Appendix D

NFSS Vicinity Property T

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Assessment Data

Excerpt from Comprehensive Radiological Survey
Off-Site Property T
Niagara Falls Storage Site

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COMPREHENSIVE RADIOLOGICAL SURVEY

OFF-SITE PROPERTY T
NIAGARA FALLS STORAGE SITE
LEWISTON, NEW YORK

Prepared for

U.S. Department of Energy
as part of the
Formerly Utilized Sites -- Remedial Action Program

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FINAL REPORT

March 1984

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sample was analyzed for Ra-226 and found to contain <0.22 pCi/l - well below the EPA limit for that radionuclide. Gamma scans of buildings and foundations did not identify evidence of contaminated residues.

SUMMARY

A comprehensive survey of off-site property T at the Niagara Falls Storage Site was conducted during May-August 1983. The survey included: surface radiation scans, measurements of direct radiation levels, and analyses for radionuclide concentrations in soil and water samples, both surface and subsurface. Analyses of sediment samples were also performed. Ground penetrating radar was used to identify subsurface utilities which might preclude borehole drilling.

The results of the survey indicated small areas and isolated "hot spots" of Ra-226, U-238, and Th-232 contamination, which result in elevated direct radiation levels. The contamination is principally in the form of crushed rock or slag commonly used for fill and as a paving base in the Niagara Falls area; this material is not attributable to previous radioactive waste handling and storage activities at this site. Piles of Ra-226 contaminated sediment from dredging activities along the West Drainage Ditch were also identified. These piles and adjacent surface areas contain a volume of about 216 m^3.

Although the contaminated residues on small portions of this property exceed the guidelines established for release of the site for unrestricted use by the general public, the contaminants do not pose potential health risks to the public or site workers. There is no evidence that migration of the radioactive materials is adversely affecting adjacent properties or the ground water.

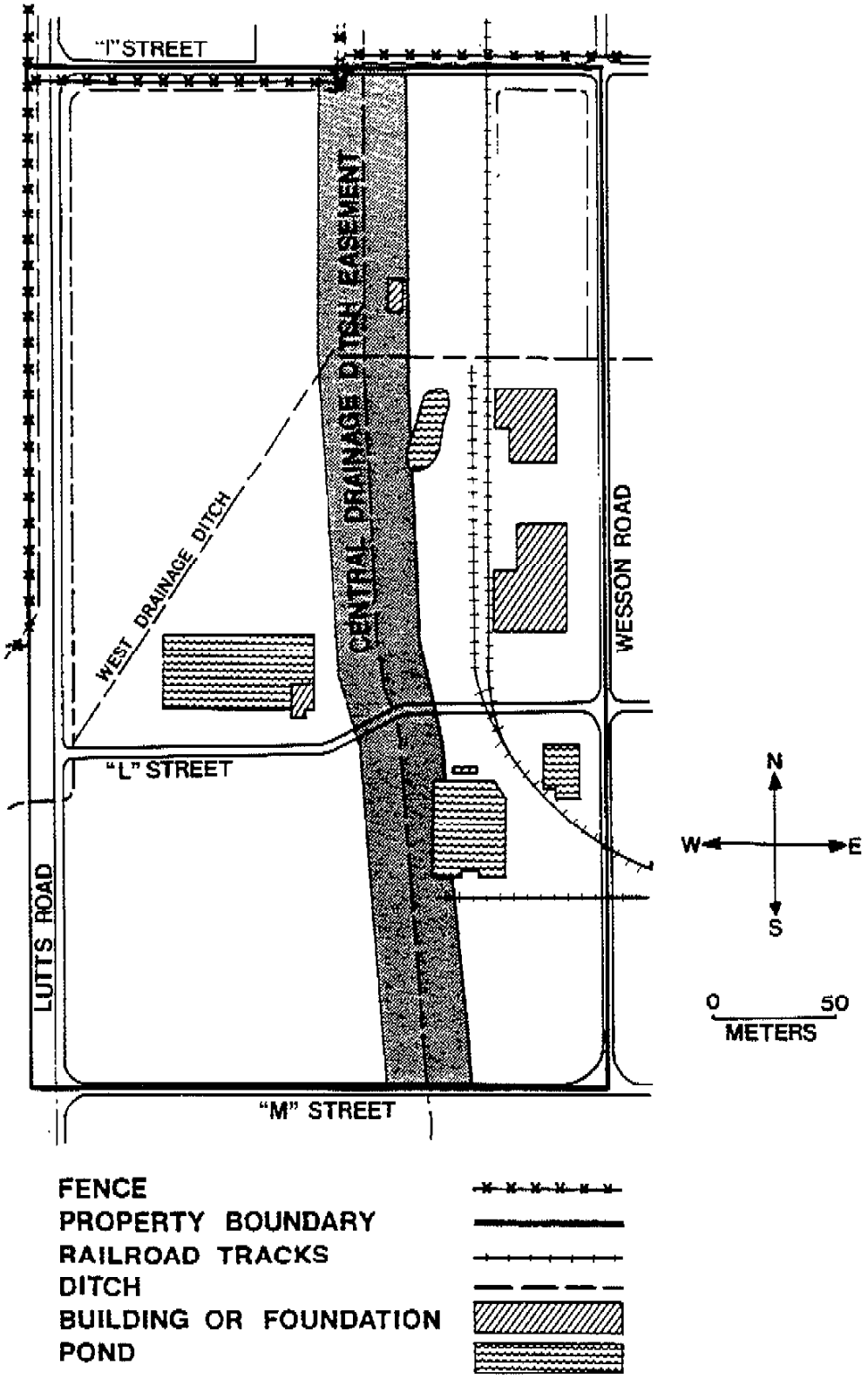

FIGURE 2. Plan View of NFSS Off-Site Property T Indicating Prominent Surface Features.

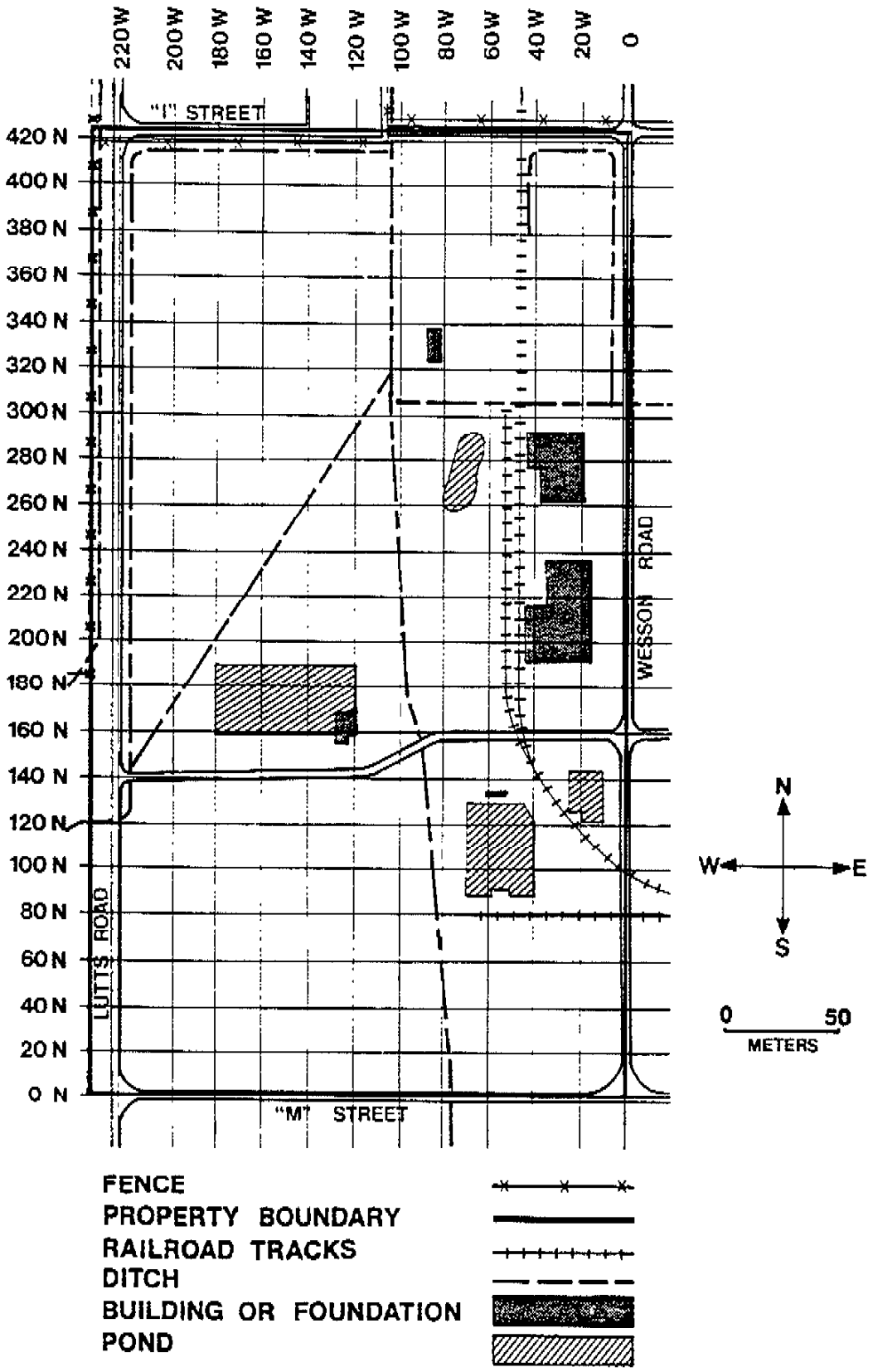

FIGURE 3. Plan View of NFSS Off-Site Property T Indicating the Grid System Established for Survey Reference.

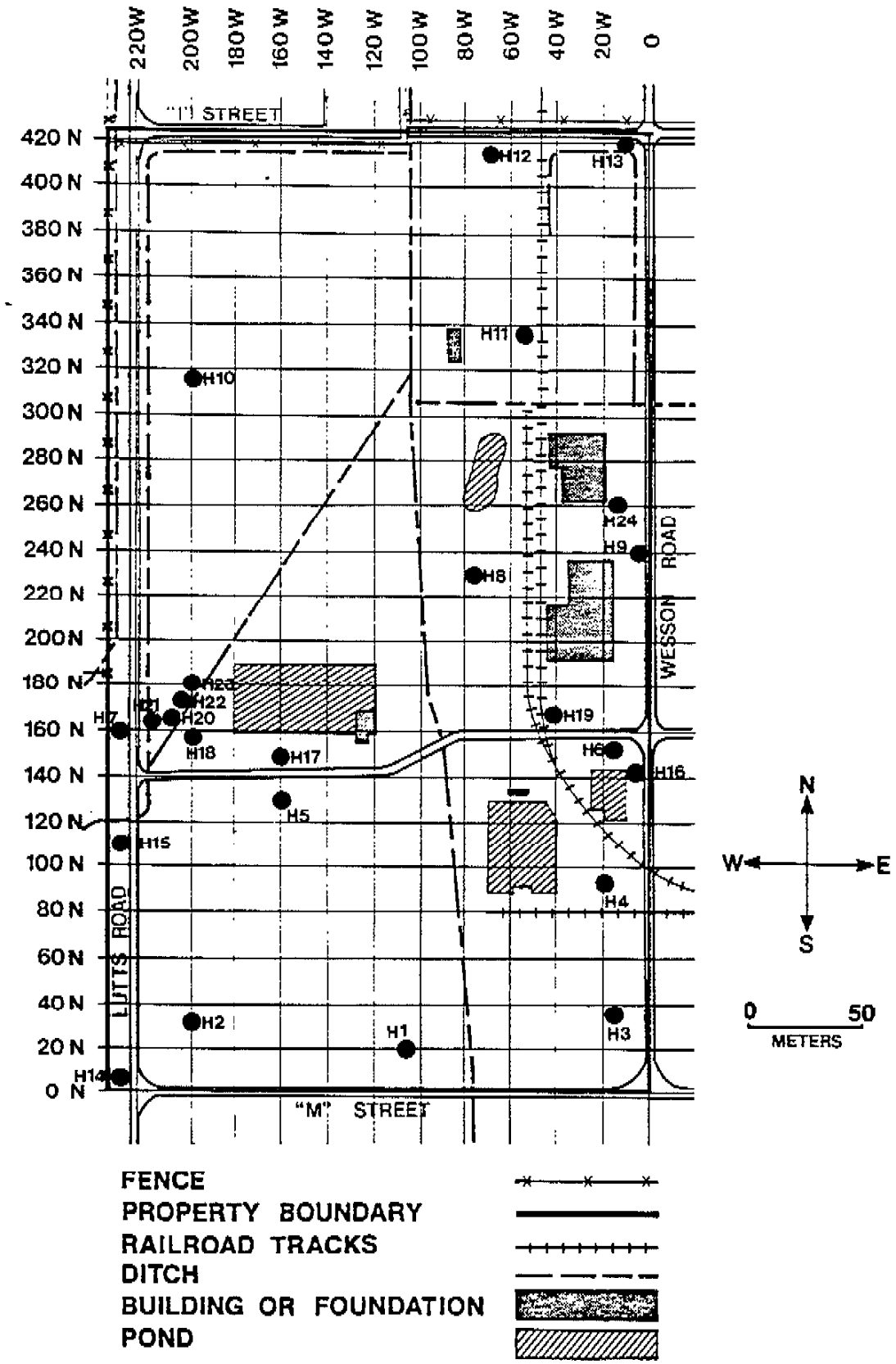

FIGURE 4. Locations of Boreholes for Subsurface Investigations.

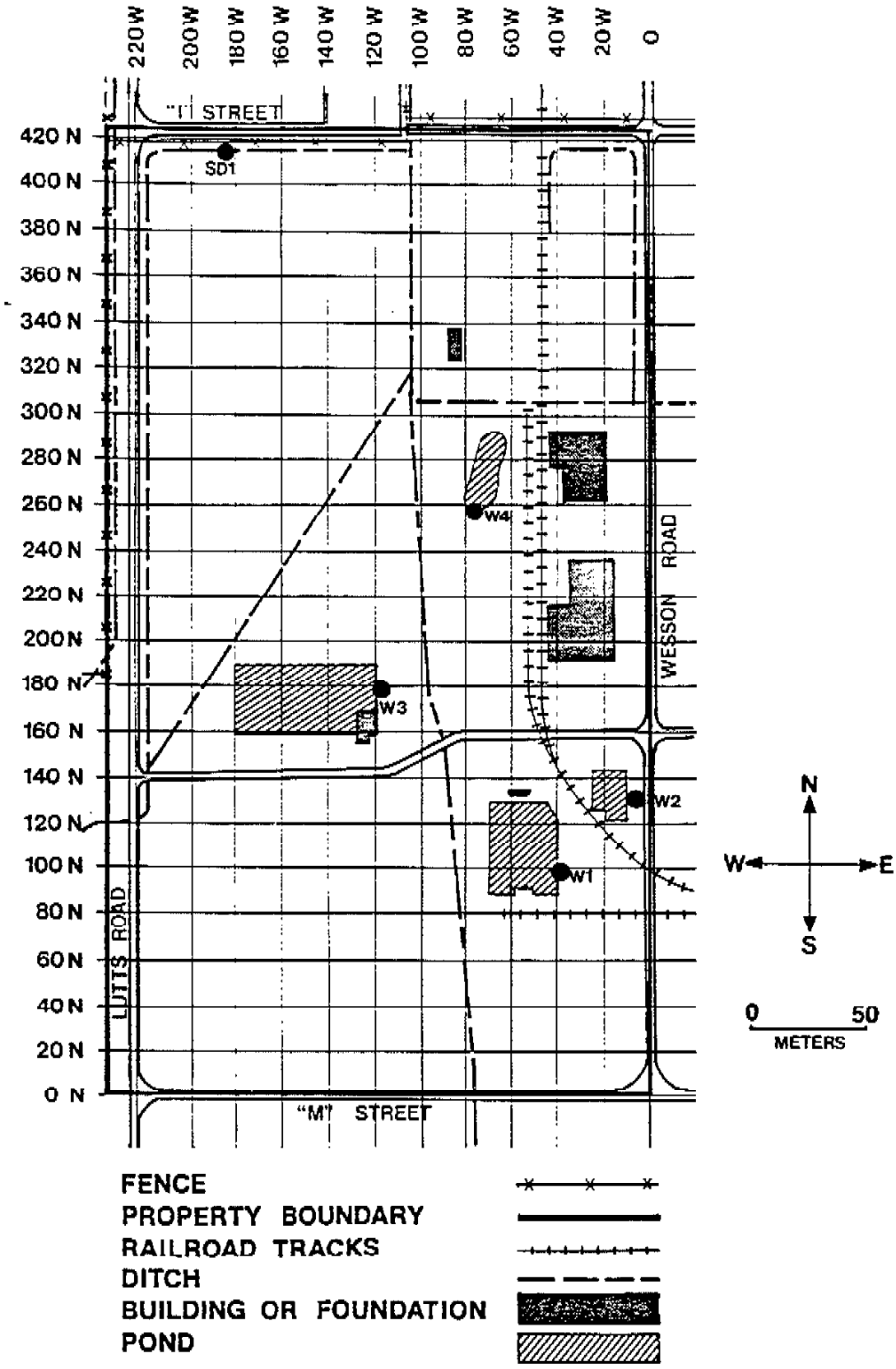

FIGURE 5. Locations of Water and Sediment Samples from Areas of Standing Water and Drainage Ditches.

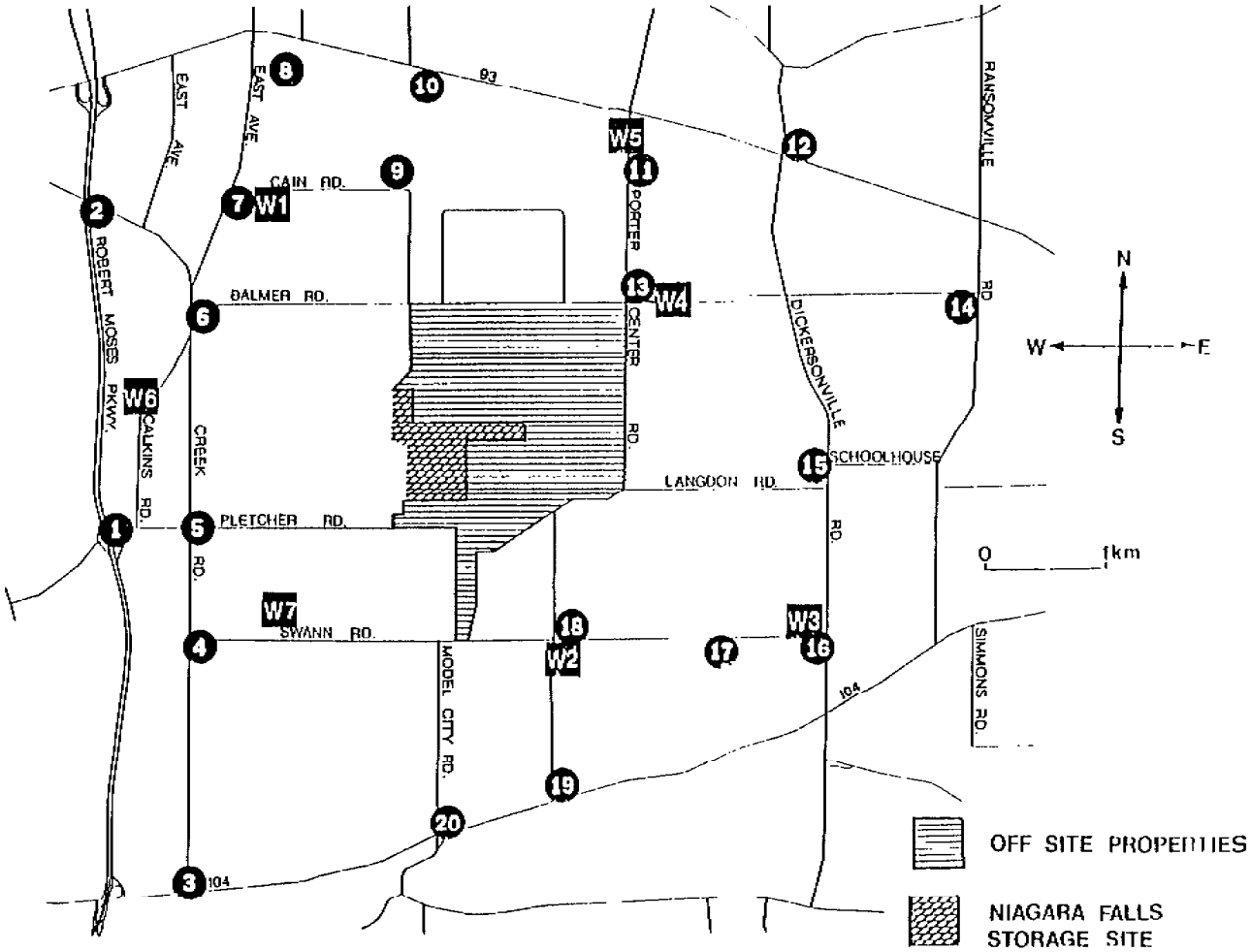

FIGURE 6. Map of Northern Niagara County, New York, Showing Locations of Background Measurements and Baseline Samples. (#1-20: soil samples and direct measurements; W1-W7: water samples.)

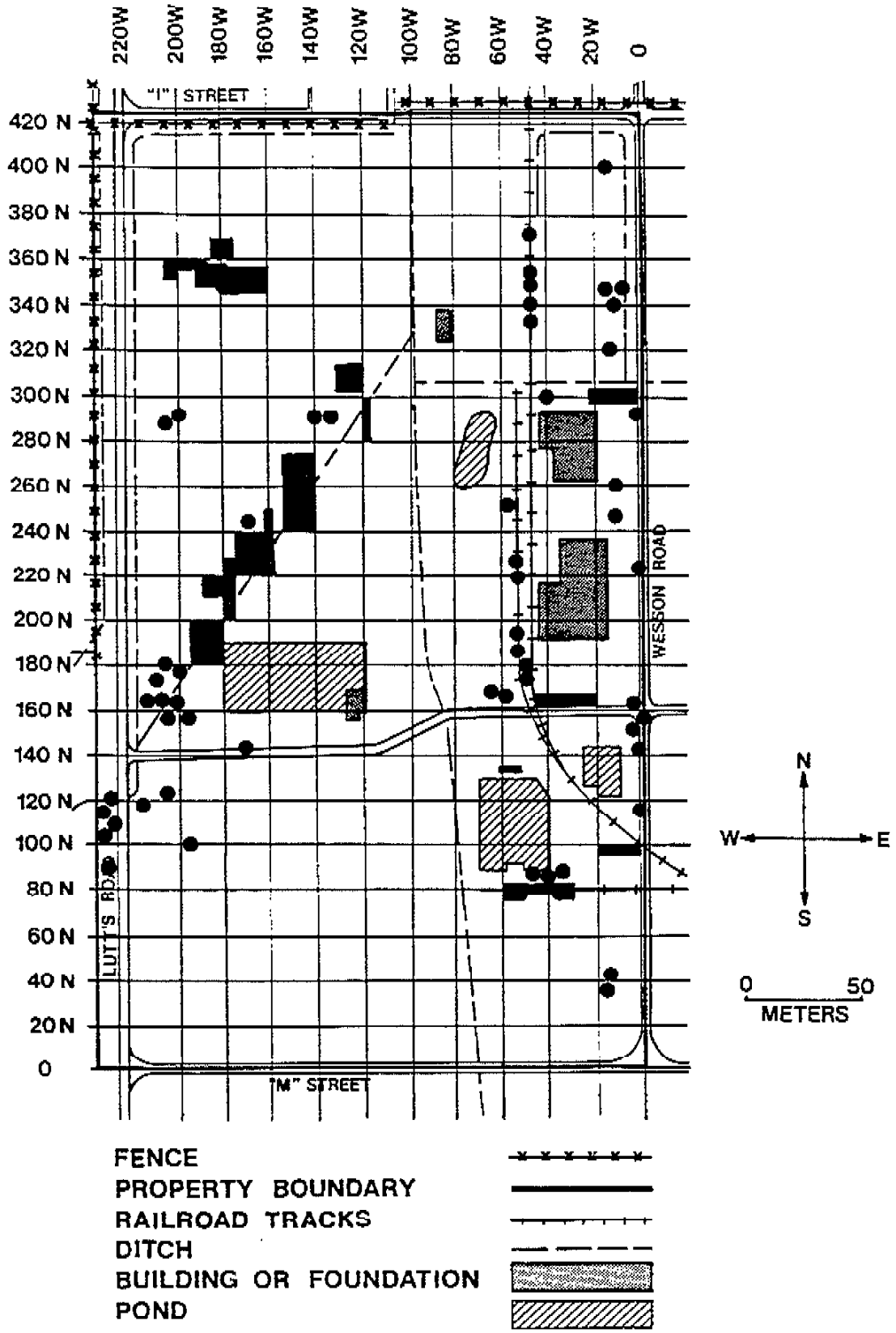

FIGURE 7. Locations of Areas of Elevated Direct Radiation and Areas Where Radionuclide Concentrations in Soil Exceed Criteria.

TABLE 1-A

BACKGROUND EXPOSURE RATES
AND
RADIONUCLIDE CONCENTRATIONS IN BASELINE SOIL SAMPLES

Location[a]	Exposure Rate[b] (μR/h)	Radionuclide Concentrations (pCi/g)				
		Ra-226	U-235	U-238	Th-232	Cs-137
1	6.8	0.74 ± 0.16[c]	<0.19	<2.89	0.70 ± 0.46	0.29 ± 0.08
2	6.8	0.75 ± 0.19	<0.19	<3.35	0.84 ± 0.24	0.24 ± 0.08
3	8.3	0.71 ± 0.18	0.46 ± 0.41	<3.72	0.88 ± 0.33	0.34 ± 0.09
4	7.9	0.67 ± 0.18	<0.22	<4.10	1.18 ± 0.35	0.12 ± 0.07
5	7.3	0.70 ± 0.16	<0.17	<3.34	0.68 ± 0.24	0.14 ± 0.07
6	7.7	0.50 ± 0.15	<0.16	<2.33	0.52 ± 0.38	0.17 ± 0.09
7	7.7	0.63 ± 0.13	<0.17	<2.73	0.83 ± 0.24	0.35 ± 0.08
8	7.6	0.59 ± 0.12	<0.14	<2.20	0.54 ± 0.23	<0.02
9	7.1	0.63 ± 0.20	<0.23	<4.16	0.83 ± 0.38	0.69 ± 0.11
10	7.1	0.70 ± 0.16	<0.19	<2.98	0.59 ± 0.25	0.69 ± 0.10
11	6.7	<0.09	<0.19	<2.83	0.49 ± 0.31	0.48 ± 0.14
12	7.1	0.48 ± 0.13	<0.16	<2.84	0.65 ± 0.26	0.68 ± 0.10
13	6.7	0.57 ± 0.14	<0.17	<2.36	0.49 ± 0.26	0.41 ± 0.08
14	6.8	0.68 ± 0.17	<0.19	<3.24	0.67 ± 0.25	0.70 ± 0.10
15	8.2	0.65 ± 0.14	<0.17	<3.20	0.72 ± 0.35	0.23 ± 0.08
16	7.4	0.91 ± 0.17	<0.71	<3.58	0.83 ± 0.28	0.61 ± 0.09
17	7.0	0.48 ± 0.14	<0.16	<2.73	0.32 ± 0.22	0.38 ± 0.08
18	7.7	0.73 ± 0.16	<0.18	6.26 ± 9.23	1.01 ± 0.44	0.32 ± 0.12
19	8.8	1.22 ± 0.22	<0.23	<3.79	1.08 ± 0.49	1.05 ± 0.13
20	8.6	0.83 ± 0.17	<0.21	<3.59	0.84 ± 0.29	0.08 ± 0.07
Range	6.8 to 8.8	<0.09 to 1.22	<0.14 to 0.46	<2.20 to 6.26	0.32 to 1.18	<0.02 to 1.05

[a] Refer to Figure 6.
[b] Measured at 1 m above the surface.
[c] Errors are 2σ based on counting statistics.

TABLE 1-B

RADIONUCLIDE CONCENTRATIONS IN BASELINE WATER SAMPLES

Location[a]	Radionuclide Concentrations (pCi/l)	
	Gross Alpha	Gross Beta
W1	0.95 ± 0.93[b]	4.79 ± 1.15
W2	0.95 ± 0.94	9.17 ± 1.31
W3	0.55 ± 0.78	2.73 ± 1.05
W4	0.63 ± 0.89	5.37 ± 1.17
W5	0.73 ± 0.68	<0.64
W6	1.87 ± 1.84	14.3 ± 2.4
W7	1.16 ± 0.66	<0.63
Range	0.55 to 1.87	<0.63 to 14.3

[a] Refer to Figure 6.
[b] Errors are 2σ based on counting statistics.

TABLE 2

DIRECT RADIATION LEVELS
MEASURED AT 20 M GRID INTERVALS

Grid Location N	Grid Location W	Gamma Exposure Rates at 1 m Above the Surface (μR/h)	Gamma Exposure Rates at the Surface (μR/h)	Beta-Gamma Dose Rates at 1 cm Above the Surface (μrad/h)
0	0	9	10	22
0	20	10	9	9
0	40	9	10	20
0	55	10	10	18
0	80	a	a	a
0	97	8	9	16
0	100	8	9	9
0	120	9	9	19
0	140	9	10	25
0	160	9	8	14
0	180	10	10	11
0	200	8	8	11
0	220	9	9	13
0	235	6	6	6
20	0	8	8	17
20	20	7	7	21
20	40	7	7	7
20	55	7	7	9
20	97	9	9	13
20	100	8	8	14
20	120	8	8	11
20	140	7	7	26
20	160	8	8	8
20	180	8	8	21
20	200	7	7	14
20	220	8	8	8
20	235	7	7	17
40	0	8	9	20
40	20	9	8	19
40	40	7	7	9
40	57	8	9	19
40	97	8	8	10
40	100	8	8	21
40	120	7	7	17
40	140	8	7	7
40	160	7	7	7
40	180	7	7	16
40	200	7	7	13
40	220	8	8	8
40	235	8	8	24

TABLE 2, cont.

DIRECT RADIATION LEVELS
MEASURED AT 20 M GRID INTERVALS

Grid Location N	Grid Location W	Gamma Exposure Rates at 1 m Above the Surface (μR/h)	Gamma Exposure Rates at the Surface (μR/h)	Beta-Gamma Dose Rates at 1 cm Above the Surface (μrad/h)
60	0	10	10	33
60	20	7	7	7
60	40	7	7	12
60	55	7	8	29
60	60	a	a	a
60	80	a	a	a
60	100	9	8	8
60	120	8	8	11
60	140	8	8	8
60	160	7	7	17
60	180	7	7	7
60	200	8	8	15
60	220	7	7	16
60	235	8	8	15
80	0	7	7	12
80	20	6	6	12
80	40	8	21	110
80	60	8	10	10
80	80	a	a	a
80	100	a	a	a
80	102	8	8	8
80	120	7	8	21
80	140	7	8	8
80	160	8	8	9
80	180	7	7	22
80	200	7	7	13
80	220	8	8	28
80	235	9	9	23
100	0	9	10	14
100	20	9	10	31
100	40	6	6	8
100	60	a	a	a
100	80	a	a	a
100	100	a	a	a
100	102	8	8	8
100	120	7	7	13
100	140	8	11	22
100	160	8	8	19
100	180	8	7	7
100	200	12	12	21

TABLE 2, cont.

DIRECT RADIATION LEVELS
MEASURED AT 20 M GRID INTERVALS

Grid Location N	Grid Location W	Gamma Exposure Rates at 1 m Above the Surface (μR/h)	Gamma Exposure Rates at the Surface (μR/h)	Beta-Gamma Dose Rates at 1 cm Above the Surface (μrad/h)
100	220	8	7	12
100	235	12	10	27
120	0	11	9	11
120	20	8	7	12
120	40	7	7	13
120	60	a	a	a
120	80	a	a	a
120	100	a	a	a
120	105	7	7	10
120	120	7	8	12
120	140	7	7	7
120	160	7	8	12
120	180	7	7	7
120	200	12	13	35
120	220	10	9	12
120	235	a	a	a
140	0	9	9	17
140	20	a	a	a
140	40	6	6	6
140	60	7	8	19
140	64	7	7	7
140	105	7	7	14
140	120	7	7	7
140	140	9	8	15
140	160	8	8	24
140	180	9	8	16
140	200	10	10	35
140	220	11	7	16
140	235	8	8	15
160	0	12	11	17
160	20	8	8	31
160	40	11	10	25
160	60	12	12	32
160	67	12	14	29
160	106	7	7	16
160	120	6	7	12
160	140	a	a	a
160	160	a	a	a
160	181	7	7	7

TABLE 2, cont.

DIRECT RADIATION LEVELS
MEASURED AT 20 M GRID INTERVALS

Gird Location N	Gird Location W	Gamma Exposure Rates at 1 m Above the Surface (μR/h)	Gamma Exposure Rates at the Surface (μR/h)	Beta-Gamma Dose Rates at 1 cm Above the Surface (μrad/h)
160	200	16	16	70
160	220	9	10	10
160	235	7	7	14
180	0	9	8	8
180	20	7	7	7
180	40	8	8	8
180	60	13	17	37
180	71	9	9	27
180	110	7	8	8
180	120	7	7	15
180	140	a	a	a
180	160	a	a	a
180	181	7	7	7
180	200	16	15	72
180	220	8	8	10
180	235	7	7	17
200	0	8	9	32
200	16	7	7	8
200	40	6	6	6
200	60	7	8	8
200	70	8	9	19
200	113	8	8	8
200	120	7	7	7
200	140	7	7	19
200	160	6	7	7
200	180	10	10	16
200	200	7	7	7
200	220	8	8	8
200	235	7	7	20
220	0	9	8	13
220	20	5	5	14
220	40	7	7	10
220	60	6	6	12
220	75	8	8	26
220	100	a	a	a
220	116	8	8	8
220	120	7	7	7
220	140	7	7	7
220	160	8	9	19

TABLE 2, cont.

DIRECT RADIATION LEVELS
MEASURED AT 20 M GRID INTERVALS

Grid Location N	Grid Location W	Gamma Exposure Rates at 1 m Above the Surface (μR/h)	Gamma Exposure Rates at the Surface (μR/h)	Beta-Gamma Dose Rates at 1 cm Above the Surface (μrad/h)
220	180	13	12	18
220	200	7	8	16
220	220	7	7	7
220	235	6	7	15
240	0	9	9	32
240	20	8	8	17
240	40	8	8	21
240	60	7	7	8
240	79	8	8	21
240	100	a	a	a
240	118	8	8	16
240	120	8	8	13
240	140	8	8	16
240	160	12	13	26
240	180	8	8	14
240	200	8	8	14
240	220	6	7	14
240	235	7	7	10
260	0	7	7	7
260	20	7	7	8
260	40	7	7	22
260	60	7	7	26
260	78	7	8	28
260	100	a	a	a
260	118	10	10	40
260	120	8	8	8
260	140	10	10	24
260	160	8	8	14
260	180	6	6	11
260	200	7	7	7
260	220	7	7	12
260	235	6	6	6
280	0	10	10	31
280	20	6	6	6
280	40	6	6	20
280	60	7	7	16
280	78	7	8	22
280	100	a	a	a
280	119	9	9	9

TABLE 2, cont.

DIRECT RADIATION LEVELS
MEASURED AT 20 M GRID INTERVALS

Grid Location N	Grid Location W	Gamma Exposure Rates at 1 m Above the Surface (uR/h)	Gamma Exposure Rates at the Surface (μR/h)	Beta-Gamma Dose Rates at 1 cm Above the Surface (μrad/h)
280	120	9	8	8
280	140	11	12	29
280	160	9	10	26
280	180	7	7	7
280	200	7	7	7
280	220	6	6	11
280	235	6	7	18
300	0	9	9	29
300	20	11	12	19
300	40	10	12	25
300	60	7	7	20
300	80	7	7	15
300	100	a	a	a
300	118	10	10	11
300	120	8	8	22
300	140	10	12	25
300	160	8	8	12
300	180	8	8	10
300	200	7	7	7
300	220	6	7	11
300	235	7	7	11
320	0	8	9	17
320	20	7	7	14
320	40	7	7	10
320	60	7	7	7
320	79	7	7	12
320	100	a	a	a
320	121	9	9	27
320	140	8	8	24
320	160	7	8	9
320	180	8	8	15
320	200	8	8	16
320	220	7	7	16
320	235	7	7	12
340	0	9	8	36
340	20	7	7	20
340	40	7	8	15
340	60	7	8	22
340	78	6	7	7

TABLE 2, cont.

DIRECT RADIATION LEVELS
MEASURED AT 20 M GRID INTERVALS

Grid Location N	Grid Location W	Gamma Exposure Rates at 1 m Above the Surface (μR/h)	Gamma Exposure Rates at the Surface (μR/h)	Beta-Gamma Dose Rates at 1 cm Above the Surface (μrad/h)
340	100	a	a	a
340	118	10	11	34
340	120	10	11	27
340	140	12	12	30
340	160	11	11	21
340	180	8	8	18
340	200	8	8	8
340	200	8	8	8
340	220	7	7	17
340	235	7	7	23
360	0	8	8	27
360	20	7	7	7
360	40	7	7	8
360	60	8	8	12
360	78	8	8	8
360	100	a	a	a
360	117	12	12	32
360	120	8	8	24
360	140	9	9	13
360	160	9	9	19
360	180	9	10	16
360	200	12	12	18
360	220	7	7	12
360	235	7	7	19
380	0	8	8	15
380	20	7	8	8
380	40	7	7	7
380	60	7	7	23
380	78	9	9	24
380	100	a	a	a
380	118	8	8	8
380	120	8	7	7
380	140	7	7	11
380	160	7	7	20
380	180	7	7	11
380	200	7	7	7
380	220	7	7	10
380	235	7	7	7

TABLE 2, cont.

DIRECT RADIATION LEVELS
MEASURED AT 20 M GRID INTERVALS

Grid Location N	Grid Location W	Gamma Exposure Rates at 1 m Above the Surface (μR/h)	Gamma Exposure Rates at the Surface (μR/h)	Beta-Gamma Dose Rates at 1 cm Above the Surface (μrad/h)
400	0	8	8	26
400	20	7	7	7
400	40	7	7	20
400	60	7	8	12
400	79	9	10	20
400	100	a	a	a
400	119	7	8	18
400	120	8	7	7
400	140	7	7	6
400	160	7	7	7
400	180	7	7	7
400	200	7	6	16
400	220	7	7	16
400	235	7	7	20
420	0	8	8	23
420	20	8	8	8
420	40	7	8	10
420	60	10	12	72
420	78	8	8	20
420	100	a	a	a
420	117	8	9	17
420	120	8	7	23
420	140	7	7	18
420	160	7	8	8
420	180	7	7	9
420	200	6	6	7
420	220	6	6	6
420	235	7	7	24

[a] No measurement taken due to presence of the West and Central Drainage Ditches, areas of standing water, or buildings.

TABLE 3

DIRECT RADIATION LEVELS AT LOCATIONS
IDENTIFIED BY THE WALKOVER SURFACE SCAN

Grid Location[a]		Exposure Rate (μR/h)		Surface Dose Rate (μrad/h)	Sample Identification	Contact Exposure Rates After Sample Removal (μR/h)
N	W	Contact	1 m Above Surface			
35	18	220	17	380	B1	240
35	19	76	----[b]	----	----	----
41	18	20	13	----	----	----
79	37	20	----	----	----	----
79	50	68	----	----	----	----
79	52	37	----	----	----	----
79	55	68	----	----	----	----
80	34	68	----	----	----	----
80	35	68	12	1020	B2	12
80	38	84	----	----	----	----
80	39	59	----	----	----	----
80	40	84	13	1730	B3	10
80	43	72	----	----	----	----
80	45	29	----	----	----	----
80	46	84	12	1330	B4	8
80	50	33	12	390	B5	8
80	51	68	----	----	----	----
80	53	84	----	----	----	----
80	56	84	11	1550	B6	9
85	40	17	12	17	B7	17
87	43	21	14	68	B8	27
90	32	23	12	26	B9	37
90	230	21	13	42	B10	20
94-99	4-18	23-29	----	----	----	----
95	5	29	20	43	----	----
97	7	40	----	----	----	----

TABLE 3, cont.

DIRECT RADIATION LEVELS AT LOCATIONS
IDENTIFIED BY THE WALKOVER SURFACE SCAN

Grid Location N	Grid Location W	Exposure Rate (μR/h) Contact	Exposure Rate (μR/h) 1 m Above Surface	Surface Dose Rate (μrad/h)	Sample Identification	Contact Exposure Rates After Sample Removal (μR/h)
99	15	23	8	110	----	----
100	196	36	12	52	B11	46
105	228	21	14	30	B12	29
103-106	230-234	25-27	----	----	----	----
107-116	224-229	20-40	----	----	----	----
109	228	30	----	----	----	----
110	228	39	----	----	----	----
111	228	35	18	85	B13	35
114	228	40	----	----	B14	----
112	1	35				---
113	0	40	----	----	----	----
115	7	31	17	60	B15	33
115	228	31	20	130	B16	44
119	214	27	----	----	----	----
119	215	42	----	----	----	----
119	230	24	----	----	----	----
120	234	31	14	92	B17	34
123	203	45	----	----	----	----
123	205	42	----	----	----	----
143	6	40	12	110	B18	----
143-146	169-170	21-25	----	----	B19	----
154	202	40	----	----	----	----
155	2	29	----	----	----	----
155	4	30	18	69	B20	----
156	2	31	----	----	----	----
159	2	26	----	----	----	----

TABLE 3, cont.

DIRECT RADIATION LEVELS AT LOCATIONS
IDENTIFIED BY THE WALKOVER SURFACE SCAN

Grid Location N	Grid Location W	Exposure Rate (μR/h) Contact	Exposure Rate (μR/h) 1 m Above Surface	Surface Dose Rate (μrad/h)	Sample Identification	Contact Exposure Rates After Sample Removal (μR/h)
159	51	20	----	----	----	----
159	52	20	----	----	----	----
159	198	29	----	----	B21	----
162	43	26	----	----	----	----
162	46	23	----	----	----	----
162	202	40	----	----	----	----
164	7	21	----	----	----	----
162-164	20-40	14-27	----	----	----	----
164	24	27	----	----	----	----
164	26	24	----	----	----	----
163-164	44-46	17-29	----	----	B22	----
164	212	29	----	----	B23	----
165	60	27	----	----	----	----
165	209	22	----	----	B24	----
167	65	22	----	----	----	----
168	210	22	----	----	B25	----
173	49	38	----	----	----	----
177	49	95	----	----	B26	----
178	201	23	----	----	B27	----
178	207	33	----	----	----	----
180	49	40	----	----	----	----
180	52	76	----	----	----	----
180-200	180-196	12-84	----	----	B28	----
181	192	84	----	----	----	----
184	52	95	----	----	B29	----
185	52	84	----	----	----	----

TABLE 3, cont.

DIRECT RADIATION LEVELS AT LOCATIONS
IDENTIFIED BY THE WALKOVER SURFACE SCAN

Grid Location N	Grid Location W	Exposure Rate (μR/h) Contact	Exposure Rate (μR/h) 1 m Above Surface	Surface Dose Rate (μrad/h)	Sample Identification	Contact Exposure Rates After Sample Removal (μR/h)
185	56	84	----	----	----	----
187	56	50	----	----	----	----
189	52	43	----	----	----	----
189	56	36	----	----	----	----
190	52	38	----	----	----	----
190	56	53	----	----	----	----
195	56	31	----	----	----	----
215	54	45	----	----	----	----
220	54	44	----	----	----	----
206-211	114-118	17-40	----	----	----	----
207	114	40	----	----	----	----
209	118	22	----	----	----	----
200 217	175-180	23 25				----
210-219	183-187	17-27	----	----	----	----
215	186	27	----	----	----	----
221	0	22	----	----	----	----
221	3	44	----	----	----	----
221	175	40	----	----	----	----
221	178	40	----	----	----	----
222-240	160-174	29-40	----	----	----	----
225	178	25	----	----	----	----
228	54	50	----	----	----	----
228	55	31	----	----	----	----
241-247	6-7	29-40	----	----	----	----
242	6	32	----	----	----	----
242	7	40	----	----	----	----

TABLE 3, cont.

DIRECT RADIATION LEVELS AT LOCATIONS
IDENTIFIED BY THE WALKOVER SURFACE SCAN

Grid Location N	Grid Location W	Exposure Rate (μR/h) Contact	Exposure Rate (μR/h) 1 m Above Surface	Surface Dose Rate (μrad/h)	Sample Identification	Contact Exposure Rates After Sample Removal (μR/h)
245	6	38	----	----	----	----
244	13	25	----	----	----	----
250	59	47	----	----	----	----
260	14	27	----	----	B30	----
240-274	140-157	12-33	----	----	B31	----
243-247	159-162	14-25	----	----	B32	----
243-245	165-168	14-38	----	----	----	----
290	201	106	----	----	----	----
292	136	20	----	----	----	----
292	138	22	----	----	----	----
292	200	21	----	----	----	----
294	4	27	14	56	B33	28
298-300	4-20	17-28	----	----	----	----
300	40	20	----	----	----	----
280-300	118-119	17-20	----	----	----	----
300-305	8-22	17-29	----	----	----	----
304-314	120-129	14-20	----	----	----	----
323	14	22	----	----	----	----
332	47	56	----	----	----	----
333	47	84	----	----	----	----
340	47	129	----	----	----	----
342	15	25	----	----	----	----
348	14	25	----	----	----	----
348	15	29	----	----	----	----
348	49	27	----	----	----	----
349	49	29	----	----	----	----

TABLE 3, cont.

DIRECT RADIATION LEVELS AT LOCATIONS
IDENTIFIED BY THE WALKOVER SURFACE SCAN

Grid Location N	Grid Location W	Exposure Rate (μR/h) Contact	Exposure Rate (μR/h) 1 m Above Surface	Surface Dose Rate (μrad/h)	Sample Identification	Contact Exposure Rates After Sample Removal (μR/h)
356	47	58	----	----	----	----
346-354	161-180	17-22	----	----	----	----
343-347	183-187	20-29	----	----	----	----
353-355	184-187	20-27	----	----	----	----
355-357	188-191	29-48	----	----	B34	----
355-357	192-196	17-22	----	----	----	----
351-357	203-206	29-40	----	----	----	----
360-366	179-183	17-40	----	----	----	----
369	48	76	----	----	B35	----
372	48	36	----			----
400	15	29	----	----	----	----

[a] Refer to Figure 7.
[b] Dash indicates measurement or sampling was not performed.

TABLE 4

RADIONUCLIDE CONCENTRATIONS IN SURFACE SOIL SAMPLES
FROM 20 M GRID INTERVALS

Grid Location		Radionuclide Concentrations (pCi/g)				
N	W	Ra-226	U-235	U-238	Cs-137	Th-232
9	5	2.84 ± 0.40[a]	<0.40	5.19 ± 1.54	1.58 ± 0.18	0.80 ± 0.28
4	20	b	b	b	b	b
4	40	2.85 ± 0.48	<0.27	<0.93	0.79 ± 1.30	1.08 ± 0.32
4	55	1.99 ± 0.32	<0.34	3.84 ± 1.26	0.46 ± 0.14	0.67 ± 0.28
4	97	11.5 ± 0.8	<0.45	<1.31	0.54 ± 1.24	<0.35
4	100	1.15 ± 0.22	<0.30	<0.98	0.54 ± 0.10	1.12 ± 0.46
4	120	1.91 ± 0.30	<0.23	<0.82	0.60 ± 0.12	0.85 ± 0.42
4	140	0.91 ± 0.20	<0.24	<0.68	0.14 ± 0.06	0.86 ± 0.26
4	160	3.21 ± 0.48	<0.27	1.50 ± 1.80	0.89 ± 0.12	0.51 ± 0.38
4	180	8.09 ± 0.78	<0.45	2.62 ± 2.98	1.12 ± 0.20	0.87 ± 0.52
4	200	2.30 ± 0.28	<0.28	<0.91	0.48 ± 0.10	0.89 ± 0.34
4	201	3.26 ± 0.38	<0.37	2.33 ± 1.60	0.78 ± 0.14	0.68 ± 0.42
4	220	0.94 ± 0.18	<0.24	1.17 ± 1.28	<0.04	0.81 ± 0.24
2	235	0.96 ± 0.36	<0.27	1.18 ± 1.28	0.11 ± 0.04	1.06 ± 0.42
20	3	0.51 ± 0.16	<0.15	<0.49	<0.03	0.74 ± 0.28
20	20	0.89 ± 0.22	<0.21	<0.81	<0.49	1.01 ± 0.38
20	40	0.73 ± 0.20	<0.31	<0.90	0.57 ± 0.12	0.84 ± 0.32
20	55	0.69 ± 0.28	<0.18	<0.70	0.45 ± 0.12	0.72 ± 0.28
20	97	1.44 ± 0.38	<0.24	1.60 ± 1.54	0.68 ± 0.12	1.31 ± 0.42
20	100	1.30 ± 0.28	<0.32	0.81 ± 1.44	0.81 ± 0.14	0.97 ± 0.38
20	120	0.91 ± 0.28	<0.21	<0.73	0.75 ± 0.12	0.64 ± 0.38
20	140	0.98 ± 0.40	<0.31	<0.96	0.86 ± 0.16	0.93 ± 0.40
20	160	1.16 ± 0.22	<0.23	0.87 ± 1.60	0.48 ± 0.10	0.68 ± 0.26
20	180	1.39 ± 0.40	<0.33	1.43 ± 0.98	0.42 ± 1.56	1.11 ± 0.50
20	200	1.28 ± 0.22	<0.31	0.86 ± 1.36	0.67 ± 0.12	1.12 ± 0.34
20	220	1.20 ± 0.22	<0.31	<0.97	0.54 ± 0.16	0.97 ± 0.34

TABLE 4, cont.

RADIONUCLIDE CONCENTRATIONS IN SURFACE SOIL SAMPLES
FROM 20 M GRID INTERVALS

Grid Location		Radionuclide Concentrations (pCi/g)				
N	W	Ra-226	U-235	U-238	Cs-137	Th-232
20	235	1.11 ± 0.26	<0.29	1.18 ± 1.56	0.11 ± 0.10	1.12 ± 0.54
40	2	2.46 ± 0.38	0.53 ± 0.27	<0.77	0.48 ± 0.12	0.50 ± 0.38
40	20	b	b	b	b	b
40	40	0.79 ± 0.22	<0.21	<0.85	0.33 ± 0.10	0.95 ± 0.34
40	57	0.54 ± 0.20	<0.19	<0.66	0.40 ± 0.10	0.77 ± 0.28
40	97	0.70 ± 0.20	<0.36	4.06 ± 2.64	0.53 ± 0.12	0.78 ± 0.48
40	100	1.01 ± 0.26	<0.23	<0.93	0.56 ± 0.18	0.87 ± 0.40
40	120	0.85 ± 0.26	<0.22	1.47 ± 1.70	0.35 ± 0.12	0.68 ± 0.26
40	140	0.95 ± 0.28	<0.29	1.90 ± 1.80	0.48 ± 0.12	1.13 ± 0.74
40	160	0.75 ± 0.28	<0.22	<0.89	0.38 ± 0.12	0.85 ± 0.50
40	180	0.83 ± 0.20	<0.21	1.43 ± 1.90	0.40 ± 0.12	0.87 ± 0.30
40	200	0.79 ± 0.26	<0.30	3.53 ± 2.12	0.36 ± 0.14	1.46 ± 0.54
40	220	0.88 ± 0.22	<0.21	1.72 ± 1.74	0.63 ± 0.14	0.66 ± 0.32
40	235	1.00 ± 0.22	<0.20	1.41 ± 1.28	0.07 ± 0.08	0.53 ± 0.36
60	3	1.35 ± 0.32	<0.33	<1.01	0.87 ± 0.14	1.04 ± 0.44
60	20	0.76 ± 0.32	<0.23	<0.80	0.36 ± 0.10	1.07 ± 0.36
60	40	0.63 ± 0.28	<0.22	1.39 ± 1.84	0.29 ± 0.10	0.96 ± 0.38
60	59	1.40 ± 0.36	0.31 ± 0.48	1.53 ± 1.62	0.40 ± 0.12	0.86 ± 0.42
60	100	2.29 ± 0.32	<0.26	<0.74	0.07 ± 0.14	1.18 ± 0.40
60	120	0.94 ± 0.22	<0.24	<0.92	0.47 ± 0.12	0.77 ± 0.42
60	140	0.66 ± 0.22	0.36 ± 0.58	<0.92	0.63 ± 0.12	0.76 ± 0.34
60	160	0.79 ± 0.28	<0.30	1.21 ± 0.94	0.64 ± 0.14	1.46 ± 0.60
60	180	0.83 ± 0.20	0.14 ± 0.06	1.31 ± 1.99	0.36 ± 0.08	0.93 ± 0.55
60	200	0.70 ± 0.28	<0.30	1.74 ± 1.40	0.39 ± 0.14	0.78 ± 0.30
60	220	1.01 ± 0.22	<0.21	0.71 ± 2.22	0.44 ± 0.12	0.53 ± 0.36
60	235	0.98 ± 0.26	<0.31	1.31 ± 0.94	<0.04	1.02 ± 0.32

TABLE 4, cont.

RADIONUCLIDE CONCENTRATIONS IN SURFACE SOIL SAMPLES
FROM 20 M GRID INTERVALS

Grid Location		Radionuclide Concentrations (pCi/g)				
N	W	Ra-226	U-235	U-238	Cs-137	Th-232
80	4	1.14 ± 0.30	<0.22	<0.75	0.71 ± 0.14	0.67 ± 0.36
80	20	0.91 ± 0.26	<0.29	<0.94	0.36 ± 0.10	1.52 ± 0.46
79	40	1.23 ± 0.36	<0.35	2.93 ± 2.72	1.01 ± 0.56	1.45 ± 0.56
80	60	1.05 ± 0.14	<0.23	<0.89	0.50 ± 0.14	0.73 ± 0.30
80	102	0.78 ± 0.28	<0.22	2.21 ± 2.26	0.47 ± 0.16	0.67 ± 0.44
80	120	0.91 ± 0.22	<0.20	0.90 ± 2.12	0.65 ± 0.12	0.70 ± 0.40
80	140	0.89 ± 0.22	<0.22	1.37 ± 2.02	0.52 ± 0.10	1.68 ± 0.56
80	160	1.06 ± 0.30	<0.19	<0.85	0.66 ± 0.18	0.97 ± 0.50
80	180	1.06 ± 0.28	<0.28	<1.00	0.49 ± 0.14	1.30 ± 0.42
80	200	1.00 ± 0.26	<0.30	<0.90	0.54 ± 0.14	1.17 ± 0.46
80	220	1.29 ± 0.32	<0.20	1.38 ± 1.28	0.70 ± 0.12	0.24 ± 0.18
80	235	2.29 ± 0.35	<0.33	<1.03	0.30 ± 0.10	1.26 ± 0.49
100	2	3.33 ± 0.58	<0.29	2.60 ± 2.60	0.36 ± 0.14	0.50 ± 0.36
100	20	1.43 ± 0.28	<0.24	1.90 ± 2.24	0.24 ± 0.10	0.69 ± 0.36
100	40	0.79 ± 0.36	<0.20	1.83 ± 0.18	<0.04	0.77 ± 0.36
100	102	0.96 ± 0.31	<0.23	0.84 ± 1.58	0.30 ± 0.12	0.93 ± 0.43
100	120	0.70 ± 0.28	<0.34	2.39 ± 1.66	0.73 ± 0.14	0.97 ± 0.42
100	140	0.90 ± 0.38	<0.31	<0.99	0.62 ± 0.14	0.69 ± 0.26
100	160	1.51 ± 0.32	<0.24	0.70 ± 1.64	0.39 ± 0.14	0.92 ± 0.36
100	180	0.75 ± 0.28	<0.19	<0.77	0.52 ± 0.14	1.03 ± 0.40
100	200	2.60 ± 0.36	<0.38	<1.13	0.52 ± 0.16	1.43 ± 0.42
100	220	1.21 ± 0.22	<0.28	<0.83	0.80 ± 0.12	0.59 ± 0.28
100	235	3.58 ± 0.40	<0.40	<1.16	<0.04	0.95 ± 0.30
120	4	b	b	b	b	b
120	20	0.83 ± 0.28	<0.21	<0.82	0.30 ± 0.14	0.74 ± 0.36
120	40	1.23 ± 0.32	<0.28	0.70 ± 0.88	0.09 ± 0.08	1.11 ± 0.40
120	120	1.26 ± 0.40	<0.32	3.29 ± 1.20	0.60 ± 0.12	0.89 ± 0.34

TABLE 4, cont.

RADIONUCLIDE CONCENTRATIONS IN SURFACE SOIL SAMPLES
FROM 20 M GRID INTERVALS

Grid Location		Radionuclide Concentrations (pCi/g)				
N	W	Ra-226	U-235	U-238	Cs-137	Th-232
120	140	0.95 ± 0.28	<0.21	1.20 ± 1.62	0.08 ± 0.08	1.06 ± 0.38
120	160	0.81 ± 0.22	<0.23	<0.84	0.33 ± 0.12	0.73 ± 0.38
120	180	0.80 ± 0.21	<0.27	1.09 ± 0.72	0.21 ± 0.07	0.94 ± 0.38
120	200	1.74 ± 0.38	<0.25	0.99 ± 1.89	0.59 ± 0.16	0.57 ± 0.52
120	220	1.73 ± 0.30	0.22 ± 0.54	1.04 ± 1.46	0.85 ± 0.14	0.43 ± 0.22
120	235	0.74 ± 0.22	<0.28	0.70 ± 1.96	<0.05	1.07 ± 0.40
140	3	1.44 ± 0.26	<0.19	1.12 ± 1.10	0.66 ± 0.12	<0.14
140	20	b	b	b	b	b
140	40	1.14 ± 0.31	<0.40	0.46 ± 2.58	<0.06	1.11 ± 1.42
140	60	0.88 ± 0.22	0.22 ± 0.22	<0.68	0.18 ± 0.06	0.50 ± 0.38
140	64	2.33 ± 0.30	<0.23	1.67 ± 1.54	0.13 ± 0.08	0.57 ± 0.30
140	120	1.29 ± 0.30	<0.32	2.01 ± 1.52	0.37 ± 0.12	1.00 ± 0.38
140	140	0.94 ± 0.20	<0.31	1.69 ± 0.80	0.31 ± 0.14	1.07 ± 0.40
140	160	b	b	b	b	b
140	180	1.86 ± 0.40	<0.30	<0.99	0.15 ± 0.08	0.90 ± 1.42
140	200	2.99 ± 0.40	<0.43	5.10 ± 1.42	<0.04	2.29 ± 0.50
140	220	1.24 ± 0.28	0.07 ± 0.07	<1.00	0.23 ± 0.11	1.15 ± 0.47
140	235	1.20 ± 0.36	<0.31	<0.96	0.14 ± 0.10	1.14 ± 0.52
159	5	3.60 ± 0.42	<0.30	1.96 ± 2.10	0.43 ± 0.12	0.47 ± 0.36
160	20	1.40 ± 0.30	<0.31	1.56 ± 2.16	0.53 ± 0.14	0.81 ± 0.62
160	40	2.00 ± 0.28	<0.30	2.66 ± 1.30	0.34 ± 0.10	0.54 ± 0.26
160	60	b	b	b	b	b
160	106	0.94 ± 0.26	<0.22	<0.68	0.10 ± 0.06	0.99 ± 0.36
160	120	0.93 ± 0.26	<0.31	1.98 ± 0.88	0.14 ± 0.06	1.10 ± 0.38
160	140	0.99 ± 0.28	<0.21	2.05 ± 1.62	0.14 ± 0.06	0.87 ± 0.66
160	160	b	b	b	b	b
160	181	2.20 ± 0.32	<0.29	1.25 ± 1.80	0.32 ± 0.10	1.12 ± 0.36

TABLE 4, cont.

RADIONUCLIDE CONCENTRATIONS IN SURFACE SOIL SAMPLES
FROM 20 M GRID INTERVALS

Grid Location		Radionuclide Concentrations (pCi/g)				
N	W	Ra-226	U-235	U-238	Cs-137	Th-232
160	200	9.24 ± 0.70	<0.46	<1.38	0.41 ± 0.20	1.28 ± 0.68
160	220	2.10 ± 0.40	<0.35	2.35 ± 1.66	0.79 ± 0.14	1.04 ± 0.44
160	235	1.00 ± 0.36	<0.18	<0.66	<0.05	1.08 ± 0.38
180	2	1.90 ± 0.40	<0.26	2.13 ± 1.90	0.93 ± 0.16	0.83 ± 0.48
180	20	0.90 ± 0.28	<0.23	<0.76	0.16 ± 0.08	0.93 ± 0.28
180	40	0.64 ± 0.20	<0.19	1.17 ± 1.60	0.36 ± 0.08	0.97 ± 0.32
180	60	0.84 ± 0.20	0.25 ± 0.26	3.11 ± 1.72	0.24 ± 0.08	1.18 ± 0.34
180	71	2.03 ± 0.38	<0.26	1.52 ± 2.14	0.35 ± 0.10	0.90 ± 0.42
180	100	0.79 ± 0.20	<0.17	2.05 ± 1.10	<0.04	0.86 ± 0.28
180	120	0.99 ± 0.20	<0.29	<0.92	0.06 ± 0.06	0.86 ± 0.42
180	140	1.30 ± 0.22	<0.30	2.97 ± 1.04	0.31 ± 0.08	1.22 ± 0.39
180	160	b	b	b	b	b
180	181	0.78 ± 0.26	0.27 ± 0.40	<0.85	0.19 ± 0.06	0.58 ± 0.42
180	200	10.1 ± 0.9	<0.49	<1.47	0.46 ± 0.12	1.12 ± 0.64
180	220	1.44 ± 0.32	<0.35	<1.08	0.45 ± 0.12	0.94 ± 0.50
180	235	0.74 ± 0.20	<0.25	<0.80	0.07 ± 0.06	0.93 ± 0.26
200	5	2.41 ± 0.46	<0.25	<1.10	0.66 ± 0.14	0.63 ± 1.12
200	20	b	b	b	b	b
200	40	b	b	b	b	b
200	60	1.45 ± 0.30	<0.21	1.32 ± 2.02	0.78 ± 0.14	0.56 ± 0.28
200	73	1.41 ± 0.25	<0.23	0.72 ± 3.44	<0.06	0.84 ± 0.36
200	113	1.05 ± 0.20	<0.29	3.48 ± 1.16	0.06 ± 0.02	1.25 ± 0.36
200	120	1.09 ± 0.30	<0.24	1.61 ± 1.90	0.09 ± 0.10	1.10 ± 0.44
200	140	0.74 ± 0.26	<0.25	1.43 ± 1.88	0.06 ± 0.04	1.15 ± 0.38
200	160	0.73 ± 0.18	<0.29	3.00 ± 1.08	0.09 ± 0.08	1.34 ± 0.50
200	180	0.83 ± 0.20	<0.20	<0.82	<0.04	0.81 ± 0.38
200	200	0.41 ± 0.28	<0.21	1.12 ± 1.02	0.44 ± 0.12	0.79 ± 0.40

TABLE 4, cont.

RADIONUCLIDE CONCENTRATIONS IN SURFACE SOIL SAMPLES
FROM 20 M GRID INTERVALS

Grid Location		Radionuclide Concentrations (pCi/g)				
N	W	Ra-226	U-235	U-238	Cs-137	Th-232
200	220	1.55 ± 0.30	<0.34	<1.02	0.73 ± 0.12	0.92 ± 0.28
200	235	0.94 ± 0.23	<0.18	0.67 ± 1.16	0.20 ± 0.10	0.48 ± 0.44
220	3	1.83 ± 0.33	<0.24	2.01 ± 1.86	0.75 ± 0.06	<0.27
220	20	b	b	b	b	b
220	40	0.19 ± 0.28	<0.21	2.55 ± 1.92	0.62 ± 0.16	0.65 ± 0.48
220	60	0.99 ± 0.20	<0.22	<0.62	0.30 ± 0.08	<0.12
220	75	0.61 ± 0.25	0.20 ± 0.62	<0.91	0.12 ± 0.56	0.93 ± 0.62
220	120	1.13 ± 0.28	<0.30	1.34 ± 1.48	<0.05	1.36 ± 0.38
220	140	0.83 ± 0.30	<0.35	1.44 ± 0.16	<0.06	0.96 ± 0.32
220	160	0.98 ± 0.35	<0.25	<1.13	0.26 ± 0.16	0.98 ± 0.50
220	180	8.50 ± 0.75	<0.43	<1.50	0.66 ± 0.24	1.71 ± 0.78
220	200	1.00 ± 0.28	<0.29	2.12 ± 1.38	0.68 ± 0.16	0.97 ± 0.50
220	220	0.78 ± 0.25	<0.25	<0.87	0.70 ± 0.19	1.13 ± 0.46
220	235	0.54 ± 0.19	<0.23	0.96 ± 1.36	0.26 ± 0.10	0.59 ± 0.50
240	5	1.44 ± 0.25	<0.20	<0.78	<0.05	0.42 ± 0.40
240	20	1.18 ± 0.28	<0.22	0.91 ± 1.78	0.14 ± 0.06	0.84 ± 0.32
240	40	1.41 ± 0.35	<0.33	2.55 ± 2.06	0.27 ± 0.16	0.93 ± 0.36
240	60	0.59 ± 0.13	<0.17	<0.52	0.34 ± 0.08	0.40 ± 0.23
240	76	0.86 ± 0.25	<0.19	1.55 ± 0.75	0.09 ± 0.10	0.70 ± 0.52
240	116	0.98 ± 0.28	<0.23	1.92 ± 1.68	0.17 ± 0.10	1.00 ± 0.54
240	140	1.08 ± 0.33	0.55 ± 0.50	2.29 ± 1.90	0.49 ± 0.12	0.54 ± 0.56
240	160	9.61 ± 0.78	<0.46	<1.60	0.26 ± 0.10	0.62 ± 0.52
240	180	0.96 ± 0.19	<0.30	2.05 ± 2.56	1.00 ± 0.20	0.62 ± 0.60
240	200	0.94 ± 0.30	<0.31	1.87 ± 1.86	0.62 ± 0.14	0.94 ± 0.38
240	220	0.49 ± 0.28	<0.24	1.91 ± 1.61	1.21 ± 0.18	1.12 ± 0.67
240	235	0.81 ± 0.20	<0.30	<0.94	<0.04	0.83 ± 0.36
260	4	1.39 ± 0.35	<0.32	2.62 ± 0.24	<0.05	1.16 ± 0.38

TABLE 4, cont.

RADIONUCLIDE CONCENTRATIONS IN SURFACE SOIL SAMPLES
FROM 20 M GRID INTERVALS

Grid Location		Radionuclide Concentrations (pCi/g)				
N	W	Ra-226	U-235	U-238	Cs-137	Th-232
260	18	0.73 ± 0.23	<0.17	0.85 ± 1.70	0.13 ± 0.08	0.55 ± 0.26
260	40	0.91 ± 0.28	<0.30	0.41 ± 1.70	0.84 ± 0.12	0.85 ± 0.30
260	60	0.86 ± 0.30	<0.21	<0.95	0.20 ± 0.08	0.72 ± 0.28
260	105	1.58 ± 0.30	0.56 ± 0.56	0.90 ± 1.90	0.51 ± 0.12	1.14 ± 0.48
260	120	0.83 ± 0.28	<0.32	3.41 ± 2.05	0.92 ± 0.16	1.10 ± 0.40
260	140	0.76 ± 0.24	<0.25	2.67 ± 1.85	0.76 ± 0.20	1.16 ± 0.42
260	160	0.96 ± 0.25	<0.24	<0.89	0.80 ± 0.12	0.61 ± 0.44
260	180	0.75 ± 0.24	<0.26	<1.06	0.79 ± 0.19	1.27 ± 0.60
260	200	1.01 ± 0.25	<0.26	3.14 ± 2.52	0.54 ± 0.16	1.00 ± 0.44
260	220	1.04 ± 0.33	<0.23	3.32 ± 2.14	0.67 ± 0.16	1.47 ± 1.03
260	235	0.65 ± 0.16	<0.27	2.39 ± 1.41	0.20 ± 0.07	1.79 ± 0.81
280	3	2.26 ± 0.39	<0.35	<1.07	<0.05	1.05 ± 0.39
280	20	b	b	b	b	b
280	40	b	b	b	b	b
280	60	0.19 ± 0.28	<0.30	1.96 ± 1.68	<0.40	1.43 ± 0.42
280	80	0.75 ± 0.38	<0.22	1.07 ± 2.01	0.07 ± 0.12	0.83 ± 0.34
280	106	1.29 ± 0.30	<0.27	2.25 ± 1.56	0.70 ± 0.14	0.90 ± 0.68
280	120	0.81 ± 0.35	<0.38	<1.18	0.80 ± 0.22	1.19 ± 0.72
280	140	4.74 ± 0.68	<0.39	6.38 ± 3.36	1.21 ± 0.22	2.27 ± 0.58
280	160	1.10 ± 0.35	<0.27	2.82 ± 1.78	0.85 ± 0.20	0.87 ± 0.34
280	180	0.98 ± 0.45	<0.46	<1.45	1.14 ± 0.24	0.71 ± 0.94
280	200	0.68 ± 0.35	<0.20	1.00 ± 2.00	0.31 ± 0.12	0.84 ± 0.42
280	220	0.61 ± 0.24	0.19 ± 0.53	0.84 ± 1.87	0.47 ± 0.10	0.47 ± 0.30
280	235	0.70 ± 0.20	<0.27	4.33 ± 1.92	0.10 ± 0.10	0.87 ± 0.42
300	3	1.16 ± 0.28	<0.23	1.77 ± 1.67	0.98 ± 0.18	0.82 ± 0.30
300	20	6.99 ± 0.50	0.41 ± 0.86	4.32 ± 2.10	<0.06	0.16 ± 0.23
300	40	2.19 ± 0.33	<0.22	2.05 ± 1.60	0.27 ± 0.09	0.55 ± 0.42

TABLE 4, cont.

RADIONUCLIDE CONCENTRATIONS IN SURFACE SOIL SAMPLES
FROM 20 M GRID INTERVALS

Grid Location		Radionuclide Concentrations (pCi/g)				
N	W	Ra-226	U-235	U-238	Cs-137	Th-232
300	60	0.83 ± 0.29	0.42 ± 0.45	1.65 ± 0.80	<0.04	0.99 ± 0.30
300	80	0.93 ± 0.25	<0.19	1.41 ± 1.42	<0.04	1.02 ± 0.59
300	95	0.78 ± 0.20	<0.21	6.48 ± 1.71	0.23 ± 0.12	1.00 ± 0.30
300	105	2.83 ± 0.48	<0.42	<1.21	0.74 ± 0.16	1.53 ± 0.60
300	120	0.73 ± 0.29	<0.20	<0.75	0.40 ± 0.10	0.64 ± 0.40
300	140	0.50 ± 0.55	0.69 ± 0.75	0.19 ± 2.37	1.20 ± 0.22	0.76 ± 0.32
300	160	1.56 ± 0.38	<0.43	1.74 ± 1.32	1.27 ± 0.23	1.35 ± 0.45
300	180	0.95 ± 0.31	<0.31	2.96 ± 3.72	1.44 ± 0.23	1.32 ± 0.48
300	200	1.19 ± 0.38	<0.30	<1.03	0.58 ± 0.14	1.06 ± 0.60
300	220	0.60 ± 0.35	<0.26	0.76 ± 2.21	0.57 ± 0.16	0.90 ± 0.48
300	235	0.86 ± 0.20	<0.13	1.07 ± 0.48	0.11 ± 0.06	0.70 ± 0.30
320	4	1.26 ± 0.28	<0.23	0.93 ± 2.02	0.66 ± 0.12	0.49 ± 0.23
320	20	0.58 ± 0.31	0.72 ± 0.57	1.12 ± 1.04	0.52 ± 0.13	0.73 ± 0.31
320	40	0.65 ± 0.30	<0.23	1.48 ± 1.98	0.54 ± 0.12	1.09 ± 0.43
320	60	0.89 ± 0.38	0.37 ± 0.55	1.57 ± 0.16	0.37 ± 0.12	1.11 ± 0.48
320	80	0.54 ± 0.18	<0.16	1.19 ± 1.21	0.41 ± 0.08	0.56 ± 0.36
320	121	0.79 ± 0.24	<0.18	<0.72	0.57 ± 0.10	0.88 ± 0.33
320	140	1.24 ± 0.34	<0.23	3.76 ± 1.68	0.82 ± 0.17	0.55 ± 0.46
320	160	1.14 ± 0.31	<0.28	1.72 ± 1.61	0.84 ± 0.21	0.82 ± 0.46
320	180	1.53 ± 0.44	<0.29	<1.40	1.05 ± 0.21	0.70 ± 0.50
320	200	6.49 ± 0.55	<0.38	2.10 ± 3.65	1.02 ± 0.17	0.82 ± 0.40
320	220	0.69 ± 0.19	<0.21	1.02 ± 0.18	0.33 ± 0.10	0.62 ± 0.40
320	235	0.96 ± 0.24	<0.26	<0.52	0.25 ± 0.08	1.16 ± 0.48
340	3	2.49 ± 0.41	<0.28	0.94 ± 2.71	0.99 ± 0.17	0.66 ± 0.28
340	20	0.84 ± 0.26	<0.19	1.02 ± 1.86	0.54 ± 0.13	0.88 ± 0.28
340	40	1.03 ± 0.29	<0.20	<0.95	0.31 ± 0.12	0.98 ± 0.42
340	60	0.68 ± 0.23	<0.22	0.90 ± 1.50	0.71 ± 0.15	2.84 ± 0.54

TABLE 4, cont.

RADIONUCLIDE CONCENTRATIONS IN SURFACE SOIL SAMPLES
FROM 20 M GRID INTERVALS

Grid Location		Radionuclide Concentrations (pCi/g)				
N	W	Ra-226	U-235	U-238	Cs-137	Th-232
340	78	0.45 ± 0.19	<0.15	<0.67	0.42 ± 0.10	0.56 ± 0.49
340	120	0.83 ± 0.18	<0.19	<0.63	0.08 ± 0.06	0.74 ± 0.26
340	140	<0.31	<0.28	3.11 ± 2.09	<0.11	0.90 ± 0.43
340	160	3.60 ± 0.45	<0.38	2.72 ± 2.06	1.10 ± 0.15	0.70 ± 0.43
340	180	0.93 ± 0.24	<0.20	0.42 ± 1.34	0.07 ± 0.06	0.64 ± 0.25
340	200	0.83 ± 0.20	<0.25	<0.82	0.36 ± 0.09	1.00 ± 0.52
340	220	0.75 ± 0.21	<0.22	0.67 ± 2.83	0.49 ± 0.12	<0.22
340	235	0.85 ± 0.29	<0.27	2.14 ± 1.48	<0.04	1.08 ± 0.40
360	3	1.43 ± 0.38	<0.25	2.76 ± 2.02	0.88 ± 0.15	0.80 ± 0.29
360	20	0.66 ± 0.23	0.92 ± 0.45	<0.83	0.62 ± 0.12	0.68 ± 0.44
360	40	0.83 ± 0.26	<0.20	<0.75	0.30 ± 0.10	1.03 ± 0.30
360	60	1.66 ± 0.33	<0.27	1.71 ± 2.29	0.44 ± 0.13	1.03 ± 0.42
360	78	1.00 ± 0.30	<0.23	<0.84	0.81 ± 0.16	0.75 ± 0.49
360	120	1.39 ± 0.34	<0.34	2.71 ± 0.17	0.67 ± 0.12	0.74 ± 0.48
360	140	1.24 ± 0.31	<0.34	<1.11	0.85 ± 0.15	1.67 ± 0.42
360	160	1.94 ± 0.29	<0.33	1.65 ± 1.52	0.63 ± 0.12	1.21 ± 0.61
360	180	1.30 ± 0.33	<0.34	3.57 ± 1.46	0.82 ± 0.14	0.70 ± 0.70
360	200	2.63 ± 0.36	<0.27	<0.82	0.81 ± 0.12	0.46 ± 0.46
360	210	1.80 ± 0.34	<0.28	3.13 ± 1.69	0.60 ± 0.15	1.27 ± 0.38
360	220	1.05 ± 0.28	0.36 ± 0.66	<0.90	0.43 ± 0.11	0.85 ± 0.33
360	235	0.78 ± 0.20	<0.26	1.39 ± 0.99	0.13 ± 0.09	1.23 ± 0.58
380	3	1.21 ± 0.30	<0.25	0.72 ± 1.93	0.99 ± 0.14	0.76 ± 0.34
380	20	0.61 ± 0.24	<0.22	1.65 ± 1.00	0.79 ± 0.15	0.74 ± 0.46
380	40	0.74 ± 0.31	<0.21	<0.77	0.50 ± 0.11	0.67 ± 0.37
380	60	1.09 ± 0.43	<0.22	1.61 ± 0.16	0.26 ± 0.09	1.14 ± 0.44
380	78	1.45 ± 0.41	<0.22	2.12 ± 2.23	0.29 ± 0.11	1.10 ± 0.32
380	120	0.55 ± 0.07	0.08 ± 0.09	0.48 ± 0.33	0.07 ± 0.01	0.15 ± 0.07

TABLE 4, cont.

RADIONUCLIDE CONCENTRATIONS IN SURFACE SOIL SAMPLES
FROM 20 M GRID INTERVALS

Grid Location		Radionuclide Concentrations (pCi/g)				
N	W	Ra-226	U-235	U-238	Cs-137	Th-232
380	140	1.11 ± 0.30	<0.31	1.61 ± 1.44	0.68 ± 0.14	0.83 ± 0.31
380	160	0.90 ± 0.40	<0.32	<1.06	0.75 ± 0.16	1.15 ± 0.38
380	180	0.89 ± 0.28	<0.30	1.49 ± 1.61	0.85 ± 0.13	0.47 ± 0.52
380	200	0.28 ± 0.38	<0.41	<1.18	1.22 ± 0.19	1.31 ± 0.54
380	220	b	b	b	b	b
380	235	0.71 ± 0.26	<0.20	0.81 ± 0.76	<0.04	0.60 ± 0.43
400	3	1.24 ± 0.54	<0.21	<0.92	0.45 ± 0.12	0.56 ± 0.38
400	20	1.44 ± 0.29	<0.22	1.42 ± 1.49	0.43 ± 0.27	0.33 ± 0.27
400	40	0.85 ± 0.20	<0.18	<0.83	0.72 ± 0.12	0.61 ± 0.39
400	60	1.23 ± 0.25	<0.24	1.03 ± 1.69	0.28 ± 0.04	0.92 ± 0.31
400	77	5.96 ± 0.55	<0.52	<1.40	0.62 ± 0.15	1.29 ± 0.76
400	120	0.36 ± 0.68	<0.19	<0.59	<0.05	<0.20
400	140	0.34 ± 0.06	<0.05	1.10 ± 0.30	0.21 ± 0.03	0.14 ± 0.08
400	160	1.04 ± 0.39	<0.35	<1.11	0.88 ± 0.13	0.86 ± 0.43
400	180	0.53 ± 0.11	0.19 ± 0.22	0.96 ± 0.34	0.38 ± 0.04	0.31 ± 0.11
400	200	b	b	b	b	b
400	220	0.80 ± 0.40	<0.22	0.54 ± 1.49	0.78 ± 0.14	1.00 ± 0.47
400	235	0.75 ± 0.21	<0.28	<0.85	0.22 ± 0.10	0.65 ± 0.29
420	4	2.51 ± 0.39	<0.36	4.01 ± 1.24	0.52 ± 0.12	<0.24
420	20	0.58 ± 0.31	<0.41	<1.11	0.85 ± 0.20	<0.33
420	40	1.00 ± 0.43	<0.28	<0.91	1.01 ± 0.19	1.08 ± 0.36
420	60	2.26 ± 0.43	<0.28	<1.21	0.37 ± 0.14	0.91 ± 0.50
420	78	1.75 ± 0.38	<0.28	<0.92	1.08 ± 0.17	0.99 ± 0.44
420	120	2.60 ± 0.34	<0.34	<0.98	0.36 ± 0.13	0.87 ± 0.36
420	140	1.68 ± 0.39	<0.32	1.96 ± 1.49	0.80 ± 0.14	0.42 ± 0.27
416	160	1.55 ± 0.34	<0.25	<0.90	0.74 ± 0.17	1.17 ± 0.42
419	180	0.85 ± 0.21	<0.33	2.20 ± 1.49	1.05 ± 0.15	0.69 ± 0.35

TABLE 4, cont.

RADIONUCLIDE CONCENTRATIONS IN SURFACE SOIL SAMPLES
FROM 20 M GRID INTERVALS

Grid Location		Radionuclide Concentrations (pCi/g)				
N	W	Ra-226	U-235	U-238	Cs-137	Th-232
400	200	1.21 ± 0.29	<0.31	<0.95	0.72 ± 0.13	1.16 ± 0.34
419	220	1.80 ± 0.43	<0.38	4.00 ± 0.25	0.57 ± 0.16	4.21 ± 0.66
420	235	0.78 ± 0.35	<0.28	1.64 ± 1.24	0.07 ± 0.08	1.17 ± 0.33
430	10	1.46 ± 0.35	<0.33	2.14 ± 1.23	1.69 ± 0.25	0.85 ± 0.57
430	20	1.51 ± 0.35	<0.27	2.08 ± 2.25	0.99 ± 0.17	0.76 ± 0.68
430	40	1.98 ± 0.35	<0.37	1.86 ± 2.02	1.14 ± 0.16	0.92 ± 0.33
430	60	1.03 ± 0.24	<0.30	2.20 ± 0.10	0.25 ± 0.10	0.94 ± 0.34
430	80	2.76 ± 0.38	<0.38	<1.18	0.41 ± 0.11	0.95 ± 0.29
430	100	3.24 ± 0.40	<0.39	1.59 ± 2.24	1.11 ± 0.20	1.00 ± 0.72

[a] Errors are 2σ based on counting statistics.
[b] No sample collected; grid point inaccessible due to presence of standing water, buildings, or drainage ditches.

TABLE 5

RADIONUCLIDE CONCENTRATIONS IN SURFACE SAMPLES
FROM LOCATIONS IDENTIFIED BY THE WALKOVER SCAN

Sample Identification	Sample Description	Grid[a] Location N	Grid[a] Location W	Radionuclide Concentrations (pCi/g) Ra-226	U-235[b]	U-238[b]	Cs-137[b]	Th-232[b]
B1	Rock	35	18	570 ± 8[c]	<5.29	<8.72	<0.67	19.6 ± 5.8
B2	Rock	80	35	244 ± 6	22.8 ± 15.1	272 ± 170	<1.21	973 ± 15
B3	Rock	80	40	179 ± 16	<11.4	213 ± 3	<2.68	804 ± 38
B4	Rock	80	46	247 ± 7	10.9 ± 16.3	257 ± 205	<1.29	1180 ± 20
B5	Rock	80	50	84.4 ± 3.6	6.79 ± 7.05	91.4 ± 1.4	<0.55	189 ± 8
B6	Rock	80	56	165 ± 5	25.5 ± 11.8	184 ± 1.7	<0.97	674 ± 12
B7	Rock	85	40	32.5 ± 0.8	3.11 ± 1.23	40.6 ± 17.1	<0.07	<0.31
B8	Rock	87	43	13.1 ± 0.7	1.21 ± 1.02	10.1 ± 7.6	0.60 ± 0.13	1.03 ± 0.61
B9	Rock	90	32	12.2 ± 0.7	<0.55	12.0 ± 2.8	0.11 ± 0.08	0.45 ± 0.51
B10	Soil	90	230	12.0 ± 0.8	0.56 ± 0.90	<1.35	0.15 ± 0.09	0.70 ± 0.56
B11	Soil	100	196	37.0 ± 1.5	4.47 ± 1.67	7.08 ± 5.37	0.61 ± 0.61	0.95 ± 0.77
B12	Soil	105	228	31.6 ± 1.4	0.69 ± 1.51	<2.21	0.50 ± 0.14	0.63 ± 0.96
B13	Soil	110	228	3.26 ± 0.39	<0.34	<1.06	<0.06	<0.25
B14	Soil	111	228	44.8 ± 1.5	<1.16	<3.70	0.61 ± 0.16	<0.55
B15	Rock	115	7	19.2 ± 0.9	1.73 ± 1.50	14.4 ± 2.9	0.28 ± 0.11	0.71 ± 0.86
B16	Soil	115	228	78.1 ± 2.0	2.79 ± 2.46	8.87 ± 6.61	<0.23	<0.75
B17	Soil	120	234	86.0 ± 2.7	3.59 ± 2.79	<3.77	<0.16	<0.68
B18	Soil & Gravel	143	6	10.7 ± 0.6	<0.56	6.20 ± 2.64	<0.06	1.04 ± 0.52
B19	Soil	146	160	0.94 ± 0.30	<0.22	1.70 ± 1.12	<0.03	0.71 ± 0.26
B20	Soil & Gravel	155	4	33.3 ± 1.1	3.28 ± 1.59	31.5 ± 3.5	<0.08	0.59 ± 0.47
B21	Soil	159	198	31.5 ± 1.1	<0.90	7.14 ± 2.97	0.37 ± 0.12	2.93 ± 0.93
B22	Rock	164	45	9.09 ± 0.56	1.41 ± 0.79	10.6 ± 2.0	0.06 ± 0.05	0.64 ± 0.34
B23	Soil	164	212	24.8 ± 1.1	<0.92	<2.44	1.02 ± 0.17	<0.43
B24	Soil	165	209	47.8 ± 1.6	<0.79	<2.05	1.18 ± 0.19	1.04 ± 0.87
B25	Soil	168	210	67.8 ± 1.6	2.04 ± 1.30	<1.22	<0.11	<0.45
B26	Rock	177	49	38.4 ± 0.9	2.89 ± 2.10	41.3 ± 0.4	<0.35	153 ± 2

TABLE 5, cont.

RADIONUCLIDE CONCENTRATIONS IN SURFACE SAMPLES
FROM LOCATIONS IDENTIFIED BY THE WALKOVER SCAN

Sample Identification	Sample Description	Grid Location N	Grid Location W	Radionuclide Concentrations (pCi/g) Ra-226	U-235	U-238	Cs-137	Th-232
B27	Soil	178	201	39.0 ± 1.4	<0.81	<2.07	0.25 ± 0.12	0.60 ± 0.83
B28	Soil	198	193	1.41 ± 0.30	<0.17	0.99 ± 0.80	0.21 ± 0.08	1.13 ± 0.45
B29	Rock	184	52	63.0 ± 2.7	<3.42	62.4 ± 0.6	<0.53	241 ± 6
B30	Soil	260	14	0.91 ± 0.28	<0.24	1.06 ± 0.82	<0.03	1.15 ± 0.31
B31	Soil	256	142	24.2 ± 1.0	1.30 ± 1.04	<0.81	0.80 ± 0.13	1.01 ± 0.50
B32	Soil	244	160	5.24 ± 0.46	<0.42	<1.21	0.09 ± 0.05	1.49 ± 0.58
B33	Soil & Gravel	294	4	14.8 ± 0.6	1.50 ± 0.97	15.7 ± 2.2	<0.07	0.82 ± 0.42
B34	Rock	357	189	54.9 ± 1.2	4.48 ± 1.56	61.5 ± 14.3	<0.11	<0.38
B35	Rock	369	48	63.6 ± 2.4	<3.83	70.5 ± 0.6	<0.56	267 ± 7

[a] Refer to Figure 7.

[b] Large relative errors and minimum detectable activities are the result of high continuum count rates caused by high Ra-226 levels.

[c] Errors are 2σ based on counting statistics.

TABLE 6

RADIONUCLIDE CONCENTRATIONS IN BOREHOLE SOIL SAMPLES

Borehole No.[a]	Grid Location N	Grid Location W	Depth (m)	Radionuclide Concentrations (pCi/g) Ra-226	U-235	U-238	Cs-137	Th-232
H1	20	106	Surface	0.69 ± 0.26[b]	<0.16	0.78 ± 1.50	0.10 ± 0.09	0.79 ± 0.32
			0.5	0.98 ± 0.30	<0.30	1.93 ± 1.24	<0.04	0.97 ± 0.44
			1.0	1.08 ± 0.28	<0.21	1.01 ± 1.64	<0.04	0.92 ± 0.71
			2.0	0.98 ± 0.13	<0.21	<0.74	<0.03	0.96 ± 0.34
H2	31	200	Surface	0.89 ± 0.33	<0.28	<0.85	0.37 ± 0.11	0.97 ± 0.31
			2.0	1.28 ± 0.26	<0.23	0.76 ± 0.63	<0.04	1.30 ± 0.64
H3	37	19	Surface	0.88 ± 0.25	<0.20	<0.69	0.18 ± 0.06	0.70 ± 0.41
			0.5	0.83 ± 0.23	<0.24	2.18 ± 1.49	<0.03	1.12 ± 0.31
			1.0	0.66 ± 0.24	<0.13	0.62 ± 0.53	<0.02	0.54 ± 0.21
			2.0	0.58 ± 0.19	<0.18	1.36 ± 1.24	<0.03	0.48 ± 0.38
H4	94	20	Surface	1.01 ± 0.25	<0.26	<0.79	0.07 ± 0.06	0.65 ± 0.41
			0.5	1.33 ± 0.28	<0.17	0.94 ± 0.76	<0.03	0.85 ± 0.27
			1.0	1.15 ± 0.23	<0.28	0.79 ± 1.53	<0.04	1.00 ± 0.42
			2.0	0.85 ± 0.21	<0.15	0.57 ± 0.45	<0.03	1.12 ± 0.36
H5	130	160	Surface	1.20 ± 0.36	<0.36	<1.07	<0.05	1.70 ± 0.38
			0.5	0.09 ± 0.28	<0.19	1.26 ± 1.70	0.08 ± 0.13	1.29 ± 0.48
			1.0	1.35 ± 0.30	<0.34	<1.07	<0.05	1.16 ± 0.54
			2.0	1.10 ± 0.30	<0.19	0.91 ± 0.83	<0.03	1.08 ± 0.36
H6	148	18	Surface	0.80 ± 0.24	<0.29	3.99 ± 1.24	0.42 ± 0.14	0.36 ± 0.42
			0.5	0.83 ± 0.19	<0.27	<0.77	<0.03	1.08 ± 0.33
			1.0	1.00 ± 0.45	<0.32	4.23 ± 2.03	<0.05	2.13 ± 0.62
			2.0	1.15 ± 0.21	<0.28	1.07 ± 1.52	<0.04	1.32 ± 0.40

TABLE 6, cont.

RADIONUCLIDE CONCENTRATIONS IN BOREHOLE SOIL SAMPLES

Borehole No.	Grid Location N	Grid Location W	Depth (m)	Radionuclide Concentrations (pCi/g) Ra-226	U-235	U-238	Cs-137	Th-232
H7	160	229	Surface	0.83 ± 0.20	<0.25	1.36 ± 1.43	0.12 ± 0.04	1.01 ± 0.29
			0.5	0.79 ± 0.21	<0.21	<0.69	<0.03	0.85 ± 0.34
			1.0	1.01 ± 0.24	<0.26	2.19 ± 1.93	<0.04	0.70 ± 0.26
			2.0	0.98 ± 0.29	<0.25	1.72 ± 1.81	<0.04	0.62 ± 0.44
H8	229	78	Surface	1.09 ± 0.20	<0.30	<0.81	<0.04	2.52 ± 0.83
			2.0	1.08 ± 0.35	<0.33	2.91 ± 1.39	<0.05	1.09 ± 0.40
H9	240	2	Surface	1.24 ± 0.23	<0.26	<0.9	0.16 ± 0.08	0.41 ± 0.18
			0.5	0.73 ± 0.20	<0.24	1.96 ± 1.47	<0.03	0.87 ± 0.50
			1.0	0.73 ± 0.15	<0.24	<0.72	<0.03	1.21 ± 0.37
			2.0	1.08 ± 0.28	<0.31	1.45 ± 1.49	<0.04	0.87 ± 0.37
H10	316	200	Surface	0.90 ± 0.25	<0.28	1.93 ± 1.60	<0.04	0.80 ± 0.37
			0.5	1.08 ± 0.24	<0.16	0.99 ± 1.05	0.05 ± 0.17	1.47 ± 0.80
			1.0	1.15 ± 0.33	<0.21	1.83 ± 1.74	<0.03	0.96 ± 0.40
			2.0	1.26 ± 0.26	<0.32	2.57 ± 1.19	<0.05	1.20 ± 0.45
H11	339	53	Surface	0.55 ± 0.14	<0.24	1.64 ± 1.55	0.17 ± 0.09	1.03 ± 0.39
			0.5	0.91 ± 0.26	<0.15	0.79 ± 0.46	<0.03	0.77 ± 0.30
			1.0	0.83 ± 0.19	<0.20	<0.72	<0.03	1.00 ± 0.38
			2.0	<0.16	<0.26	2.72 ± 1.55	<0.03	1.15 ± 0.35
H12	418	70	Surface	0.91 ± 0.23	0.42 ± 0.64	5.01 ± 2.35	<0.03	0.82 ± 0.28
			0.5	0.78 ± 0.29	<0.22	1.42 ± 1.53	<0.03	1.19 ± 0.36
			1.0	1.11 ± 0.25	<0.27	1.86 ± 0.89	<0.04	1.07 ± 0.39
			2.0	0.89 ± 0.19	<0.19	1.25 ± 1.73	<0.03	0.79 ± 0.33

TABLE 6, cont.

RADIONUCLIDE CONCENTRATIONS IN BOREHOLE SOIL SAMPLES

Borehole No.	Grid Location N	Grid Location W	Depth (m)	Radionuclide Concentrations (pCi/g) Ra-226	U-235	U-238	Cs-137	Th-232
H13	419	10	Surface	1.18 ± 0.26	<0.29	1.57 ± 0.89	0.11 ± 0.07	1.21 ± 0.41
			0.5	1.03 ± 0.26	<0.30	<0.88	<0.04	1.15 ± 0.37
			1.0	0.69 ± 0.19	<0.22	2.18 ± 1.55	<0.05	0.57 ± 0.42
			2.0	1.03 ± 0.23	<0.17	0.74 ± 0.71	<0.02	0.63 ± 0.42
H14	4	235	Surface	4.00 ± 0.49	<0.29	1.75 ± 1.89	0.25 ± 0.08	0.73 ± 0.24
			0.3	1.15 ± 0.25	<0.28	<0.92	<0.04	0.86 ± 0.33
			0.6	1.29 ± 0.25	<0.26	1.61 ± 1.77	0.08 ± 0.13	1.26 ± 0.32
H15	110	228	Surface	3.26 ± 0.39	<0.34	<1.06	<0.06	<0.25
			0.5	1.46 ± 0.31	<0.32	<1.08	<0.04	1.18 ± 0.42
			1.0	1.38 ± 0.26	<0.23	0.75 ± 0.14	0.04 ± 0.04	0.68 ± 0.33
H16	143	6	Surface	10.7 ± 0.6	<0.56	6.20 ± 2.64	<0.06	1.04 ± 0.52
			0.5	6.61 ± 0.59	<0.32	3.82 ± 0.95	<0.05	0.90 ± 0.46
			1.0	1.80 ± 0.33	<0.26	2.16 ± 1.88	<0.04	0.96 ± 0.55
H17	146	160	Surface	0.94 ± 0.30	<0.22	1.70 ± 1.12	<0.03	0.71 ± 0.26
H18	159	198	Surface	31.5 ± 1.1	<0.90	7.14 ± 2.97	0.37 ± 0.12	2.93 ± 0.93
			1.0	1.46 ± 0.25	<0.14	1.07 ± 0.73	<0.03	0.84 ± 0.30
H19	164	45	Surface	9.09 ± 0.56	1.41 ± 0.79	10.6 ± 2.0	0.06 ± 0.05	0.64 ± 0.34
			0.15	1.18 ± 0.24	<0.16	1.57 ± 0.47	<0.03	0.93 ± 0.32
			0.6	1.60 ± 0.30	<0.25	1.23 ± 1.72	<0.05	0.94 ± 0.46

TABLE 6, cont.

RADIONUCLIDE CONCENTRATIONS IN BOREHOLE SOIL SAMPLES

Borehole No.	Grid Location N	Grid Location W	Depth (m)	Radionuclide Concentrations (pCi/g) Ra 226	U 235	U-238	Co-137	Th-232
H20	165	209	Surface	47.8 ± 1.6	<0.79	<2.05	1.18 ± 0.19	1.04 ± 0.87
			0.3	36.4 ± 1.3	<0.98	<2.69	0.92 ± 0.16	3.78 ± 1.53
			0.6	9.59 ± 0.84	<0.42	<1.14	0.44 ± 0.10	0.40 ± 0.31
H21	164	212	Surface	24.8 ± 1.1	<0.92	<2.44	1.02 ± 0.17	<0.43
			0.3	3.49 ± 0.49	<0.45	<1.40	0.33 ± 0.15	0.87 ± 0.67
H22	168	210	Surface	67.8 ± 1.6	2.04 ± 1.30	<1.22	<0.11	<0.45
			0.15	32.1 ± 1.5	<0.77	<2.17	0.19 ± 0.12	1.49 ± 0.58
H23	178	201	Surface	39.0 ± 1.4	<0.81	<2.07	0.25 + 0.12	0.60 + 0.83
H24	260	14	Surface	0.91 ± 0.28	<0.24	1.06 ± 0.82	<0.03	1.15 ± 0.31

[a] Refer to Figure 4.
[b] Errors are 2σ based on counting statistics.

TABLE 7

RADIONUCLIDE CONCENTRATIONS IN WATER SAMPLES

Sample No.	Sample Type	Grid Location N	Grid Location W	Radionuclide Concentrations (pCi/l) Gross Alpha	Gross Beta	Ra-226
W1	Surface[a]	100	41	<1.35	20.3 ± 3.0[c]	----[d]
W2	Surface[a]	130	10	<0.30	5.13 ± 0.83	----
W3	Surface[a]	180	120	<1.67	7.39 ± 3.31	----
W4	Surface[a]	255	75	0.86 ± 0.54	1.76 ± 0.67	----
W5	Subsurface, Borehole H5[b]	130	160	4.73 ± 1.39	5.71 ± 1.26	----
W6	Subsurface, Borehole H6[b]	148	18	8.29 ± 3.41	11.6 ± 3.7	----
W7	Subsurface, Borehole H7[b]	160	229	4.23 ± 1.49	6.62 ± 1.42	----
W8	Subsurface, Borehole H11[b]	339	53	1.07 ± 0.79	2.47 ± 0.89	----
W9	Subsurface, Borehole H12[b]	418	70	5.27 ± 1.29	5.59 ± 1.15	----
W10	Subsurface, Borehole H13[b]	419	10	6.63 ± 1.90	2.27 ± 1.63	----
W11	Subsurface, Borehole H17[b]	146	160	17.0 ± 5.5	8.22 ± 5.12	<0.22

[a] Refer to Figure 5.
[b] Refer to Figure 4.
[c] Errors are 2σ based on counting statistics.
[d] Dash indicates analysis was not performed.

TABLE 8

RADIONUCLIDE CONCENTRATIONS IN SEDIMENT SAMPLE
FROM DRAINAGE DITCH

Sample No.	Grid Location[a]		Radionuclide Concentrations (pCi/g)				
	N	W	Ra-226	U-235	U-238	Cs-137	Th-232
SD1	415	182	9.15 ± 0.80[b]	0.63 ± 0.91	<1.58	0.16 ± 0.09	0.56 ± 1.26

[a] Refer to Figure 5.
[b] Errors are 2σ based on counting statistics.

TABLE 9

LISTING OF AREAS ON PROPERTY T WHICH
EXCEED RESIDUAL CONTAMINATION CRITERIA

Grid Location[a] N	Grid Location[a] W	Radionuclides[b]	Estimated Quantities of Material Exceeding Guidelines: Area (m^2)	Avg. Depth (m)	Volume (m^3)	Remarks
94-99	4-18	Ra-226, U-238[c]	70	0.15	10.5	Areas of rock fill or paving. Rock contains approximately equal amounts of Ra-226 and U-238 and its radionuclide content is considered of natural origin.
143-146	169-170	Ra-226, U-238[c]	3	0.15	.5	
162-164	20-40	Ra-226, U-238[c]	40	0.30	12	
163-164	44-46	Ra-226, U-238[c]	2	0.30	0.6	
241-247	6-7	Ra-226, U-238[c]	6	0.15	0.9	
298-300	4-20	Ra-226, U-238[c]	32	0.15	4.8	
300-305	8-22	Ra-226, U-238[c]	70	0.15	10.5	
346-354	161-180	Ra-226, U-238[c]	152	0.15	22.8	
343-347	183-187	Ra-226, U-238[c]	16	0.15	2.4	
353-355	184-187	Ra-226, U-238[c]	6	0.15	0.9	
355-357	188-191	Ra-226, U-238[c]	6	0.15	0.9	
355-357	192-196	Ra-226, U-238[c]	8	0.15	1.2	
351-357	203-206	Ra-226, U-238[c]	18	0.15	2.7	
360-366	179-183	Ra-226, U-238[c]	24	0.15	3.6	
103-106	230-234	Ra-226	12	0.30	3.6	Areas of contamination associated with material dredged from the West or Central Drainage Ditches.
107-116	224-229	Ra-226	45	0.15	6.8	
180-200	180-196	Ra-226	320	0.15	48	
200-217	175-180	Ra-226	85	0.15	12.8	
206-211	114-118	Ra-226	20	0.30	6.0	
210-219	183-187	Ra-226	36	0.30	10.8	
222-240	160-174	Ra-226	112	0.15	16.8	
240-274	140-157	Ra-226	578	0.15	86.5	
243-247	159-162	Ra-226	12	0.30	3.6	
243-245	165-168	Ra-226	6	0.30	1.8	
280-300	118-119	Ra-226	20	0.30	6	
304-314	120-129	Ra-226	90	0.15	13.5	

TABLE 9, cont.

LISTING OF AREAS ON PROPERTY T WHICH
EXCEED RESIDUAL CONTAMINATION CRITERIA

Grid Location N	Grid Location W	Radionuclides	Estimated Quantities of Material Exceeding Guidelines: Area (m^2)	Avg. Depth (m)	Volume (m^3)	Remarks
35	18	Ra-226	----	----	----	Small isolated surface or near surface "hot-spot" (<1 m^2 area) or individual piece of contaminated rock-like material. The total value represented by these locations is *estimated to be less than* 15 m^3.
35	19	Ra-226	----	----	----	
41	18	Ra-226	----	----	----	
79	37	Th-232, Ra-226, U-238[c]	----	----	----	
79	50	Th-232, Ra-226, U-238[c]	----	----	----	
79	52	Th-232, Ra-226, U-238[c]	----	----	----	
79	55	Th-232, Ra-226, U-238[c]	----	----	----	
80	34	Th-232, Ra-226, U-238[c]	----	----	----	
80	38	Th-232, Ra-226, U-238[c]	----	----	----	
80	39	Th-232, Ra-226, U-238[c]	----	----	----	
80	43	Th-232, Ra-226, U-238[c]	----	----	----	
80	45	Th-232, Ra-226, U-238[c]	----	----	----	
80	51	Th-232, Ra-226, U-238[c]	----	----	----	
80	53	Th-232, Ra-226, U-238[c]	----	----	----	
85	40	Ra-226, U-238[c]	----	----	----	
87	43	Ra-226, U-238[c]	----	----	----	
90	32	Ra-226, U-238[c]	----	----	----	
90	230	Ra-226	----	----	----	
100	196	Ra-226	----	----		
105	228	Ra-226	----	----	----	
112	1	Ra-226, U-238[c]	----	----	----	
113	0	Ra-226, U-238[c]	----	----	----	
115	7	Ra-226, U-238[c]	----	----	----	
119	214	Ra-226	----	----	----	
119	215	Ra-226	----	----	----	
119	230	Ra-226	----	----	----	
120	234	Ra-226	----	----	----	

TABLE 9, cont.

LISTING OF AREAS ON PROPERTY T WHICH
EXCEED RESIDUAL CONTAMINATION CRITERIA

Grid Location N	Grid Location W	Radionuclides	Estimated Quantities of Material Exceeding Guidelines: Area (m^2)	Avg. Depth (m)	Volume (m^3)	Remarks
120	203	Ra-226	----	----	----	Small isolated surface or near surface "hot-spot" (<1 m^2 area) or individual piece of contaminated rock-like material. The total value represented by these locations is estimated to be less than 15 m^3.
123	205	Ra-226	----	----	----	
143	6	Ra-226, U-238[c]	----	----	----	
154	202	Ra-226	----	----	----	
155	2	Ra-226, U-238[c]	----	----	----	
155	4	Ra-226, U-238[c]	----	----	----	
156	2	Ra-226, U-238[c]	----	----	----	
159	2	Ra-226, U-238[c]	----	----	----	
159	51	Ra-226, U-238[c]	----	----	----	
159	52	Ra-226, U-238[c]	----	----	----	
159	198	Ra-226	----	----	----	
162	43	Ra-226, U-238[c]	----	----	----	
162	46	Ra-226, U-238[c]	----	----	----	
162	202	Ra-226	----	----	----	
164	7	Ra-226, U-238[c]	----	----	----	
164	212	Ra-226	----	----	----	
165	60	Ra-226, U-238[c]	----	----	----	
165	209	Ra-226	----	----	----	
167	65	Ra-226, U-238[c]	----	----	----	
168	201	Ra-226	----	----	----	
173	49	Th-232, Ra-226, U-238[c]	----	----	----	
177	49	Th-232, Ra-226, U-238[c]	----	----	----	
178	201	Ra-226	----	----	----	
178	207	Ra-226	----	----	----	
180	49	Th-232, Ra-226, U-238[c]	----	----	----	
180	52	Th-232, Ra-226, U-238[c]	----	----	----	
184	52	Th-232, Ra-226, U-238[c]	----	----	----	

TABLE 9, cont.

LISTING OF AREAS ON PROPERTY T WHICH
EXCEED RESIDUAL CONTAMINATION CRITERIA

Grid Location N	Grid Location W	Radionuclides	Estimated Quantities of Material Exceeding Guidelines: Area (m^2)	Avg. Depth (m)	Volume (m^3)	Remarks
185	56	Th-232, Ra-226, U-238[c]	----	----	----	
187	56	Th-232, Ra-226, U-238[c]	----	----	----	
189	52	Th-232, Ra-226, U-238[c]	----	----	----	
189	56	Th-232, Ra-226, U-238[c]	----	----	----	
190	52	Th-232, Ra-226, U-238[c]	----	----	----	
190	56	Th-232, Ra-226, U-238[c]	----	----	----	
195	56	Th-232. Ra-226. U-238[c]	----	----	----	
215	54	Th-232, Ra-226, U-238[c]	----	----	----	
220	54	Th-232, Ra-226, U-238[c]	----	----	----	
221	0	Ra-226, U-238[c]	----	----	----	Small isolated surface or near surface "hot-spot" (<1 m^2 area) or individual piece of contaminated rock-like material. The total value represented by these locations is estimated to be less than 15 m^3.
221	3	Ra-226, U-238[c]	----	----	----	
221	175	Ra-226	----	----	----	
221	178	Ra-226	----	----	----	
225	178	Ra-226	----	----	----	
228	54	Th-232, Ra-226, U-238[c]	----	----	----	
228	55	Th-232, Ra-226, U-238[c]	----	----	----	
244	13	Ra-226, U-238[c]	----	----	----	
250	59	Th-232, Ra-226, U-238[c]	----	----	----	
260	14	Ra-226, U-238[c]	----	----	----	
290	201	Ra-226, U-238[c]	----	----	----	
292	136	Ra-226, U-238[c]	----	----	----	
292	138	Ra-226, U-238[c]	----	----	----	
292	200	Ra-226, U-238[c]	----	----	----	
294	4	Ra-226, U-238[c]	----	----	----	
300	40	Ra-226, U-238[c]	----	----	----	
323	14	Ra-226, U-238[c]	----	----	----	
332	47	Th-232, Ra-226, U-238[c]	----	----	----	

TABLE 9, cont.

LISTING OF AREAS ON PROPERTY T WHICH
EXCEED RESIDUAL CONTAMINATION CRITERIA

Grid Location N	Grid Location W	Radionuclides	Estimated Quantities of Material Exceeding Guidelines: Area (m^2)	Avg. Depth (m)	Volume (m^3)	Remarks
333	47	Th-232, Ra-226, U-238[c]	----	----	----	Small isolated surface or near surface "hot-spot" (<1 m^2 area) or individual piece of contaminated rock-like material. The total value represented by these locations is estimated to be less than 15 m^3.
340	47	Th-232, Ra-226, U-238[c]	----	----	----	
342	15	Ra-226, U-238[c]	----	----	----	
348	14	Ra-226, U-238[c]	----	----	----	
348	15	Ra-226, U-238[c]	----	----	----	
348	49	Th-232, Ra-226, U-238[c]	----	----	----	
349	49	Th-232, Ra-226, U-238[c]	----	----	----	
356	47	Th-232, Ra-226, U-238[c]	----	----	----	
369	48	Th-232, Ra-226, U-238[c]	----	----	----	
372	48	Th-232, Ra-226, U-238[c]	----	----	----	
400	15	Ra-226, U-238[c]	----	----	----	

[a] Refer to Figure 7.
[b] Based on locations, physical appearance, direct radiation levels and analyses of similar materials.
[c] Naturally occuring material in rock fill.

Excavated Area

Excerpt from Post-Remedial Action Report for the Niagara Falls Storage Site Vicinity Properties—1985 and 1986

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DOE/OR/20722-133

Formerly Utilized Sites Remedial Action Program (FUSRAP)
Contract No. DE-AC05-81OR20722

POST-REMEDIAL ACTION REPORT FOR THE NIAGARA FALLS STORAGE SITE VICINITY PROPERTIES—1985 AND 1986

Lewiston, New York

January 1989

Bechtel National, Inc.

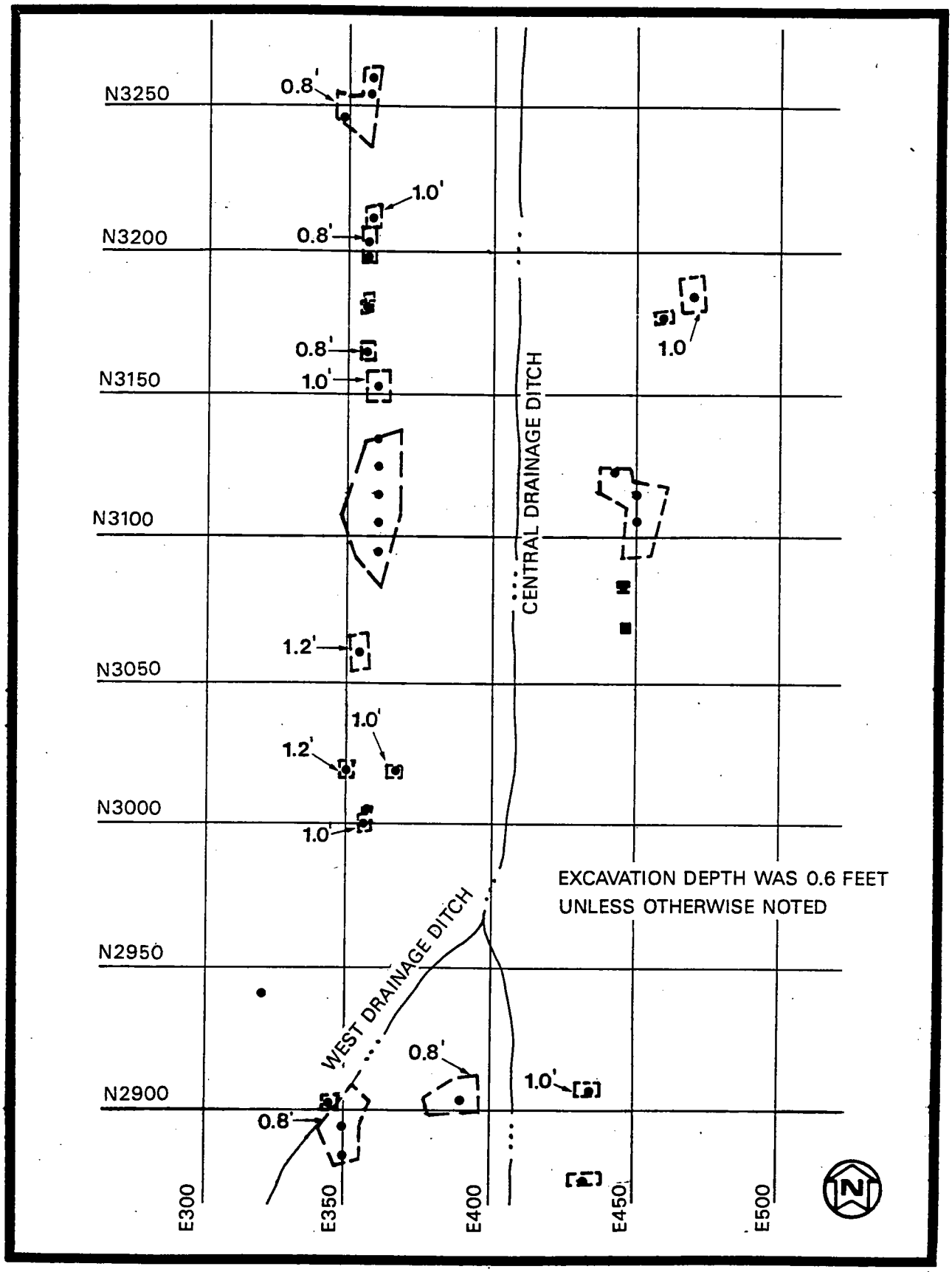


FIGURE 33 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY T - SECTION 1

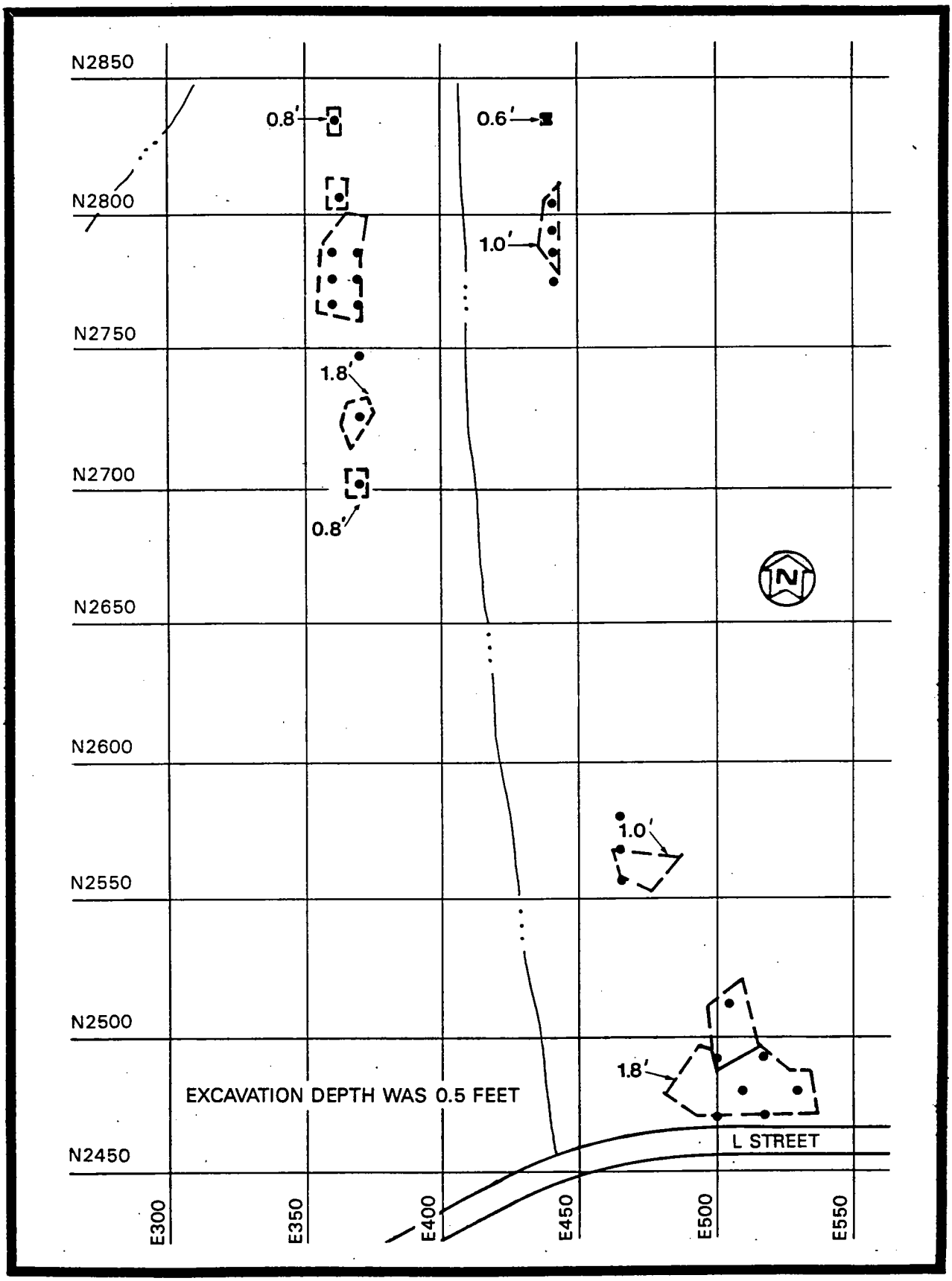


FIGURE 34 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY T - SECTION 2

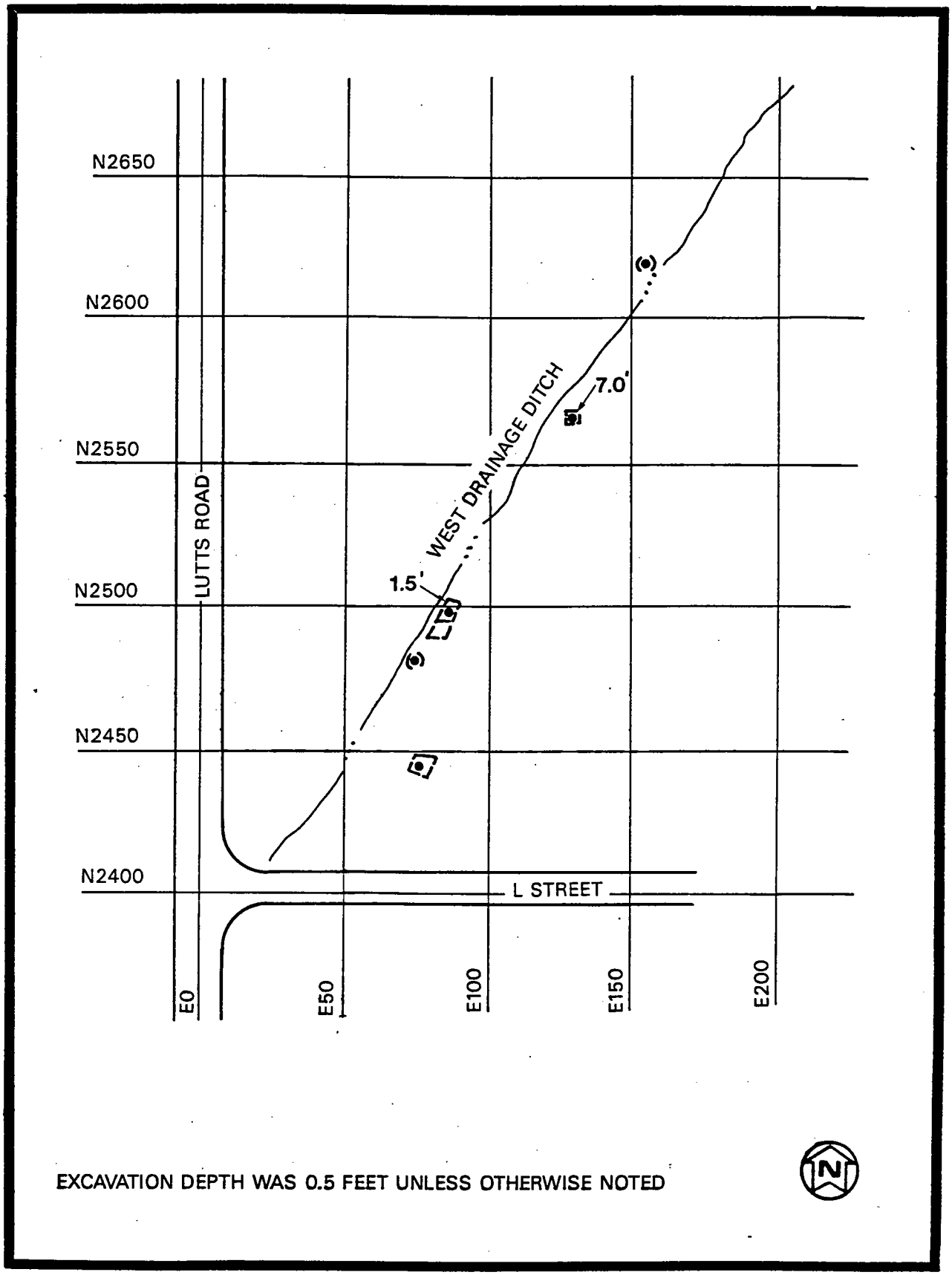
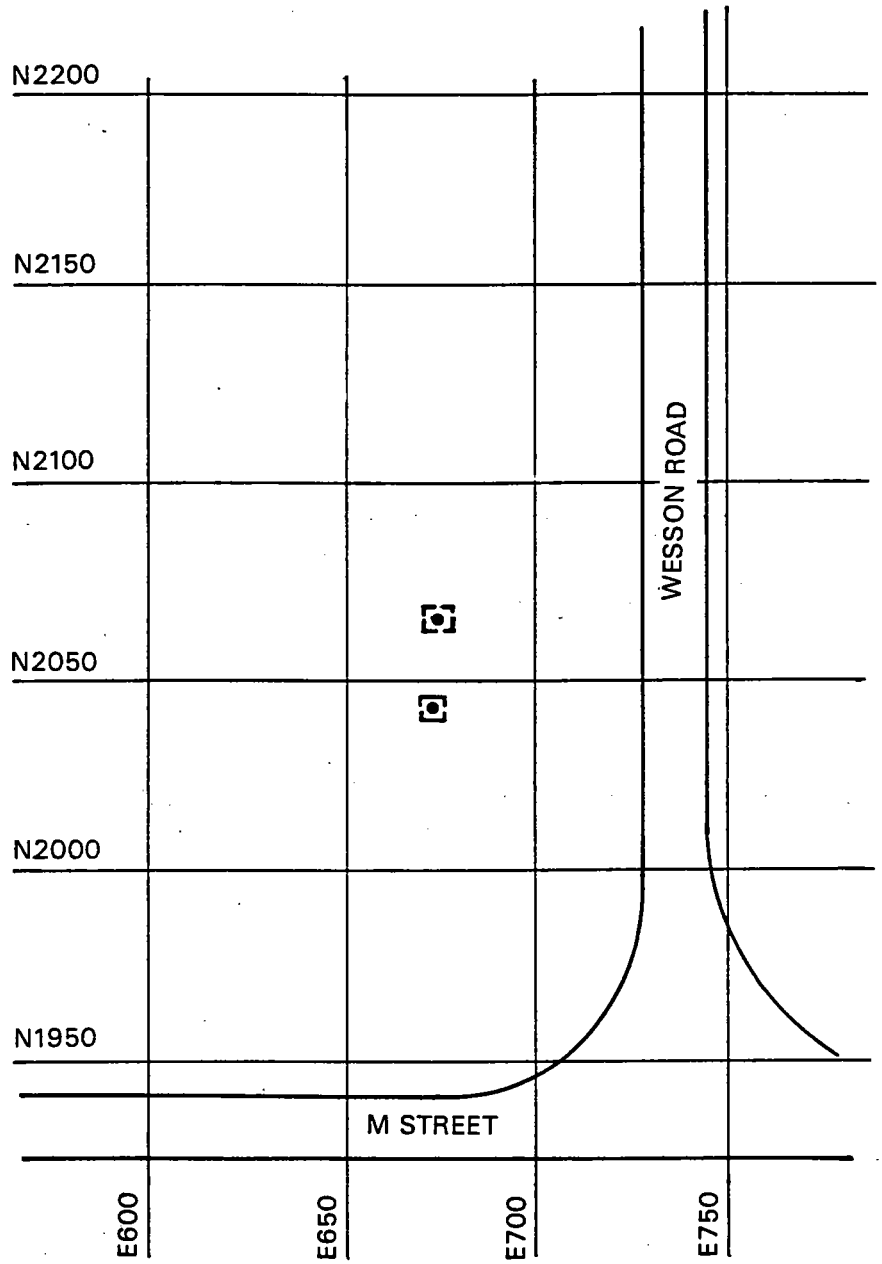


FIGURE 35 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY T - SECTION 3



EXCAVATION DEPTH WAS 0.5 FEET

FIGURE 36 POST-REMEDIAL ACTION SAMPLING LOCATIONS ON PROPERTY T - SECTION 4

TABLE 10

POST-REMEDIAL ACTION SAMPLING RESULTS

FOR PROPERTY T

Page 1 of 2

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
E0077	N2445	A	1.2 ± 0.3	0.7 ± 0.4
E0077	N2485	A	0.9 ± 0.3	0.6 ± 0.4
E0088	N2502	A	3.1 ± 0.5	2.0 ± 0.8
E0129	N2567	A	4.4 ± 0.4	A
E0153	N2620	A	0.9 ± 0.5	0.8 ± 0.8
E0320	N2940	A	1.0 ± 0.1	0.9 ± 0.2
E0335	N3007	A	1.0 ± 0.1	1.3 ± 0.2
E0345	N2906	A	3.9 ± 0.2	0.9 ± 0.2
E0347	N3247	A	1.0 ± 0.1	1.3 ± 0.2
E0350	N3022	A	0.8 ± 0.1	0.8 ± 0.2
E0351	N3187	7.0 ± 1.5	1.1 ± 0.1	0.9 ± 0.2
E0352	N3205	A	0.9 ± 0.1	1.4 ± 0.2
E0354	N3059	A	1.1 ± 0.1	1.5 ± 0.3
E0356	N3196	A	4.4 ± 0.2	1.3 ± 0.3
E0357	N2880	A	3.7 ± 0.2	1.1 ± 0.2
E0357	N2890	A	1.5 ± 0.1	1.2 ± 0.3
E0357	N3002	A	1.2 ± 0.1	1.1 ± 0.2
E0357	N3213	A	3.1 ± 0.2	1.4 ± 0.4
E0357	N3256	A	5.3 ± 0.4	A
E0357	N3262	A	4.9 ± 0.3	1.5 ± 0.3
E0360	N2765	A	7.8 ± 0.3	1.3 ± 0.3
E0360	N2775	A	2.4 ± 0.2	1.2 ± 0.2
E0360	N2785	A	1.4 ± 0.1	1.8 ± 0.2
E0360	N3095	A	5.4 ± 0.3	1.5 ± 0.4
E0360	N3105	A	2.9 ± 0.2	1.2 ± 0.2
E0360	N3115	A	2.9 ± 0.3	1.7 ± 0.4
E0360	N3125	A	0.9 ± 0.2	1.1 ± 0.2
E0360	N3135	A	1.1 ± 0.5	1.7 ± 0.4
E0360	N3152	A	1.3 ± 0.1	0.8 ± 0.2
E0364	N2807	A	2.1 ± 0.2	0.9 ± 0.2
E0364	N3164	A	1.0 ± 0.1	1.6 ± 0.3
E0365	N3021	A	0.9 ± 0.1	1.0 ± 0.2
E0366	N2835	A	5.1 ± 0.2	0.8 ± 0.2
E0370	N2703	A	1.0 ± 0.1	1.1 ± 0.1
E0370	N2725	A	1.0 ± 0.1	1.0 ± 0.1
E0370	N2747	A	0.8 ± 0.1	1.2 ± 0.2
E0370	N2765	A	8.1 ± 0.3	1.3 ± 0.3
E0370	N2775	A	1.0 ± 0.1	1.0 ± 0.2
E0370	N2785	A	1.0 ± 0.1	1.1 ± 0.3
E0390	N2905	A	5.2 ± 0.2	0.7 ± 0.2
E0430	N2877	A	5.3 ± 0.2	1.2 ± 0.2
E0431	N2910	A	2.9 ± 0.2	0.9 ± 0.2
E0438	N2833	5.5 ± 2.9	8.0 ± 0.4	1.2 ± 0.3

TABLE 10

(continued)

Page 2 of 2

Grid Coordinates E,W	Grid Coordinates N,S	Concentrations (pCi/g +/- 1 sigma) Uranium-238	Radium-226	Thorium-232
E0440	N2775	4.9 ± 1.6	1.6 ± 0.2	0.9 ± 0.2
E0440	N2785	A	7.5 ± 0.3	1.8 ± 0.3
E0440	N2795	A	1.2 ± 0.1	1.4 ± 0.2
E0440	N2805	A	7.4 ± 0.1	0.8 ± 0.2
E0445	N3070	6.5 ± 3.1	1.1 ± 0.3	1.0 ± 0.2
E0445	N3125	A	0.7 ± 0.1	0.9 ± 0.1
E0446	N3084	2.8 ± 1.4	1.0 ± 0.1	1.4 ± 0.2
E0450	N3105	1.3 ± 1.5	1.4 ± 0.1	1.0 ± 0.2
E0450	N3115	A	2.2 ± 0.2	1.4 ± 0.3
E0458	N3179	A	0.8 ± 0.1	1.2 ± 0.2
E0465	N2560	A	4.4 ± 0.2	1.4 ± 0.2
E0465	N2570	A	3.9 ± 0.2	1.5 ± 0.3
E0465	N2580	A	2.4 ± 0.2	1.1 ± 0.1
E0469	N3182	A	6.9 ± 0.3	1.6 ± 0.2
E0500	N2470	7.5 ± 1.4	1.5 ± 0.1	A
E0500	N2490	A	0.9 ± 0.1	1.4 ± 0.2
E0505	N2510	A	1.1 ± 0.1	1.1 ± 0.2
E0510	N2480	A	0.8 ± 0.1	1.3 ± 0.2
E0520	N2470	A	1.0 ± 0.1	1.2 ± 0.2
E0520	N2493	5.3 ± 1.5	1.3 ± 0.1	1.0 ± 0.2
E0530	N2480	A	1.0 ± 0.1	1.3 ± 0.2
E0674	N2044	A	0.7 ± 0.3	1.0 ± 0.5
E0674	N2071	A	1.2 ± 0.4	A

'A' denotes less than detectable activity.

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Verification Data

Excerpt from Verification of 1985 and 1986 Remedial Actions, Niagara Falls Storage Site Vicinity Properties, Lewiston, New York, December 1989

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(VP.)

Prepared by
Oak Ridge Associated Universities

Prepared for the
Decontamination and Decommissioning Division

U.S. Department of Energy

VERIFICATION OF 1985 AND 1986 REMEDIAL ACTIONS NIAGARA FALLS STORAGE SITE VICINITY PROPERTIES LEWISTON, NEW YORK

J. D. BERGER

Environmental Survey and Site Assessment Program
Energy/Environment Systems Division

FINAL REPORT
JULY 1990

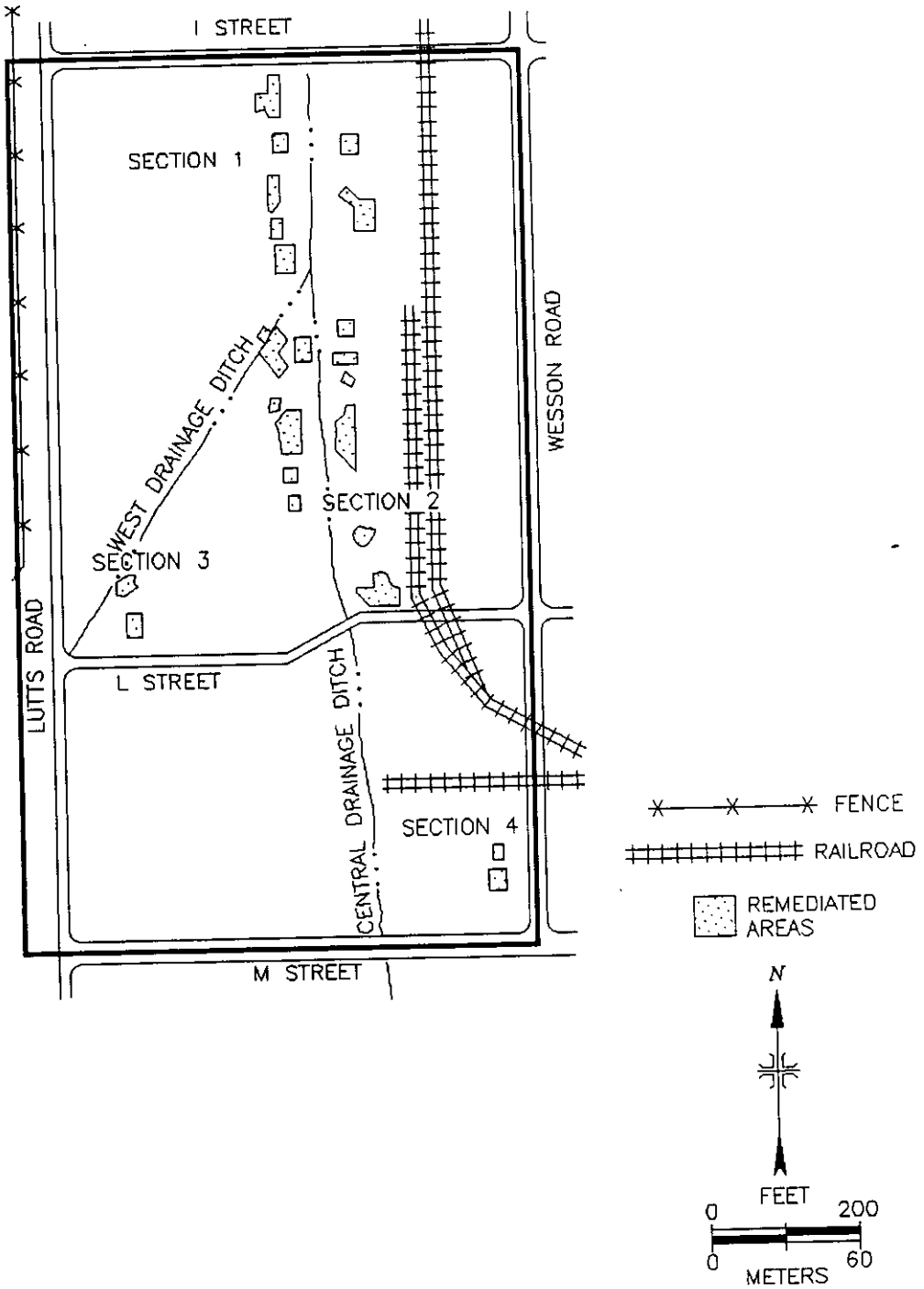

FIGURE 26: Plot Plan of Property T Indicating Remediated Areas

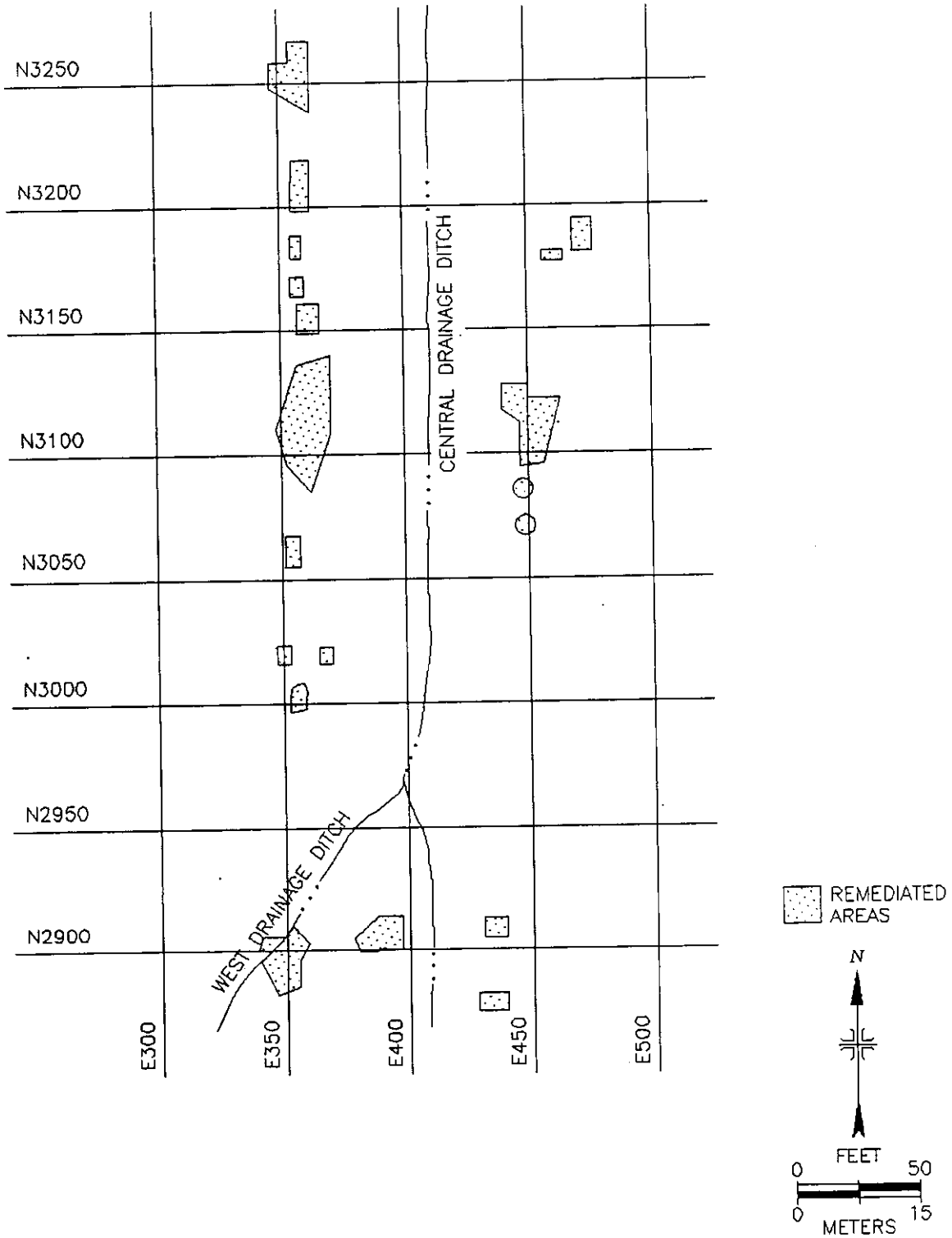

FIGURE 27: Plot Plan of Property T–Section 1 Indicating Remediated Areas

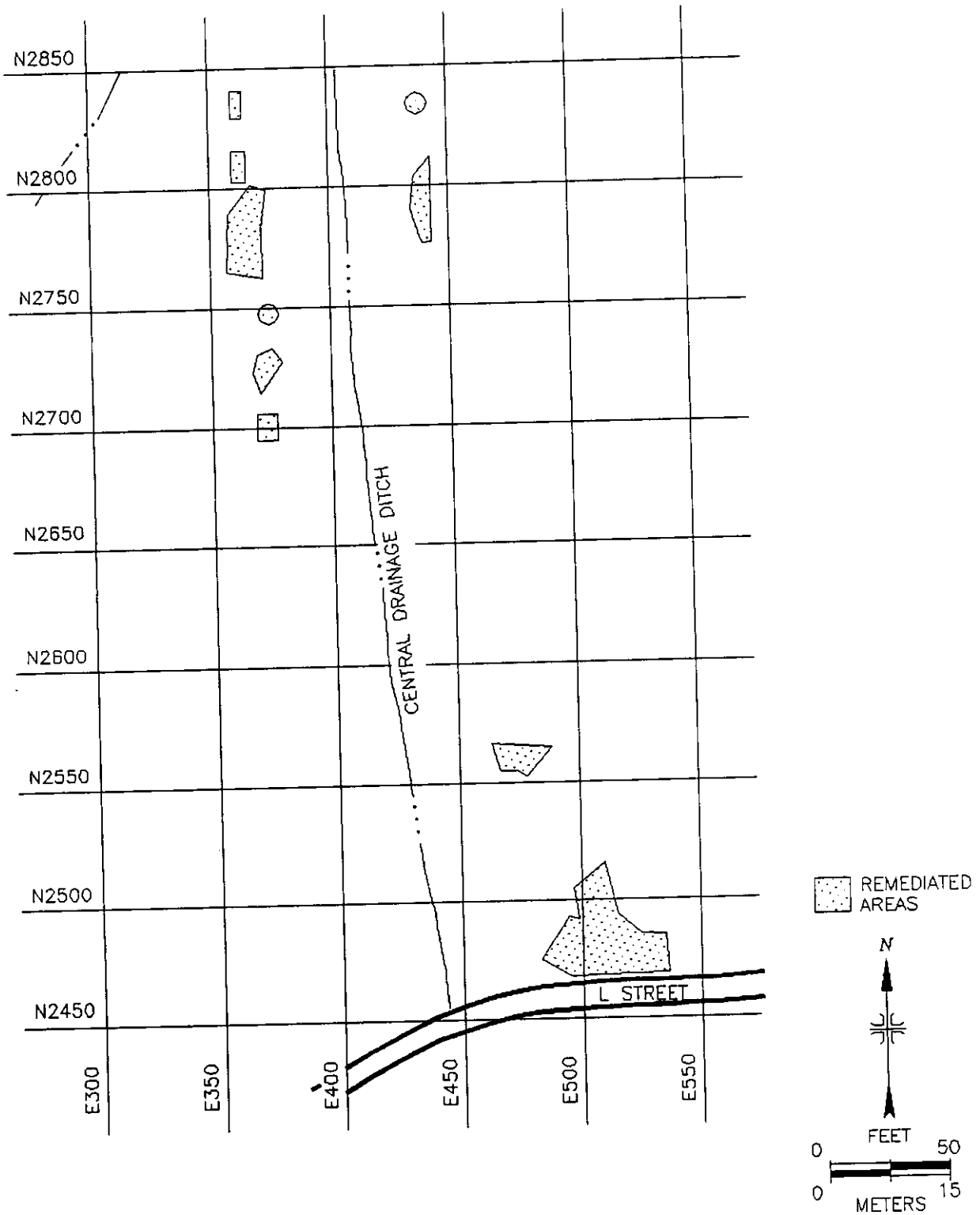

FIGURE 28: Plot Plan of Property T–Section 2 Indicating Remediated Areas

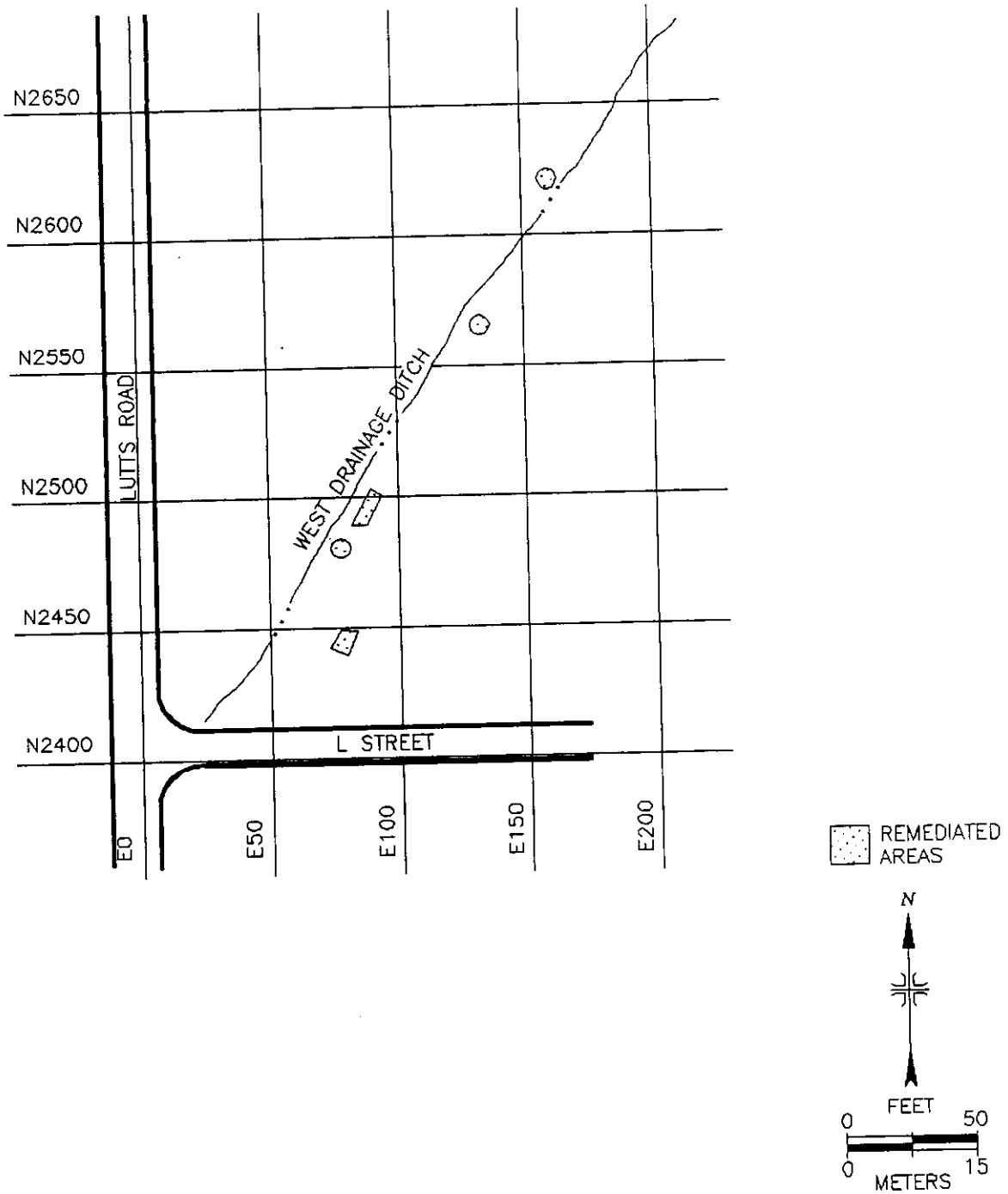

FIGURE 29: Plot Plan of Property T–Section 3 Indicating Remediated Areas

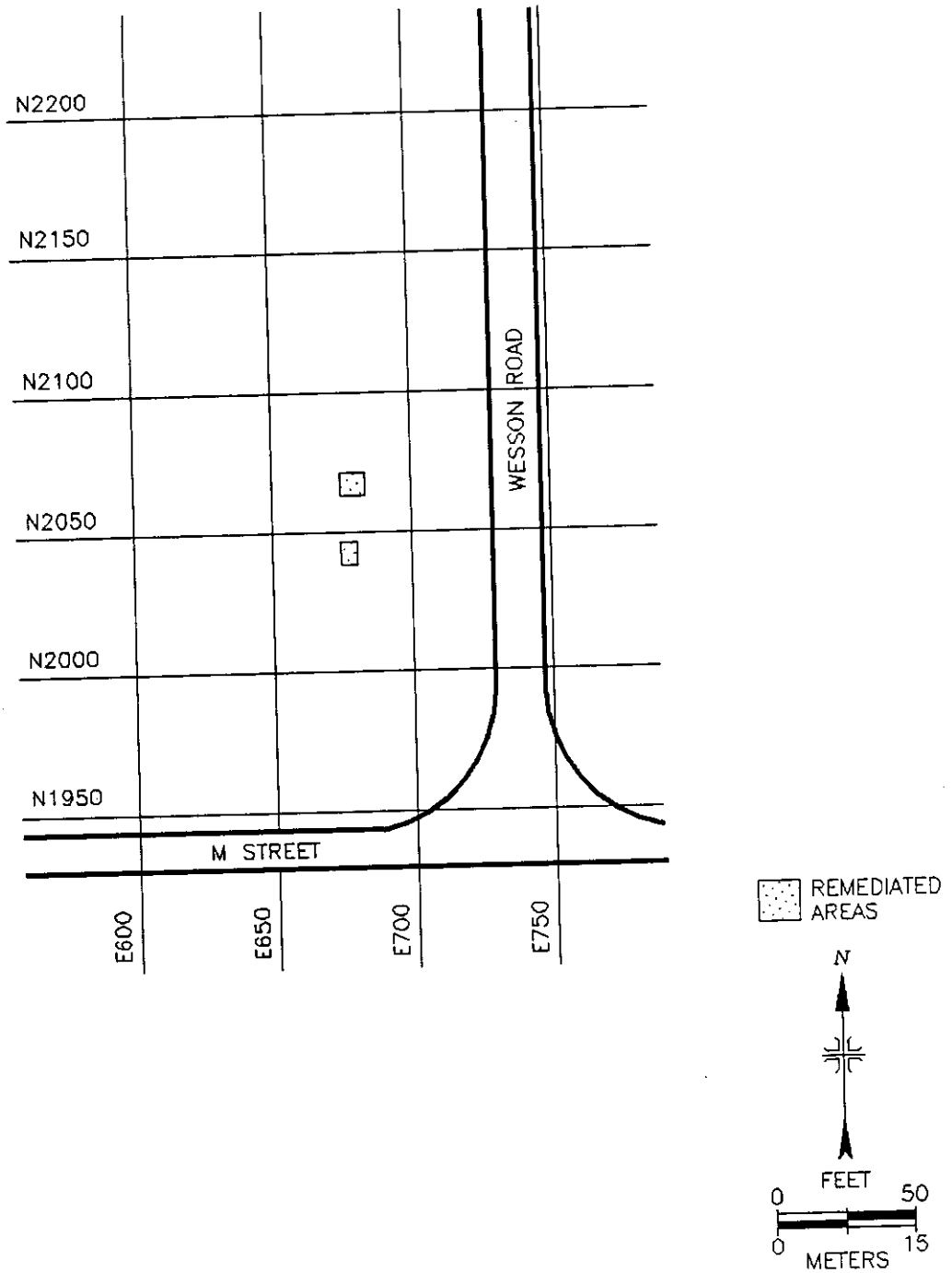

FIGURE 30: Plot Plan of Property T–Section 4 Indicating Remediated Areas

TABLE 11

RADIONUCLIDE CONCENTRATIONS IN SOIL SAMPLES
FROM PROPERTY T
NIAGARA FALLS STORAGE SITE VICINITY PROPERTIES
LEWISTON, NEW YORK

Location[a] N	Location[a] E		Radionuclide Concentrations (pCi/g) Ra-226	U-238	Th-232
ALONG WEST DITCH					
2457	83		1.0 ± 0.3[b]	1.1 ± 1.5	0.5 ± 0.3
2473	37		0.9 ± 0.2	0.7 ± 1.8	0.8 ± 0.5
2516	76		103 ± 2	<18.8	<0.6
2516	76	(15-30 cm depth)	10.4 ± 0.5	0.5 ± 2.3	1.0 ± 0.4
2519	73		1.0 ± 0.2	<0.7	1.1 ± 0.5
2558	89		1.1 ± 0.2	1.2 ± 0.7	0.6 ± 0.4
2558	148		1.0 ± 0.2	0.9 ± 1.2	1.1 ± 0.3
2646	154		0.9 ± 0.2	1.4 ± 1.2	1.2 ± 0.3
2706	197		1.3 ± 0.3	1.5 ± 1.3	0.8 ± 0.4
2706	161		1.1 ± 0.2	0.7 ± 1.1	0.9 ± 0.3
2738	227		1.1 ± 0.2	0.8 ± 1.7	1.3 ± 0.4
2814	273		21.2 ± 0.8	2.8 ± 1.9	0.7 ± 0.7
2814	273	(15-30 cm depth)	14.3 ± 0.7	<1.0	1.4 ± 0.6
2836	278		0.7 ± 0.2	1.6 ± 0.5	0.6 ± 0.3
2903	342		0.8 ± 0.2	1.3 ± 0.5	0.7 ± 0.3
2942	322		0.6 ± 0.2	<0.7	0.8 ± 0.5
2947	328		2.9 ± 0.4	<0.7	0.7 ± 0.7
2952	322		1.0 ± 0.2	0.9 ± 1.2	0.6 ± 0.5
ALONG CENTRAL DITCH					
2475	495		17.4 ± 0.9	13.8 ± 3.0	0.5 ± 0.6
2555	475		6.2 ± 0.5	<0.8	0.9 ± 0.4
2550	465		1.1 ± 0.2	0.8 ± 1.0	0.9 ± 0.5
2570	475		1.7 ± 0.2	0.6 ± 1.0	0.7 ± 0.3
2700	370		2.1 ± 0.3	1.9 ± 1.1	1.2 ± 0.4
2720	365		48.3 ± 1.3	10.6 ± 3.0	1.6 ± 0.9
2735	365		2.2 ± 0.3	2.3 ± 1.4	1.7 ± 0.5
2745	370		1.1 ± 0.2	1.7 ± 0.6	0.8 ± 0.3
2755	440		1.9 ± 0.3	1.1 ± 0.9	0.6 ± 0.3
2755	370		6.5 ± 0.5	1.3 ± 1.9	0.7 ± 0.5
2775	365		2.3 ± 0.3	1.4 ± 1.2	1.0 ± 0.4
2795	430		1.1 ± 0.2	1.0 ± 0.6	0.7 ± 0.4
2795	435		62.7 ± 1.7	<2.2	1.5 ± 1.0
2800	365		1.2 ± 0.2	<0.5	0.8 ± 0.4
2810	355		1.3 ± 0.2	1.2 ± 1.1	0.9 ± 0.5
2810	360		0.9 ± 0.2	0.8 ± 1.3	0.9 ± 0.4
2810	440		1.3 ± 0.3	0.9 ± 1.8	0.9 ± 0.3
2835	360		1.0 ± 0.2	0.6 ± 1.3	0.7 ± 0.4

TABLE 11 (Continued)

RADIONUCLIDE CONCENTRATIONS IN SOIL SAMPLES
FROM PROPERTY T
NIAGARA FALLS STORAGE SITE VICINITY PROPERTIES
LEWISTON, NEW YORK

Location[a] N	Location[a] E	Radionuclide Concentrations (pCi/g) Ra-226	U-238	Th-232
2835	365	5.0 ± 0.5	<5.7	1.6 ± 0.8
2870	425	1.8 ± 0.3	0.4 ± 1.3	1.1 ± 0.3
2875	435	1.9 ± 0.3	<0.6	0.6 ± 0.4
2880	350	0.9 ± 0.2	<0.6	0.9 ± 0.5
2890	360	8.5 ± 0.5	<0.8	0.9 ± 0.5
2905	355	17.3 ± 0.8	8.0 ± 2.4	1.0 ± 0.6
2905	380	1.8 ± 0.2	0.9 ± 1.2	1.2 ± 0.4
2905	395	18.2 ± 0.8	3.7 ± 3.5	1.2 ± 0.4
2910	430	43.6 ± 1.3	<1.6	2.2 ± 1.1
2910	440	1.8 ± 0.3	0.9 ± 0.5	0.7 ± 0.4
2915	390	1.4 ± 0.3	<0.5	0.6 ± 0.3
2915	435	4.9 ± 0.4	1.0 ± 1.6	1.0 ± 0.3
3020	350	1.5 ± 0.2	0.8 ± 0.7	0.9 ± 0.4
3020	355	5.9 ± 0.4	<0.8	1.1 ± 0.5
3110	350	3.0 ± 0.3	1.7 ± 1.3	0.9 ± 0.4
3110	365	2.0 ± 0.3	1.8 ± 0.6	1.0 ± 0.4
3245	360	7.5 ± 0.6	1.4 ± 1.6	1.0 ± 0.4
3250	355	11.5 ± 0.6	<0.8	0.8 ± 0.6
OTHER AREAS				
2034	399	1.8 ± 0.3	2.0 ± 2.0	0.5 ± 0.4
2041	399	0.8 ± 0.2	<0.6	1.0 ± 0.4
2058	399	1.7 ± 0.7	11.4 ± 8.8	0.9 ± 0.3

[a]Refer to Figures 26-30.
[b]Uncertainties represent the 95% confidence levels, based only on counting statistics; additional laboratory uncertainties of ± 6 to 10% have not been propagated into these data.