 ± 0.1	0.8 ± 0.1
E00410	N06650	A	0.8 ± 0.1	1.0 ± 0.2
E00410	N06670	A	0.9 ± 0.1	1.5 ± 0.2
E00410	N06690	A	0.9 ± 0.1	0.4 ± 0.2
E00410	N06710	A	0.8 ± 0.2	0.6 ± 0.3
E00410	N06730	A	1.4 ± 0.1	1.0 ± 0.1
E00410	N06750	A	0.9 ± 0.1	0.8 ± 0.2

TABLE 13

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
E00410	N06770	A	1.2 ± 0.1	1.0 ± 0.2
E00410	N06790	A	0.9 ± 0.1	1.0 ± 0.2
E00410	N06810	A	0.9 ± 0.1	0.7 ± 0.2
E00410	N06830	A	6.5 ± 0.3	0.6 ± 0.3
E00410	N06850	A	1.0 ± 0.1	0.9 ± 0.2
E00410	N06870	A	1.3 ± 0.1	0.5 ± 0.1
E00410	N06890	A	2.6 ± 0.2	0.9 ± 0.2
E00410	N06910	A	1.0 ± 0.1	1.0 ± 0.2
E00410	N06930	A	0.7 ± 0.1	1.5 ± 0.3
E00410	N06950	A	0.6 ± 0.1	0.9 ± 0.1
E00410	N06970	A	1.1 ± 0.1	0.9 ± 0.1
E00410	N06990	A	1.1 ± 0.1	1.4 ± 0.2
E00410	N07010	A	0.9 ± 0.1	1.0 ± 0.2
E00410	N07030	A	0.8 ± 0.1	A
E00410	N07050	A	1.0 ± 0.1	0.9 ± 0.2
E00410	N07070	A	0.4 ± 0.1	1.5 ± 0.2
E00410	N07090	A	0.7 ± 0.1	0.6 ± 0.1
E00410	N07110	A	1.0 ± 0.1	0.8 ± 0.2
E00410	N07130	A	0.7 ± 0.1	0.7 ± 0.2
E00410	N07150	1.9 ± 1.3	1.0 ± 0.1	1.6 ± 0.2
E00410	N07170	A	1.0 ± 0.1	0.5 ± 0.1
E00410	N07190	A	0.8 ± 0.1	0.8 ± 0.1
E00410	N07210	A	0.7 ± 0.1	0.8 ± 0.2
E00410	N07230	A	1.3 ± 0.1	1.5 ± 0.2
E00410	N07250	A	1.5 ± 0.1	1.0 ± 0.2
E00410	N07270	A	2.5 ± 0.2	1.2 ± 0.2
E00410	N07290	A	1.4 ± 0.2	0.9 ± 0.2
E00410	N07310	A	0.7 ± 0.1	1.1 ± 0.3
E00410	N07330	A	0.8 ± 0.1	0.9 ± 0.2
E00410	N07350	A	1.4 ± 0.1	1.0 ± 0.2
E00410	N07370	A	0.9 ± 0.3	1.1 ± 0.5
E00410	N07390	3.5 ± 1.4	0.8 ± 0.1	1.0 ± 0.2
E00410	N07410	A	0.9 ± 0.1	1.1 ± 0.2
E00410	N07430	A	0.8 ± 0.1	1.0 ± 0.2
E00410	N07450	A	0.8 ± 0.1	0.8 ± 0.2
E00410	N07470	A	1.1 ± 0.1	1.1 ± 0.2
E00410	N07490	A	4.7 ± 0.2	0.8 ± 0.2
E00410	N07510	A	10.2 ± 0.4	1.1 ± 0.2
E00410	N07530	A	1.0 ± 0.1	0.7 ± 0.1
E00410	N07550	A	0.9 ± 0.1	1.1 ± 0.2
E00410	N07570	A	1.4 ± 0.2	1.3 ± 0.3
E00410	N07590	A	0.9 ± 0.1	1.0 ± 0.2
E00410	N07610	A	1.6 ± 0.1	1.0 ± 0.1

TABLE 13

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
E00410	N07630	A	0.9 ± 0.1	1.2 ± 0.2
E00410	N07650	A	1.3 ± 0.1	1.5 ± 0.3
E00410	N07670	A	0.7 ± 0.1	0.8 ± 0.1
E00410	N07690	A	1.0 ± 0.1	1.2 ± 0.2
E00410	N07710	A	1.4 ± 0.1	1.1 ± 0.1
E00410	N07730	A	1.0 ± 0.1	0.7 ± 0.2
E00410	N07750	A	0.6 ± 0.1	0.5 ± 0.1
E00410	N07770	A	1.1 ± 0.1	1.5 ± 0.2
E00410	N07790	2.7 ± 1.1	1.0 ± 0.1	1.6 ± 0.2
E00410	N07810	A	1.0 ± 0.1	1.5 ± 0.2
E00410	N07830	A	0.9 ± 0.1	0.9 ± 0.2
E00410	N07850	A	1.1 ± 0.1	1.3 ± 0.2
E00410	N07870	A	0.9 ± 0.1	1.1 ± 0.2
E00410	N07890	A	0.8 ± 0.1	0.8 ± 0.2
E00410	N07910	A	0.8 ± 0.1	0.9 ± 0.2
E00410	N07930	A	1.0 ± 0.2	0.8 ± 0.3
E00410	N07950	A	0.8 ± 0.1	0.8 ± 0.2
E00410	N07970	2.8 ± 1.2	0.9 ± 0.1	0.7 ± 0.1
E00410	N07990	A	1.4 ± 0.1	0.7 ± 0.2
E00410	N08010	A	3.9 ± 0.3	1.0 ± 0.2
E00410	N08030	A	3.5 ± 0.2	1.0 ± 0.2
E00410	N08050	A	0.9 ± 0.1	0.9 ± 0.2
E00410	N08070	A	0.9 ± 0.1	0.9 ± 0.1
E00410	N08090	3.6 ± 1.9	1.2 ± 0.1	1.5 ± 0.3
E00410	N08110	A	1.0 ± 0.1	0.7 ± 0.1
E00410	N08130	A	11.6 ± 0.4	A
E00410	N08150	2.1 ± 2.2	4.2 ± 0.2	0.9 ± 0.2
E00410	N08170	A	0.8 ± 0.1	0.5 ± 0.2
E00410	N08190	A	1.0 ± 0.1	1.0 ± 0.2
E00410	N08210	A	0.9 ± 0.1	1.1 ± 0.1
E00410	N08230	A	1.1 ± 0.1	1.0 ± 0.3
E00410	N08250	A	1.0 ± 0.1	0.9 ± 0.1
E00410	N08270	A	1.2 ± 0.1	1.1 ± 0.2
E00410	N08290	A	8.7 ± 0.3	1.0 ± 0.3
E00410	N08310	A	1.1 ± 0.1	1.1 ± 0.1
E00410	N08330	A	1.1 ± 0.1	0.7 ± 0.1
E00410	N08350	A	0.8 ± 0.1	1.2 ± 0.2
E00410	N08370	A	1.0 ± 0.1	0.9 ± 0.2
E00410	N08390	A	1.3 ± 0.1	0.6 ± 0.1
E00410	N08410	A	3.4 ± 0.1	1.0 ± 0.2
E00410	N08430	A	6.9 ± 0.3	1.3 ± 0.2
E00410	N08450	A	4.3 ± 0.2	1.3 ± 0.2
E00410	N08470	1.5 ± 1.1	1.1 ± 0.1	0.6 ± 0.2

TABLE 13

(continued)

Grid Coordinates		Concentrations (pCi/g +/- 1 sigma)		
E,W	N,S	Uranium-238	Radium-226	Thorium-232
E00410	N08490	A	2.0 ± 0.1	0.7 ± 0.1
E00410	N08510	A	1.2 ± 0.1	1.1 ± 0.3
E00410	N08530	A	0.7 ± 0.1	1.1 ± 0.2
E00410	N08550	A	0.8 ± 0.1	0.7 ± 0.1
E00410	N08570	3.0 ± 1.8	4.6 ± 0.2	0.7 ± 0.2
E00410	N08590	A	7.2 ± 0.2	1.0 ± 0.2
E00410	N08610	A	3.0 ± 0.2	0.8 ± 0.2
E00410	N08630	A	1.3 ± 0.1	1.1 ± 0.2
E00410	N08650	A	14.3 ± 0.4	1.3 ± 0.3
E00410	N08670	A	0.9 ± 0.1	1.4 ± 0.2
E00410	N08690	A	9.1 ± 0.3	0.5 ± 0.3
E00410	N08710	A	6.5 ± 0.2	0.9 ± 0.3
E00410	N08730	A	1.2 ± 0.1	1.0 ± 0.2
E00410	N08750	A	2.9 ± 0.2	0.7 ± 0.2
E00410	N08760	2.6 ± 1.1	2.1 ± 0.1	0.8 ± 0.2
E00410	N08780	A	3.2 ± 0.2	0.7 ± 0.2
E00410	N08800	A	0.6 ± 0.1	0.5 ± 0.1
E00410	N08820	3.0 ± 1.2	1.2 ± 0.1	1.5 ± 0.2
E00410	N08840	A	1.0 ± 0.1	1.7 ± 0.2
E00410	N08860	2.9 ± 1.5	1.5 ± 0.1	1.0 ± 0.2
E00410	N08880	A	2.6 ± 0.2	1.3 ± 0.2
E00410	N08900	A	1.4 ± 0.1	1.0 ± 0.2
E00410	N08920	4.0 ± 1.6	4.1 ± 0.2	1.0 ± 0.2
E00410	N08940	A	5.8 ± 0.3	1.3 ± 0.3
E00410	N08960	A	11.2 ± 0.4	1.0 ± 0.3
E00410	N08980	A	2.9 ± 0.2	0.7 ± 0.2
E00410	N09000	A	2.4 ± 0.2	0.9 ± 0.2
E00410	N09020	3.1 ± 4.0	11.8 ± 0.4	1.7 ± 0.4
E00410	N09040	A	16.2 ± 0.5	A
E00410	N09060	A	3.5 ± 0.2	0.9 ± 0.2
E00410	N09080	A	4.9 ± 0.2	0.9 ± 0.3
E00410	N09100	A	8.4 ± 0.3	1.2 ± 0.3
E00410	N09120	1.1 ± 1.3	3.4 ± 0.2	0.8 ± 0.2
E00410	N09140	A	3.5 ± 0.2	0.6 ± 0.2
E00410	N09160	A	4.0 ± 0.3	0.9 ± 0.2
E00410	N09180	A	4.4 ± 0.2	1.0 ± 0.2
E00410	N09200	A	3.7 ± 0.2	A
E00410	N09220	A	1.5 ± 0.1	A
E00410	N09240	A	5.5 ± 0.2	0.5 ± 0.3
E00410	N09270	A	3.0 ± 0.1	0.9 ± 0.1
E00410	N09290	A	2.5 ± 0.2	1.2 ± 0.2
E00410	N09310	A	2.2 ± 0.1	0.4 ± 0.1
E00410	N09330	A	0.9 ± 0.1	0.8 ± 0.1

TABLE 13

(continued)

Grid Coordinates		Concentrations (pCi/g +/- 1 sigma)		
E,W	N,S	Uranium-238	Radium-226	Thorium-232
E00410	N09350	A	1.3 ± 0.1	1.0 ± 0.2
E00410	N09370	A	1.2 ± 0.1	1.0 ± 0.1
E00410	N09390	A	5.1 ± 0.2	0.8 ± 0.2
E00410	N09410	A	1.5 ± 0.1	0.4 ± 0.2
E00410	N09430	A	1.0 ± 0.1	0.6 ± 0.1
E00410	N09450	2.8 ± 1.4	3.0 ± 0.2	0.9 ± 0.1
E00410	N09470	5.0 ± 1.2	0.9 ± 0.1	1.0 ± 0.1
E00410	N09490	A	1.3 ± 0.1	0.8 ± 0.2
E00410	N09510	2.1 ± 0.2	3.4 ± 0.2	0.7 ± 0.2
E00410	N09530	2.5 ± 1.5	1.4 ± 0.1	1.2 ± 0.2
E00410	N09550	A	1.2 ± 0.2	1.4 ± 0.2
E00410	N09570	A	2.1 ± 0.2	1.0 ± 0.2
E00410	N09590	2.2 ± 1.4	1.5 ± 0.1	1.1 ± 0.2
E00410	N09610	A	3.1 ± 0.2	1.3 ± 0.2
E00410	N09630	A	1.1 ± 0.1	0.8 ± 0.2
E00410	N09650	A	7.5 ± 0.3	1.1 ± 0.2
E00410	N09660	A	5.2 ± 0.2	0.5 ± 0.2
E00410	N09680	A	6.1 ± 0.3	1.0 ± 0.3
E00410	N09700	A	4.2 ± 0.3	1.2 ± 0.3
E00410	N09720	A	2.0 ± 0.1	0.8 ± 0.3
E00410	N09740	A	1.9 ± 0.2	1.4 ± 0.2
E00411	N02748	A	1.0 ± 0.1	1.0 ± 0.2
E00412	N02729	A	0.7 ± 0.2	0.8 ± 0.2
E00412	N03120	A	0.8 ± 0.2	0.5 ± 0.2
E00412	N03140	A	0.9 ± 0.1	0.2 ± 0.1
E00412	N03160	A	0.9 ± 0.2	0.9 ± 0.4
E00412	N03180	A	0.9 ± 0.2	0.7 ± 0.2
E00412	N03200	A	1.1 ± 0.2	0.7 ± 0.3
E00412	N03220	A	0.7 ± 0.2	1.5 ± 0.4
E00412	N03240	A	1.1 ± 0.1	1.4 ± 0.2
E00412	N03560	A	1.0 ± 0.1	0.9 ± 0.2
E00412	N03600	A	0.6 ± 0.1	0.4 ± 0.2
E00412	N03620	A	0.7 ± 0.2	0.7 ± 0.2
E00412	N03640	A	1.8 ± 0.2	1.1 ± 0.2
E00412	N03680	5.5 ± 2.2	0.9 ± 0.1	0.8 ± 0.2
E00412	N03700	5.1 ± 1.9	1.2 ± 0.1	1.3 ± 0.2
E00412	N03720	1.4 ± 0.8	0.8 ± 0.1	0.6 ± 0.2
E00412	N03740	A	0.9 ± 0.1	1.2 ± 0.2
E00412	N03760	A	0.9 ± 0.1	0.9 ± 0.2
E00412	N03780	A	0.6 ± 0.1	0.9 ± 0.2
E00412	N03800	A	0.9 ± 0.1	1.2 ± 0.2
E00412	N03820	A	0.8 ± 0.2	0.9 ± 0.2
E00412	N03840	A	0.8 ± 0.1	1.2 ± 0.2

TABLE 13

(continued)

Grid Coordinates		Concentrations (pCi/g +/- 1 sigma)		
E,W	N,S	Uranium-238	Radium-226	Thorium-232
E00412	N03860	A	0.8 ± 0.2	0.8 ± 0.2
E00412	N03880	0.4 ± 0.4	0.6 ± 0.1	0.9 ± 0.3
E00412	N03900	A	0.8 ± 0.1	0.9 ± 0.2
E00412	N03920	A	0.8 ± 0.1	0.8 ± 0.1
E00412	N03940	0.5 ± 0.2	0.7 ± 0.1	0.8 ± 0.1
E00413	N03660	A	1.2 ± 0.1	0.8 ± 0.2
E00414	N02607	A	0.6 ± 0.1	0.9 ± 0.2
E00414	N02625	A	0.7 ± 0.1	1.2 ± 0.2
E00414	N02769	A	0.8 ± 0.2	0.9 ± 0.3
E00414	N03580	A	1.3 ± 0.2	1.0 ± 0.2
E00415	N02686	A	1.0 ± 0.1	0.9 ± 0.2
E00415	N02900	A	1.0 ± 0.1	0.7 ± 0.2
E00415	N02910	A	1.7 ± 0.2	0.8 ± 0.3
E00415	N02920	A	1.1 ± 0.1	1.4 ± 0.2
E00415	N02930	A	0.9 ± 0.1	A
E00415	N02940	A	1.0 ± 0.1	1.2 ± 0.2
E00415	N02950	3.9 ± 2.5	1.2 ± 0.2	0.7 ± 0.3
E00415	N02960	A	1.1 ± 0.2	1.2 ± 0.2
E00415	N02970	A	1.0 ± 0.1	0.6 ± 0.2
E00415	N02980	A	0.6 ± 0.1	1.0 ± 0.2
E00415	N02990	A	1.7 ± 0.2	0.8 ± 0.2
E00415	N03000	A	0.9 ± 0.1	0.8 ± 0.2
E00415	N03010	A	1.6 ± 0.2	1.4 ± 0.3
E00415	N03020	A	1.3 ± 0.1	1.3 ± 0.3
E00415	N03030	A	1.7 ± 0.2	1.0 ± 0.2
E00415	N03040	A	1.4 ± 0.2	0.5 ± 0.3
E00415	N03050	A	1.6 ± 0.1	1.4 ± 0.2
E00415	N03060	A	1.5 ± 0.1	0.5 ± 0.2
E00415	N03070	A	0.9 ± 0.1	1.2 ± 0.2
E00415	N03080	A	1.2 ± 0.1	0.6 ± 0.3
E00415	N03090	A	2.3 ± 0.2	0.8 ± 0.2
E00415	N03100	2.2 ± 2.2	1.8 ± 0.2	1.1 ± 0.2
E00415	N03260	A	0.8 ± 0.1	1.1 ± 0.2
E00415	N03280	A	0.9 ± 0.1	0.5 ± 0.2
E00415	N03360	A	1.0 ± 0.1	A
E00415	N03380	0.3 ± 0.4	0.8 ± 0.1	1.1 ± 0.1
E00415	N03400	A	5.1 ± 0.3	0.4 ± 0.3
E00415	N03420	2.9 ± 0.7	1.0 ± 0.1	0.9 ± 0.1
E00415	N03440	A	1.0 ± 0.1	0.8 ± 0.2
E00415	N03460	A	3.6 ± 0.2	0.4 ± 0.4
E00415	N03480	A	1.2 ± 0.1	0.4 ± 0.2
E00415	N03500	A	1.0 ± 0.2	0.7 ± 0.3
E00415	N03520	A	1.0 ± 0.2	1.2 ± 0.3

TABLE 13

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
E00415	N03540	A	1.0 ± 0.1	1.1 ± 0.2
E00415	N04040	A	1.4 ± 0.2	0.6 ± 0.2
E00415	N04060	A	1.1 ± 0.1	1.2 ± 0.2
E00415	N04080	0.5 ± 1.2	0.7 ± 0.1	0.5 ± 0.1
E00415	N04100	A	0.8 ± 0.1	0.9 ± 0.2
E00415	N04120	A	3.2 ± 0.2	1.1 ± 0.2
E00415	N04140	A	0.9 ± 0.1	1.3 ± 0.2
E00415	N04160	A	0.9 ± 0.1	1.3 ± 0.2
E00415	N04180	5.4 ± 2.6	1.7 ± 0.2	0.9 ± 0.2
E00415	N04200	2.4 ± 2.1	1.0 ± 0.1	0.8 ± 0.2
E00415	N04220	A	1.1 ± 0.1	0.8 ± 0.2
E00415	N04240	4.7 ± 1.9	0.7 ± 0.1	0.9 ± 0.3
E00415	N04260	A	1.0 ± 0.2	1.1 ± 0.2
E00415	N04280	A	0.9 ± 0.1	1.0 ± 0.2
E00415	N04300	A	1.4 ± 0.2	0.7 ± 0.2
E00415	N04320	0.7 ± 0.4	1.2 ± 0.1	0.8 ± 0.1
E00415	N04340	A	1.0 ± 0.1	1.2 ± 0.3
E00415	N04360	0.9 ± 0.1	1.3 ± 0.1	1.0 ± 0.1
E00415	N04380	A	1.2 ± 0.1	0.5 ± 0.2
E00415	N04400	A	4.2 ± 0.3	0.6 ± 0.2
E00415	N04420	A	6.4 ± 0.2	0.4 ± 0.1
E00415	N04440	0.8 ± 0.2	0.6 ± 0.1	0.7 ± 0.1
E00415	N04460	A	0.7 ± 0.1	0.7 ± 0.2
E00415	N04480	A	1.1 ± 0.1	1.1 ± 0.2
E00415	N04500	A	1.8 ± 0.2	0.9 ± 0.2
E00415	N04520	A	1.0 ± 0.1	0.6 ± 0.2
E00415	N04540	3.0 ± 2.3	1.0 ± 0.1	0.8 ± 0.2
E00415	N04560	A	0.7 ± 0.1	0.6 ± 0.3
E00415	N04580	4.0 ± 2.6	1.0 ± 0.2	0.9 ± 0.2
E00415	N04600	A	1.7 ± 0.1	1.2 ± 0.2
E00415	N04620	A	0.9 ± 0.1	0.5 ± 0.2
E00415	N04640	A	0.9 ± 0.1	1.1 ± 0.2
E00415	N04680	A	0.8 ± 0.1	0.7 ± 0.2
E00415	N04700	0.8 ± 0.1	0.8 ± 0.1	0.7 ± 0.1
E00415	N04720	0.2 ± 0.4	0.7 ± 0.1	0.7 ± 0.2
E00415	N04740	2.2 ± 0.6	1.1 ± 0.1	1.0 ± 0.1
E00415	N04760	1.3 ± 1.2	0.9 ± 0.1	1.9 ± 0.2
E00415	N04780	A	0.9 ± 0.1	0.7 ± 0.2
E00415	N04800	A	0.8 ± 0.1	0.9 ± 0.2
E00415	N04820	A	0.8 ± 0.1	0.8 ± 0.2
E00415	N04832	A	3.1 ± 0.2	0.8 ± 0.2
E00415	N04840	0.4 ± 0.4	0.9 ± 0.1	1.2 ± 0.2
E00415	N04860	0.7 ± 0.4	0.8 ± 0.1	0.6 ± 0.3

TABLE 13

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
E00415	N04880	0.6 ± 0.5	1.4 ± 0.1	0.6 ± 0.3
E00415	N04990	A	3.9 ± 0.2	A
E00415	N05010	A	1.8 ± 0.2	A
E00415	N05030	A	4.2 ± 0.3	1.2 ± 0.3
E00415	N05050	A	4.6 ± 0.2	0.7 ± 0.2
E00415	N05070	A	2.3 ± 0.2	1.1 ± 0.2
E00415	N05090	A	8.8 ± 0.3	1.0 ± 0.2
E00415	N05110	A	0.7 ± 0.1	0.6 ± 0.1
E00415	N05130	A	1.3 ± 0.1	0.5 ± 0.2
E00415	N05150	A	1.2 ± 0.1	0.6 ± 0.2
E00415	N05170	A	2.8 ± 0.2	1.1 ± 0.2
E00415	N05190	A	5.7 ± 0.2	A
E00415	N05210	A	3.8 ± 0.4	A
E00415	N05230	A	1.6 ± 0.1	0.9 ± 0.2
E00415	N05250	A	1.9 ± 0.1	0.9 ± 0.2
E00415	N05270	A	1.6 ± 0.2	0.9 ± 0.2
E00415	N05290	A	1.1 ± 0.1	1.4 ± 0.2
E00415	N05310	A	1.7 ± 0.3	1.0 ± 0.3
E00415	N05330	A	1.0 ± 0.1	0.6 ± 0.1
E00415	N05350	A	1.5 ± 0.1	1.3 ± 0.2
E00415	N05370	A	1.7 ± 0.1	0.6 ± 0.2
E00415	N05390	A	1.4 ± 0.1	0.6 ± 0.1
E00415	N05410	A	0.9 ± 0.1	0.6 ± 0.2
E00415	N05430	A	0.9 ± 0.1	0.7 ± 0.2
E00415	N05450	A	0.7 ± 0.1	0.8 ± 0.2
E00415	N05470	A	1.3 ± 0.1	1.5 ± 0.1
E00415	N05490	A	0.8 ± 0.1	1.1 ± 0.2
E00415	N05510	A	0.7 ± 0.1	A
E00415	N05530	A	0.6 ± 0.1	0.5 ± 0.2
E00415	N05550	A	1.2 ± 0.1	0.4 ± 0.1
E00415	N05570	A	1.9 ± 0.2	0.8 ± 0.3
E00415	N05590	A	0.7 ± 0.1	0.7 ± 0.1
E00415	N05610	A	1.3 ± 0.1	0.7 ± 0.2
E00415	N05630	A	1.0 ± 0.1	0.7 ± 0.2
E00415	N05650	A	5.8 ± 0.3	0.9 ± 0.3
E00415	N05670	A	2.8 ± 0.2	1.1 ± 0.2
E00415	N05690	A	0.9 ± 0.1	1.1 ± 0.2
E00415	N05710	A	1.4 ± 0.2	0.7 ± 0.1
E00415	N05730	A	0.8 ± 0.1	1.0 ± 0.2
E00415	N05750	A	0.9 ± 0.1	0.6 ± 0.2
E00415	N05770	A	9.3 ± 0.3	0.9 ± 0.2
E00415	N05790	A	0.9 ± 0.1	A
E00415	N05800	A	1.2 ± 0.1	0.9 ± 0.1

TABLE 13

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
E00415	N05810	A	1.4 ± 0.1	0.9 ± 0.2
E00415	N05830	A	1.6 ± 0.1	1.0 ± 0.2
E00415	N05850	A	1.6 ± 0.2	0.9 ± 0.2
E00415	N05870	A	5.2 ± 0.3	0.6 ± 0.3
E00415	N05890	A	2.5 ± 0.2	1.4 ± 0.2
E00415	N05910	A	0.9 ± 0.1	0.9 ± 0.2
E00415	N05930	1.3 ± 1.1	3.5 ± 0.2	0.7 ± 0.2
E00415	N05950	A	1.1 ± 0.1	1.3 ± 0.2
E00415	N05970	A	0.9 ± 0.1	1.1 ± 0.1
E00415	N06700	A	2.2 ± 0.1	1.2 ± 0.2
E00415	N06720	A	1.0 ± 0.1	1.2 ± 0.2
E00415	N06740	A	0.5 ± 0.1	1.0 ± 0.2
E00415	N06760	A	1.1 ± 0.1	0.9 ± 0.2
E00415	N06780	A	1.0 ± 0.1	0.5 ± 0.1
E00415	N06800	A	0.9 ± 0.1	1.3 ± 0.2
E00415	N06820	A	1.1 ± 0.1	0.9 ± 0.2
E00415	N06840	A	1.0 ± 0.1	0.8 ± 0.1
E00415	N06860	A	1.0 ± 0.1	0.8 ± 0.2
E00415	N06880	A	0.8 ± 0.1	0.8 ± 0.2
E00415	N06900	A	0.8 ± 0.1	0.5 ± 0.1
E00415	N06920	A	0.8 ± 0.1	0.9 ± 0.2
E00415	N06940	A	1.4 ± 0.1	1.1 ± 0.2
E00415	N06960	A	0.7 ± 0.1	0.8 ± 0.2
E00415	N06980	A	3.1 ± 0.2	0.8 ± 0.3
E00415	N07000	A	0.6 ± 0.1	1.3 ± 0.2
E00416	N02885	A	1.2 ± 0.1	1.1 ± 0.2
E00418	N02585	A	0.6 ± 0.1	0.5 ± 0.2
E00418	N02668	A	1.0 ± 0.1	1.5 ± 0.3
E00418	N02808	2.1 ± 2.1	0.9 ± 0.1	1.1 ± 0.2
E00418	N02826	A	0.6 ± 0.2	0.4 ± 0.2
E00418	N02845	A	0.6 ± 0.1	1.2 ± 0.2
E00418	N02867	1.1 ± 0.5	0.8 ± 0.1	0.8 ± 0.1
E00419	N02568	A	0.7 ± 0.1	0.8 ± 0.2
E00419	N02786	A	0.8 ± 0.2	A
E00420	N02645	A	0.9 ± 0.1	0.9 ± 0.1
E00420	N02767	A	0.9 ± 0.1	0.6 ± 0.2
E00420	N04886	0.6 ± 0.1	0.8 ± 0.1	0.7 ± 0.1
E00420	N04896	0.3 ± 0.2	0.8 ± 0.1	0.7 ± 0.1
E00420	N04916	0.4 ± 0.2	0.9 ± 0.1	0.8 ± 0.1
E00420	N04936	0.4 ± 0.1	0.6 ± 0.1	0.8 ± 0.1
E00420	N04956	1.4 ± 0.1	0.9 ± 0.1	0.9 ± 0.1
E00420	N04980	A	0.9 ± 0.1	0.8 ± 0.2
E00420	N05000	A	1.9 ± 0.2	0.9 ± 0.2

TABLE 13

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
E00420	N05020	A	1.1 ± 0.1	A
E00420	N05040	A	23.5 ± 0.5	0.5 ± 0.4
E00420	N05060	A	3.2 ± 0.2	1.1 ± 0.2
E00420	N05080	A	5.5 ± 0.3	1.1 ± 0.2
E00420	N05100	A	5.9 ± 0.2	0.7 ± 0.2
E00420	N05110	A	1.6 ± 0.3	A
E00420	N05120	A	1.1 ± 0.1	0.7 ± 0.2
E00420	N05140	A	1.8 ± 0.1	0.8 ± 0.1
E00420	N05160	A	3.1 ± 0.2	0.6 ± 0.2
E00420	N05180	A	5.0 ± 0.2	1.1 ± 0.2
E00420	N05200	A	2.5 ± 0.1	0.9 ± 0.1
E00420	N05220	A	4.0 ± 0.4	0.3 ± 0.4
E00420	N05240	A	9.4 ± 0.3	1.0 ± 0.3
E00420	N05260	A	8.8 ± 0.3	A
E00420	N05280	A	3.6 ± 0.2	1.1 ± 0.2
E00420	N05300	A	0.7 ± 0.1	0.6 ± 0.2
E00420	N05320	A	1.3 ± 0.2	0.6 ± 0.2
E00420	N05340	A	2.3 ± 0.1	0.6 ± 0.2
E00420	N05360	A	4.0 ± 0.2	0.9 ± 0.2
E00420	N05380	A	2.0 ± 0.2	0.9 ± 0.2
E00420	N05400	A	10.0 ± 0.3	0.4 ± 0.2
E00420	N05420	A	2.2 ± 0.2	1.4 ± 0.2
E00420	N05440	A	3.9 ± 0.2	0.8 ± 0.2
E00420	N05460	A	5.4 ± 0.3	1.3 ± 0.2
E00420	N05480	A	2.7 ± 0.2	1.2 ± 0.2
E00420	N05500	A	8.8 ± 0.3	0.9 ± 0.2
E00420	N05520	A	2.2 ± 0.2	0.8 ± 0.2
E00420	N05540	A	4.2 ± 0.2	1.2 ± 0.3
E00420	N05560	A	1.1 ± 0.1	1.3 ± 0.2
E00420	N05580	A	8.7 ± 0.3	0.7 ± 0.2
E00420	N05600	A	4.9 ± 0.3	1.0 ± 0.2
E00420	N05620	A	10.0 ± 0.3	0.9 ± 0.2
E00420	N05640	A	1.2 ± 0.1	0.9 ± 0.3
E00420	N05660	A	2.6 ± 0.2	1.1 ± 0.2
E00420	N05680	A	3.8 ± 0.2	0.6 ± 0.2
E00420	N05700	A	3.8 ± 0.2	0.4 ± 0.2
E00420	N05720	A	2.0 ± 0.1	A
E00420	N05740	A	3.3 ± 0.2	A
E00420	N05760	A	1.6 ± 0.2	1.1 ± 0.2
E00420	N05780	A	2.4 ± 0.2	0.9 ± 0.2
E00420	N05800	1.9 ± 2.4	8.2 ± 0.3	1.5 ± 0.3
E00420	N05820	A	8.3 ± 0.3	A
E00420	N05840	A	6.5 ± 0.3	0.9 ± 0.2

TABLE 13

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
E00420	N05860	A	9.3 ± 0.3	0.4 ± 0.2
E00420	N05880	A	2.5 ± 0.2	1.1 ± 0.2
E00420	N05900	A	16.4 ± 0.5	A
E00420	N05920	A	11.5 ± 0.3	A
E00420	N05940	A	1.8 ± 0.1	1.1 ± 0.2
E00420	N05960	1.3 ± 1.2	3.6 ± 0.2	0.9 ± 0.2
E00420	N05980	A	7.9 ± 0.3	0.7 ± 0.2
E00420	N06000	A	8.5 ± 0.3	0.8 ± 0.2
E00420	N06020	2.4 ± 1.4	3.4 ± 0.2	1.2 ± 0.2
E00420	N06040	A	4.5 ± 0.3	1.1 ± 0.2
E00420	N06060	A	2.5 ± 0.2	A
E00420	N06080	A	2.3 ± 0.1	0.7 ± 0.2
E00420	N06100	A	0.8 ± 0.1	0.8 ± 0.2
E00420	N06120	A	6.0 ± 0.3	0.9 ± 0.2
E00420	N06140	A	1.7 ± 0.1	1.0 ± 0.2
E00420	N06160	A	1.0 ± 0.1	0.6 ± 0.1
E00420	N06180	2.5 ± 1.5	0.9 ± 0.2	1.1 ± 0.2
E00420	N06200	A	1.0 ± 0.1	1.0 ± 0.2
E00420	N06220	A	2.1 ± 0.2	0.5 ± 0.2
E00420	N06240	A	2.1 ± 0.1	0.9 ± 0.1
E00420	N06260	A	3.1 ± 0.2	A
E00420	N06280	A	3.9 ± 0.2	0.9 ± 0.2
E00420	N06300	A	0.9 ± 0.1	0.9 ± 0.2
E00420	N06320	A	8.7 ± 0.3	0.7 ± 0.3
E00420	N06340	A	0.8 ± 0.1	0.6 ± 0.1
E00420	N06360	A	1.3 ± 0.1	0.9 ± 0.1
E00420	N06380	A	3.2 ± 0.2	0.8 ± 0.2
E00420	N06400	A	1.1 ± 0.1	0.8 ± 0.2
E00420	N06420	A	13.8 ± 0.4	1.2 ± 0.2
E00420	N06440	A	12.4 ± 0.4	1.4 ± 0.3
E00420	N06460	A	2.1 ± 0.1	A
E00420	N06480	1.5 ± 1.8	1.0 ± 0.1	1.1 ± 0.2
E00420	N06500	A	1.2 ± 0.1	1.0 ± 0.2
E00420	N06520	A	8.9 ± 0.3	1.1 ± 0.2
E00420	N06540	A	3.8 ± 0.5	A
E00420	N06560	A	2.3 ± 0.2	0.8 ± 0.2
E00420	N06580	A	3.3 ± 0.2	0.8 ± 0.2
E00420	N06600	A	3.5 ± 0.2	0.7 ± 0.2
E00420	N06620	A	3.0 ± 0.2	0.7 ± 0.1
E00420	N06640	A	1.8 ± 0.1	0.5 ± 0.2
E00420	N06660	A	5.2 ± 0.2	1.3 ± 0.3
E00420	N06680	A	0.8 ± 0.1	0.4 ± 0.2
E00420	N07020	A	1.2 ± 0.1	0.7 ± 0.2

TABLE 13

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
E00420	N07040	A	3.1 ± 0.2	0.5 ± 0.2
E00420	N07060	A	1.1 ± 0.1	0.9 ± 0.2
E00420	N07080	A	0.8 ± 0.1	1.3 ± 0.2
E00420	N07100	A	0.9 ± 0.1	1.1 ± 0.2
E00420	N07120	A	1.0 ± 0.1	0.8 ± 0.1
E00420	N07140	A	1.5 ± 0.2	1.0 ± 0.2
E00420	N07160	A	1.6 ± 0.2	1.4 ± 0.3
E00420	N07180	A	1.2 ± 0.1	0.9 ± 0.2
E00420	N07200	A	0.9 ± 0.1	1.5 ± 0.2
E00420	N07220	A	0.8 ± 0.1	0.8 ± 0.2
E00420	N07240	A	1.1 ± 0.1	1.1 ± 0.2
E00420	N07260	A	2.1 ± 0.1	0.8 ± 0.2
E00420	N07280	A	1.3 ± 0.1	1.2 ± 0.2
E00420	N07300	A	2.2 ± 0.2	0.7 ± 0.1
E00420	N07320	A	1.1 ± 0.1	0.8 ± 0.2
E00420	N07340	1.6 ± 1.1	1.9 ± 0.1	1.0 ± 0.2
E00420	N07360	A	0.7 ± 0.1	0.3 ± 0.1
E00420	N07380	A	2.0 ± 0.1	0.8 ± 0.2
E00420	N07400	A	3.1 ± 0.2	A
E00420	N07420	A	0.8 ± 0.1	1.0 ± 0.2
E00420	N07440	A	2.0 ± 0.2	0.8 ± 0.2
E00420	N07460	A	0.7 ± 0.1	0.7 ± 0.1
E00420	N07480	A	0.8 ± 0.1	0.9 ± 0.1
E00420	N07500	A	4.9 ± 0.2	1.1 ± 0.2
E00420	N07520	A	1.1 ± 0.1	0.8 ± 0.2
E00420	N07540	A	1.0 ± 0.1	0.6 ± 0.2
E00420	N07560	A	0.9 ± 0.1	0.4 ± 0.1
E00420	N07580	A	1.6 ± 0.1	0.7 ± 0.2
E00420	N07600	A	4.6 ± 0.2	0.6 ± 0.2
E00420	N07620	A	1.0 ± 0.1	0.7 ± 0.2
E00420	N07640	A	0.8 ± 0.1	0.8 ± 0.2
E00420	N07660	A	1.1 ± 0.1	0.7 ± 0.1
E00420	N07680	A	0.9 ± 0.1	1.0 ± 0.1
E00420	N07700	A	1.0 ± 0.1	0.9 ± 0.1
E00420	N07720	A	1.0 ± 0.1	0.8 ± 0.1
E00420	N07740	A	1.3 ± 0.1	0.7 ± 0.2
E00420	N07760	A	1.9 ± 0.1	A
E00420	N07780	A	1.3 ± 0.1	1.6 ± 0.2
E00420	N07800	A	0.8 ± 0.1	0.9 ± 0.2
E00420	N07820	A	0.9 ± 0.1	0.8 ± 0.2
E00420	N07840	A	0.8 ± 0.1	0.8 ± 0.2
E00420	N07860	A	2.5 ± 0.2	1.1 ± 0.2
E00420	N07880	A	0.2 ± 0.1	A

TABLE 13

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
E00420	N07900	A	0.8 ± 0.1	0.8 ± 0.2
E00420	N07920	A	2.6 ± 0.2	1.1 ± 0.2
E00420	N07940	A	4.1 ± 0.2	0.9 ± 0.2
E00420	N07960	A	2.0 ± 0.2	0.7 ± 0.2
E00420	N07980	A	4.2 ± 0.2	0.8 ± 0.2
E00420	N08000	A	3.1 ± 0.2	0.7 ± 0.2
E00420	N08020	A	5.4 ± 0.2	1.2 ± 0.2
E00420	N08040	1.6 ± 1.6	1.2 ± 0.1	0.7 ± 0.2
E00420	N08060	A	0.7 ± 0.3	1.3 ± 0.3
E00420	N08080	A	1.6 ± 0.1	1.2 ± 0.2
E00420	N08100	A	2.5 ± 0.7	1.7 ± 0.2
E00420	N08120	A	9.4 ± 0.4	A
E00420	N08140	A	23.6 ± 0.5	0.9 ± 0.3
E00420	N08160	A	2.6 ± 0.6	1.6 ± 0.4
E00420	N08180	A	22.8 ± 0.5	1.5 ± 0.4
E00420	N08200	A	12.9 ± 0.4	1.6 ± 0.4
E00420	N08220	A	3.0 ± 0.2	0.8 ± 0.2
E00420	N08240	A	2.9 ± 0.2	0.7 ± 0.2
E00420	N08260	A	2.3 ± 0.1	1.0 ± 0.2
E00420	N08280	A	0.9 ± 0.1	0.9 ± 0.2
E00420	N08300	34.6 ± 2.7	1.9 ± 0.1	1.0 ± 0.2
E00420	N08320	A	3.4 ± 0.2	1.4 ± 0.2
E00420	N08340	A	3.3 ± 0.2	1.0 ± 0.2
E00420	N08360	A	1.8 ± 0.1	1.3 ± 0.2
E00420	N08380	A	2.5 ± 0.1	1.1 ± 0.2
E00420	N08400	A	2.2 ± 0.2	1.0 ± 0.2
E00420	N08420	A	2.1 ± 0.1	0.8 ± 0.2
E00420	N08440	A	1.2 ± 0.1	1.2 ± 0.1
E00420	N08460	A	1.7 ± 0.1	0.9 ± 0.2
E00420	N08480	3.3 ± 1.8	2.9 ± 0.2	1.0 ± 0.2
E00420	N08500	A	8.6 ± 0.3	A
E00420	N08520	A	2.5 ± 0.2	0.8 ± 0.4
E00420	N08540	A	1.4 ± 0.1	0.7 ± 0.2
E00420	N08560	4.1 ± 1.6	0.9 ± 0.1	0.9 ± 0.2
E00420	N08580	2.5 ± 1.0	1.5 ± 0.1	0.7 ± 0.1
E00420	N08600	A	1.1 ± 0.1	0.7 ± 0.2
E00420	N08620	A	1.1 ± 0.1	0.8 ± 0.2
E00420	N08640	A	1.0 ± 0.1	0.8 ± 0.2
E00420	N08660	A	1.3 ± 0.1	1.3 ± 0.2
E00420	N08680	2.2 ± 1.4	1.1 ± 0.1	1.2 ± 0.2
E00420	N08700	A	15.0 ± 0.4	1.2 ± 0.3
E00420	N08720	A	0.9 ± 0.1	1.2 ± 0.2
E00420	N08740	A	1.8 ± 0.1	0.5 ± 0.2

TABLE 13

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
E00420	N08750	A	6.7 ± 0.3	0.8 ± 0.2
E00420	N08770	A	4.5 ± 0.3	1.5 ± 0.3
E00420	N08790	A	1.5 ± 0.1	0.5 ± 0.2
E00420	N08810	A	1.5 ± 0.1	1.0 ± 0.2
E00420	N08830	A	0.7 ± 0.1	0.5 ± 0.1
E00420	N08850	A	1.3 ± 0.1	1.4 ± 0.2
E00420	N08870	A	1.4 ± 0.1	1.2 ± 0.2
E00420	N08890	A	1.6 ± 0.1	0.9 ± 0.2
E00420	N08910	A	3.7 ± 0.2	0.9 ± 0.2
E00420	N08930	A	2.1 ± 0.2	1.0 ± 0.2
E00420	N08950	A	4.3 ± 0.2	0.8 ± 0.2
E00420	N08970	A	1.9 ± 0.2	1.4 ± 0.2
E00420	N08990	A	1.1 ± 0.1	1.1 ± 0.2
E00420	N09010	A	1.2 ± 0.1	0.8 ± 0.2
E00420	N09030	A	1.2 ± 0.2	1.1 ± 0.2
E00420	N09050	A	6.2 ± 0.3	1.3 ± 0.2
E00420	N09070	A	1.2 ± 0.1	1.6 ± 0.2
E00420	N09090	A	2.1 ± 0.2	1.2 ± 0.2
E00420	N09110	A	4.6 ± 0.2	0.5 ± 0.2
E00420	N09130	A	1.5 ± 0.1	0.9 ± 0.2
E00420	N09150	A	1.6 ± 0.1	1.0 ± 0.2
E00420	N09170	A	1.5 ± 0.1	1.5 ± 0.2
E00420	N09190	A	1.1 ± 0.1	1.2 ± 0.2
E00420	N09210	A	1.0 ± 0.1	0.9 ± 0.2
E00420	N09230	A	2.4 ± 0.2	A
E00420	N09250	A	1.1 ± 0.1	1.3 ± 0.2
E00420	N09260	A	1.6 ± 0.1	0.5 ± 0.2
E00420	N09280	A	1.1 ± 0.1	1.3 ± 0.2
E00420	N09300	A	1.1 ± 0.1	1.0 ± 0.2
E00420	N09320	A	3.4 ± 0.2	0.7 ± 0.2
E00420	N09340	A	2.0 ± 0.2	1.3 ± 0.2
E00420	N09360	A	1.7 ± 0.1	0.9 ± 0.2
E00420	N09380	A	3.0 ± 0.2	1.0 ± 0.2
E00420	N09400	A	3.0 ± 0.2	0.8 ± 0.2
E00420	N09420	A	1.2 ± 0.2	1.2 ± 0.2
E00420	N09440	A	1.8 ± 0.1	1.3 ± 0.1
E00420	N09460	A	0.9 ± 0.1	1.1 ± 0.2
E00420	N09480	A	1.5 ± 0.1	1.0 ± 0.1
E00420	N09500	A	1.4 ± 0.1	0.8 ± 0.2
E00420	N09560	A	1.5 ± 0.1	1.3 ± 0.2
E00420	N09620	A	5.1 ± 0.3	1.4 ± 0.3
E00420	N09640	A	5.2 ± 0.2	1.4 ± 0.2
E00420	N09650	A	2.1 ± 0.2	1.2 ± 0.3

TABLE 13

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
E00420	N09670	A	8.5 ± 0.3	0.8 ± 0.2
E00420	N09690	A	6.3 ± 0.5	0.6 ± 0.2
E00420	N09710	A	1.5 ± 0.1	0.9 ± 0.2
E00421	N02548	0.6 ± 0.3	0.8 ± 0.1	1.2 ± 0.2
E00421	N02748	A	0.8 ± 0.1	1.0 ± 0.2
E00422	N02729	A	1.1 ± 0.2	1.2 ± 0.2
E00422	N03120	A	1.1 ± 0.1	1.0 ± 0.1
E00422	N03140	A	1.2 ± 0.2	1.2 ± 0.3
E00422	N03160	A	0.8 ± 0.1	1.2 ± 0.2
E00422	N03180	A	1.1 ± 0.2	1.0 ± 0.2
E00422	N03200	1.7 ± 0.6	0.9 ± 0.1	0.9 ± 0.1
E00422	N03220	A	0.7 ± 0.1	0.8 ± 0.2
E00422	N03240	A	0.7 ± 0.1	A
E00422	N03560	A	0.7 ± 0.1	0.7 ± 0.2
E00422	N03580	A	0.9 ± 0.1	0.6 ± 0.2
E00422	N03600	A	2.7 ± 0.3	0.8 ± 0.2
E00422	N03620	A	0.6 ± 0.2	1.0 ± 0.2
E00422	N03640	2.7 ± 1.2	0.6 ± 0.1	0.7 ± 0.1
E00422	N03660	0.6 ± 0.3	0.7 ± 0.1	0.5 ± 0.2
E00422	N03680	2.3 ± 2.3	0.7 ± 0.2	0.9 ± 0.3
E00422	N03700	A	0.8 ± 0.1	1.8 ± 0.3
E00422	N03720	A	0.6 ± 0.1	0.6 ± 0.2
E00422	N03740	A	1.1 ± 0.1	0.7 ± 0.2
E00422	N03760	A	0.8 ± 0.1	1.1 ± 0.2
E00422	N03780	A	1.0 ± 0.2	0.7 ± 0.2
E00422	N03800	A	1.5 ± 0.2	0.7 ± 0.2
E00422	N03820	A	1.1 ± 0.2	1.1 ± 0.2
E00422	N03840	A	0.9 ± 0.1	0.6 ± 0.2
E00422	N03860	A	0.6 ± 0.1	0.8 ± 0.1
E00422	N03880	A	0.6 ± 0.1	0.5 ± 0.2
E00422	N03900	A	1.0 ± 0.2	0.6 ± 0.3
E00422	N03920	A	0.7 ± 0.1	0.4 ± 0.1
E00422	N03940	A	1.1 ± 0.2	0.4 ± 0.2
E00422	N03960	1.5 ± 0.1	0.7 ± 0.1	1.1 ± 0.1
E00422	N09520	A	1.4 ± 0.1	1.1 ± 0.2
E00422	N09540	3.6 ± 1.8	1.6 ± 0.1	0.9 ± 0.2
E00422	N09580	A	2.4 ± 0.2	1.3 ± 0.2
E00422	N09600	A	2.1 ± 0.2	1.2 ± 0.2
E00423	N02530	A	9.9 ± 0.1	1.2 ± 0.2
E00424	N02607	A	0.9 ± 0.1	0.9 ± 0.2
E00424	N02625	A	0.9 ± 9.1	1.0 ± 0.3
E00424	N02709	A	1.0 ± 0.1	0.9 ± 0.2
E00424	N03315	A	1.1 ± 0.2	0.7 ± 0.3

TABLE 13

(continued)

Grid Coordinates		Concentrations (pCi/g +/- 1 sigma)		
E,W	N,S	Uranium-238	Radium-226	Thorium-232
E00424	N03335	3.2 ± 2.2	1.2 ± 0.1	0.7 ± 0.2
E00424	N03355	A	1.0 ± 0.1	0.7 ± 0.3
E00425	N02686	A	0.9 ± 0.1	0.9 ± 0.2
E00425	N03260	A	0.9 ± 0.1	0.9 ± 0.1
E00425	N03280	A	0.7 ± 0.1	0.6 ± 0.2
E00425	N03360	A	0.8 ± 0.2	0.6 ± 0.3
E00425	N03380	A	0.9 ± 0.1	1.1 ± 0.2
E00425	N03400	A	0.9 ± 0.1	1.1 ± 0.3
E00425	N03420	A	1.0 ± 0.1	0.8 ± 0.2
E00425	N03440	0.7 ± 0.1	0.9 ± 0.1	0.9 ± 0.1
E00425	N03460	A	0.9 ± 0.2	0.5 ± 0.3
E00425	N03480	1.4 ± 0.1	0.8 ± 0.1	1.1 ± 0.1
E00425	N03500	A	0.9 ± 0.1	1.1 ± 0.2
E00425	N03520	A	0.6 ± 0.1	0.4 ± 0.3
E00425	N03540	0.5 ± 0.1	0.7 ± 0.1	0.8 ± 0.1
E00425	N04020	A	1.0 ± 0.1	1.2 ± 0.2
E00425	N04040	A	4.7 ± 0.3	1.2 ± 0.2
E00425	N04080	A	0.9 ± 0.1	0.7 ± 0.2
E00425	N04100	A	0.8 ± 0.1	1.0 ± 0.2
E00425	N04120	1.1 ± 0.4	0.9 ± 0.1	0.8 ± 0.1
E00425	N04140	A	0.9 ± 0.1	1.2 ± 0.2
E00425	N04160	A	0.9 ± 0.1	0.7 ± 0.2
E00425	N04180	A	0.5 ± 0.1	0.9 ± 0.2
E00425	N04200	A	0.7 ± 0.1	0.8 ± 0.2
E00425	N04220	A	0.9 ± 0.1	1.4 ± 0.2
E00425	N04240	A	0.7 ± 0.1	0.6 ± 0.2
E00425	N04260	A	0.9 ± 0.1	0.8 ± 0.1
E00425	N04280	A	0.8 ± 0.1	0.9 ± 0.2
E00425	N04300	A	1.0 ± 0.1	1.2 ± 0.2
E00425	N04320	A	0.8 ± 0.1	1.0 ± 0.2
E00425	N04340	A	0.7 ± 0.2	0.6 ± 0.2
E00425	N04360	2.2 ± 1.2	0.8 ± 0.1	0.9 ± 0.2
E00425	N04380	A	0.6 ± 0.1	1.1 ± 0.1
E00425	N04400	A	0.7 ± 0.1	0.5 ± 0.2
E00425	N04420	2.3 ± 1.8	1.0 ± 0.2	0.7 ± 0.2
E00425	N04440	A	1.1 ± 0.1	1.0 ± 0.2
E00425	N04460	A	0.9 ± 0.1	1.2 ± 0.2
E00425	N04480	A	0.8 ± 0.1	1.0 ± 0.2
E00425	N04500	A	0.9 ± 0.1	0.7 ± 0.2
E00425	N04520	A	0.8 ± 0.2	1.2 ± 0.2
E00425	N04540	A	0.9 ± 0.1	0.8 ± 0.2
E00425	N04560	A	0.9 ± 0.1	0.8 ± 0.2
E00425	N04580	A	0.7 ± 0.1	0.7 ± 0.2

TABLE 13

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
E00425	N04600	A	1.4 ± 0.2	0.8 ± 0.3
E00425	N04620	A	1.2 ± 0.2	0.9 ± 0.4
E00425	N04640	A	0.7 ± 0.1	0.5 ± 0.2
E00425	N04660	A	1.0 ± 0.1	0.9 ± 0.2
E00425	N04680	0.6 ± 0.3	0.6 ± 0.1	0.7 ± 0.2
E00425	N04700	A	1.0 ± 0.1	1.1 ± 0.2
E00425	N04720	3.6 ± 0.8	2.6 ± 0.1	2.6 ± 0.2
E00425	N04740	A	0.5 ± 0.1	0.7 ± 0.3
E00425	N04760	A	0.7 ± 0.1	0.7 ± 0.2
E00425	N04780	A	0.8 ± 0.1	0.8 ± 0.2
E00425	N04800	0.3 ± 0.1	1.2 ± 0.1	0.8 ± 0.2
E00425	N04832	A	1.0 ± 0.1	1.0 ± 0.2
E00425	N04840	A	0.8 ± 0.1	0.5 ± 0.3
E00425	N04860	0.5 ± 0.2	1.2 ± 0.1	0.8 ± 0.1
E00425	N04880	A	1.0 ± 0.1	0.7 ± 0.2
E00428	N02585	A	0.7 ± 0.2	A
E00428	N02668	A	1.1 ± 0.1	1.0 ± 0.3
E00429	N02568	0.7 ± 1.1	1.1 ± 0.1	0.9 ± 0.2
E00430	N02645	A	0.7 ± 0.1	0.6 ± 0.1
E00431	N02548	A	0.8 ± 0.1	1.0 ± 0.2
E00433	N02530	A	0.8 ± 0.1	1.0 ± 0.2
E00434	N02607	A	0.8 ± 0.1	1.1 ± 0.2
E00434	N02625	A	0.9 ± 0.1	1.0 ± 0.1
E00435	N04832	A	1.1 ± 0.2	0.9 ± 0.2
E00438	N02585	3.0 ± 1.9	0.8 ± 0.1	0.9 ± 0.2
E00439	N02568	A	0.6 ± 0.1	0.8 ± 0.2
E00440	N02300	4.7 ± 2.7	1.9 ± 0.2	1.1 ± 0.2
E00440	N02380	A	1.8 ± 0.1	0.9 ± 0.1
E00440	N02400	A	0.8 ± 0.1	1.0 ± 0.1
E00440	N02410	1.5 ± 0.9	1.0 ± 0.1	1.0 ± 0.2
E00440	N02430	A	1.1 ± 0.1	0.9 ± 0.1
E00440	N02450	A	0.8 ± 0.1	0.9 ± 0.2
E00440	N02470	A	0.6 ± 0.1	A
E00440	N02480	A	0.9 ± 0.1	1.3 ± 0.2
E00440	N02942	A	2.6 ± 0.2	0.5 ± 0.2
E00440	N02945	0.7 ± 0.1	1.1 ± 0.1	A
E00441	N02360	A	1.2 ± 0.2	1.7 ± 0.3
E00441	N02548	0.5 ± 0.5	0.7 ± 0.1	1.0 ± 0.2
E00443	N02200	A	1.9 ± 0.2	1.0 ± 0.2
E00443	N02340	A	1.2 ± 0.2	0.9 ± 0.3
E00445	N02320	A	5.1 ± 0.3	1.2 ± 0.2
E00445	N02530	0.9 ± 0.1	0.9 ± 0.1	1.0 ± 0.1
E00445	N04832	2.2 ± 0.1	0.9 ± 0.1	0.9 ± 0.1

TABLE 13

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
E00448	N02220	A	2.9 ± 0.2	0.9 ± 0.2
E00448	N02240	A	0.9 ± 0.1	1.0 ± 0.7
E00450	N02260	A	0.9 ± 0.1	0.9 ± 0.2
E00450	N02280	A	2.1 ± 0.2	0.7 ± 0.3
E00450	N02300	A	0.5 ± 0.1	0.8 ± 0.2
E00450	N02400	A	1.0 ± 0.1	0.8 ± 0.1
E00450	N02410	A	1.0 ± 0.1	1.1 ± 0.2
E00450	N02430	A	0.8 ± 0.1	0.6 ± 0.1
E00450	N02450	A	0.8 ± 0.1	0.7 ± 0.2
E00450	N02470	1.7 ± 1.8	0.5 ± 0.1	A
E00450	N02480	A	1.0 ± 0.1	1.8 ± 0.3
E00451	N02360	1.2 ± 0.8	0.8 ± 0.1	0.5 ± 0.1
E00453	N02200	A	1.1 ± 0.2	1.0 ± 0.2
E00453	N02240	A	1.0 ± 0.1	0.7 ± 0.2
E00455	N02320	A	0.7 ± 0.2	0.5 ± 0.2
E00455	N04832	A	0.8 ± 0.1	0.6 ± 0.2
E00458	N02220	A	0.8 ± 0.1	0.8 ± 0.2
E00458	N02240	1.3 ± 0.1	1.0 ± 0.1	0.9 ± 0.1
E00459	N02180	A	1.1 ± 0.1	1.2 ± 0.3
E00460	N02260	A	1.1 ± 0.2	1.2 ± 0.2
E00460	N02280	4.8 ± 0.6	1.0 ± 0.1	0.9 ± 0.1
E00460	N02380	A	1.6 ± 0.2	0.9 ± 0.2
E00460	N02400	A	1.1 ± 0.1	1.0 ± 0.1
E00460	N02410	A	1.0 ± 0.1	1.2 ± 0.2
E00460	N02430	A	0.8 ± 0.1	0.9 ± 0.2
E00460	N02450	A	1.1 ± 0.1	1.0 ± 0.3
E00460	N02470	A	0.7 ± 0.1	0.6 ± 0.1
E00460	N02480	A	0.9 ± 0.1	0.7 ± 0.2
E00460	N02940	A	0.5 ± 0.1	0.8 ± 0.1
E00460	N02943	0.7 ± 0.3	0.6 ± 0.1	0.5 ± 0.1
E00461	N02140	A	0.9 ± 0.2	0.6 ± 0.2
E00461	N02160	A	1.0 ± 0.1	1.0 ± 0.2
E00461	N02360	A	1.0 ± 0.1	0.9 ± 0.2
E00463	N02120	0.8 ± 0.4	1.2 ± 0.1	0.8 ± 0.1
E00463	N02200	A	1.1 ± 0.1	1.3 ± 0.2
E00463	N02340	A	0.9 ± 0.1	1.1 ± 0.2
E00465	N02320	A	0.7 ± 0.1	1.0 ± 0.3
E00465	N04832	A	0.7 ± 0.1	0.4 ± 0.2
E00466	N02100	A	0.9 ± 0.1	0.7 ± 0.1
E00468	N02220	A	1.0 ± 0.1	0.7 ± 0.2
E00468	N02240	A	1.0 ± 0.1	0.5 ± 0.2
E00469	N02180	1.7 ± 0.5	1.1 ± 0.1	1.0 ± 0.2
E00470	N02060	A	2.4 ± 0.2	1.4 ± 0.3

TABLE 13

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
E00470	N02080	A	0.8 ± 0.1	0.5 ± 0.2
E00470	N02260	A	2.0 ± 0.2	0.5 ± 0.2
E00470	N02280	A	0.9 ± 0.2	0.6 ± 0.2
E00470	N02300	A	3.0 ± 0.2	0.7 ± 0.3
E00471	N02140	A	1.1 ± 0.2	0.9 ± 0.2
E00471	N02160	A	1.0 ± 0.2	1.0 ± 0.2
E00472	N02040	A	1.3 ± 0.2	1.0 ± 0.2
E00473	N02020	2.2 ± 1.7	1.6 ± 0.1	1.0 ± 0.2
E00473	N02120	A	1.4 ± 0.2	0.7 ± 0.2
E00476	N02000	A	1.4 ± 0.2	0.3 ± 0.5
E00476	N02100	6.6 ± 2.5	1.2 ± 0.2	0.8 ± 0.2
E00478	N01820	A	1.1 ± 0.1	0.9 ± 0.1
E00478	N01840	A	1.4 ± 0.1	0.8 ± 0.1
E00479	N02180	A	1.0 ± 0.1	1.1 ± 0.2
E00480	N00560	0.6 ± 0.4	0.7 ± 0.1	1.1 ± 0.2
E00480	N00580	1.3 ± 0.1	0.7 ± 0.1	0.7 ± 0.1
E00480	N00600	A	1.2 ± 0.1	0.7 ± 0.2
E00480	N00620	0.3 ± 0.2	1.4 ± 0.1	1.0 ± 0.1
E00480	N00640	1.8 ± 1.1	0.8 ± 0.1	0.8 ± 0.1
E00480	N00660	A	1.3 ± 0.3	1.2 ± 0.3
E00480	N00680	A	0.8 ± 0.1	1.3 ± 0.2
E00480	N00700	2.1 ± 0.7	1.4 ± 0.1	1.1 ± 0.1
E00480	N00720	0.7 ± 0.1	1.0 ± 0.1	0.9 ± 0.1
E00480	N00740	A	0.9 ± 0.1	0.7 ± 0.2
E00480	N00760	0.4 ± 0.1	0.9 ± 0.1	0.9 ± 0.1
E00480	N00780	0.3 ± 0.5	0.9 ± 0.1	2.1 ± 0.2
E00480	N00800	0.3 ± 0.2	1.2 ± 0.1	1.2 ± 0.1
E00480	N00820	A	4.0 ± 0.2	0.6 ± 0.5
E00480	N00840	2.3 ± 0.6	1.8 ± 0.2	1.2 ± 0.2
E00480	N00860	2.8 ± 0.7	0.9 ± 0.1	0.7 ± 0.2
E00480	N00880	0.7 ± 0.2	1.1 ± 0.1	1.1 ± 0.1
E00480	N00900	0.3 ± 0.2	1.0 ± 0.1	1.0 ± 0.1
E00480	N00920	A	0.9 ± 0.2	1.3 ± 0.2
E00480	N00940	A	1.1 ± 0.1	1.3 ± 0.2
E00480	N00960	0.4 ± 0.2	0.9 ± 0.1	0.9 ± 0.1
E00480	N00980	0.6 ± 0.2	0.8 ± 0.1	0.8 ± 0.1
E00480	N01000	0.2 ± 0.2	1.0 ± 0.1	0.8 ± 0.1
E00480	N01020	0.1 ± 0.2	2.4 ± 0.1	0.8 ± 0.1
E00480	N01040	0.9 ± 0.7	1.2 ± 0.1	1.5 ± 0.2
E00480	N01060	A	0.7 ± 0.1	0.4 ± 0.3
E00480	N01080	A	0.7 ± 0.1	0.7 ± 0.1
E00480	N01100	A	1.1 ± 0.1	0.8 ± 0.2
E00480	N01120	0.7 ± 0.2	1.4 ± 0.1	1.0 ± 0.1

TABLE 13

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
E00480	N01140	A	0.9 ± 0.1	1.0 ± 0.2
E00480	N01160	1.2 ± 0.4	0.7 ± 0.1	0.4 ± 0.1
E00480	N01180	A	0.9 ± 0.1	1.2 ± 0.3
E00480	N01200	A	1.1 ± 0.1	0.7 ± 0.2
E00480	N01220	0.4 ± 0.1	0.7 ± 0.1	0.7 ± 0.1
E00480	N01240	0.3 ± 0.5	1.2 ± 0.1	0.6 ± 0.3
E00480	N01280	1.3 ± 0.2	1.1 ± 0.1	1.2 ± 0.1
E00480	N01300	A	0.6 ± 0.2	0.7 ± 0.3
E00480	N01320	0.3 ± 0.3	0.8 ± 0.1	1.0 ± 0.1
E00480	N01340	A	1.2 ± 0.1	0.9 ± 0.2
E00480	N01360	0.3 ± 0.4	0.5 ± 0.1	0.5 ± 0.2
E00480	N01380	A	7.0 ± 0.3	1.0 ± 0.3
E00480	N01400	A	0.8 ± 0.1	0.7 ± 0.1
E00480	N01420	1.7 ± 0.2	1.0 ± 0.1	0.8 ± 0.1
E00480	N01440	0.9 ± 0.1	0.8 ± 0.1	0.8 ± 0.1
E00480	N01460	A	0.9 ± 0.1	0.6 ± 0.2
E00480	N01480	A	0.7 ± 0.1	1.3 ± 0.2
E00480	N01500	2.9 ± 1.3	2.2 ± 0.1	0.9 ± 0.1
E00480	N01520	5.1 ± 0.8	1.2 ± 0.1	1.3 ± 0.2
E00480	N01540	A	1.2 ± 0.1	0.8 ± 0.2
E00480	N01560	A	0.8 ± 0.1	0.8 ± 0.2
E00480	N01580	0.2 ± 0.2	1.1 ± 0.1	1.1 ± 0.1
E00480	N01600	0.6 ± 0.2	0.8 ± 0.1	0.7 ± 0.1
E00480	N01620	0.8 ± 0.5	0.9 ± 0.2	1.5 ± 0.4
E00480	N01640	0.1 ± 0.2	1.1 ± 0.1	1.4 ± 0.2
E00480	N01700	3.3 ± 0.6	0.8 ± 0.1	1.1 ± 0.1
E00480	N01720	A	0.7 ± 0.1	0.9 ± 0.2
E00480	N01740	0.2 ± 0.5	0.6 ± 0.1	A
E00480	N01760	1.8 ± 0.2	0.9 ± 0.1	1.1 ± 0.1
E00480	N01780	A	1.3 ± 0.1	1.0 ± 0.2
E00480	N01800	0.1 ± 0.2	0.8 ± 0.1	0.7 ± 0.1
E00480	N01860	A	2.3 ± 0.1	0.6 ± 0.3
E00480	N01880	A	1.2 ± 0.1	1.1 ± 0.2
E00480	N01910	A	2.3 ± 0.3	1.2 ± 0.3
E00480	N02060	6.0 ± 0.1	2.3 ± 0.2	0.9 ± 0.2
E00480	N02080	6.6 ± 3.6	2.0 ± 0.3	A
E00480	N02942	A	0.8 ± 0.1	0.5 ± 0.1
E00480	N02945	A	0.7 ± 0.1	0.7 ± 0.2
E00481	N01895	A	1.1 ± 0.1	0.9 ± 0.2
E00481	N02140	0.1 ± 0.1	1.0 ± 0.1	1.0 ± 0.1
E00481	N02160	A	1.1 ± 0.2	0.2 ± 0.4
E00482	N02040	A	0.9 ± 0.1	1.1 ± 0.2
E00483	N02020	A	1.0 ± 0.1	1.2 ± 0.2

TABLE 13

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
E00483	N02120	A	1.0 ± 0.1	0.8 ± 0.2
E00485	N04832	A	0.7 ± 0.1	0.7 ± 0.2
E00486	N02000	A	1.1 ± 0.1	1.5 ± 0.2
E00486	N02100	A	0.9 ± 0.1	0.4 ± 0.2
E00488	N01820	A	1.5 ± 0.1	1.0 ± 0.2
E00488	N01840	A	1.3 ± 0.1	1.0 ± 0.1
E00490	N00560	0.7 ± 0.2	0.9 ± 0.1	1.0 ± 0.1
E00490	N00580	1.7 ± 0.4	0.7 ± 0.1	0.7 ± 0.2
E00490	N00600	0.7 ± 0.6	0.8 ± 0.1	1.0 ± 0.2
E00490	N00620	A	1.9 ± 0.1	0.8 ± 0.2
E00490	N00640	3.0 ± 2.2	0.9 ± 0.1	1.0 ± 0.2
E00490	N00660	A	2.4 ± 0.2	1.1 ± 0.2
E00490	N00680	1.4 ± 0.4	2.0 ± 0.2	0.6 ± 0.2
E00490	N00700	2.4 ± 0.2	1.2 ± 0.1	1.0 ± 0.1
E00490	N00720	0.1 ± 0.2	1.9 ± 0.1	0.9 ± 0.1
E00490	N00740	0.6 ± 0.5	1.3 ± 0.1	0.8 ± 0.2
E00490	N00760	1.7 ± 0.2	1.3 ± 0.1	0.8 ± 0.1
E00490	N00780	1.4 ± 0.7	4.0 ± 0.2	0.4 ± 0.4
E00490	N00800	1.9 ± 0.2	1.0 ± 0.1	1.0 ± 0.1
E00490	N00820	1.5 ± 0.3	6.0 ± 0.1	0.9 ± 0.1
E00490	N00840	0.2 ± 0.4	0.4 ± 0.1	0.9 ± 0.2
E00490	N00860	1.7 ± 0.3	0.9 ± 0.1	1.4 ± 0.3
E00490	N00880	1.1 ± 0.4	1.1 ± 0.1	0.1 ± 0.2
E00490	N00900	A	4.9 ± 0.2	0.6 ± 0.3
E00490	N00920	0.1 ± 0.4	5.9 ± 0.1	0.8 ± 0.1
E00490	N00940	0.6 ± 0.2	0.8 ± 0.1	0.8 ± 0.1
E00490	N00960	0.9 ± 0.1	0.8 ± 0.1	0.8 ± 0.1
E00490	N00980	A	1.1 ± 0.1	0.9 ± 0.3
E00490	N01000	1.9 ± 0.4	0.8 ± 0.1	1.0 ± 0.2
E00490	N01020	0.8 ± 0.2	1.1 ± 0.1	0.6 ± 0.1
E00490	N01040	A	1.3 ± 0.1	0.6 ± 0.2
E00490	N01060	1.9 ± 0.4	0.7 ± 0.1	0.8 ± 0.2
E00490	N01080	0.9 ± 0.8	9.6 ± 0.3	0.7 ± 0.2
E00490	N01100	0.6 ± 0.9	24.3 ± 0.5	A
E00490	N01120	0.8 ± 0.3	9.4 ± 0.1	0.8 ± 0.1
E00490	N01140	A	1.6 ± 0.2	1.6 ± 0.3
E00490	N01160	A	1.4 ± 0.1	0.9 ± 0.2
E00490	N01180	4.1 ± 0.2	3.2 ± 0.1	0.8 ± 0.1
E00490	N01220	2.5 ± 0.2	1.9 ± 0.1	0.8 ± 0.1
E00490	N01240	1.6 ± 0.2	0.6 ± 0.1	0.5 ± 0.2
E00490	N01260	A	17.1 ± 0.6	0.9 ± 0.5
E00490	N01280	0.7 ± 0.3	0.7 ± 0.1	0.9 ± 0.2
E00490	N01300	0.4 ± 0.5	1.1 ± 0.1	1.6 ± 0.2

TABLE 13

(continued)

Grid Coordinates		Concentrations (pCi/g +/- 1 sigma)		
E,W	N,S	Uranium-238	Radium-226	Thorium-232
E00490	N01320	A	0.9 ± 0.2	1.5 ± 0.2
E00490	N01340	0.3 ± 0.2	0.9 ± 0.1	1.0 ± 0.1
E00490	N01360	0.5 ± 0.2	0.8 ± 0.1	0.9 ± 0.1
E00490	N01380	A	0.8 ± 0.1	0.7 ± 0.2
E00490	N01400	0.6 ± 0.3	0.7 ± 0.1	0.8 ± 0.2
E00490	N01420	2.8 ± 0.5	0.9 ± 0.1	0.9 ± 0.1
E00490	N01440	A	1.0 ± 0.1	0.8 ± 0.2
E00490	N01460	1.5 ± 0.2	0.9 ± 0.1	0.9 ± 0.1
E00490	N01480	1.3 ± 0.1	0.7 ± 0.1	0.7 ± 0.1
E00490	N01500	A	0.5 ± 0.1	0.7 ± 0.2
E00490	N01520	0.1 ± 0.1	0.8 ± 0.1	0.7 ± 0.1
E00490	N01540	0.7 ± 0.2	1.0 ± 0.1	1.1 ± 0.1
E00490	N01560	A	1.0 ± 0.1	1.2 ± 0.2
E00490	N01580	A	1.2 ± 0.1	0.7 ± 0.1
E00490	N01600	0.8 ± 0.1	0.8 ± 0.1	0.7 ± 0.1
E00490	N01620	1.9 ± 0.4	0.6 ± 0.2	1.3 ± 0.2
E00490	N01640	A	0.7 ± 0.1	1.5 ± 0.2
E00490	N01660	A	0.8 ± 0.2	0.9 ± 0.2
E00490	N01680	A	1.0 ± 0.1	0.9 ± 0.2
E00490	N01700	0.4 ± 0.2	0.6 ± 0.1	0.7 ± 0.1
E00490	N01720	0.2 ± 0.6	0.8 ± 0.1	0.9 ± 0.2
E00490	N01740	1.8 ± 0.5	1.0 ± 0.1	1.3 ± 0.2
E00490	N01760	A	1.1 ± 0.1	0.5 ± 0.1
E00490	N01780	4.3 ± 0.8	2.2 ± 0.1	1.2 ± 0.1
E00490	N01800	0.4 ± 0.6	0.7 ± 0.1	0.3 ± 0.2
E00490	N01880	A	1.7 ± 0.2	0.9 ± 0.2
E00490	N01900	A	1.0 ± 0.1	1.1 ± 0.2
E00490	N01920	2.5 ± 2.2	0.9 ± 0.2	A
E00490	N02060	A	1.3 ± 0.2	1.1 ± 0.3
E00490	N02080	A	0.9 ± 0.1	0.8 ± 0.2
E00492	N02040	A	0.8 ± 0.1	1.3 ± 0.2
E00493	N02020	A	3.2 ± 0.2	0.9 ± 0.2
E00495	N01895	A	1.2 ± 0.1	1.6 ± 0.3
E00496	N01860	A	2.2 ± 0.2	1.3 ± 0.3
E00496	N01880	A	2.4 ± 0.1	0.8 ± 0.1
E00496	N02000	5.3 ± 3.1	1.0 ± 0.2	1.3 ± 0.3
E00497	N01840	A	0.6 ± 0.1	0.8 ± 0.1
E00500	N00560	1.7 ± 0.5	2.4 ± 0.2	1.1 ± 0.3
E00500	N00580	0.6 ± 0.2	1.7 ± 0.1	1.0 ± 0.1
E00500	N00600	3.3 ± 0.4	1.5 ± 0.1	1.0 ± 0.1
E00500	N00640	A	A	0.8 ± 0.4
E00500	N00660	0.1 ± 0.3	6.5 ± 0.1	0.9 ± 0.1
E00500	N00680	0.2 ± 0.1	3.5 ± 0.1	1.1 ± 0.1

TABLE 13

(continued)

Grid Coordinates		Concentrations (pCi/g +/- 1 sigma)		
E,W	N,S	Uranium-238	Radium-226	Thorium-232
E00500	N00700	0.1 ± 0.1	4.4 ± 0.1	1.2 ± 0.1
E00500	N00720	A	5.5 ± 0.2	0.6 ± 0.5
E00500	N00740	0.1 ± 0.3	1.0 ± 0.1	1.0 ± 0.1
E00500	N00760	0.7 ± 0.1	1.1 ± 0.1	0.8 ± 0.1
E00500	N00780	0.2 ± 0.6	1.8 ± 0.1	0.8 ± 0.2
E00500	N00800	A	1.4 ± 0.1	A
E00500	N00820	0.2 ± 0.6	2.5 ± 0.2	1.1 ± 0.2
E00500	N00840	A	6.6 ± 0.3	0.6 ± 0.3
E00500	N00860	1.1 ± 0.2	1.9 ± 0.1	1.0 ± 0.9
E00500	N00880	0.1 ± 0.3	1.8 ± 1.0	1.1 ± 0.1
E00500	N00900	2.3 ± 0.7	2.6 ± 0.1	1.0 ± 0.1
E00500	N00920	A	3.9 ± 0.2	1.0 ± 0.2
E00500	N00940	A	8.7 ± 0.3	0.7 ± 0.2
E00500	N00960	1.6 ± 0.6	1.7 ± 0.1	0.7 ± 0.1
E00500	N00980	A	1.8 ± 0.2	0.7 ± 0.2
E00500	N01000	0.3 ± 0.2	2.0 ± 0.1	1.0 ± 0.1
E00500	N01020	A	4.4 ± 0.2	1.3 ± 0.2
E00500	N01040	A	4.9 ± 0.2	0.5 ± 0.3
E00500	N01060	2.2 ± 0.3	7.0 ± 0.1	1.1 ± 0.1
E00500	N01080	0.1 ± 0.2	2.6 ± 0.1	1.0 ± 0.1
E00500	N01100	A	3.3 ± 0.2	1.4 ± 0.3
E00500	N01120	0.1 ± 0.2	1.5 ± 0.1	0.9 ± 0.1
E00500	N01140	A	1.7 ± 0.1	1.0 ± 0.1
E00500	N01160	2.8 ± 0.7	2.5 ± 0.1	1.1 ± 0.1
E00500	N01180	A	2.6 ± 0.2	1.0 ± 0.3
E00500	N01200	0.6 ± 0.1	6.4 ± 0.1	1.1 ± 0.1
E00500	N01220	1.2 ± 0.1	2.7 ± 0.1	0.9 ± 0.1
E00500	N01240	2.0 ± 0.1	2.4 ± 0.1	1.0 ± 0.1
E00500	N01260	0.3 ± 0.4	0.8 ± 0.1	0.7 ± 0.2
E00500	N01280	A	6.0 ± 0.3	0.7 ± 0.3
E00500	N01300	2.9 ± 0.6	3.4 ± 0.2	0.9 ± 0.2
E00500	N01320	A	3.4 ± 0.2	0.8 ± 0.3
E00500	N01340	0.2 ± 0.2	3.6 ± 0.1	1.0 ± 0.1
E00500	N01360	0.4 ± 0.2	1.0 ± 0.1	1.0 ± 0.1
E00500	N01380	A	1.2 ± 0.2	1.6 ± 0.4
E00500	N01400	A	2.8 ± 0.1	1.1 ± 0.1
E00500	N01420	A	11.9 ± 0.4	0.8 ± 0.2
E00500	N01440	A	4.9 ± 0.2	0.5 ± 0.3
E00500	N01460	0.5 ± 0.4	1.8 ± 0.1	A
E00500	N01480	A	4.7 ± 0.2	0.9 ± 0.3
E00500	N01500	0.2 ± 0.3	11.9 ± 0.1	0.9 ± 0.1
E00500	N01520	1.1 ± 0.3	3.5 ± 0.1	0.9 ± 0.1
E00500	N01540	A	2.3 ± 0.2	1.1 ± 0.3

TABLE 13

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
E00500	N01560	0.2 ± 0.3	16.5 ± 0.2	0.8 ± 0.1
E00500	N01580	A	16.8 ± 0.2	1.1 ± 0.1
E00500	N01600	1.2 ± 0.3	19.5 ± 0.2	0.9 ± 0.2
E00500	N01620	0.1 ± 0.3	2.4 ± 0.1	1.0 ± 0.1
E00500	N01640	A	1.1 ± 0.1	1.5 ± 0.2
E00500	N01660	A	0.8 ± 0.1	0.7 ± 0.2
E00500	N01680	0.5 ± 0.2	0.7 ± 0.1	0.8 ± 0.2
E00500	N01700	A	2.2 ± 0.2	1.5 ± 0.3
E00500	N01720	A	1.1 ± 0.2	1.0 ± 0.2
E00500	N01740	A	1.6 ± 0.1	0.3 ± 0.2
E00500	N01780	A	1.3 ± 0.1	0.7 ± 0.2
E00500	N01820	A	14.0 ± 1.2	15.4 ± 2.0
E00500	N01930	A	3.8 ± 0.4	A
E00500	N02940	0.8 ± 0.4	0.8 ± 0.1	0.9 ± 0.2
E00500	N02943	A	0.9 ± 0.1	0.7 ± 0.1
E00520	N02942	3.1 ± 2.2	1.0 ± 0.2	0.8 ± 0.2
E00520	N02945	A	0.8 ± 0.1	0.7 ± 0.1
E00540	N02940	A	0.8 ± 0.1	0.9 ± 0.6
E00540	N02943	A	1.0 ± 0.1	0.6 ± 0.2
W00010	N09980	A	1.5 ± 0.1	1.0 ± 0.3
W00040	N09980	A	1.1 ± 0.1	1.4 ± 0.2
W00055	N09980	A	0.9 ± 0.1	1.0 ± 0.2
W00080	N09980	A	0.9 ± 0.1	1.2 ± 0.3
W00100	N09980	A	1.6 ± 0.1	1.1 ± 0.2
W00120	N09980	A	10.1 ± 0.3	1.1 ± 0.3
W00140	N09980	A	1.1 ± 0.1	0.8 ± 0.2
W00150	N09990	A	1.5 ± 0.2	0.5 ± 0.2
W00160	N09980	A	1.2 ± 0.1	0.8 ± 0.2
W00160	N10000	A	2.0 ± 0.2	1.0 ± 0.2
W00170	N09990	A	1.5 ± 0.2	1.2 ± 0.2
W00170	N10010	A	2.4 ± 0.2	1.0 ± 0.1
W00180	N09980	A	0.8 ± 0.1	0.9 ± 0.2
W00180	N10000	A	2.2 ± 0.2	A
W00190	N09990	A	2.2 ± 0.2	0.8 ± 0.2
W00190	N10010	A	1.3 ± 0.1	0.8 ± 0.2
W00200	N09980	A	1.7 ± 0.1	1.2 ± 0.2
W00200	N10000	A	1.7 ± 0.2	1.4 ± 0.2
W00200	N10020	2.3 ± 1.8	2.0 ± 0.1	0.8 ± 0.2
W00210	N09990	A	1.0 ± 0.1	1.0 ± 0.2
W00210	N10010	A	1.9 ± 0.2	0.5 ± 0.2
W00220	N09980	10.4 ± 2.4	1.0 ± 0.1	1.0 ± 0.2
W00220	N10000	A	4.1 ± 0.2	0.9 ± 0.2
W00220	N10020	A	2.7 ± 0.2	1.1 ± 0.2

TABLE 13

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
W00230	N09990	A	1.4 ± 0.1	0.8 ± 0.2
W00230	N10010	A	1.6 ± 0.1	1.1 ± 0.2
W00230	N10030	A	1.9 ± 0.2	1.0 ± 0.2
W00240	N09980	2.7 ± 2.7	0.9 ± 0.1	0.5 ± 0.2
W00240	N10000	A	1.9 ± 0.2	1.0 ± 0.2
W00240	N10020	A	2.4 ± 0.2	1.2 ± 0.2
W00250	N09990	A	1.6 ± 0.1	1.1 ± 0.2
W00250	N10010	A	1.8 ± 0.1	0.6 ± 0.2
W00250	N10030	A	2.1 ± 0.1	1.3 ± 0.2
W00260	N09980	A	2.0 ± 1.6	1.4 ± 0.3
W00260	N10000	A	1.5 ± 0.1	0.8 ± 0.3
W00260	N10020	3.0 ± 1.6	1.6 ± 0.1	1.3 ± 0.2
W00260	N10040	A	1.9 ± 0.2	1.3 ± 0.2
W00270	N09990	A	1.5 ± 0.2	1.2 ± 0.2
W00270	N10010	A	2.4 ± 0.2	1.1 ± 0.2
W00270	N10030	A	2.2 ± 0.1	0.7 ± 0.2
W00270	N10050	A	2.3 ± 0.2	0.7 ± 0.3
W00280	N10000	A	2.2 ± 0.2	1.2 ± 0.2
W00280	N10020	A	2.2 ± 0.1	1.0 ± 0.2
W00280	N10040	A	2.1 ± 0.2	1.4 ± 0.2
W00290	N10010	A	1.5 ± 0.1	1.4 ± 0.2
W00290	N10030	A	3.5 ± 0.2	1.2 ± 0.3
W00290	N10050	A	2.1 ± 0.2	0.6 ± 0.2
W00300	N10020	A	1.9 ± 0.1	1.1 ± 0.2
W00300	N10040	A	2.4 ± 0.2	1.2 ± 0.2
W00300	N10060	2.1 ± 1.1	3.0 ± 0.2	0.9 ± 0.2
W00310	N10030	A	1.0 ± 0.1	0.5 ± 0.2
W00310	N10050	A	1.5 ± 0.4	0.8 ± 0.4
W00310	N10070	A	6.0 ± 0.3	0.3 ± 0.2
W00320	N10020	2.1 ± 1.7	2.0 ± 0.1	0.6 ± 0.1
W00320	N10040	A	2.2 ± 0.2	1.4 ± 0.2
W00320	N10060	A	2.9 ± 0.2	1.4 ± 0.2
W00330	N10030	2.5 ± 1.2	2.4 ± 0.2	1.8 ± 0.2
W00330	N10050	A	3.8 ± 0.2	1.3 ± 0.3
W00330	N10070	A	3.0 ± 0.2	0.9 ± 0.2
W00330	N10090	A	3.7 ± 0.2	1.1 ± 0.2
W00340	N10040	A	1.9 ± 0.2	0.5 ± 0.4
W00340	N10060	A	3.4 ± 0.2	0.9 ± 0.2
W00340	N10080	A	2.0 ± 0.2	0.7 ± 0.2
W00350	N10050	A	1.3 ± 0.1	1.3 ± 0.2
W00350	N10070	A	2.0 ± 0.2	0.8 ± 0.2
W00350	N10090	A	2.6 ± 0.2	1.0 ± 0.2
W00360	N10040	A	1.3 ± 0.2	0.7 ± 0.2

TABLE 13

(continued)

Grid Coordinates		Concentrations (pCi/g +/- 1 sigma)		
E,W	N,S	Uranium-238	Radium-226	Thorium-232
W00360	N10060	A	1.6 ± 0.2	0.9 ± 0.2
W00360	N10080	A	2.9 ± 0.2	1.2 ± 0.2
W00370	N10050	A	0.9 ± 0.2	0.9 ± 0.2
W00370	N10070	A	3.4 ± 0.2	0.8 ± 0.3
W00370	N10090	A	2.2 ± 0.2	1.0 ± 0.2
W00380	N10060	A	1.0 ± 0.1	1.2 ± 0.2
W00380	N10080	A	2.5 ± 0.2	1.4 ± 0.2
W00380	N10100	A	2.3 ± 0.2	A
W00390	N10050	A	1.0 ± 0.1	0.5 ± 0.2
W00390	N10070	A	1.2 ± 0.2	1.1 ± 0.2
W00390	N10090	A	5.5 ± 0.3	0.8 ± 0.2
W00390	N10110	A	3.7 ± 0.2	0.6 ± 0.2
W00390	N10120	A	6.0 ± 0.3	1.0 ± 0.2
W00400	N10060	A	0.8 ± 0.1	1.2 ± 0.2
W00400	N10080	A	5.4 ± 0.4	A
W00400	N10100	A	2.7 ± 0.2	0.8 ± 0.3
W00400	N10120	A	1.5 ± 0.1	1.0 ± 0.2
W00400	N10140	A	5.2 ± 0.3	0.8 ± 0.3
W00410	N10090	A	3.8 ± 0.2	0.7 ± 0.2
W00410	N10110	A	1.4 ± 0.2	1.5 ± 0.3
W00410	N10130	A	1.1 ± 0.1	0.8 ± 0.2
W00410	N10150	4.9 ± 2.2	5.1 ± 0.3	1.4 ± 0.2
W00420	N10100	A	6.0 ± 0.3	1.2 ± 0.3
W00420	N10120	A	3.4 ± 0.2	0.7 ± 0.2
W00420	N10140	A	4.5 ± 0.2	0.8 ± 0.3
W00430	N10090	A	1.0 ± 0.1	0.9 ± 0.2
W00430	N10110	A	4.3 ± 0.2	A
W00440	N10100	3.4 ± 2.1	4.1 ± 0.3	1.3 ± 0.2
W00440	N10120	A	5.2 ± 0.3	1.2 ± 0.2
W00450	N10110	A	5.4 ± 0.3	0.7 ± 0.2
W00450	N10130	A	3.7 ± 0.2	1.0 ± 0.2
W00460	N10120	A	5.1 ± 0.3	1.7 ± 0.2
W00460	N10140	A	3.2 ± 0.2	1.0 ± 0.2
W00460	N10160	A	4.2 ± 0.2	1.4 ± 0.3
W00470	N10120	A	5.4 ± 0.3	A
W00470	N10140	A	1.2 ± 0.1	0.7 ± 0.2
W00480	N10140	A	3.0 ± 0.2	0.7 ± 0.2
W00480	N10160	A	4.0 ± 0.2	1.2 ± 0.2
W00490	N10130	A	4.8 ± 0.2	1.0 ± 0.2
W00490	N10150	A	4.7 ± 0.2	1.1 ± 0.2
W00500	N10140	A	3.7 ± 0.2	0.7 ± 0.2
W00500	N10160	A	4.3 ± 0.2	2.4 ± 0.3
W00510	N10150	A	4.7 ± 0.2	1.1 ± 0.3

TABLE 13

(continued)

Grid Coordinates		Concentrations (pCi/g +/- 1 sigma)		
E,W	N,S	Uranium-238	Radium-226	Thorium-232
W00520	N10150	A	6.6 ± 0.3	0.8 ± 0.2
W00520	N10160	A	4.2 ± 0.2	0.8 ± 0.3
W00530	N10150	A	6.0 ± 0.3	1.1 ± 0.2
W00530	N10170	A	3.7 ± 0.2	0.9 ± 0.2
W00540	N10160	A	4.4 ± 0.3	0.9 ± 0.2
W00550	N10170	A	8.5 ± 0.4	1.3 ± 0.3
W00560	N10160	A	4.5 ± 0.2	1.3 ± 0.2
W00570	N10170	A	5.2 ± 0.3	0.7 ± 0.3
W00580	N10180	A	6.5 ± 0.4	1.0 ± 0.3
W00580	N10190	A	5.0 ± 0.2	0.7 ± 0.2
W00590	N10170	A	4.3 ± 0.2	1.0 ± 0.2
W00600	N10180	A	4.3 ± 0.2	0.9 ± 0.2
W00600	N10200	A	7.0 ± 0.3	1.0 ± 0.3
W00610	N10190	A	5.5 ± 0.3	0.8 ± 0.3
W00620	N10180	A	2.7 ± 0.2	1.2 ± 0.2
W00620	N10200	A	4.1 ± 0.2	0.5 ± 0.2
W00630	N10190	A	11.3 ± 0.6	2.2 ± 0.6
W00630	N10210	A	4.6 ± 0.2	0.8 ± 0.2
W00640	N10200	A	4.2 ± 0.2	1.1 ± 0.2
W00650	N10190	A	0.8 ± 0.1	0.9 ± 0.2
W00650	N10210	A	5.3 ± 0.2	1.0 ± 0.2
W00660	N10200	A	2.8 ± 0.2	1.2 ± 0.2
W00660	N10220	A	3.9 ± 0.2	1.5 ± 0.2
W00670	N10210	A	3.1 ± 0.2	0.7 ± 0.2
W00670	N10220	A	3.6 ± 0.3	1.5 ± 0.3
W00670	N10230	A	4.4 ± 0.2	1.1 ± 0.2
W00680	N10240	A	4.8 ± 0.3	1.0 ± 0.2
W00690	N10210	A	3.0 ± 0.2	0.9 ± 0.2
W00690	N10230	A	2.4 ± 0.2	1.0 ± 0.2
W00700	N10220	A	4.0 ± 0.2	1.0 ± 0.3
W00700	N10240	A	3.2 ± 0.2	1.0 ± 0.2
W00710	N10230	A	3.2 ± 0.2	0.9 ± 0.2
W00720	N10240	A	3.5 ± 0.2	A
W00730	N10230	A	3.6 ± 0.2	0.9 ± 0.2
W00730	N10250	A	3.4 ± 0.2	0.9 ± 0.2
W00740	N10240	A	3.3 ± 0.2	1.2 ± 0.2
W00750	N10250	A	2.1 ± 0.1	1.6 ± 0.2
W00760	N10240	A	6.5 ± 0.3	1.1 ± 0.3
W00760	N10260	A	3.6 ± 0.2	0.9 ± 0.2
W00770	N10270	A	3.5 ± 0.2	1.1 ± 0.2
W00780	N10260	A	6.0 ± 0.3	1.2 ± 0.2
W00780	N10280	A	4.4 ± 0.2	1.3 ± 0.2
W00790	N10250	A	3.1 ± 0.5	1.2 ± 0.4

TABLE 13

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
W00790	N10270	A	4.7 ± 0.2	1.4 ± 0.2
W00800	N10260	A	2.4 ± 0.2	0.9 ± 0.2
W00800	N10280	A	5.0 ± 0.3	1.0 ± 0.3
W00810	N10270	A	5.7 ± 0.3	A
W00810	N10290	A	3.6 ± 0.2	1.3 ± 0.2
W00820	N10260	4.9 ± 1.3	1.0 ± 0.1	1.1 ± 0.2
W00820	N10280	A	6.2 ± 0.3	1.2 ± 0.4
W00820	N10300	A	1.7 ± 0.1	1.3 ± 0.2
W00830	N10270	A	3.1 ± 0.2	0.7 ± 0.2
W00830	N10290	A	6.1 ± 0.3	1.1 ± 0.3
W00840	N10280	A	6.5 ± 0.3	0.6 ± 0.2
W00840	N10300	A	2.5 ± 0.2	1.0 ± 0.2
W00850	N10290	A	2.9 ± 0.2	1.2 ± 0.2
W00850	N10310	A	3.7 ± 0.2	1.1 ± 0.2
W00860	N10300	A	3.9 ± 0.2	1.1 ± 0.5
W00870	N10280	A	1.0 ± 0.4	A
W00870	N10290	A	4.6 ± 0.2	1.0 ± 0.2
W00870	N10310	A	7.5 ± 0.4	1.0 ± 0.3
W00880	N10280	A	2.0 ± 0.4	A
W00880	N10300	A	4.7 ± 0.3	1.0 ± 0.3
W00880	N10320	A	3.5 ± 0.2	0.7 ± 0.2
W00890	N10310	A	4.6 ± 0.3	0.7 ± 0.2
W00900	N10300	A	2.0 ± 0.2	0.9 ± 0.2
W00900	N10320	A	4.1 ± 0.3	0.9 ± 0.2
W00910	N10310	A	3.9 ± 0.2	1.0 ± 0.2
W00910	N10330	A	3.9 ± 0.2	0.6 ± 0.2
W00920	N10300	A	1.8 ± 0.1	0.7 ± 0.2
W00920	N10320	A	4.3 ± 0.2	0.8 ± 0.3
W00920	N10340	A	1.1 ± 0.3	0.8 ± 0.4
W00930	N10330	A	2.1 ± 0.5	A
W00940	N10320	A	3.5 ± 0.2	0.8 ± 0.2
W00940	N10340	A	1.0 ± 0.4	A
W00950	N10330	A	3.0 ± 0.6	A
W00950	N10350	A	4.5 ± 0.2	1.0 ± 0.2
W00960	N10340	A	7.2 ± 0.3	A
W00970	N10330	A	0.9 ± 0.1	0.6 ± 0.2
W00970	N10350	A	3.6 ± 0.2	1.6 ± 0.2
W00980	N10340	A	4.2 ± 0.2	1.0 ± 0.2
W00980	N10360	A	3.0 ± 0.2	1.0 ± 0.2
W00990	N10350	A	1.6 ± 0.4	A
W00990	N10370	A	4.7 ± 0.2	0.6 ± 0.2
W01000	N10340	A	1.1 ± 0.1	1.6 ± 0.2
W01010	N10360	A	3.6 ± 0.2	0.5 ± 0.2

TABLE 13

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
W01010	N10370	A	3.2 ± 0.2	0.8 ± 0.2
W01020	N10360	A	2.6 ± 0.2	1.1 ± 0.2
W01020	N10380	A	3.0 ± 0.2	1.3 ± 0.2
W01030	N10370	A	3.8 ± 0.2	0.8 ± 0.2
W01040	N10360	A	3.1 ± 0.2	A
W01040	N10380	A	2.8 ± 0.2	0.9 ± 0.1
W01050	N10370	A	3.5 ± 0.2	1.1 ± 0.2
W01050	N10390	A	3.5 ± 0.2	0.6 ± 0.2
W01060	N10380	A	3.9 ± 0.2	1.0 ± 0.2
W01060	N10400	A	2.8 ± 0.2	0.9 ± 0.2
W01070	N10390	A	3.7 ± 0.2	0.6 ± 0.2
W01080	N10380	A	3.3 ± 0.2	0.7 ± 0.2
W01080	N10400	A	4.8 ± 0.2	1.0 ± 0.2
W01090	N10390	A	3.2 ± 0.2	0.7 ± 0.2
W01090	N10410	A	4.0 ± 0.2	0.5 ± 0.2
W01100	N10380	A	3.9 ± 0.2	0.7 ± 0.3
W01100	N10400	A	2.4 ± 0.2	1.0 ± 0.2
W01100	N10420	A	3.0 ± 0.2	0.9 ± 0.2
W01110	N10390	A	0.7 ± 0.1	0.6 ± 0.2
W01110	N10410	A	5.1 ± 0.3	0.6 ± 0.2
W01120	N10420	A	3.6 ± 0.2	1.0 ± 0.2
W01120	N10490	A	3.6 ± 0.2	0.8 ± 0.2
W01130	N10410	A	3.3 ± 0.2	1.2 ± 0.2
W01130	N10430	A	2.6 ± 0.2	0.8 ± 0.2
W01140	N10420	A	3.4 ± 0.2	1.4 ± 0.2
W01150	N10410	A	3.6 ± 0.2	0.7 ± 0.2
W01150	N10430	A	5.0 ± 0.2	A
W01160	N10420	A	3.2 ± 0.2	0.8 ± 0.2
W01160	N10440	A	4.6 ± 0.2	1.3 ± 0.2
W01170	N10410	A	0.9 ± 0.1	0.9 ± 0.1
W01170	N10430	A	4.5 ± 0.2	0.7 ± 0.2
W01170	N10450	A	2.1 ± 0.2	0.9 ± 0.1
W01180	N10420	A	1.4 ± 0.1	1.1 ± 0.2
W01180	N10440	A	2.8 ± 0.2	1.0 ± 0.2
W01180	N10460	A	0.8 ± 0.1	1.0 ± 0.2
W01190	N10430	A	2.9 ± 0.2	0.7 ± 0.2
W01190	N10450	A	4.9 ± 0.2	0.7 ± 0.2
W01200	N10440	A	3.0 ± 0.2	0.6 ± 0.3
W01200	N10460	A	1.5 ± 0.1	0.7 ± 0.2
W01210	N10450	A	3.9 ± 0.2	A
W01220	N10440	A	3.3 ± 0.2	0.9 ± 0.2
W01220	N10460	A	13.7 ± 0.5	2.4 ± 0.6
W01230	N10450	6.0 ± 2.2	5.3 ± 0.3	0.7 ± 0.2

TABLE 13

(continued)

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
W01230	N10470	A	4.7 ± 0.2	1.7 ± 0.2
W01240	N10460	A	5.8 ± 0.3	1.0 ± 0.2
W01240	N10480	A	3.9 ± 0.2	1.3 ± 0.2
W01250	N10450	A	1.0 ± 0.1	1.0 ± 0.2
W01250	N10470	A	4.9 ± 0.2	0.7 ± 0.2
W01260	N10460	A	1.2 ± 0.1	0.6 ± 0.2
W01260	N10480	A	3.7 ± 0.2	0.8 ± 0.2
W01270	N10470	A	3.2 ± 0.2	1.1 ± 0.2
W01270	N10490	A	5.4 ± 0.3	0.9 ± 0.2
W01280	N10480	A	4.2 ± 0.2	1.2 ± 0.2
W01280	N10500	A	4.5 ± 0.2	1.3 ± 0.2
W01290	N10470	A	3.2 ± 0.2	1.1 ± 0.2
W01290	N10490	A	6.4 ± 0.3	1.3 ± 0.2
W01300	N10480	A	3.4 ± 0.2	0.6 ± 0.2
W01300	N10500	A	4.3 ± 0.2	1.9 ± 0.2
W01310	N10490	A	4.5 ± 0.2	1.0 ± 0.2
W01310	N10510	A	3.6 ± 0.2	1.2 ± 0.2
W01320	N10480	A	1.1 ± 0.1	0.7 ± 0.1
W01320	N10500	A	4.5 ± 0.2	1.8 ± 0.2
W01330	N10490	1.7 ± 1.1	1.1 ± 0.1	0.8 ± 0.2
W01330	N10510	A	3.9 ± 0.2	1.0 ± 0.2
W01340	N10500	A	3.7 ± 0.2	0.9 ± 0.2
W01340	N10520	A	4.3 ± 0.2	0.8 ± 0.2
W01350	N10490	A	0.8 ± 0.1	1.0 ± 0.2
W01350	N10510	A	3.7 ± 0.2	1.0 ± 0.2
W01360	N10500	A	4.6 ± 0.2	1.1 ± 0.2
W01360	N10520	A	4.4 ± 0.2	1.4 ± 0.2
W01370	N10510	A	4.6 ± 0.2	1.2 ± 0.2
W01370	N10530	A	5.0 ± 0.2	1.2 ± 0.3
W01380	N10500	A	2.7 ± 0.2	0.7 ± 0.2
W01380	N10520	A	4.1 ± 0.2	0.6 ± 0.2
W01380	N10540	A	2.8 ± 0.4	0.7 ± 0.3
W01390	N10510	A	4.4 ± 0.2	0.9 ± 0.3
W01390	N10530	A	4.8 ± 0.2	0.8 ± 0.2
W01400	N10520	A	3.3 ± 0.2	1.2 ± 0.2
W01400	N10540	A	3.2 ± 0.2	0.7 ± 0.2
W01410	N10510	A	0.7 ± 0.1	0.9 ± 0.2
W01410	N10530	A	4.0 ± 0.2	0.5 ± 0.2
W01410	N10550	A	2.8 ± 0.2	0.9 ± 0.2
W01420	N10520	A	4.0 ± 0.2	0.8 ± 0.2
W01420	N10540	2.7 ± 1.6	3.9 ± 0.2	1.5 ± 0.2
W01430	N10530	A	5.5 ± 0.3	0.8 ± 0.2
W01430	N10550	A	4.2 ± 0.2	1.6 ± 0.2

TABLE 13

(continued)

Grid Coordinates		Concentrations (pCi/g +/- 1 sigma)		
E,W	N,S	Uranium-238	Radium-226	Thorium-232
W01430	N10560	A	3.2 ± 0.2	A
W01440	N10540	A	4.4 ± 0.2	1.3 ± 0.2
W01450	N10530	A	1.4 ± 0.1	0.9 ± 0.2
W01450	N10550	A	3.2 ± 0.2	1.4 ± 0.2

'A' denotes less than detectable activity.

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GLOSSARY

Alpha Radiation - See radiation.

Background Radiation - Background radiation refers to naturally occurring radiation emitted from either cosmic (e.g., from the sun) or terrestrial (e.g., from the earth) sources. Exposure to this type of radiation is unavoidable and its level varies greatly depending on geographic location; e.g., the state of New Jersey receives 100 mrem/yr, Colorado receives about 300 mrem/yr, and some areas in South America receive up to 7000 mrem/yr. Naturally occurring terrestrial radionuclides include uranium, radium, potassium, thorium, etc.

Beta Radiation - See radiation.

Boron - Boron is a metallic element found in nature.

Contaminated - Contaminated is used here to mean that the soil contains concentrations of radioactive material that exceed the DOE guideline.

Dose - Dose is used to relate radiation exposure to an effect on the body and is measured in mrem. Examples of dose are: a dose of 500,000 mrem to the whole body in a short time causes death in 50 percent of the people who receive it; a dose of 5,000,000 mrem may be delivered to a cancerous tumor during radiation treatment; average background radiation results in an annual dose of about 100 mrem; a typical chest x-ray gives a dose of about 40 mrem; living in a brick house results in a dose of about 75 mrem/yr. DOE radiation protection standards limit the dose to members of the general public to 100 mrem/yr above background.

Exposure Rate - Exposure rate is the rate at which radiation imparts energy to the air. Exposure is typically measured in uR and the exposure rate is typically given as μR/h. The dose to

the whole body can be approximated by multiplying the exposure rate by the number of hours of exposure. For example, if an individual was exposed to 20 μR/h for 168 hours per week (continuous exposure) for 52 weeks per year, the whole body dose would be 170 mrem.

Gamma Radiation - See radiation.

Gram - A gram is a metric unit for weight. It takes 454 grams to make 1 pound; 1 ounce equals 28 grams.

microroentgen - A microroentgen (μR) is a unit used to measure radiation exposure. For further information, see the definition of exposure rate.

mrem - mrem is the unit used to measure the effect of radiation doses to the body. The DOE limit is 100 mrem above background in any one year for members of the general public. For comparison, a typical medical x-ray is about 40 mrem. Naturally occurring radioactive substances in the ground result in an average yearly exposure to everyone of about 100 mrem. To date, no difference can be detected in the health of population groups exposed to 100 mrem/yr and in the health of groups who are not exposed.

Picocurie - A picocurie is the unit of measure for radioactivity just as an ounce is a unit to measure weight. One picocurie means that one radioactive particle is released on the average of every 27 seconds.

Radiation - There are three primary types of radiation: alpha, beta, and gamma. Alpha radiation travels less than an inch in air before it stops, and cannot penetrate the outer layer of skin on the body. Beta radiation can penetrate the outer layers of

skin, but cannot reach the internal organs of the body. Gamma radiation is the most penetrating type and can usually reach the internal organs.

Radioactive Decay - Radioactive decay is the change in chemical composition of a radioactive material that accompanies the emission of alpha or beta particles from that material. The radioactive element becomes a different element, which may or may not be radioactive. For example, the following chain describes the radioactive decay of uranium-238: uranium-238 -- thorium-234 -- protactinium-234 -- uranium-234 -- thorium-230 -- radium-226 -- radon-222 -- polonium-218 -- lead-214 -- bismuth-214 -- polonium-214 -- lead-210 -- bismuth-210 -- polonium-210 -- lead-206. Lead-206 is stable; therefore the original atom of uranium-238 has become one of lead-206 and is no longer radioactive.

Radionuclide - Radionuclide is another word meaning a particular radioactive element. For example, radium-226 is a radionuclide, uranium-238 is another, thorium-232 another, and so on.

Radium-226 - Radium-226 is one of the radioactive materials found in the wastes at the NFSS. It is a naturally occurring radioactive element produced by the radioactive decay of uranium.

Remedial Action - Remedial action is a general term used to mean "cleanup of contamination." It refers to any action required so that a property can be released for unrestricted use as noncontaminated. In practice, this may mean removing grass and soil, cutting trees, removing asphalt, etc.

Thorium - Thorium is a naturally occurring element which is recovered from monazite for commercial purposes. Monazite contains from 3 to 9 percent thorium oxide. The principal use of thorium to date has been in the preparation of gas lantern

mantels because thorium oxide burns with a brilliant white light. Thorium oxide is also commonly found in high quality glasses and camera lenses because of its good optical characteristics.

Uranium - Uranium is a silvery heavy radioactive metallic element that is found in pitchblende and exists naturally.

Unrestricted Use - Unrestricted use means that a property can be used for any purpose without regard to the radioactivity which used to be on the property. These uses could include anything - farming, a residence, a playground, etc.

Working Level - Working level is a unit to measure the energy expended in air by radon or its radioactive decay products. The term was derived for use with uranium mine workers and has become the accepted unit for environmental measurements.

APPENDIX A

DEVELOPMENT OF A SUPPLEMENTAL RESIDUAL CONTAMINATION GUIDELINE FOR THE NFSS CENTRAL DRAINAGE DITCH

DEVELOPMENT OF A SUPPLEMENTAL RESIDUAL CONTAMINATION GUIDELINE FOR THE NFSS CENTRAL DRAINAGE DITCH

DECEMBER 1986

Prepared for

UNITED STATES DEPARTMENT OF ENERGY

OAK RIDGE OPERATIONS OFFICE

Under Contract No. DE-AC05-81OR20722

By

Bechtel National, Inc.

Oak Ridge, Tennessee

Bechtel Job No. 14501

1.0 INTRODUCTION AND SUMMARY

1.1 OBJECTIVE AND SCOPE

The objective of this report is to describe the methodology used for establishing a supplemental residual contamination guideline for the NFSS vicinity property known as the Central Drainage Ditch (CDD). Supplemental guidelines may exceed authorized guidelines if the resultant dose will not exceed the DOE radiation protection standard of 100 mrem/yr (Ref. 1). This evaluation is based on realistic exposure pathways that were determined from examination of the current topographical features of the CDD and land use in the area. While this analysis is directed toward a specific portion of the CDD, it can be applied to any other reach of the ditch.

1.2 BACKGROUND

The Niagara Falls Storage Site (NFSS) is a U.S. Department of Energy (DOE) surplus facility located in the Town of Lewiston, Niagara County, New York (see Figure 1-1). The 77-ha (191-acre) site is a small portion of the original Lake Ontario Ordnance Works (LOOW) and was formerly used for the storage and transshipment and radioactive materials. The site is currently being managed for DOE by Bechtel National, Inc. (BNI), Oak Ridge, Tennessee, as part of the DOE Surplus Facilities Management Program (SFMP) established to plan and manage the ultimate disposition of surplus DOE-owned facilities. Portions of the former LOOW site and other vicinity properties are within the jurisdiction of another DOE remedial action program, the Formerly Utilized Sites Remedial Action Program (FUSRAP). FUSRAP was established to evaluate former Manhattan Engineer District/Atomic Energy Commission (MED/AEC) sites and to conduct remedial action activities where residual radioactivity exceeds the remedial action guidelines established by DOE.

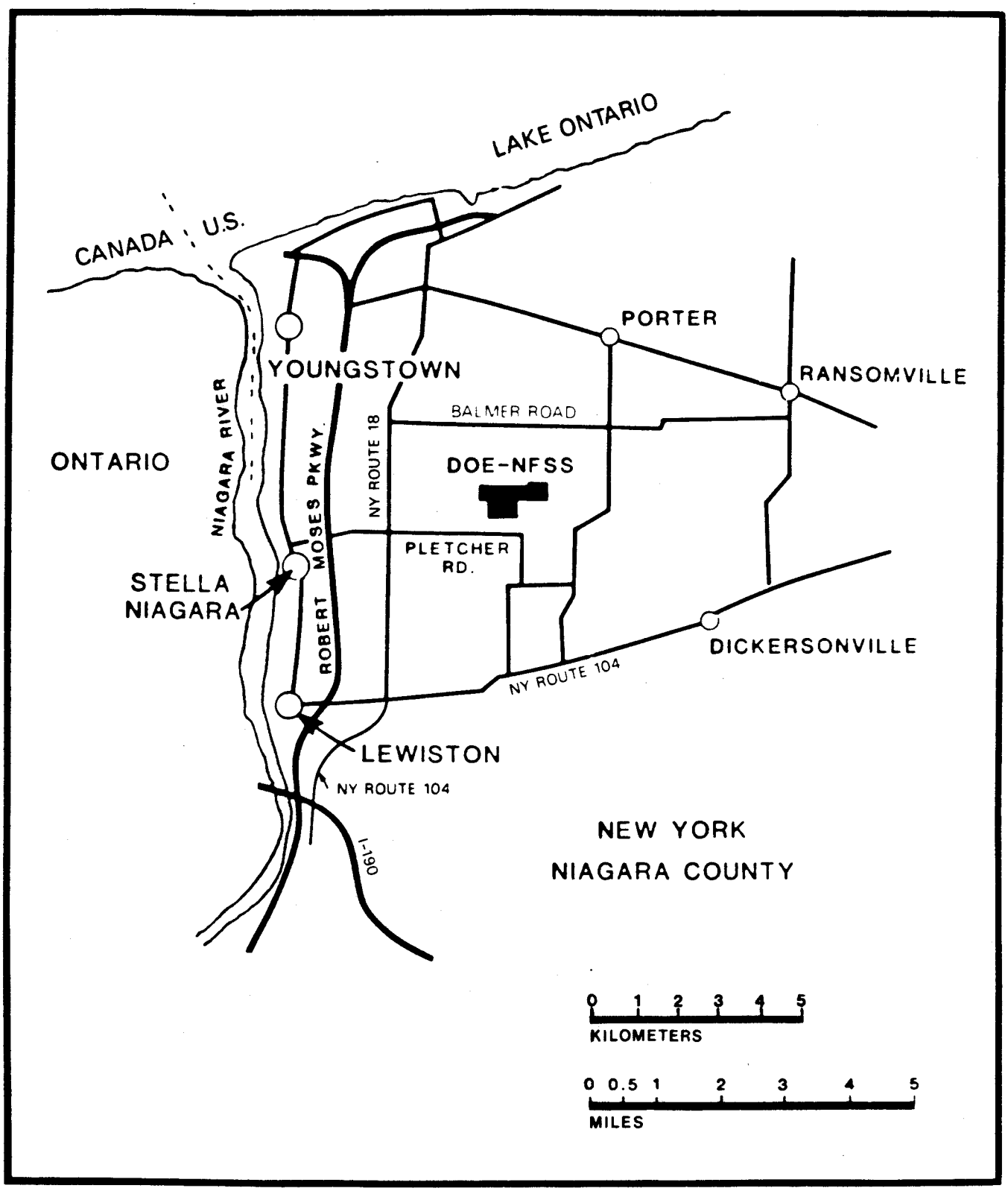

FIGURE 1-1 THE REGIONAL SETTING OF THE NFSS

Radioactive residues and contaminated soils are currently stored at the NFSS (Ref. 2). Some areas of the site also became contaminated from previous burial and spills of contaminated materials, and from radionuclide migration along drainage pathways such as the CDD. Since 1981 remedial action has been conducted at the NFSS and properties in the vicinity to consolidate the contaminated material in a waste containment facility at the NFSS.

2.0 DESCRIPTION AND RADIOLOGICAL STATUS OF THE CENTRAL DRAINAGE DITCH

2.1 DESCRIPTION OF THE CDD

The CDD originates on the NFSS property and flows northward for approximately 3.2 km (2 mi) before flowing northwest for another 1.6 km (1 mi) to its confluence with Fourmile Creek (see Figure 2-1). The creek discharges into Lake Ontario 2.4 km (1.5 mi) downstream from the point at which the CDD joins it.

On the NFSS property, the CDD is approximately 3 to 4 m (10 to 15 ft) deep, 3 to 6 m (10 to 20 ft) wide at the bottom of the channel, and 12 to 15 m (40 to 50 ft) wide at the top of the banks. Beyond the northern boundary of the NFSS, the width of the ditch varies between 6 m (20 ft) and 10 m (30 ft); for the purposes of this study, the average width is assumed to be 8 m (26 ft) (Ref. 3).

2.2 CURRENT RADIOLOGICAL STATUS OF THE CDD

The CDD has undergone remedial action excavation from its origin to a point approximately 500 m (1600 ft) west of Lutts Road (see Figures 2-1 and 2-2). The section of the ditch extending from 500 m (1600 ft) west of Lutts Road to its confluence with Fourmile Creek [approximately 1000 m (3280 ft)] remains unexcavated.

Concentrations of radium-226, uranium-238, and thorium-232 in the sediment have been determined for the unexcavated portion of the CDD (Refs. 4 and 5). Thorium-232 concentrations ranged from nondetectable to 4.8 pCi/g (Ref. 3). These are assumed to be background concentrations because the residues at the NFSS (the source of contamination in the ditch) contained primarily radionuclides in the uranium-238 decay series rather than radionuclides in the thorium-232 series (Ref. 6). Uranium-238 was generally not found, which was to be expected since the residues brought to the NFSS for storage resulted from the processing of ores

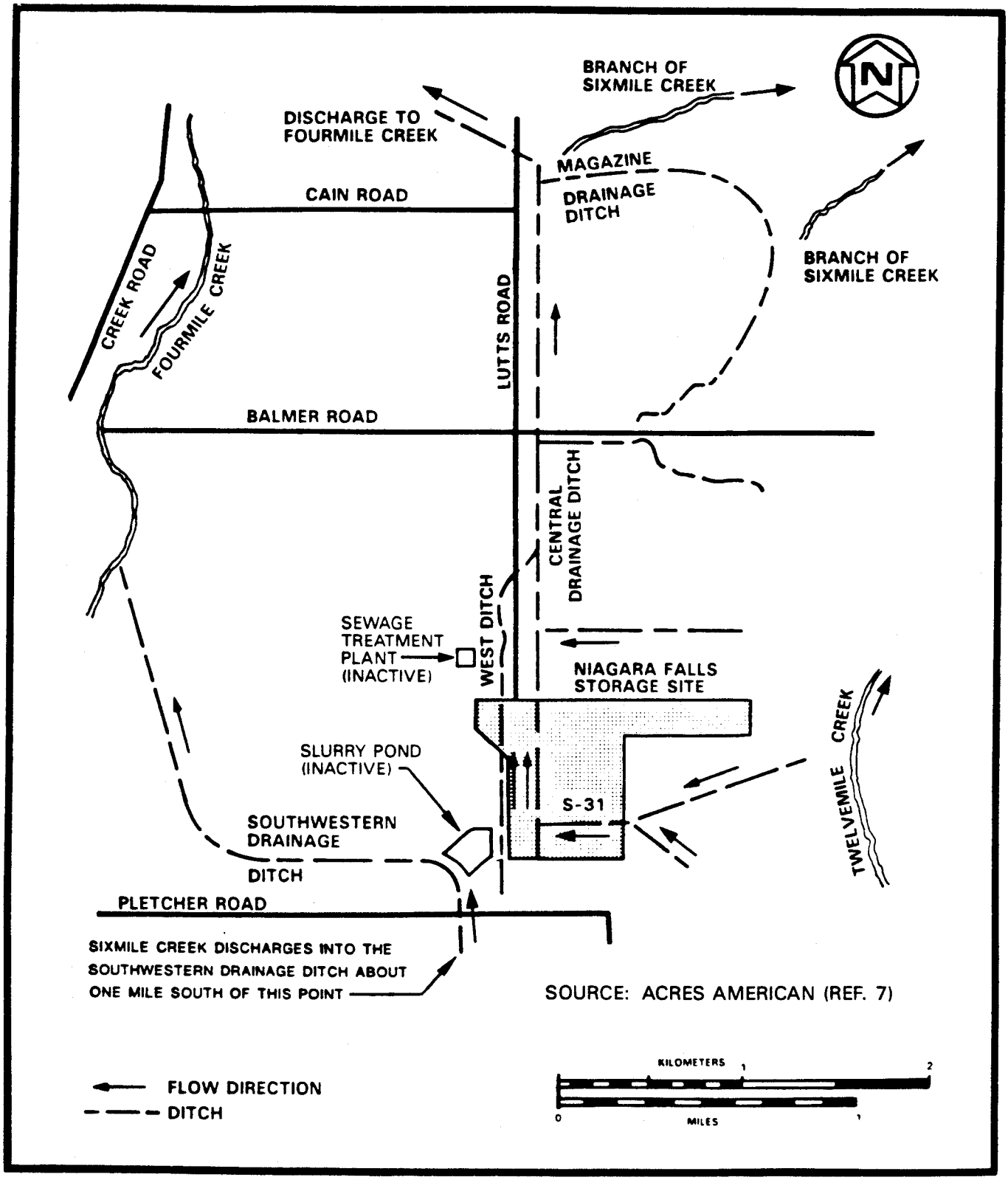

FIGURE 2-1 DRAINAGES OF THE NFSS

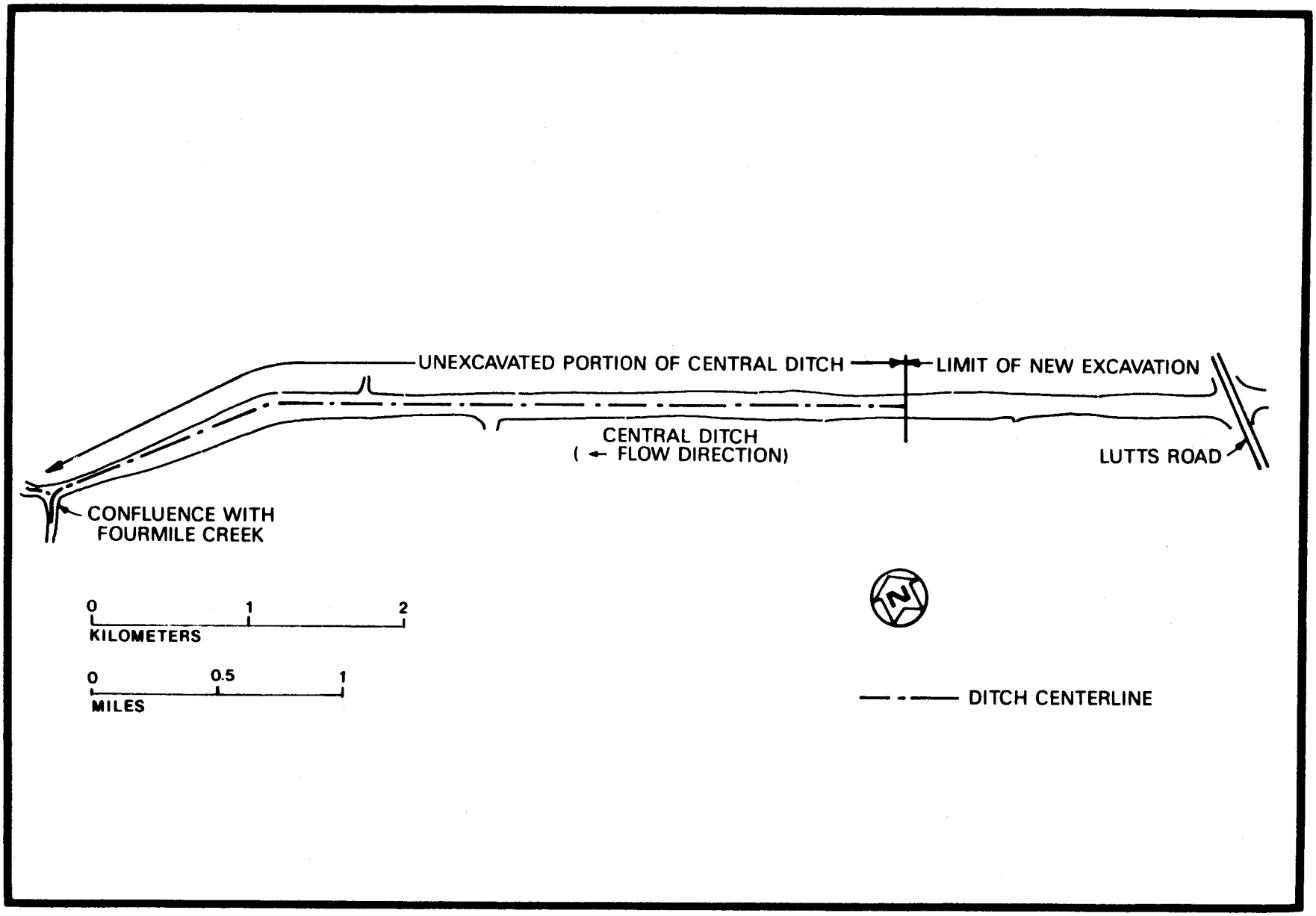

FIGURE 2-2 THE CENTRAL DITCH WEST OF LUTTS ROAD

to remove uranium (Ref. 6). Thorium-232 and uranium-238 contributions to total dose will not be considered further since they are at background concentrations.

For the sediments in the unexcavated portion of the CDD, the cross-sectional average concentration for radium-226 ranged from 3 to 12 pCi/g above background, with an average of 6 pCi/g. The dose contribution from thorium-230, the parent radionuclide of radium-226, was also evaluated and found to be insignificant.

3.0 RADIOLOGICAL ASSESSMENT

To assess the potential radiological effects from the unexcavated portion of the CDD, all reasonable exposure pathways to man were considered. Only those determined to be realistic were calculated.

3.1 SOURCE TERMS

Radioactivity in the sediment and water of the unexcavated portion of the CDD constitute the source terms. While soil samples collected were not analyzed for thorium-230, this radionuclide was assumed to be in equilibrium with its radium-226 daughter. During 1985, 60 soil samples were taken along the ditch, 30 at a depth of 0 to 15 cm (0 to 6 in.) and 30 at a depth of 15 to 30 cm (6 to 12 in.). The average radium-226 and thorium-230 concentrations in the soil at each of these depths are presented in Table 3-1. Quarterly water samples were taken at each of two locations in the ditch during 1984-85; the annual average radium-226 and thorium-230 concentrations in the water are presented in Table 3-2.

3.2 METHODOLOGY AND RESULTS OF EXTERNAL RADIATION DOSE CALCULATIONS

3.2.1 External Dose from Contaminated Sediment

The methodology for calculating external radiation dose from contaminated ground was based on the dose conversion factors calculated by Kocher and Sjoreen (Ref. 8). The dose conversion factors for contamination in soil are for exposures 1 m (3 ft) from the ground. The contamination is assumed to be uniformly distributed to an infinite depth and lateral extent. The dose conversion factors for radionuclides distributed in the soil will depend on the density of the soil, which in this case was assumed to be 1.5 g/cm^3. Other parameters considered in the calculations were an occupancy factor (average fraction of time the individual is

TABLE 3-1

AVERAGE CONCENTRATION OF RADIONUCLIDES IN SEDIMENT IN THE UNEXCAVATED SECTION OF THE CDD

Depth (cm/in.)	Average Concentration (pCi/g)*	
	Thorium-230**	Radium-226
0-15 / 0-6	6.1	6.1
15-30 / 6-12	3.6	3.6

*Source: ANL (Ref. 3).

**Thorium-230 is assumed to be in equilibrium with its radium-226 daughter.

TABLE 3-2

AVERAGE CONCENTRATION OF DISSOLVED RADIONUCLIDES IN CDD WATER

Year	Average Concentration (pCi/l)*	
	Thorium-239**	Radium-226
1984	0.35	0.35
1985	0.30	0.30
1984-85 Average	0.33	0.33

*Source: BNI (Refs. 9 and 10)

**Thorium-230 is assumed to be in equilibrium with its radium-226 daughter.

exposed to the source); an area factor (fraction of the area contributing to the external exposure) (Ref. 11); and a depth factor. The latter is the ratio of the external exposure from a layer of contamination of known thickness and cover depth to the external exposure from a layer of contamination of infinite thickness and no cover. In this case, no cover materials are present. Since averaging the radionuclide concentration over the entire thickness of the contaminated zone [30 cm (12 in.)] would give a lower dose, doses were calculated separately for the 0-to-15-cm (0-to-6-in.) and 15-to-30-cm (6-to-12-in.) depths, using the appropriate depth factor for each. The resulting doses were then summed for the total dose from external gamma radiation. Details of the calculation are presented in Appendix A.

Radium-226 would contribute the highest potential dose from the external gamma radiation pathway to a youth playing in the CDD. During periods of dry weather, some of the sediment in the bottom of the channel is left exposed. It is assumed that a youth might spend 2 h/day during the summer (for a total of 180 h/yr) playing in the ditch. The total external dose received would be 1.1 mrem/yr (see Table 3-3). Since the CDD is not used for other recreational purposes, this exposure scenario represents the maximum potential dose from exposure to the sediments.

The calculation in Appendix A is for the dose rate at the "standard" 1 m (3 ft) above the ground. For the above scenario, the height of 1 m (3 ft) would seem too far above the ground to be appropriate for the dose to a youth. To determine the increase in dose at a height of 0.5 m (1.6 ft), two different calculations were used. First, the percentage increase was calculated using the formula for an infinite plane source. Second, equations were used for a rectangular source plane with dimensions approximating the ditch, assuming it to be 8 m (26 ft) wide and 40 m (131 ft) long. The percentage increases were 23 and 39, respectively. Using the latter value, the external dose at 0.5 m (1.6 ft) would be 1.6 mrem/yr instead of 1.1 mrem/yr. Since the difference is not significant compared with a yearly dose limit of 100 mrem/yr, the 1.1 mrem/yr factor will be used because it

TABLE 3-3

SUMMARY OF COMMITTED EFFECTIVE DOSE EQUIVALENTS RESULTING FROM ENVIRONMENTAL PATHWAYS EXPOSURES TO THE UNEXCAVATED CDD

Pathway	Committed Effective Dose Equivalent (mrem/yr)		
	Thorium-230	Radium-226	Total
External Exposure	1.0×10^{-4}	1.1	1.1
Internal Exposure			
Milk Intake	5.1×10^{-6}	1.2×10^{-3}	1.2×10^{-3}
Beef Intake	5.5×10^{-5}	2.9×10^{-3}	3.0×10^{-3}
Fish Intake	2.9×10^{-4}	1.3×10^{-2}	1.3×10^{-2}
Total	0.001	1.2	1.2

represents the standard approach for calculating dose rate at 1 m (3 ft) from the ground surface.

3.2.2 External Dose from Contaminated Water

Any dose received from direct exposure to the water is insignificant for several reasons: (1) the volume of water is small, (2) the water contains concentrations of radium-226 and thorium-230 lower than the DOE concentration guides for release for unrestricted use, and (3) no recreational use is made of the CDD (e.g., boating or swimming).

3.2.3 External Dose from Dredged Sediments

A scenario of dredging the CDD and using the excavated soil from the ditch as topsoil for a building lot along the bank was also considered. Since concentrations of the radionuclides in the ditch are very near those permitted by the generic guidelines for residual contamination, physical handling during dredging activities would dilute the contamination to concentrations below these guideline values. Nevertheless, the dredging scenario was considered the most realistic of the scenarios evaluated and therefore was used as the basis for developing the supplemental guideline.

3.3 METHODOLOGY AND RESULTS OF INTERNAL RADIATION DOSE CALCULATIONS

The methodology for calculating internal dose from the ingestion of radionuclides was based on detailed information from Killough and McKay (Ref. 12) and the U.S. Nuclear Regulatory Commission Regulatory Guide 1.109 (Ref. 13).

The dose conversion factors used in the calculations represent the effective committed dose equivalent per unit intake of radionuclide by the ingestion pathway. The dose conversion factors are taken from ORNL/NUREG/TM-19/V3 (Ref. 14) and are based on information in

Publication 30 of the International Committee on Radiation Protection (Ref. 15). The dose conversion factors are listed in Table A-1 of Appendix A.

Other parameters used in the dose calculations are shown in Tables A-2 through A-5 of Appendix A. Stable element transfer factors for milk and meat are taken from NUREG-0707 (Ref. 16), animal (cattle) consumption rates are taken from Regulatory Guide 1.109 (Ref. 13), and food (milk, beef, and fish) intake patterns for man are taken from Report No. 76 of the National Council on Radiation Protection (Ref. 17). The bioaccumulation factors for freshwater fish are taken from DOE/TIC/11468 (Ref. 18).

3.3.1 Internal Dose from Ingestion of Stream Water

Internal exposure from water consumption does not occur since water from the CDD is not used for drinking. Furthermore, the actual radionuclide concentrations are below those specified by DOE concentration guides for release of water for unrestricted use. If a person did take all of his drinking water from the ditch, his dose for a year's intake would be only 0.73 mrem. Consequently, the scenario of ditch water infiltrating into groundwater is also an insignificant dose pathway.

3.3.2 Internal Dose from Drinking Milk

A farmer in the area could theoretically receive all of his daily intake of milk from cows that obtain water only from the CDD. The committed effective dose equivalent from this pathway would be 0.0012 mrem/yr (see Table 3-3).

3.3.3. Internal Dose from Eating Beef

Assuming hypothetically that beef cattle grazing in the area could obtain their yearly intake of drinking water from the CDD and that a local resident could receive his yearly intake of beef from this

source, the committed effective dose equivalent from this pathway would be 0.003 mrem/yr (see Table 3-3).

3.3.4 Internal Dose from Eating Fish

Although fishing is not commonly practiced along the CDD, the conservative assumption was made that during most of the year, fresh fish could be taken from the CDD and would provide the entire dietary intake for a local fisherman. The committed effective dose equivalent from this pathway would be 0.013 mrem/yr (see Table 3-3).

3.3.5 Internal Dose from Inhaling Resuspended Dust

The low concentrations of radionuclides in the CDD, maximum mass loading of dust in air, moist condition of the streambed, and presence of vegetation along the bank, combine to render this exposure pathway insignificant. Occupancy factors near the ditch are low, and atmospheric dispersion of dust leaving the vicinity of the ditch further reduces airborne radionuclide concentrations to immaterial levels.

3.3.6 Internal Dose from Ingesting Crops

Irrigation and airborne deposition are two mechanisms by which crops could accumulate radionuclides that could be ingested by an individual.

Airborne deposition is not a realistic pathway for the same reasons as those listed in Subsection 3.3.5. There is no known use of the CDD as a source of irrigation water. However, since radionuclide concentrations in the water are below those specified by DOE guidelines for unrestricted release, the water could be used for unrestricted purposes without contributing significantly to dose.

3.3.7 Internal Dose from Radon Inhalation

Since radon gas is generated by the radioactive decay of radium-226, inhalation of the gas was considered as an internal exposure pathway. However, because concentrations of radium in the ditch sediments are low and because, in this case, radon can disperse freely into the atmosphere, no appreciable dose from this pathway is foreseen.

3.3.8 Use of the CDD by a Resident

The scenario of a house being built over a section of the CDD was considered. For this scenario, the assumption was made that the ditch would be either rerouted and filled with soil or routed through a covered culvert. Given these assumptions, the effects of this exposure pathway is reduced by several orders of magnitude.

4.0 SUMMARY AND DISCUSSION

Several exposure pathways were evaluated to develop a residual contamination guideline specifically for the CDD. This guideline will supplement the generic FUSRAP remedial action guidelines of 5 pCi/g and 15 pCi/g for radium-226 in surface and subsurface soil, respectively.

Of the exposure pathways evaluated, the scenario considered most realistic was that in which a residence was built on sediments that had been dredged from the ditch and spread along the bank.

Table 3-3 presents a summary of the potential doses associated with living near the section of the CDD along which no remedial action was performed. The total dose from the sediments in the ditch via all pathways is approximately 1.2 mrem/yr. This dose was received primarily from radium-226, the average concentration of which was 6.1 pCi/g, which equates to a dose factor of 0.2 mrem/yr per pCi/g. The dose from thorium-230 did not contribute significantly to the total dose. The external exposure pathway accounts for approximately 1.2 percent of the DOE radiation protection standard of 100 mrem/yr. Based on this analysis, the basic dose limit of 100 mrem/yr would not be exceeded unless radium-226 concentrations in the sediments exceeded 500 pCi/g.

However, use of a supplemental guideline as high as 500 pCi/g is not realistic based on the dredging scenario described above. Rather, calculation of the supplemental guideline was based on the predicted dilution that would occur as a result of spreading the sediments along the bank.

The assumptions made in calculating the supplemental guideline were: (1) the NFSS waste containment facility would not be the source of any increase in radionuclide concentrations in the CDD since modelling studies have shown no contaminant migration from the

facility during its 50-yr design life and no migration off-site for 10,000 years (Ref. 19); (2) the streambed in the CDD is 8 m wide; (3) contamination extends to a depth of 15 cm in the sediments in the ditch; (4) spoils from dredging the ditch would be spread evenly over a 30-m-wide area adjacent to the ditch.

Given the above assumptions and the topography of the CDD, calculations showed that the contamination in the sediments would be diluted by a factor of 4 when spread along the bank. The supplemental guideline was therefore set at 20 pCi/g, four times the generic remedial action guideline of 5 pCi/g for radium-226 in surface soil.

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APPENDIX A

METHODOLOGY AND PARAMETERS USED IN DOSE CALCULATIONS FOR DEVELOPING SUPPLEMENTAL RESIDUAL CONTAMINATION GUIDELINE FOR THE NFSS CENTRAL DRAINAGE DITCH

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METHODOLOGY AND PARAMETERS USED IN DOSE CALCULATIONS FOR DEVELOPING SUPPLEMENTAL RESIDUAL CONTAMINATION GUIDELINE FOR THE NFSS CENTRAL DRAINAGE DITCH

DOSE CALCULATIONS

External Dose

Dose = concentration of radionuclide in soil (pCi/g) x density of soil (g/cm^3) x occupancy factor x area factor x depth factor x dose conversion factor (mrem/yr)/(pCi/cm^3)

where:

- o The density factor (g/cm^3) is included in order to convert the dose conversion factor (mrem/yr)/(pCi/cm^3) to (mrem/yr)/(pCi/g).
- o The occupancy factor is a unitless factor that gives the average fraction of time the individual spends exposed to the radiation source.
- o The area factor can be obtained by interpretation of data from NUREG/CR-3620 (Ref. 1).
- o The depth factor is the ratio of the external exposure from a layer of contamination of known thickness and cover depth to the exposure from a layer of contamination of infinite thickness and no cover.

1. Dose from drinking milk contaminated by a cow drinking contaminated stream water:

Dose (mrem/yr) = 0.33 pCi/l (average concentration of radium-226 in water) x 60 l/day (water intake by cow) x 4.5 10^{-4} days/l (milk transfer factor) x 0.26 l/day (milk intake by man) x 365 days/yr x 1.38 x 10^{-3} mrem/pCi (dose conversion factor for radium-226 ingestion) = 1.2 x 10^{-3} mrem/yr.

2. Dose from eating beef contaminated by cattle drinking stream water:

Dose (mrem/yr) = 0.33 pCi/l (average concentration of radium-226 in water) x 50 l/day (water intake by cattle) x 4 x 10^{-3} days/kg (flesh transfer factor) x 8.6 10^{-2} kg/day (beef intake by man) x 365 days/yr x 1.38 x 10^{-3} mrem/pCi (dose conversion factor for radium-226 ingestion) = 2.9 x 10^{-3} mrem/yr.

3. Dose from eating fish caught in contaminated stream:

Dose (mrem/yr) = 0.33 pCi/l divided by 1000 g/l x 5.0 x 10' (bioaccumulation factor) x 5.4 x 10^{2} g/yr (fish intake) x 1.38 x 10^{-3} mrem/pCi (dose conversion factor) = 1.3 x 10^{-2} mrem/yr.

4. External dose to youth playing in Central Drainage Ditch for 180 h/yr:

a. Dose from contamination at a depth of 0 to 15 cm (0 to 6 in.):

Dose (mrem/yr) = 6.1 pCi/g (concentration of radium-226 in soil) x 1.5 g/cm^3 (density of soil) x 0.02 (occupancy factor) x 0.61 (area factor) x 0.79 (depth factor) x 11.2 mrem/yr/pCi/cm^3 (dose conversion factor) = 9.9 x 10^{-1} mrem/yr.

b. Dose from contamination at a depth of 15 to 30 cm (6 to 12 in.):

Dose (mrem/yr) = 3.6 pCi/g (concentration of radium-226 in soil) x 1.5 g/cm^3 (density of soil) x 0.02 (occupancy factor x 0.61 (area factor) x 0.21 (depth factor) x 11.2 (mrem/yr)/pCi/cm^3) = 1.5 x 10^{-1} mrem/yr

c. Total dose from external exposure:

Total dose = 9.9 x 10^{-1} mrem/yr (dose from 0 to 15 cm) + 1.5 x 10^{-1} mrem/yr (dose from 15 to 30 cm) = 1.14 mrem/yr

Internal Dose

1. Dose from drinking milk contaminated by a cow drinking contaminated water:

Dose (mrem/yr) = concentration of radionuclide in water (pCi/l) x water intake by cow (l/day) x 365 days/yr x dose conversion factor (mrem/pCi)

2. Dose from eating beef contaminated by cattle drinking contaminated water:

Dose (mrem/yr) = concentration of radionuclide in water (pCi/l) x water intake by cattle (l/day) x flesh transfer factor (days/kg) x beef intake by man (kg/day) x 365 days/yr x dose conversion factor (mrem/pCi)

3. Dose from eating fresh fish caught in the stream:

Dose (mrem/yr) = concentration of radionuclide in water (pCi/l)/1000 g/l x bioaccumulation factor for fresh fish x fish intake by man (g/yr) x dose conversion factor (mrem/pCi)

PARAMETERS

TABLE A-1

DOSE CONVERSION FACTORS

Radionuclide	Internal Dose (mrem/pCi) Committed Dose Equivalent*	External Dose** (mrem/yr)/(pCi/cm^3)
Radium-226	1.38×10^{-3}	11.2
Thorium-230	5.48×10^{-4}	1.42×10^{-3}

*Reference 2.

**Reference 3. Based on a soil density of 1.5 g/cm^3.

TABLE A-2

TRANSFER FACTORS (STABLE ELEMENT)*

Radionuclide	Milk (days/l)	Meat (days/kg)
Radium-226	4.5×10^{-4}	4.0×10^{-3}
Thorium-230	5.0×10^{-6}	2.0×10^{-4}

*Reference 4.

TABLE A-3

ANIMAL CONSUMPTION RATES*

Animal	Water Intake (liters/day)
Milk Cow	60
Beef Cattle	50

*Reference 5.

TABLE A-4

BIOACCUMULATION FACTOR FOR RADIONUCLIDES*

Aquatic Food (Fresh Fish)	Factor
Radium-226	50
Thorium-230	50

*Reference 6.

TABLE A-5

DIETARY PARAMETERS FOR MAN

(GREATER THAN 18 YEARS OF AGE)*

Food	Intake
Milk	261 ml/day
Beef	86 g/day
Fresh Fish	1.48 g/day

*Reference 6.

APPENDIX A

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