



**US Army Corps
of Engineers®**
Buffalo District

**SUMMARY OF HISTORICAL
ANALYTICAL DATA**

FOR THE

GUTERL STEEL FUSRAP SITE, LOCKPORT, NEW YORK

U.S. Army Engineer District, Buffalo
1776 Niagara Street
Buffalo, NY 14207-3199

June 2005

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Summary of Investigations at Guterl Steel

Preliminary Engineering and Environmental Evaluation of the Remedial Action Alternatives for the Former Simonds Saw and Steel Company Site, Lockport, New York, Former Utilized MED/AEC Sites Remedial Action Program, Final Report. Prepared for Bechtel National, Inc., November 1981.

This investigation included cinder samples from the Guterl Excised Area, taken from within the buildings. Laboratory analyses were completed for radium, thorium and uranium. The report included analytical results with units, and sample location and depth.

This data may be usable in a risk assessment if COCs, equipment calibration records, detection limits, analytical methods, and uncertainty are obtained from Bechtel, assuming that the appropriate analytical methods were used, and that the detection limits are below appropriate screening levels for constituents of interest. However, even if the data quality does not allow the data to be used directly in a risk assessment, the data may still be useful for determining nature and extent of contamination, and may assist in determining disposal options.

This report also referred to a 1976 survey of the site by Oak Ridge National Laboratories (ORNL), which included soil samples taken from the Excised area, both inside and outside of the buildings, as well as a survey of the buildings. (R. W. Leggett, et al., "Radiological Survey of the Simonds Saw and Steel Company"; Final Report; Report No. DOE/EV-0005/17; Oak Ridge National Laboratory; Oak Ridge, Tennessee; Nov. 1979.) The ranges of result from the ORNL study are discussed in this 1981 Bechtel report. The ORNL results are not presented in this summary.

Engineering Investigations at Inactive Hazardous Waste Sites - Phase I Investigation, Guterl Specialty Steel, City of Lockport, Niagara County. Prepared for NYSDEC, January 1988.

This investigation included analysis of groundwater from the Guterl Landfill Area. Laboratory analyses were completed for metals, pH, oil and grease, conductivity, TOC, phenol, and total halogenated organics. The report included analytical results with units and sample location.

In addition, a Hazard Ranking System score was estimated for the site.

Some of this data (i.e., metal results) may be usable in a risk assessment if COCs, equipment calibration records, detection limits and analytical methods, as well as depth of sampling, are obtained from NYSDEC.

Engineering Investigations at Inactive Hazardous Waste Sites - Preliminary Site Assessment, Task 1 Records Search, Guterl Specialty Steel Corp., City of Lockport, Niagara County. Prepared for NYSDEC, January 1991.

This investigation included analysis of additional groundwater samples taken from the monitoring wells utilized in the previous NYSDEC study, from within the Guterl Landfill Area. As before, laboratory analyses were completed for metals, pH, oil and grease, conductivity, TOC, phenol, and total halogenated organics. The report included analytical results with units and sample location.

Some of this data (i.e., metal results) may be usable in a risk assessment if COCs, equipment calibration records, detection limits and analytical methods, as well as depth of sampling, are obtained from NYSDEC.

Engineering Investigations at Inactive Hazardous Waste Sites- Preliminary Site Assessment Evaluation Report of Initial Data, Guterl Specialty Steel, City of Lockport, Niagara County, Volumes I and II. Prepared for NYSDEC, April 1994.

This investigation included analysis of subsurface soil, surface water, sediment, groundwater, and waste from the Guterl Landfill Area. Laboratory analyses were completed for metals, sVOCs, VOCs, pesticides, and PCBs, and gross alpha and gross beta (water samples only). In addition, a precursor to the TCLP was performed. The report included COCs, analytical results with units, analytical methods, detection limits, data qualifiers, equipment calibration records, and sample location and depth.

Gamma, alpha, and beta surveys of the landfill were also completed.

This data may be usable in a risk assessment, assuming that the appropriate analytical methods were used, and that the detection limits are below appropriate screening levels for constituents of interest.

Final Report, Guterl Steel Site, Lockport, New York. USEPA Work Assignment No.: 2-194, April 1998.

This investigation included analysis of surface and subsurface soil and waste samples from the Guterl Excised Area (both inside and outside of the buildings), mostly using X-Ray Fluorescence for *in-situ* and *ex-situ* detection of heavy metals. In addition, a subset of the samples were analysed in a laboratory for metals and PCBs, and the Toxicity Characteristic Leaching Procedure (TCLP) was also performed. The report included COCs, analytical results with units, equipment calibration records, detection limits, data qualifiers, analytical methods, and sample location and depth.

The laboratory-generated data may be usable in a risk assessment, assuming that the appropriate analytical methods were used, and that the detection limits are below appropriate screening levels for constituents of interest. In addition, the data may also be useful for determining nature and extent of contamination, and may assist in determining disposal options.

***Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York.
T.J. Vitkus, Oak Ridge Institute for Science and Education, December 1999 (ORISE
99-1699).***

The guidance in the *Multi-Agency Radiation Survey and Site Investigation Manual* (MARSSIM, NRC 1997) was followed in designing this survey and sampling effort.

This investigation included analysis of surface and subsurface soil and sediment samples from the Guterl Excised Area, both inside and outside the buildings. Sediment (residue from pit areas) and soil samples were taken beneath the concrete floor within the buildings. These samples were subjected to gamma spectroscopy, and radium-226, thorium-232, uranium-235, and uranium-238 were reported. The report included analytical results with units, uncertainty, data qualifiers, analytical methods, equipment efficiencies and background readings, detection limits, and sample location and depth.

The investigation also included a radiological survey of the buildings in the Excised Area. Floors and walls were scanned for beta and gamma radiation. The survey measured total beta activity and exposure rate, and wipe samples were analyzed for gross alpha and gross beta.

This data may be usable in a risk assessment, although COCs should be obtained from ORISE. In addition, the data will be useful for determining nature and extent of contamination, and disposal options.

Immediate Investigative Work Assignment Report, Guterl Excised Area, City of Lockport, Niagara County. NYSDEC, October 2000.

This investigation included analysis of surface and subsurface soil, groundwater, surface water, and sediment samples collected from the Guterl Excised Area (both inside and outside of the buildings), as well as one soil boring and monitoring well outside of this area. Laboratory analyses were completed for metals, pesticides, polychlorinated biphenyls (PCBs), semi-volatile organic compounds (sVOCs), and volatile organic compounds (VOCS). In addition, the Toxicity Characteristic Leaching Procedure (TCLP) was performed on a subset of samples. The report included analytical results with units, data qualifiers, analytical methods, and sample location and depth. Sample Chain of Custody forms (COCs), equipment calibration records, and detection limits were not included in the report.

This data may be usable in a risk assessment if COCs, equipment calibration records, and detection limits are obtained from the New York State Department of Environmental Conservation (NYSDEC), assuming that the appropriate analytical methods were used, and that the detection limits are below appropriate screening levels for constituents of interest. However, even if the data quality does not allow the data to be used directly in a risk assessment, the data may still be useful for determining nature and extent of contamination, and may assist in determining disposal options.

In addition, this report presents a description of the hydrogeological properties of the strata underlying the site, including groundwater flow.

Approximate number of samples and analyses completed for the Guterl Steel FUSRAP site

Investigation	Analysis										Usability																					
	Radium	Uranium	Thorium	Metals	Pesticides	PCBs	SVOCs	VOCs	ICAP (USEPA SW-846)	Gas Chromatograph	X-Ray Fluorescence	TCLP	Gamma Spectroscopy	Gross Alpha and Beta	Cinders	Surface Soil	Subsurface Soil	Sediment	Surface Water	Groundwater	Building Material	Waste	Results/Units	COCs	Calibration	DLS	MDLs	Uncertainty	Method	Location	Depth	Qualifiers

Preliminary Engineering and Environmental Evaluation of the Remedial Action Alternatives for the Former Simonds Saw and Steel Company Site, Lockport, New York, Former Utilized MED/AEC Sites Remedial Action Program, Final Report. Prepared for Bechtel National, Inc., November 1981.

Excised Area	14	14	14												14									X					X	X
Landfill																														
Other																														

Engineering Investigations at Inactive Hazardous Waste Sites- Phase I Investigation, Guterl Specialty Steel, City of Lockport, Niagara County. Prepared for NYSDEC, January 1988.

Excised Area																													
Landfill				18		16	18																18	X			X		
Other																													

Engineering Investigations at Inactive Hazardous Waste Sites - Preliminary Site Assessment, Task 1 Records Search, Guterl Specialty Steel Corp., City of Lockport, Niagara County. Prepared for NYSDEC, January 1991.

Excised Area																													
Landfill				18		16	18															18	X			X			
Other																													

Engineering Investigations at Inactive Hazardous Waste Sites- Preliminary Site Assessment Evaluation Report of Initial Data, Guterl Specialty Steel, City of Lockport, Niagara County, Volumes I and II. Prepared for NYSDEC, April 1994.

Excised Area																														
Landfill				29	16	16	29	29								16	8				9	5	5	10	1	X	X	X	X	
Other																											X	X	X	X

Approximate number of samples and analyses completed for the Guterl Steel FUSRAP site

Investigation	Analysis										Usability																					
	Radium	Uranium	Thorium	Metals	Pesticides	PCBs	SVOCs	VOCs	ICAP (USEPA SW-846)	Gas Chromatograph	X-Ray Fluorescence	TCLP	Gamma Spectroscopy	Gross Alpha and Beta	Cinders	Surface Soil	Subsurface Soil	Sediment	Surface Water	Groundwater	Building Material	Waste	Results/Units	COCs	Calibration	DLs	MDLs	Uncertainty	Method	Location	Depth	Qualifiers

Final Report, Guterl Steel Site, Lockport, New York. USEPA Work Assignment No.: 2-194, April 1998.

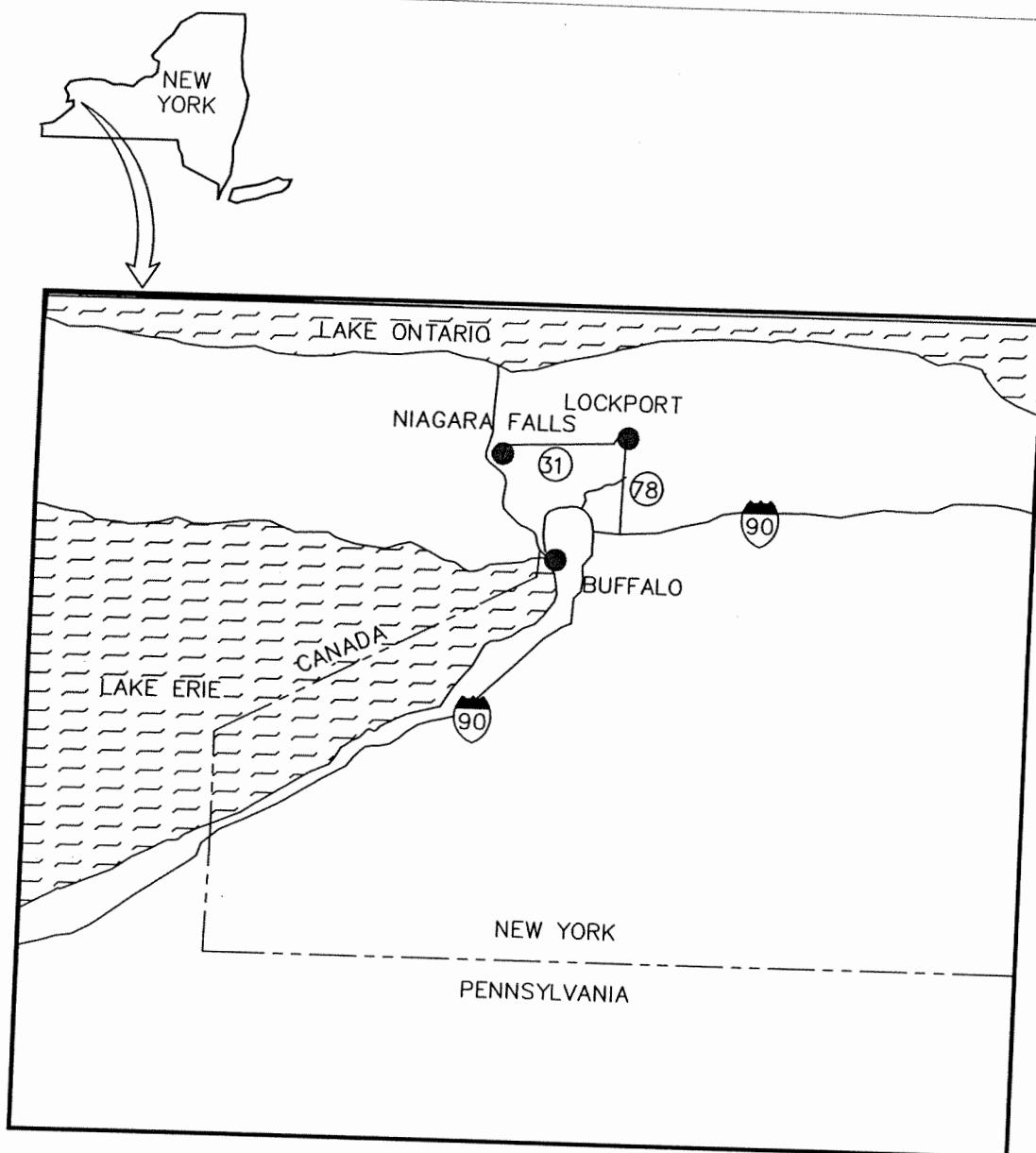
Excised Area				399	11		38	11	399	58					299	91					2	X								
Landfill																														
Other																														

Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York. T.J. Vitkus, Oak Ridge Institute for Science and Education, December 1999 (ORISE 99-1699).

Excised Area	397	397	397												397		250	147				X							
Landfill																													
Building interiors	135	135	135												135	491	129	6		scan	X								

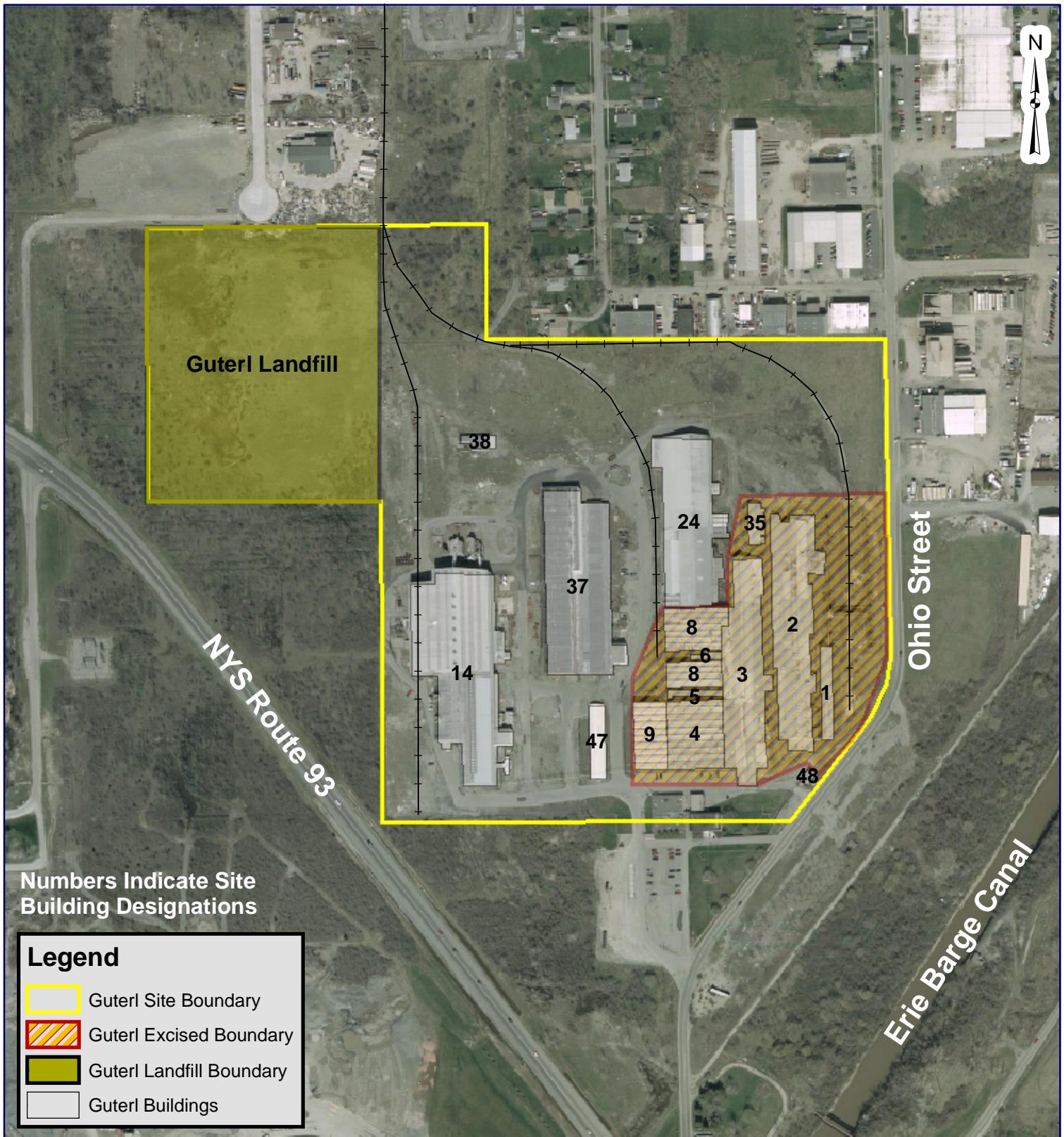
Immediate Investigative Work Assignment Report, Guterl Excised Area, City of Lockport, Niagara County . NYSDEC, October 2000.

Excised Area				34	22	22	34	29				32			18	40	1	3	4		X				X	X	X	X
Landfill																												
Other				2	2	2	2	1							1		2		X				X	X	X	X		



NOT TO SCALE

FIGURE 1: Location of Lockport, New York



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Figure 2. Guterl Steel Site Entities



Appendix A

**Cinder Sample Concentrations at Former Simonds Site
Lockport, New York
Based on 1980 FB&DU Survey**

Location^a	Depth of Sample (ft)^b	Uranium-238 (pCi/g)	Radium-226 (pCi/g)	Thorium-232 (pCi/g)
GSS-1	0 - 1	219	0.22	8.1
GSS-1	1 - 2	10.7	1.12	2.4
GSS-2	0 - 1	226	0.38	6.4
GSS-2	1 - 2	2.8	1.68	2.1
GSS-3	0 - 1	826	<0.20	6.0
GSS-3	1 - 2	329	0.51	7.4
GSS-4	0 - 1	3.0	<0.20	12.6
GSS-4A	0 - 1	1900	0.89	134
GSS-5	0 - 1	348	0.37	8.6
GSS-5	1 - 2	23.3	1.35	2.1
GSS-5	2 - 3	366	1.02	4.1
GSS-6	0 - 1	5.3	<0.20	1.9
GSS-6	1 - 2	0.7	1.09	2.2
GSS-6	2 - 3	0.7	<0.20	2.1

Source: *Preliminary Engineering and Environmental Evaluation of the Remedial Action Alternatives for the Former Simonds Saw and Steel Company Site, Lockport, New York, Former Utilized MED/AEC Sites Remedial Action Program, Final Report.* Prepared for Bechtel National, Inc., November 1981.

^aSee Figure 4-2.

^b1 foot = 0.3048 m

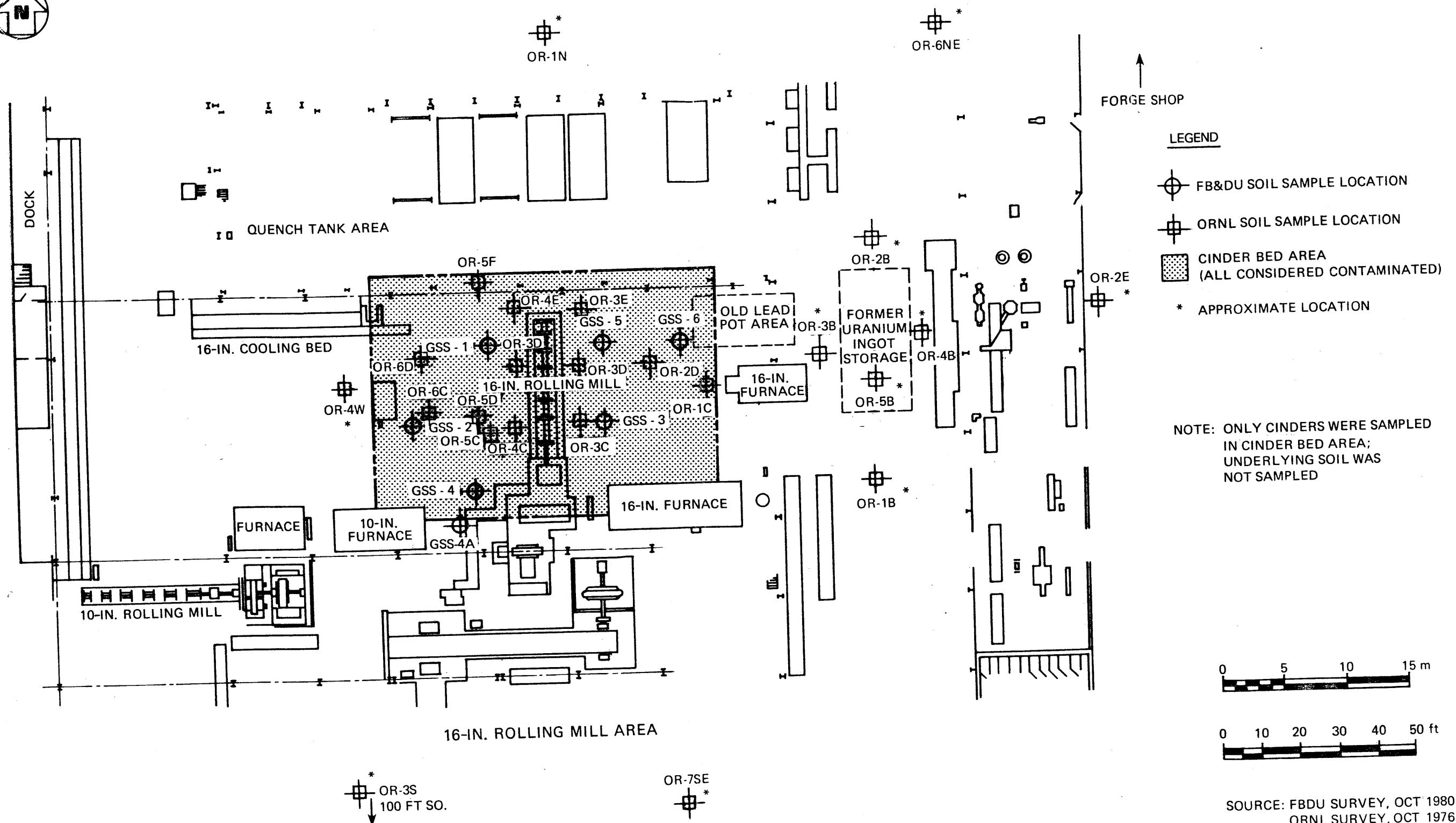


FIGURE 4-2. SOIL SAMPLE LOCATIONS IN BUILDING A

409-314 11/81

Appendix B

Summary of Analytical Results for Ground Water Samples

**Guterl Specialty Steel
Lockport, New York**

December 1980¹

PARAMETER	Water Quality Standard ²	Well Location			
		01 (Down)	02 (Up)	03 (Down)	04 (Up)
pH	6.5 - 8.5	9.2	7.9	*	*
Oil and Grease (mg/l)	NS	37.8	25.8	*	*
Conductivity (u/cm)	NS	2450	3400	*	*
TOC (mg/l)	0.10	110	80	*	*
Phenol (ug/l)	1.0	92	2	39	*
Total Halogenated Organics (ug/l)	100	5.7	0.6	*	*
Aluminum (ug/l)	NS	760	5720	158000	*
Total Chromium (ug/l)	50 ³	18	12	10	*
Copper (ug/l)	1000	460	160	250	*
Iron (ug/l)	300	150	2820	100	*
Lead (ug/l)	25	17	21	74	*
Manganese (ug/l)	300	90	2770	80	*
Nickel (ug/l)	NS	131	1.5	27	*

Source: *Engineering Investigations at Inactive Hazardous Waste Sites- Phase I Investigation, Guterl Specialty Steel, City of Lockport, Niagara County.* Prepared for NYSDEC, April 1994.

¹Samples collected by Secure Landfill Contractors 12/11/80 and 12/12/80.

² NYSDEC Groundwater Quality Standards (NYSDEC, 1985).

³ Standard for hexavalent chromium.

* = No Sample.

NS = No standard.

Summary of Analytical Results for Ground Water Samples

**Guterl Specialty Steel
Lockport, New York**

March 1980¹

PARAMETER	Water Quality Standard ²	Well Location			
		01 (Down)	02 (Up)	03 (Down)	04 (Up)
pH	6.5 - 8.5	7.8	7.9	10.8	*
Oil and Grease (mg/l)	NS	5.4	5.1	4.4	*
Conductivity (u/cm)	NS	2800	3000	3400	*
TOC (mg/l)	0.10	160	18.5	132.5	*
Phenol (ug/l)	1.0	250	<1.0	180	*
Total Halogenated Organics (ug/l)	100	0.1	0.1	<0.1	*
Aluminum (ug/l)	NS	1000	1500	180000	2400
Total Chromium (ug/l)	50 ³	21	19	13	100
Copper (ug/l)	1000	95	83	76	57
Iron (ug/l)	300	1100	2100	300	<50
Lead (ug/l)	25	8	14	1	3
Manganese (ug/l)	300	550	4900	44	<10
Nickel (ug/l)	NS	106	72	66	21

Source: *Engineering Investigations at Inactive Hazardous Waste Sites- Phase I Investigation, Guterl Specialty Steel, City of Lockport, Niagara County.* Prepared for NYSDEC, April 1994.

¹Samples collected by Secure Landfill Contractors 3/10/80 and 3/16/80.

² NYSDEC Groundwater Quality Standards (NYSDEC, 1985).

³ Standard for hexavalent chromium.

* = No Sample.

NS = No standard.

Summary of Analytical Results for Ground Water Samples

**Guterl Specialty Steel
Lockport, New York**

June 1981¹

PARAMETER	Water Quality Standard ²	Well Location			
		01 (Down)	02 (Up)	03 (Down)	04 (Up)
pH	6.5 - 8.5	7.8	8	11.3	*
Oil and Grease (mg/l)	NS	<1.0	<1.0	1.0	*
Conductivity (u/cm)	NS	3000	3700	3850	*
TOC (mg/l)	0.10	117	9.0	106	*
Phenol (ug/l)	1.0	12	468	122	*
Total Halogenated Organics (ug/l)	100	<0.1	<0.1	<0.1	*
Aluminum (ug/l)	NS	1910	131000	<1000	2400
Total Chromium (ug/l)	50 ³	74	223	109	100
Copper (ug/l)	1000	162	146	39	57
Iron (ug/l)	300	27600	28800	60	<50
Lead (ug/l)	25	50	36	<10	3
Manganese (ug/l)	300	4400	1300	27	<10
Nickel (ug/l)	NS	300	140	160	21

Source: *Engineering Investigations at Inactive Hazardous Waste Sites- Phase I Investigation, Guterl Specialty Steel, City of Lockport, Niagara County.* Prepared for NYSDEC, April 1994.

¹Samples collected by Secure Landfill Contractors 6/22/81.

² NYSDEC Groundwater Quality Standards (NYSDEC, 1985).

³ Standard for hexavalent chromium.

* = No Sample.

NS = No standard.

Summary of Analytical Results for Ground Water Samples

**Guterl Specialty Steel
Lockport, New York**

September 1981¹

PARAMETER	Water Quality Standard ²	Well Location			
		01 (Down)	02 (Up)	03 (Down)	04 (Up)
pH	6.5 - 8.5	7.4	7.3	10.7	11.1
Oil and Grease (mg/l)	NS	2.0	<1.0	1.0	*
Conductivity (u/cm)	NS	3150	3700	2900	1300
TOC (mg/l)	0.10	280	200	118	63
Phenol (ug/l)	1.0	120	5	1250	6
Total Halogenated Organics (ug/l)	100	<0.1	<0.1	<0.1	*
Aluminum (ug/l)	NS	<300	<300	63400	590
Total Chromium (ug/l)	50 ³	10	<10	<10	348
Copper (ug/l)	1000	<25	<25	139	52
Iron (ug/l)	300	<60	<60	<60	<60
Lead (ug/l)	25	16	13	15	18
Manganese (ug/l)	300	427	3740	<20	<20
Nickel (ug/l)	NS	706	653	855	281

Source: *Engineering Investigations at Inactive Hazardous Waste Sites- Phase I Investigation, Guterl Specialty Steel, City of Lockport, Niagara County.* Prepared for NYSDEC, April 1994.

¹Samples collected by Secure Landfill Contractors 9/28/81.

² NYSDEC Groundwater Quality Standards (NYSDEC, 1985).

³ Standard for hexavalent chromium.

* = No Sample.

NS = No standard.

Summary of Analytical Results for Ground Water Samples

Guterl Specialty Steel

Lockport, New York

April 1982¹

PARAMETER	Water Quality Standard ²	Well Location			
		01 (Down)	02 (Up)	03 (Down)	04 (Up)
pH	6.5 - 8.5	7.7	7.3	*	7.5
Oil and Grease (mg/l)	NS	98.0	11	*	15.2
Conductivity (u/cm)	NS	1800	2280	*	1310
TOC (mg/l)	0.10	110	120	*	175
Phenol (ug/l)	1.0	58	<1	*	27
Total Halogenated Organics (ug/l)	100	3.2	0.4	*	1.3
Aluminum (ug/l)	NS	<300	<300	*	<300
Total Chromium (ug/l)	50 ³	<10	12	*	201
Copper (ug/l)	1000	34	47	*	42
Iron (ug/l)	300	<50	<50	*	<50
Lead (ug/l)	25	<10	<10	*	<50
Manganese (ug/l)	300	318	720	*	<20
Nickel (ug/l)	NS	95	64	*	74

Source: *Engineering Investigations at Inactive Hazardous Waste Sites- Phase I Investigation, Guterl Specialty Steel, City of Lockport, Niagara County.* Prepared for NYSDEC, April 1994.

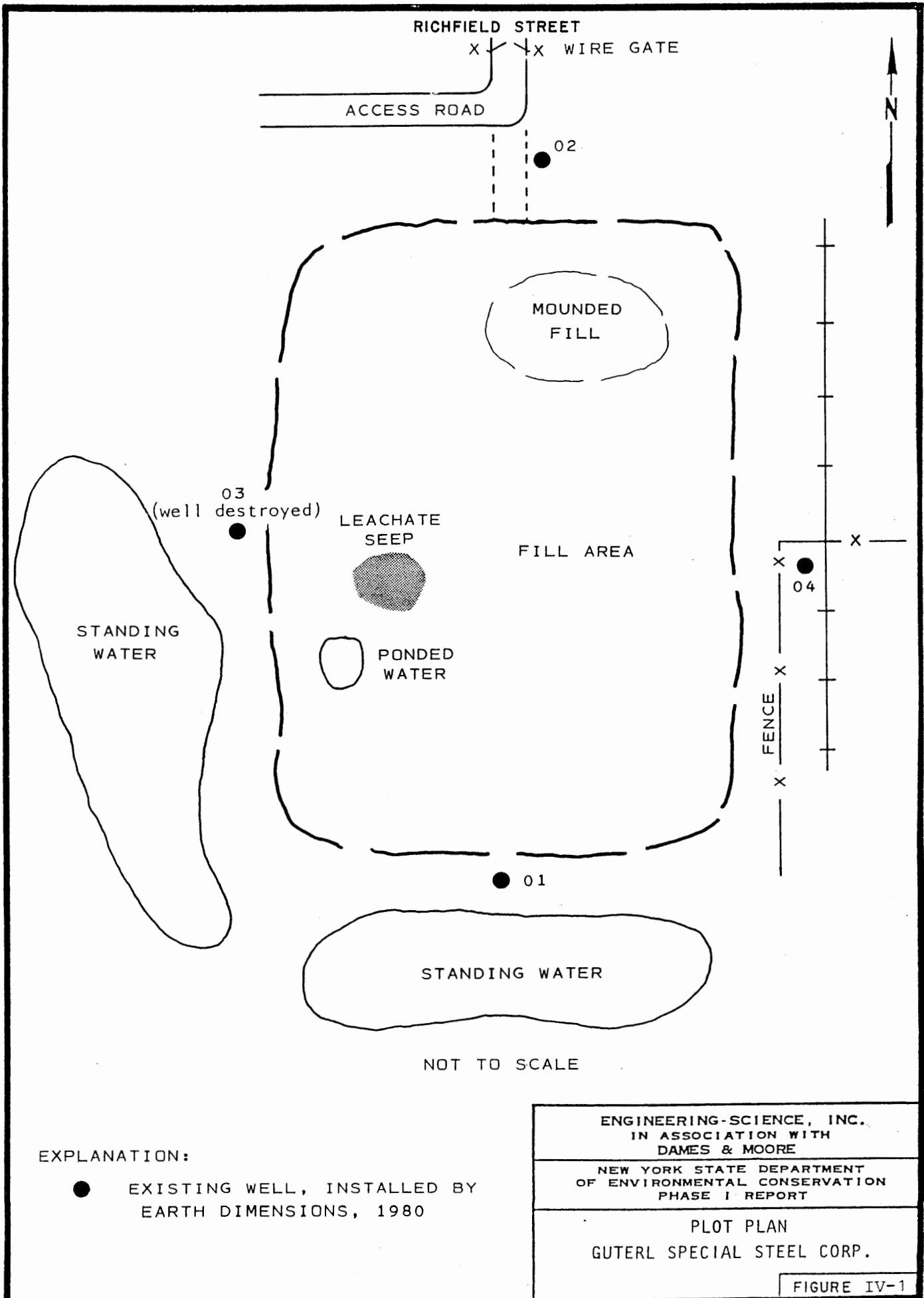
¹Samples collected by Secure Landfill Contractors 4/14/82.

² NYSDEC Groundwater Quality Standards (NYSDEC, 1985).

³ Standard for hexavalent chromium.

* = No Sample.

NS = No standard.



Appendix C

Summary of Groundwater Data
Preliminary Site Assessment
Guterl Specialty Steel
Lockport, New York

Compound	Maximum Concentration Detected (ug/L)	Well	Date Sampled	New York Ambient Water Quality Criteria (ug/L)
Chromium	450	04	6/81	50
Copper	2100	04	6/81	200
Iron	28800	02	6/81	300
Lead	590	04	6/81	50
Magnesium	21000	04	6/81	300
Phenols	1250	03	6/81	1

Source: Engineering Investigations at Inactive Hazardous Waste Sites - Preliminary Site Assessment, Task 1 Records Search, Guterl Specialty Steel Corp., City of Lockport, Niagara County. Prepared for NYSDEC, January 1991.



PROPERTY LINE
(WIRE CABLE FENCE)

MUDCRACKS

MW-02 (CAP MISSING)

SEEP
1-FT STANDING
WATER

MOUND
~10-FT HIGH

HEAVILY
VEGETATED,
BRUSH,
TREES

WETLAND
VEGETATION

MUDCRACKS
VISIBLE SURFACE
DRAINAGE

FLATTENED
CONTAINERS

(LIMITS OF LANDFILL RUBBLE
COINCIDE WITH WETLAND VEGETATION)

MW-01

GATE

EMPTY
CONTAINERS

ROAD

GRAVEL
ACCESS

LEGEND

SURFACE DRAINAGE CHANNEL

POWER LINE

RAILROAD

CHAIN-LINK FENCE



STOCKPILES



AREA WHERE LANDFILL DEBRIS WAS
VISIBLE AT SURFACE



MONITORING WELLS INSTALLED BY
EARTH DIMENSIONS, 1980
(MW-03, FORMERLY LOCATED ALONG
WEST SIDE OF LANDFILL, COULD NOT
BE LOCATED BY E.C. JORDAN, 7/18/90)

NOTES:

SITE NO.: 932032

LOCATION: CITY OF LOCKPORT,
NIAGARA COUNTY, NEW YORK

SITE FEATURES BASED ON 7/18/90 SITE VISIT BY
E.C. JORDAN AND NYSDEC (LOCATION APPROXIMATE)

APPROXIMATE SCALE

0 100 200 FEET

6291-30

FIGURE 2
SITE SKETCH MAP
FORMER GUTERL SPECIAL STEEL LANDFILL
PRELIMINARY SITE ASSESSMENT
NEW YORK STATE DEC

ECJORDANCO

Appendix D

Waste Container Sampling Data
Guterl Specialty Steel
Lockport, New York

COMPOUND	CRQL/CRDL	WT-01
Semi-Volatile Organic Compounds (ug/kg)		
Acenaphthene	330	20 JJ
Anthracene	330	17 JJ
Dibenzofuran	330	9 JJ
Fluoranthene	330	140 JJ
Fluorene	330	14 JJ
Phenanthrene	330	220 JJ
Pyrene	330	120 JJ
Polychlorinated Biphenyls (PCBs) (ug/kg)		
None Detected		
Inorganic Compounds (mg/kg)		
Aluminum	40	16200
Barium	40	27.9
Cadmium	1	R
Calcium	1000	3700
Chromium	2	495
Cobalt	10	R
Copper	5	66000
Cyanide	2	3.3
Iron	20	7040
Lead	0.6	4.5
Manganese	3	530000
Nickel	8	39800
Silver	2	65.7 J
Sodium	1000	7270
Thallium	2	9
Zinc	4	321 J
EP Toxicity (mg/L)		Regulatory Limit
Arsenic	5	0.0668
Barium	100	0.02
Cadmium	1	0.0046
Chromium	5	0.0068
Lead	5	0.042
Mercury	0.2	0.0002
Selenium	1	0.0801
Silver	5	0.0074
Hazardous Waste Characteristic		Detection Limit
Corrosivity (pH)		6.4
Ignitability (degree F)		U
	1.0	U
Reactivity, Sulfide (mg/kg)	1.0	U

Source: *Engineering Investigations at Inactive Hazardous Waste Sites- Preliminary Site Assessment Evaluation Report of Initial Data, Guterl Specialty Steel, City of Lockport, Niagara County, Volumes I and II.. Prepared for NYSDEC, April 1994.*

CRQL = Contract Required Quantition Limit (organics)

CRDL = Contract Required Detection Limit (inorganics)

J = estimated

JJ = estimated below sample specific CRQL

R = Rejected

U = not detected

Soil Boring Sampling Data

Guterl Specialty Steel

Lockport, New York

COMPOUND	CRQL/CRDL	RANGE
Volatile Organic Compounds (ug/kg)		
Methylene Chloride	10	5 JJ - 7 JJ
Semi-Volatile Organic Compounds (ug/kg)		
2-Methylnaphthalene	330	U - 47 JJ
Acenaphthene	330	U - 30 JJ
Anthracene	330	U - 35 JJ
Benzo(a)anthracene	330	U - 180 JJ
Benzo(a)pyrene	330	U - 63 JJ
Benzo(b)fluoranthene	330	U - 97 JJ
Benzo(k)fluoranthene	330	U - 71 JJ
Butylbenzylphthalate	330	U - 21 JJ
Chrysene	330	U - 270 JJ
Di-n-butylphthalate	330	46 JJ - 810 J
Dibenzofuran	330	U - 35 JJ
Fluoranthene	330	U - 460 JJ
Fluorene	330	U - 17 JJ
N-Nitrosodiphenylamine	330	U - 34 JJ
Phenanthrene	330	U - 220 JJ
Pyrene	330	U - 380 JJ
Polychlorinated Biphenyls (PCBs) (ug/kg)		
Aroclor 1248	33	U - 220 JJ
Inorganic Compounds (mg/kg)		
Aluminum	40	9180 J - 39300 J
Antimony	12	U - 34 J
Arsenic	2	3.9 - 8.6
Barium	40	52.4 - 382
Beryllium	1	0.55 - 5.5
Calcium	1000	2080 - 125000
Chromium	2	14.9 J - 1690 J
Cobalt	10	8.0 - 245
Copper	5	12.3 J - 3450 J
Iron	20	17500 - 37700
Lead	0.6	186 - 218
Magnesium	100	3120 - 48200
Manganese	3	614 - 10400
Mercury	0.04	U - 0.22 J
Nickel	8	17.2 - 7350
Potassium	1000	698 - 1120
Selenium	1	U - 2.9

Source: *Engineering Investigations at Inactive Hazardous Waste Sites- Preliminary Site Assessment Evaluation Report of Initial Data, Guterl Specialty Steel, City of Lockport, Niagara County, Volumes I and II.* Prepared for NYSDEC, April 1994.

CRQL = Contract Required Quantitation Limit (organics)

CRDL = Contract Required Detection Limit (inorganics)

J = estimated

JJ = estimated below sample specific CRQL

R = Rejected

U = not detected

Soil Boring Sampling Data

Guterl Specialty Steel

Lockport, New York

COMPOUND		CRQL/CRDL	RANGE
Sodium		1000	203 - 596
Vanadium		10	20.6 - 696
Zinc		4	130 J - 231 J
EP Toxicity (mg/L)		Regulatory Limit	
Arsenic		5	0.043 U
Barium		100	0.01 0.450 - 0.564
Cadmium		1	0.003 U - 0.0045
Chromium		5	0.005 U - 0.0084 J
Lead		5	0.04 U
Mercury		0.2	0.0002 U
Selenium		1	0.051 U
Silver		5	0.004 U - 0.0070 J
Hazardous Waste Characteristics		Detection Limit	
Corrosivity (pH)			7.81 - 8.65
Ignitability (degree F)			U
Reactivity, Cyanide (mg/kg)		1.0	U
Reactivity, Sulfide (mg/kg)		1.0	U

Source: *Engineering Investigations at Inactive Hazardous Waste Sites- Preliminary Site Assessment Evaluation Report of Initial Data, Guterl Specialty Steel, City of Lockport, Niagara County, Volumes I and II.* Prepared for NYSDEC, April 1994.

CRQL = Contract Required Quantition Limit (organics)

CRDL = Contract Required Detection Limit (inorganics)

J = estimated

JJ = estimated below sample specific CRQL

R = Rejected

U = not detected

Test Pit Sampling Data

Guterl Specialty Steel

Lockport, New York

COMPOUND	CRQL/CRDL	RANGE
Volatile Organic Compounds (ug/kg)		
Toluene	10	U - 1JJ
Ethylbenzene	10	U - 3 JJ
Total Xylenes	10	U - 40 JJ
Semi-Volatile Organic Compounds (ug/kg)		
2,4,5-Trichlorophenol	800	R - U
2,4,6-Trichlorophenol	330	R - U
2,4-Dichlorophenol	330	R - U
2,4-Dimethylphenol	330	R - 60 JJ
2,4-Dinitrophenol	800	R - U
2-Chlorophenol	330	R - U
2-Methylnaphthalene	330	18 JJ - 230 JJ
2-Methylphenol	330	R - U
4-Methylphenol	330	R - U
4,6-Dinitro-2-methylphenol	800	R - U
4-Chloro-3-Methylphenol	330	R - U
2-Nitrophenol	330	R - U
4-Nitrophenol	800	R - U
Acenaphthene	330	U - 110 JJ
Anthracene	330	11 JJ - 55 JJ
Benzo(a)anthracene	330	U - 150 JJ
Benzo(a)pyrene	330	U - 110 JJ
Benzo(b)fluoranthene	330	U - 180 JJ
Benzo(k)fluoranthene	330	U - 150 JJ
Butylbenzylphthalate	330	U - 35 JJ
Carbazole	330	U - 26 JJ
Chrysene	330	U - 390 JJ
Di-n-butylphthalate	330	U - 79 JJ
Di-n-octylphthalate	330	U - 62 JJ
Dibenzofuran	330	14 JJ - 68 JJ
Fluoranthene	330	110 JJ - 330 JJ
Fluorene	330	U - 90 JJ
N-Nitrosodiphenylamine	330	U - 750 JJ
Naphthalene	330	U - 120 JJ
Pentachlorophenol	800	R - U
Phenanthrene	330	130 JJ - 490 JJ
Phenol	330	R - U
Pyrene	330	84 JJ - 470 JJ

Source: *Engineering Investigations at Inactive Hazardous Waste Sites- Preliminary Site Assessment Evaluation Report of Initial Data, Guterl Specialty Steel, City of Lockport, Niagara County, Volumes I and II.* Prepared for NYSDEC, April 1994.

Test Pit Sampling Data**Guterl Specialty Steel****Lockport, New York**

Polychlorinated Biphenyls (PCBs) (ug/kg)			
Aroclor 1248	33	U - 13000	
Aroclor 1254	33	U - 340 J	
Aroclor 1260	33	U - 140	
Inorganic Compounds (mg/kg)			
Aluminum	40	9610 - 31700	
Antimony	12	U - 129 J	
Arsenic	2	1.9 J - 15.1 J	
Barium	40	24.6 - 505	
Beryllium	1	0.46 - 6.0	
Cadmium	1	R	
Calcium	1000	11300 - 104000	
Chromium	2	54.1 - 4360	
Cobalt	10	R	
Copper	5	823 - 5240 J	
Iron	20	9460 - 206000	
Lead	0.6	124 J - 344 J	
Magnesium	1000	6200 - 48100	
Manganese	3	361 - 21900 J	
Mercury	0.04	U - 0.12	
Nickel	8	270 - 38100 J	
Potassium	1000	318 - 1420	
Selenium	1	U - 1.7 J	
Sodium	1000	283 - 658	
Thallium	2	U - 2.0	
Vanadium	10	101 J - 892 J	
Zinc	4	315 J - 578 J	
EP Toxicity (mg/L)		Regulatory Limit	
Arsenic	5	0.0668	U
Barium	100	0.02	0.453 J - 1.560 J
Cadmium	1	0.0046	U
Chromium	5	0.0068	U - 0.0203
Lead	5	0.042	U - 0.0548
Mercury	0.2	0.0002	U
Selenium	1	0.0801	U - 0.0817
Silver	5	0.0074	U

Source: *Engineering Investigations at Inactive Hazardous Waste Sites- Preliminary Site Assessment Evaluation Report of Initial Data, Guterl Specialty Steel, City of Lockport, Niagara County, Volumes I and II.. Prepared for NYSDEC, April 1994.*

Test Pit Sampling Data

Guterl Specialty Steel

Lockport, New York

Hazardous Waste Characteristics	Detection Limit		
Corrosivity (pH)			6.92 - 9.20
Ignitability (degree F)			U
Reactivity, Cyanide (mg/kg)	1.0		U
Reactivity, Sulfide (mg/kg)	1.0		U

Source: *Engineering Investigations at Inactive Hazardous Waste Sites- Preliminary Site Assessment Evaluation Report of Initial Data, Guterl Specialty Steel, City of Lockport, Niagara County, Volumes I and II.. Prepared for NYSDEC, April 1994.*

CRQL = Contract Required Quantition Limit (organics)

CRDL = Contract Required Detection Limit (inorganics)

J = estimated

JJ = estimated below sample specific CRQL

R = Rejected

U = not detected

Groundwater Sampling Data
Guterl Specialty Steel
Lockport, New York

COMPOUND	NYS CLASS GA (ug/L)	CRQL/CRDL	RANGE
Volatile Organic Compounds (ug/L)			
None detected			
Semi-Volatile Organic Compounds (ug/L)			
Diethylphthalate	50 G	10	1 JJ - 2 JJ
bis(2-Ethylhexyl)phthalate	50	10	1 JJ - 4 JJ
Inorganic Compounds (mg/L)			
Aluminum	50 - 200 S ¹	200	138 - 1680
Barium	1000	200	47.4 - 283
Calcium	a	5000	5000 - 85900
Copper	200	25	8.0 - 24.1
Iron	300	100	100 - 2360
Lead	25	3	U - 3.8 J
Magnesium	35000 G	5000	21500 - 15200
Manganese	300	15	R
Nickel	1001	40	U - 72.0
Potassium	A	5000	2950 - 16300
Sodium	20000	5000	93400 - 729000
Thallium	4 G	10	15.5 J - 28.4
Zinc	300	20	U - 157
Miscellaneous Parameters			
pH	6.5 - 8.5 S ¹		7.6 - 8.8
Gross Alpha (pci/L)	a		<8 - 23 +/- 14
Gross Beta (pci/L)	a		18 +/- 5 - 31 +/- 6

Source: *Engineering Investigations at Inactive Hazardous Waste Sites- Preliminary Site Assessment Evaluation Report of Initial Data, Guterl Specialty Steel, City of Lockport, Niagara County, Volumes I and II.. Prepared for NYSDEC, April 1994.*

CRQL = Contract Required Quantition Limit (organics)

CRDL = Contract Required Detection Limit (inorganics)

J = estimated

JJ = estimated below sample specific CRQL

R = Rejected

U = not detected

a = no standard available

S = Secondary Federal Maximum Contaminant Level

G = Guidance Value

¹ = USEPA MCL

Surface Water Sampling Data
Guterl Specialty Steel
Lockport, New York

COMPOUND	CRQL/CRDL	RANGE
Volatile Organic Compounds (ug/L)		
Toluene	10	U - 1 JJ
Semi-Volatile Organic Compounds (ug/L)		
4-Methylphenol	10	U - 5 JJ
Diethylphthalate	10	U - 3 JJ
bis(2-Ethylhexyl)phthalate	10	U - 1 JJ
Inorganic Compounds (mg/L)		
Aluminum	200	171 - 626
Antimony	60	61.4 J - 116 J
Barium	200	35.8 - 544
Cadmium	5	U - 7.2 J
Calcium	5000	20600 - 59900
Chromium	10	U - 50.7
Cobalt	50	U - 21.3
Copper	25	8.0 - 28.1
Iron	100	145 - 5720
Lead	3	U - 5.3 J
Magnesium	5000	19900 - 162000
Manganese	15	R
Nickel	40	U - 74.4
Potassium	5000	3090 - 9870
Sodium	5000	33700 - 323000
Thallium	10	U - 10.5 J
Vanadium	50	U - 37.8 J
Zinc	20	U - 30.8
Miscellaneous Parameters		
pH		7.99 - 9.15
Gross Alpha (pci/L)		<6 - 35 +/- 11
Gross Beta (pci/L)		2 +/- 5 - 30 +/- 5

**Source: Engineering Investigations at Inactive Hazardous Waste Sites- Preliminary Site Assessment
Evaluation Report of Initial Data, Guterl Specialty Steel, City of Lockport, Niagara County, Volumes I and II..
Prepared for NYSDEC, April 1994.**

CRQL = Contract Required Quantition Limit (organics)

CRDL = Contract Required Detection Limit (inorganics)

J = estimated

JJ = estimated below sample specific CRQL

R = Rejected

U = not detected

Sediment Sampling Data

Guterl Specialty Steel

Lockport, New York

COMPOUND	CRQL/CRDL	RANGE
Volatile Organic Compounds (ug/kg)		
None Detected		
Semi-Volatile Organic Compounds (ug/kg)		
Naphthalene	330	U - 150 JJ
2-Methylnaphthalene	330	U - 74 JJ
Acenaphthene	330	U - 48 JJ
Anthracene	330	U - 10 JJ
Di-n-butylphthalate	330	U - 360 JJ
Dibenzofuran	330	U - 38 JJ
Fluoranthene	330	U - 140 JJ
Fluorene	330	U - 26 JJ
Phenanthrene	330	U - 190 JJ
Pyrene	330	U - 150 JJ
Inorganic Compounds (mg/kg)		
Aluminum	40	17200 - 30000
Antimony	12	U - 55.8 J
Arsenic	2	3.8 J - 13.7 J
Barium	40	102 - 594
Beryllium	1	0.61 - 7.1
Cadmium	1	R
Calcium	1000	7400 - 167000
Chromium	2	25.6 - 3150
Cobalt	10	R
Copper	5	20.4 - 327
Iron	20	20400 - 46900
Lead	0.6	31.3 - 60.2
Magnesium	1000	6940 - 39900
Manganese	3	260 - 9940
Mercury	0.04	U - 0.17
Nickel	8	21.1 - 669
Potassium	1000	836 - 2390
Sodium	1000	292 - 2010
Thallium	2	U - 5.3
Vanadium	10	25.6 J - 978 J
Zinc	4	270 J - 702 J

**Source: Engineering Investigations at Inactive Hazardous Waste Sites- Preliminary Site Assessment
Evaluation Report of Initial Data, Guterl Specialty Steel, City of Lockport, Niagara County, Volumes I and II..
Prepared for NYSDEC, April 1994.**

CRQL = Contract Required Quantition Limit (organics)

CRDL = Contract Required Detection Limit (inorganics)

J = estimated

JJ = estimated below sample specific CRQL

R = Rejected

U = not detected

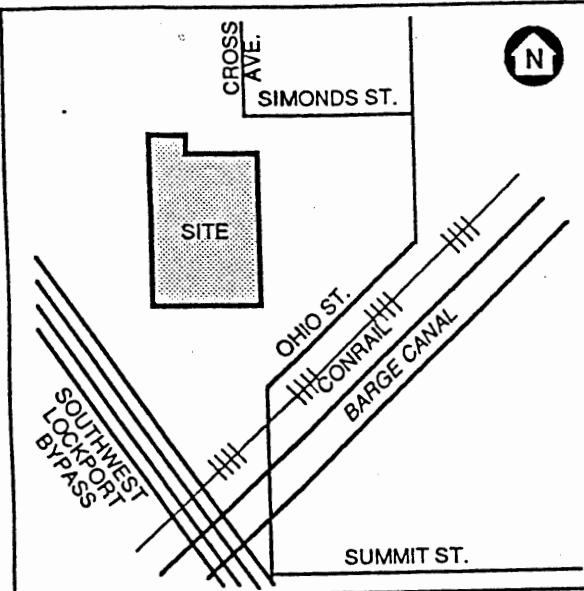
NYSDEC Groundwater Sampling Data
Guterl Specialty Steel
Lockport, New York

COMPOUND	NYS Class GA (ug/L)	RANGE
Inorganic Compounds (ug/L)		
Cadmium	10	0.20 - 1.0
Chromium	50	<10 - 185
Iron	300	970 -3910
Lead	25	4.0 - 11.5
Magnesium	35000 G	9810 - 193000
Nickel	1001	<30 - 160
Thallium	4 G	<3.0
Hexavalent Chromium	50	12.0 - 131

Source: *Engineering Investigations at Inactive Hazardous Waste Sites- Preliminary Site Assessment Evaluation Report of Initial Data, Guterl Specialty Steel, City of Lockport, Niagara County, Volumes I and II.*
Prepared for NYSDEC, April 1994.

¹ = USEPA MCL

G = guidance value



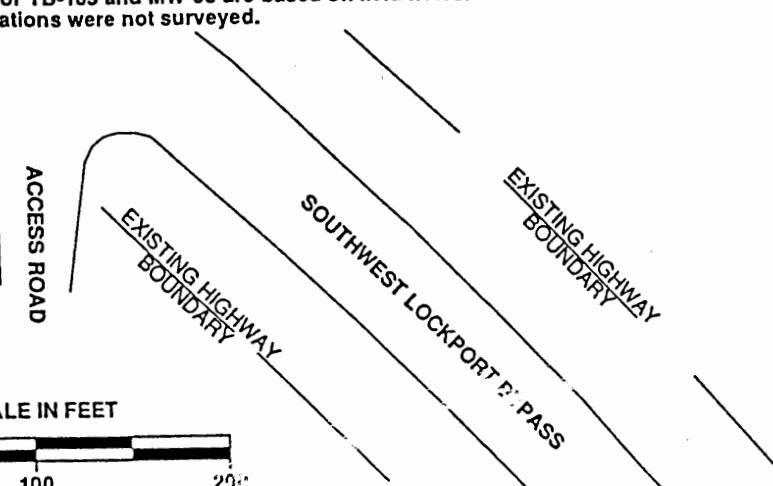
**LOCATION MAP
N.T.S.**

LEGEND

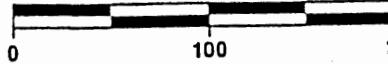
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- TEST BORING/SOIL SAMPLING LOCATION
- TEST PIT LOCATION
- ▲ SURFACE WATER/SEDIMENT LOCATION
- △ WASTE SAMPLE (DRUM REMAINS)
- RADIATION ANOMALIES
- PROPERTY LINE
- x-x- CHAIN LINK FENCE
- RAILROAD TRACKS
- APPROXIMATE LIMITS OF LANDFILL
- APPROXIMATE LIMITS OF DEBRIS PILES

SURVEY NOTES:

1. All locations on this map are based on the New York state plane coordinate system west zone.
2. All property line and R.O.W. information shown on this map was determined from current tax map information and iron pins as shown.
3. Coordinates for TB-103 and MW-03 are based on field notes.
The exact locations were not surveyed.

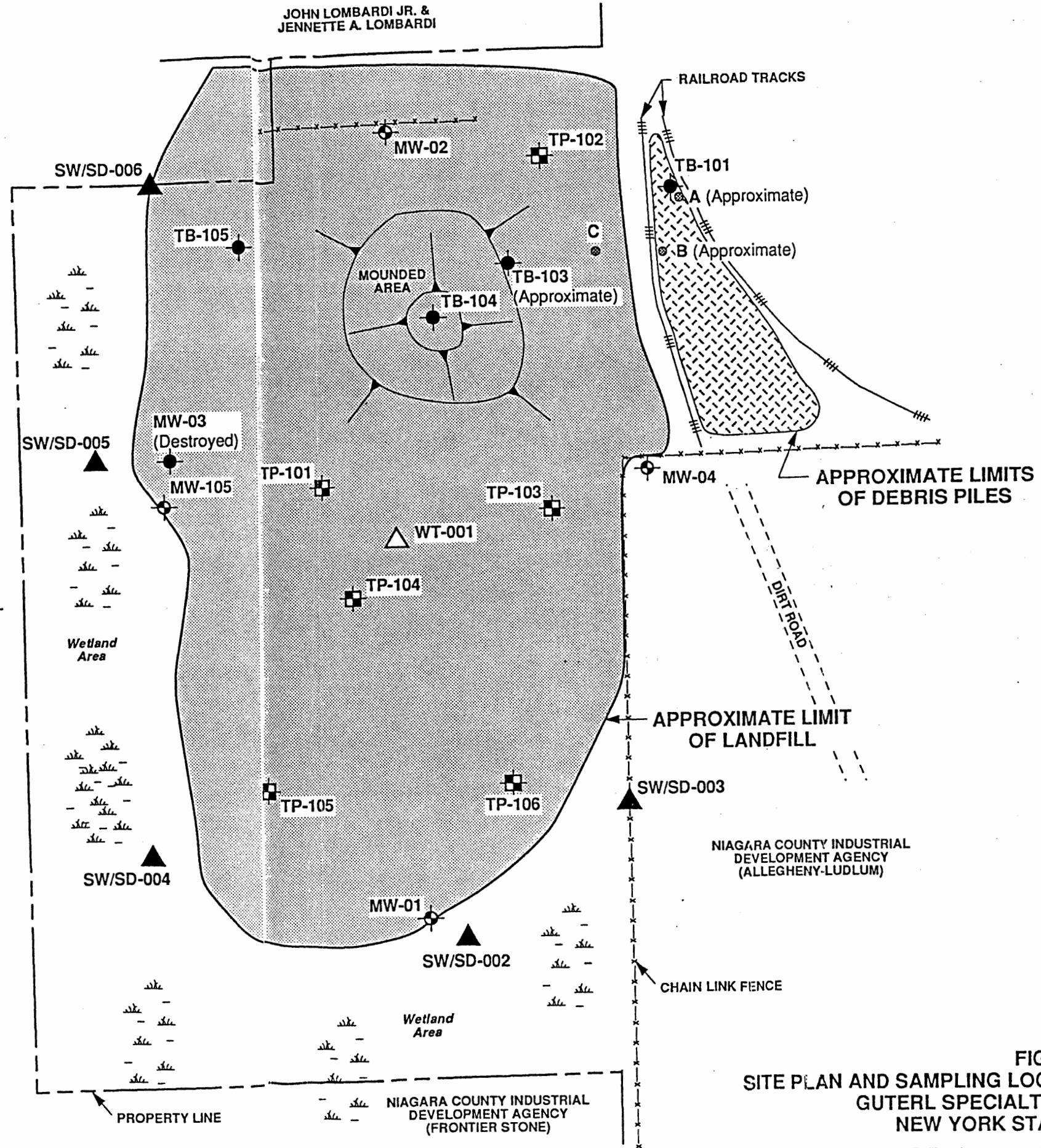


SCALE IN FEET



BASE MAP SOURCE: NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION MAP ENTITLED "SUPERFUND STANDBY CONTRACT AT GUTERL SPECIALTY STEEL SITE NO. 4 CITY OF LOCKPORT, N.Y. DATED 2/93."

9303029D



**FIGURE 1-2
SITE PLAN AND SAMPLING LOCATIONS
GUTERL SPECIALTY STEEL
NEW YORK STATE DEC**

ABB Environmental Services

Appendix E

Field Portable X-Ray Fluorescence (FPXRF) Analysis					
Metals (mg/kg - ppm)	Sample Identification				
	Building 2 Area Samples		Building 3 Area Samples		
	Range	MDL	Range	MDL	# samples detected/# samples taken
Arsenic	U* - 1700	150	U - 1100	150	124/399
Cadmium	U - 820	180	U - 810	180	96/399
Lead	U - 18000	70	U - 10000	70	275/399
Nickel	U - 180000	360	U - 99000	360	370/399
Zinc	U - 13000	230	U - 30000	230	359/399

Source: *Final Report, Guterl Steel Site, Lockport, New York.* USEPA Work Assignment No.: 2-194, April 1998.

*U = Indicates that the compound was analyzed for but not detected at or above the reporting limit.

Lab Inductively Coupled Argon Plasma (ICAP) Analysis					
Metals (mg/kg - ppm)	Sample Identification				
	Building 2 Area Samples		Building 3 Area Samples		# samples detected/# samples taken
	Range	MDL	Range	MDL	
Arsenic	U* - 200	6.2 -74	U - 18	6.7 - 75	6/38
Cadmium	U - 35	0.45 - 4.9	U - 64	0.45 - 4.9	18/38
Lead	7.3 - 34000	3.6 - 40	U - 6200	3.6 - 40	36/38
Nickel	16 - 180000	0.92 - 9.9	U - 99000	0.89 - 9.9	36/38
Vanadium	9.8 -1200	0.89 - 9.9	U - 1700	0.89 - 9.9	36/38
Zinc	U - 5700	1.8 - 20	U - 7700	1.8 - 20	37/38

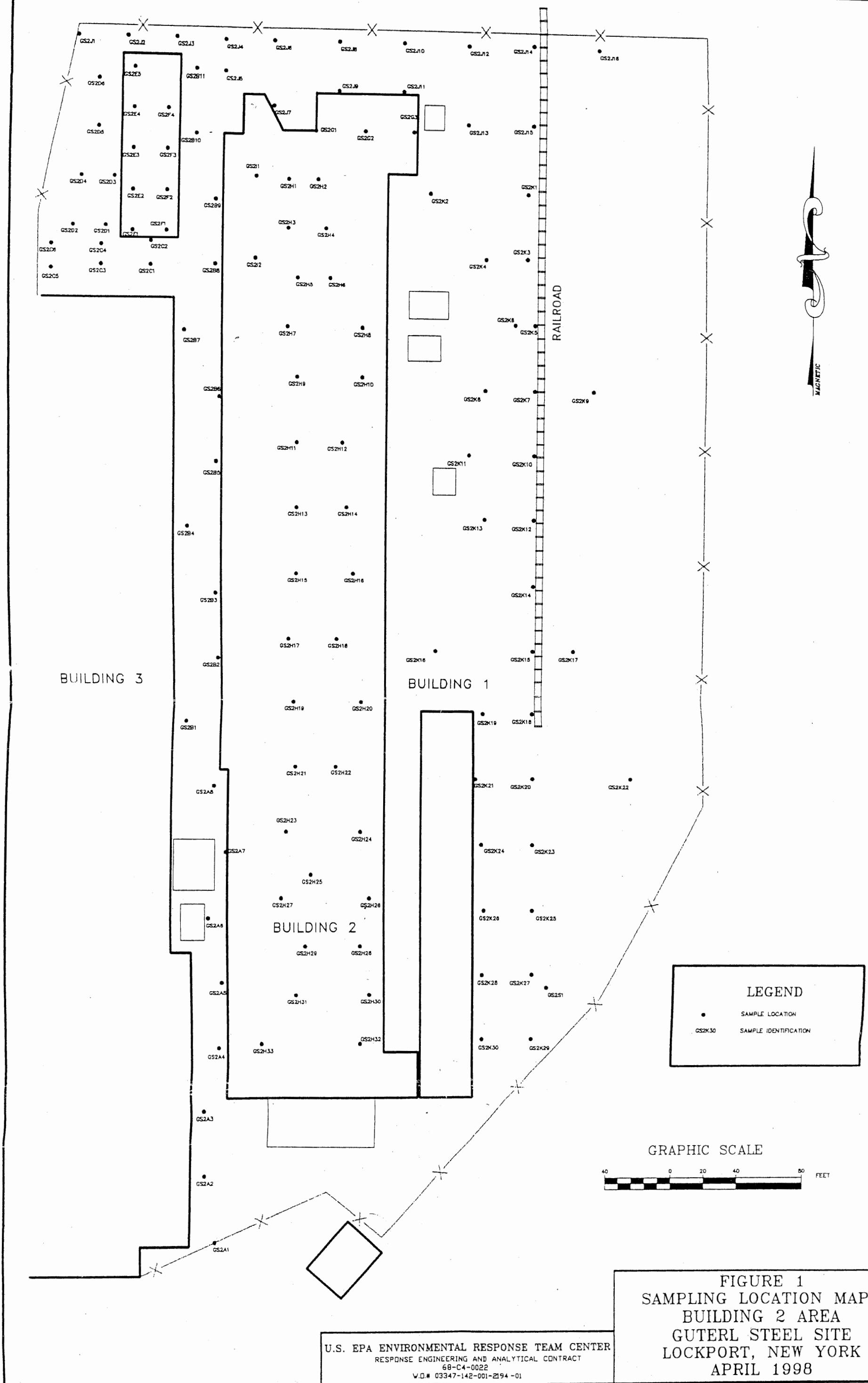
Source: Final Report, Guterl Steel Site, Lockport, New York. USEPA Work Assignment No.: 2-194, April 1998.

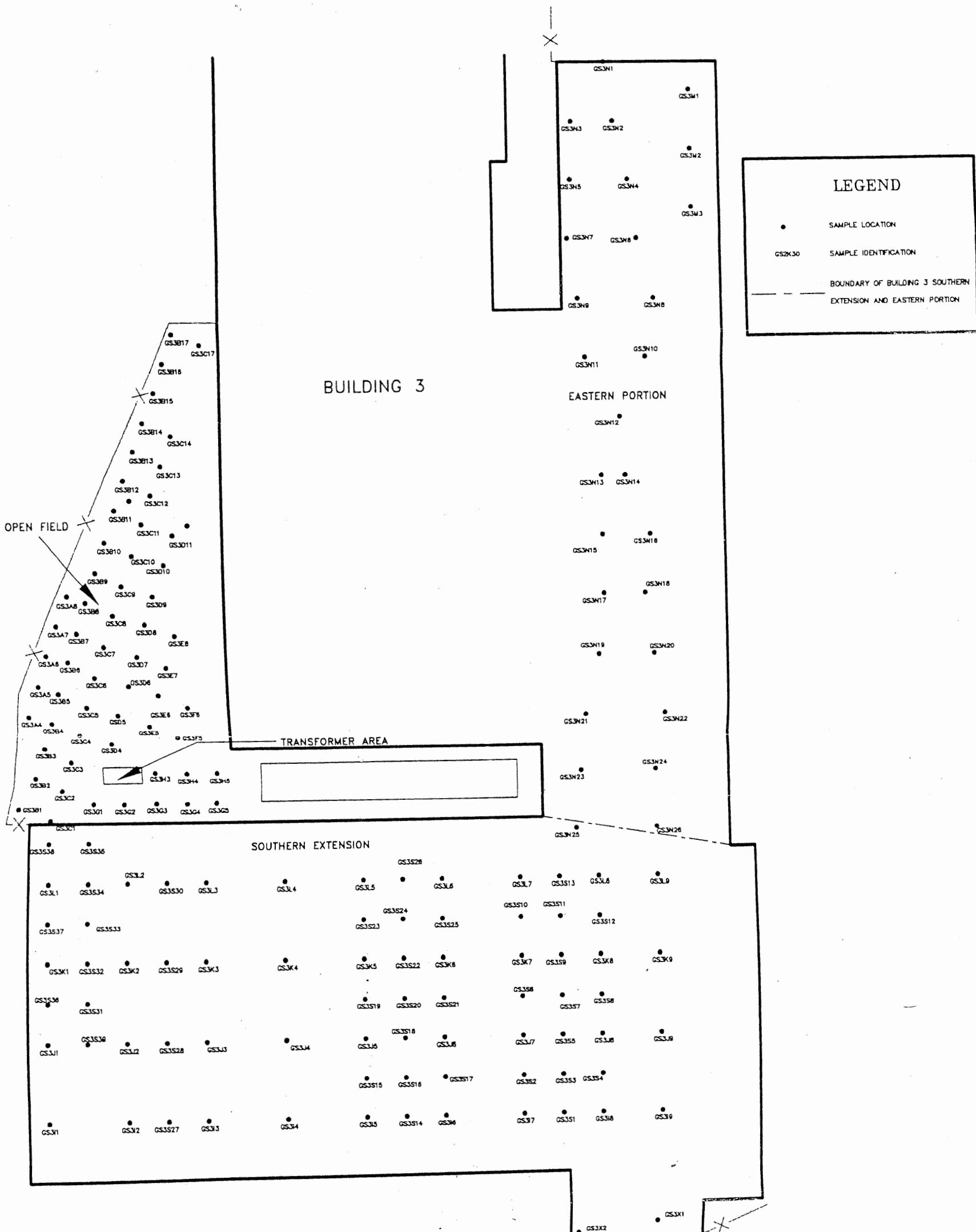
*U = Indicates that the compound was analyzed for but not detected at or above the reporting limit.

Lab PCB Analysis (Gas Chromatographic Analysis)					
Analyte (ug/kg - ppb)	Sample Identification				
	Building 2 Area Samples		Building 3 Area Samples		
	Range	MDL	Range	MDL	# samples detected / #samples taken
Aroclor 1016	No Samples	U*	42 - 200		0/11
Aroclor 1221	No Samples	U	83 - 410		0/11
Aroclor 1232	No Samples	U	42 - 200		0/11
Aroclor 1242	No Samples	U	42 - 200		0/11
Aroclor 1248	No Samples	U	42 - 200		0/11
Aroclor 1254	No Samples	U	42 - 200		0/11
Aroclor 1260	No Samples	U - 64000	42 - 200		4/11

Source: *Final Report, Guterl Steel Site, Lockport, New York. USEPA*
Work Assignment No.: 2-194, April 1998.

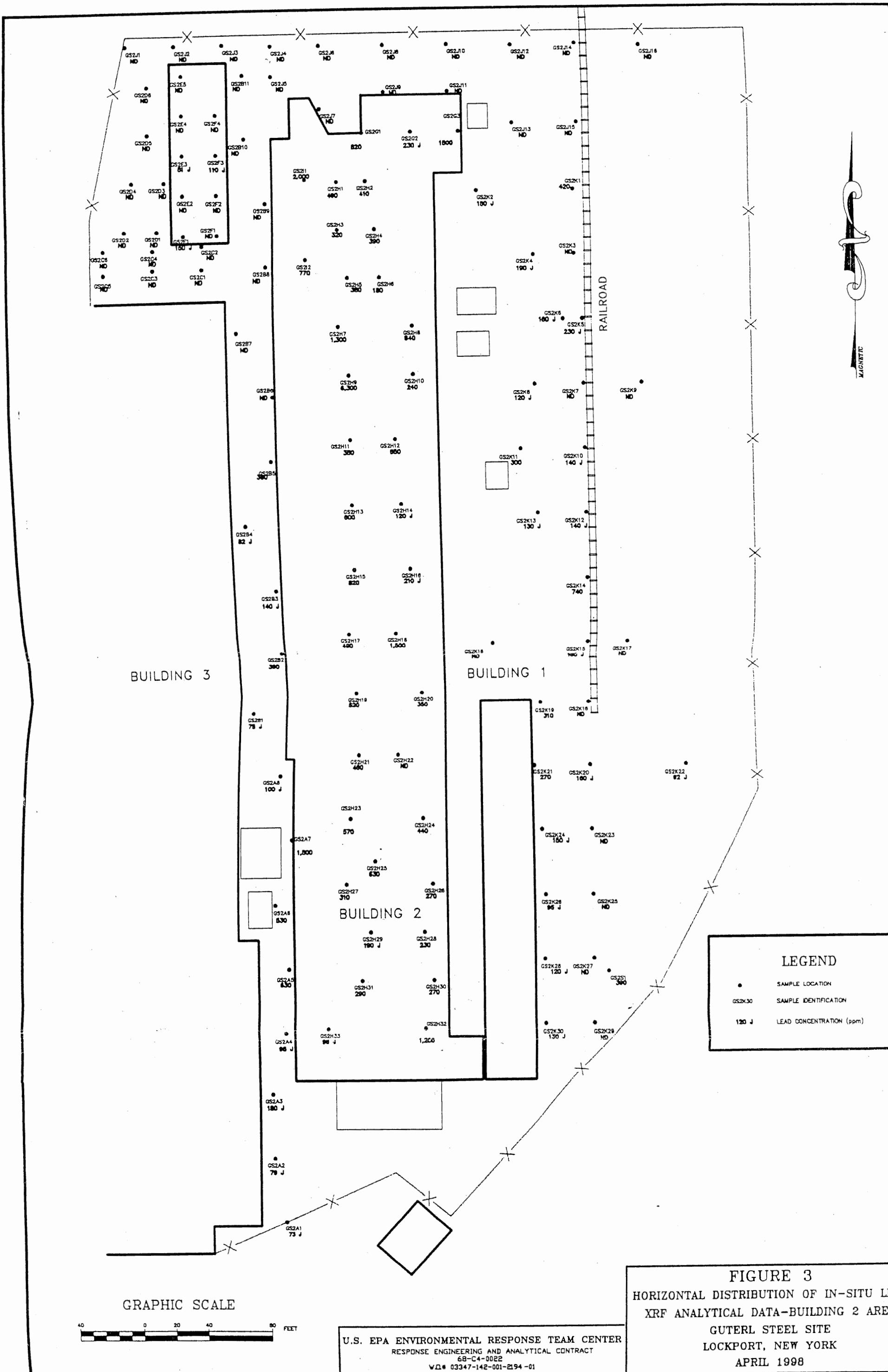
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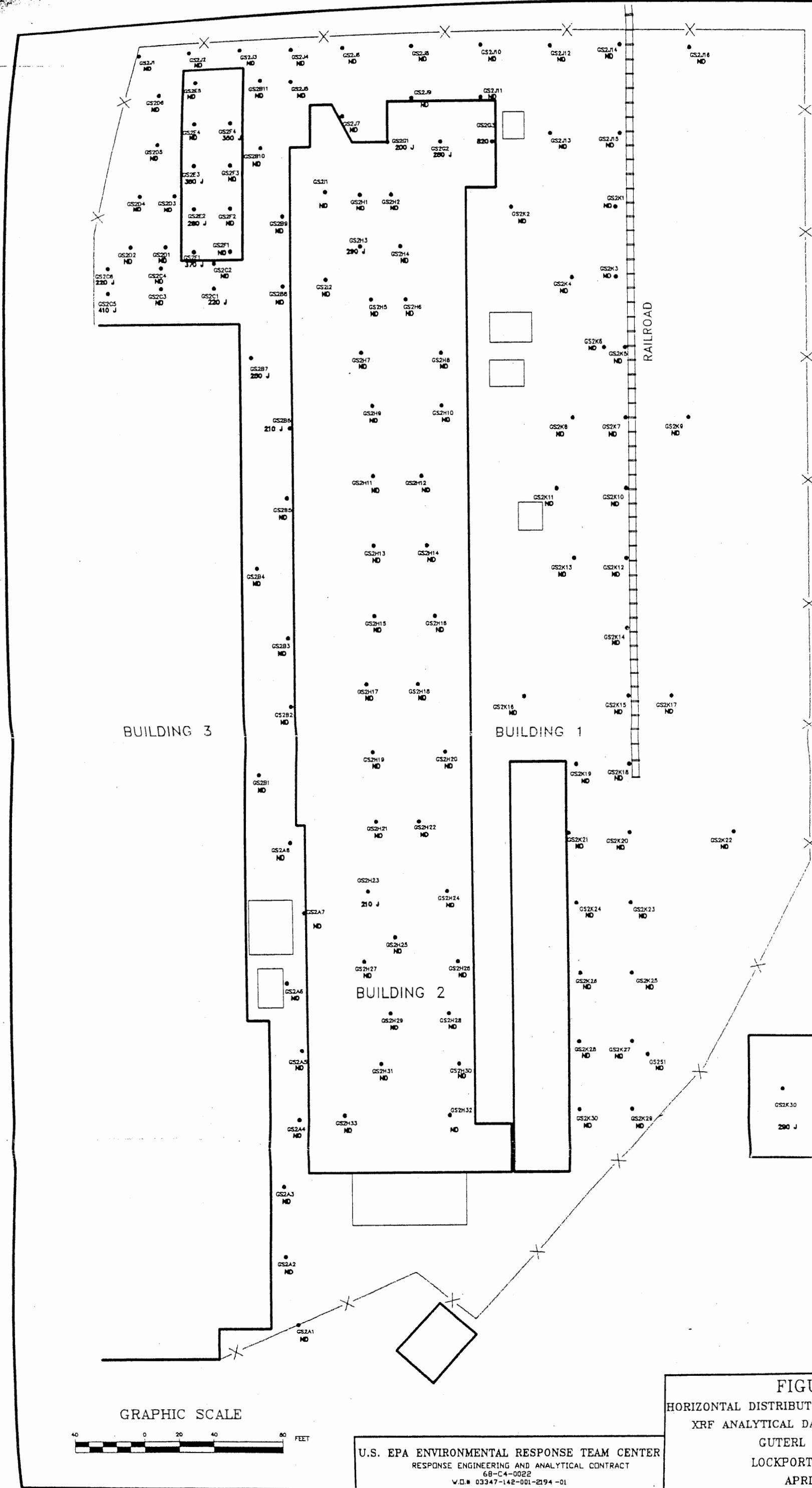


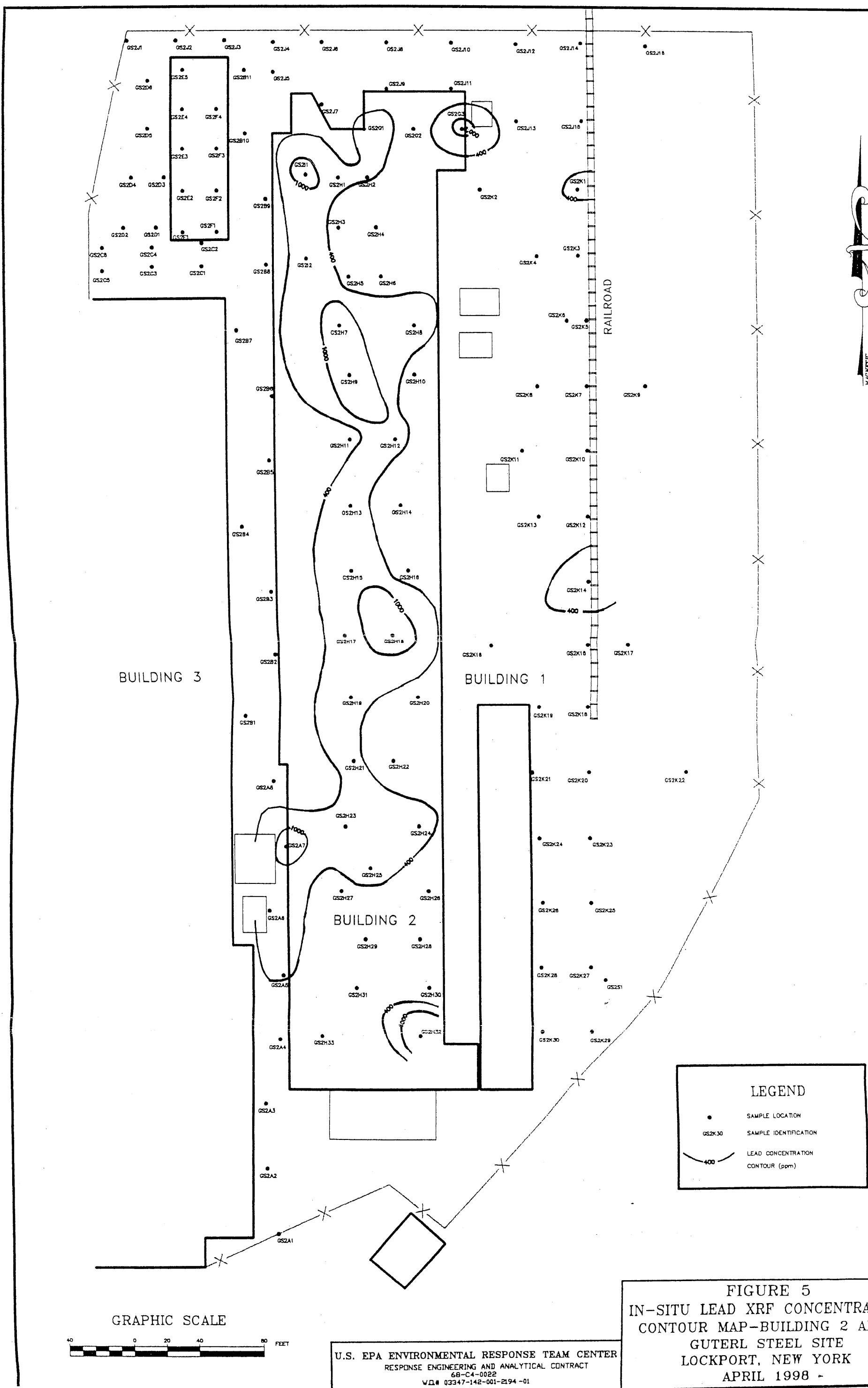


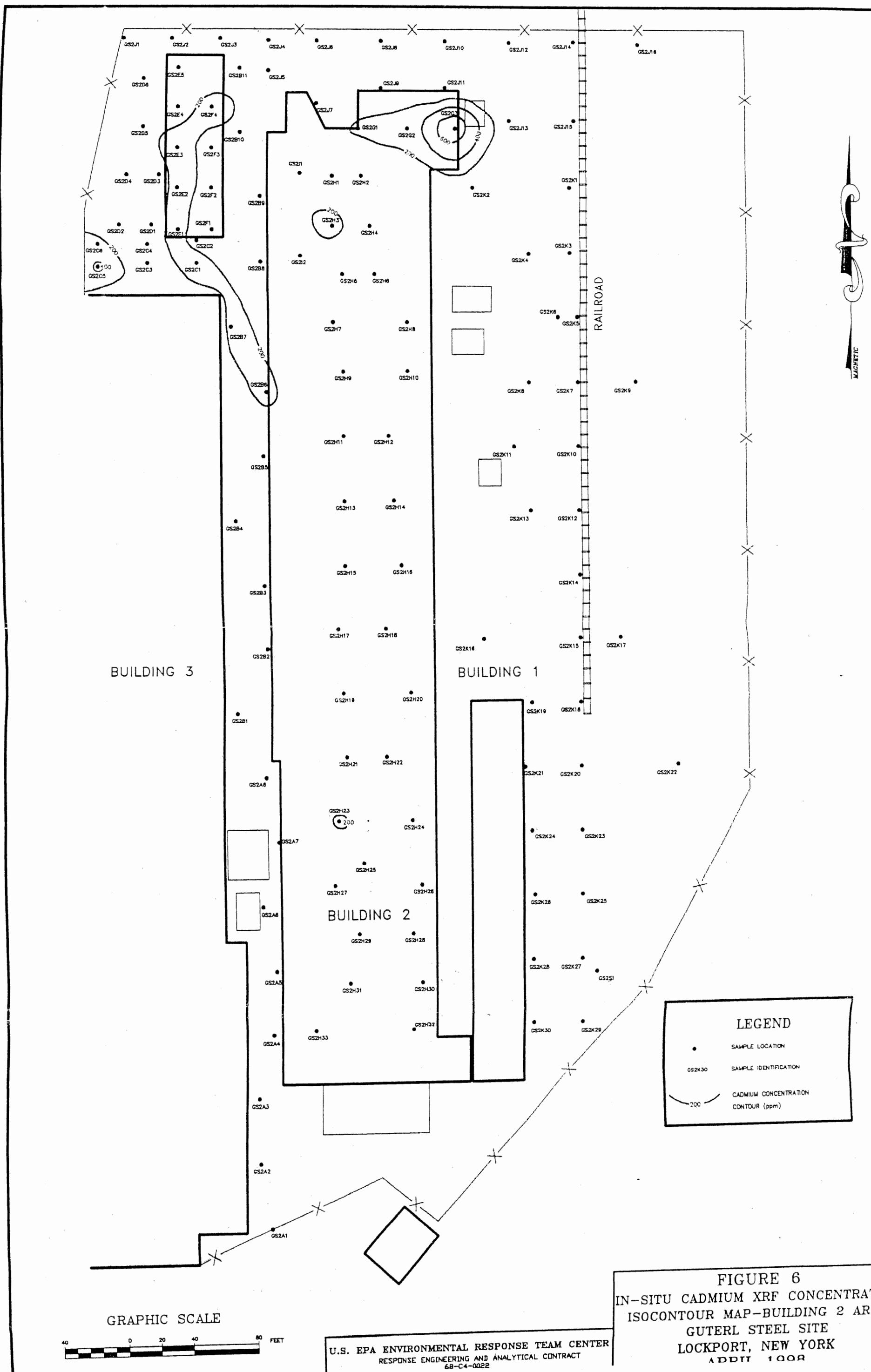
U.S. EPA ENVIRONMENTAL RESPONSE TEAM CENTER
RESPONSE ENGINEERING AND ANALYTICAL CONTRACT
68-C4-0022
W.D.# 03347-142-001-2194 -01

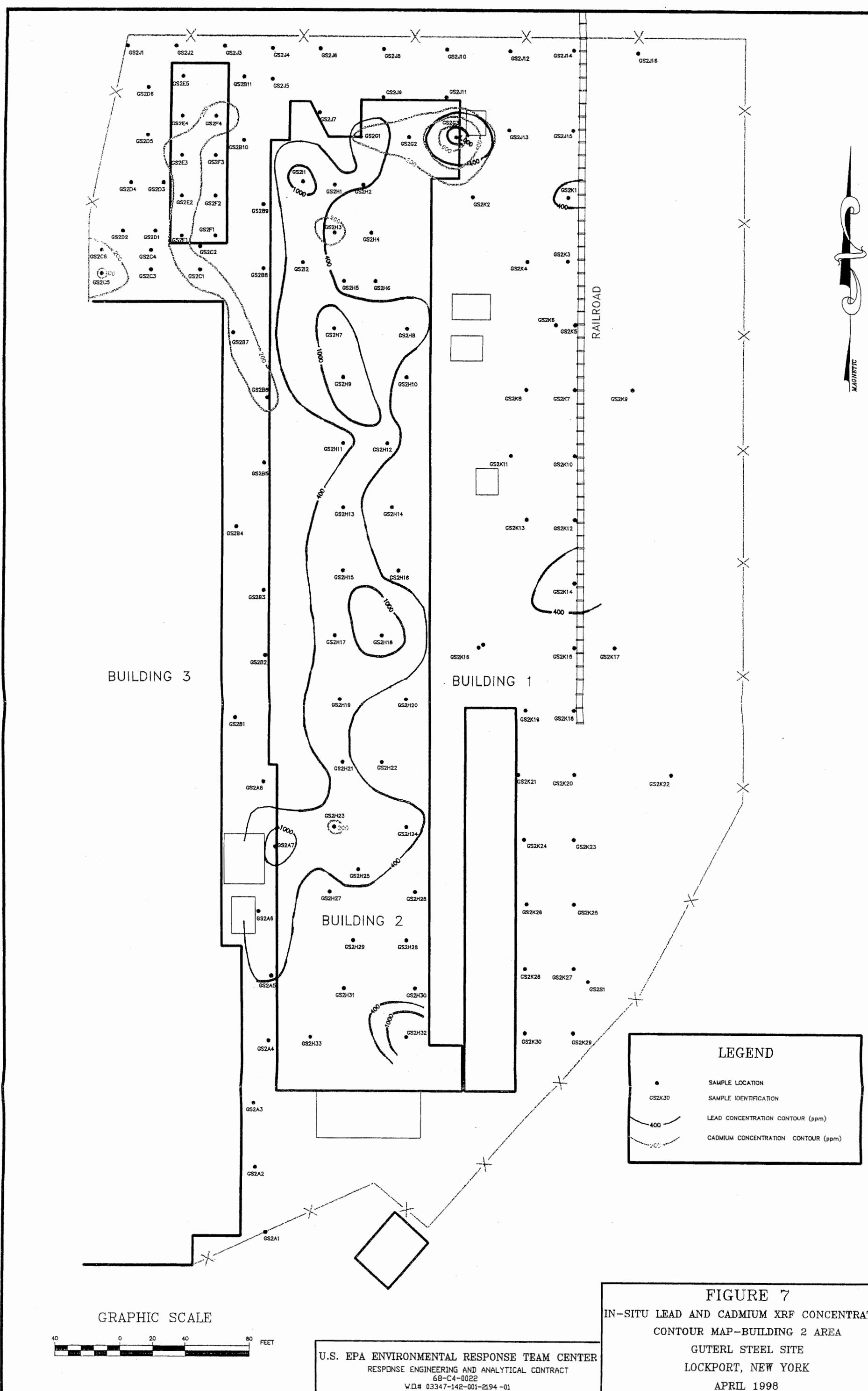
FIGURE 2
SAMPLING LOCATION MAP -
BUILDING 3 AREA
GUTERL STEEL SITE
LOCKPORT, NEW YORK
APRIL 1998











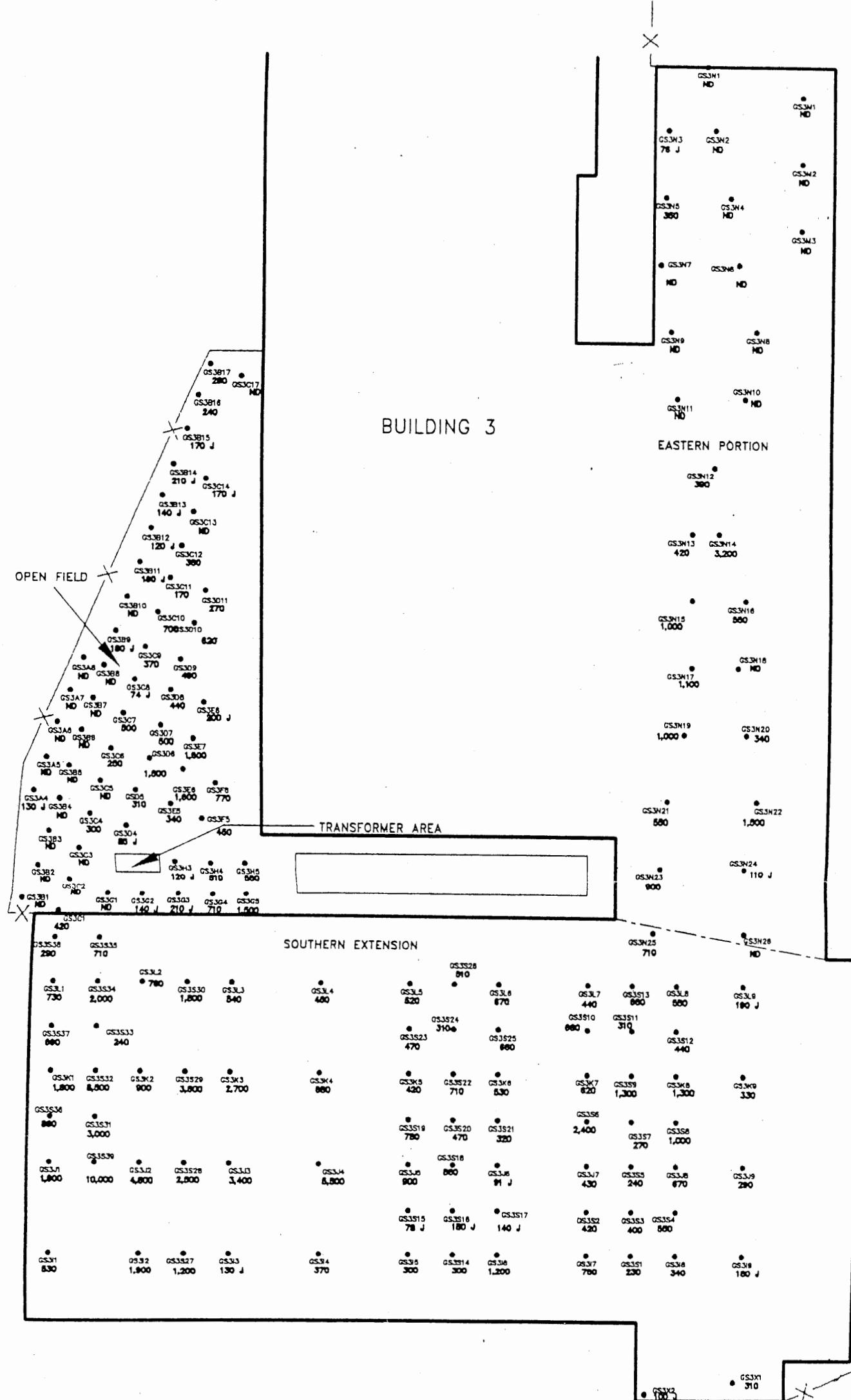
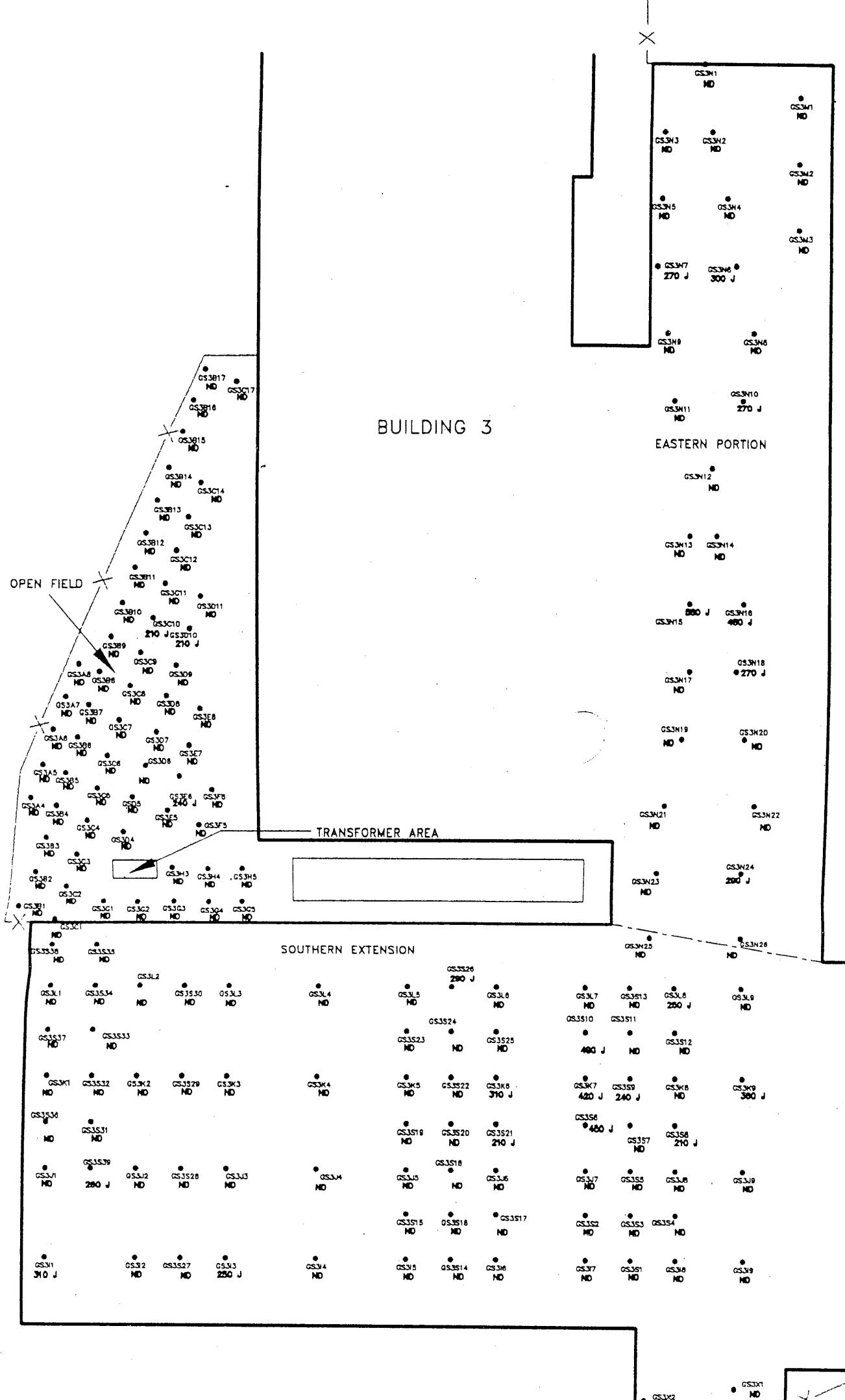


FIGURE 8
HORIZONTAL DISTRIBUTION OF IN-SITU
LEAD XRF ANALYTICAL DATA—
BUILDING 3 AREA
GUTERL STEEL SITE
LOCKPORT, NEW YORK
APRIL 1998

U.S. EPA ENVIRONMENTAL RESPONSE TEAM CENTER
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68-C4-0022
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GRAPHIC SCALE

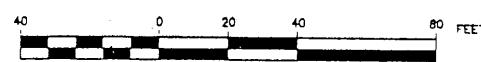
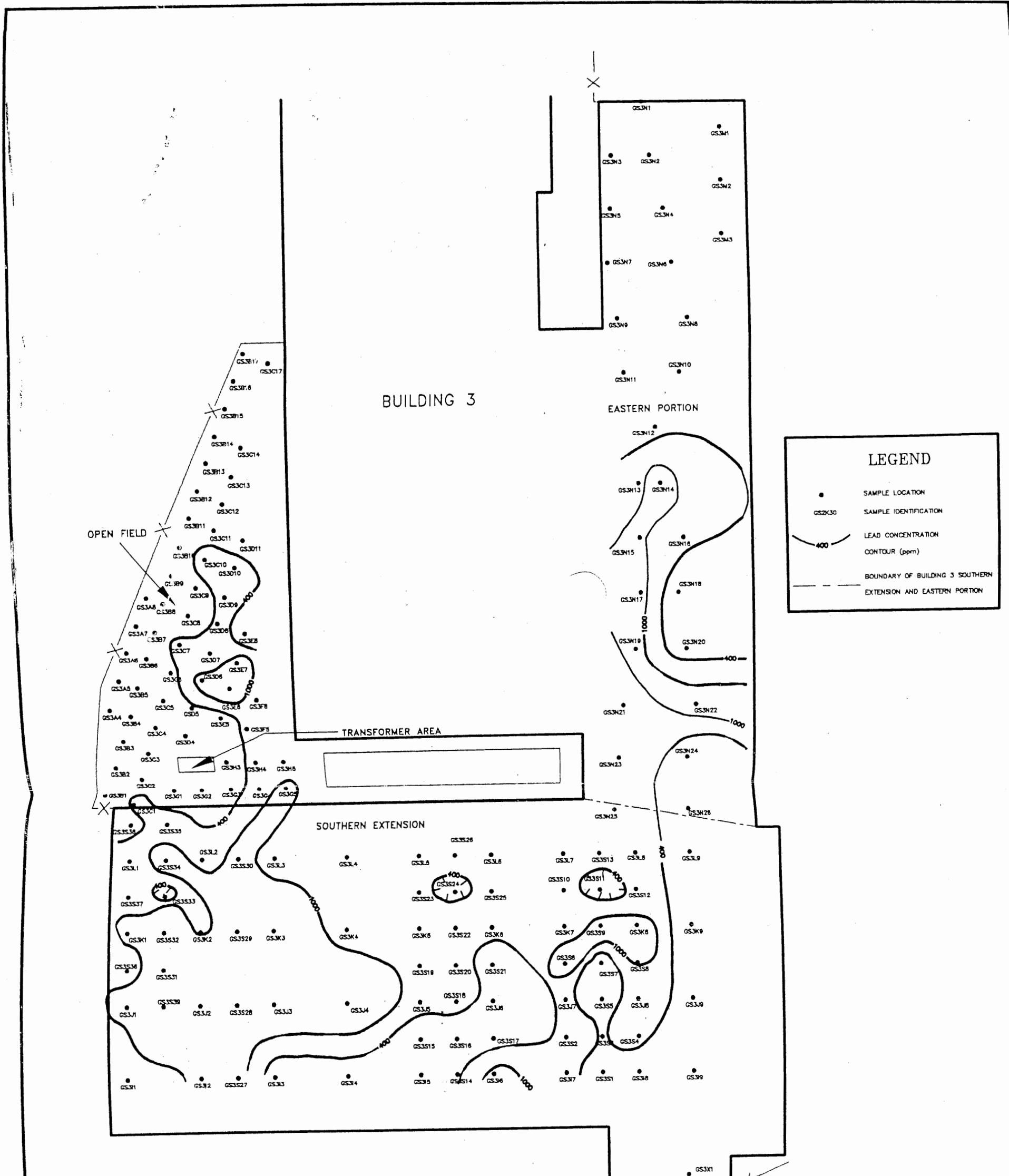


FIGURE 9
HORIZONTAL DISTRIBUTION OF IN-SITU
CADMIUM XRF ANALYTICAL DATA—
BUILDING 3 AREA
GUTERL STEEL SITE
LOCKPORT, NEW YORK
APRIL 1998

U.S. EPA ENVIRONMENTAL RESPONSE TEAM CENTER
RESPONSE ENGINEERING AND ANALYTICAL CONTRACT
68-C4-0022
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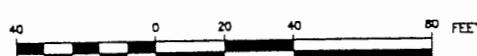
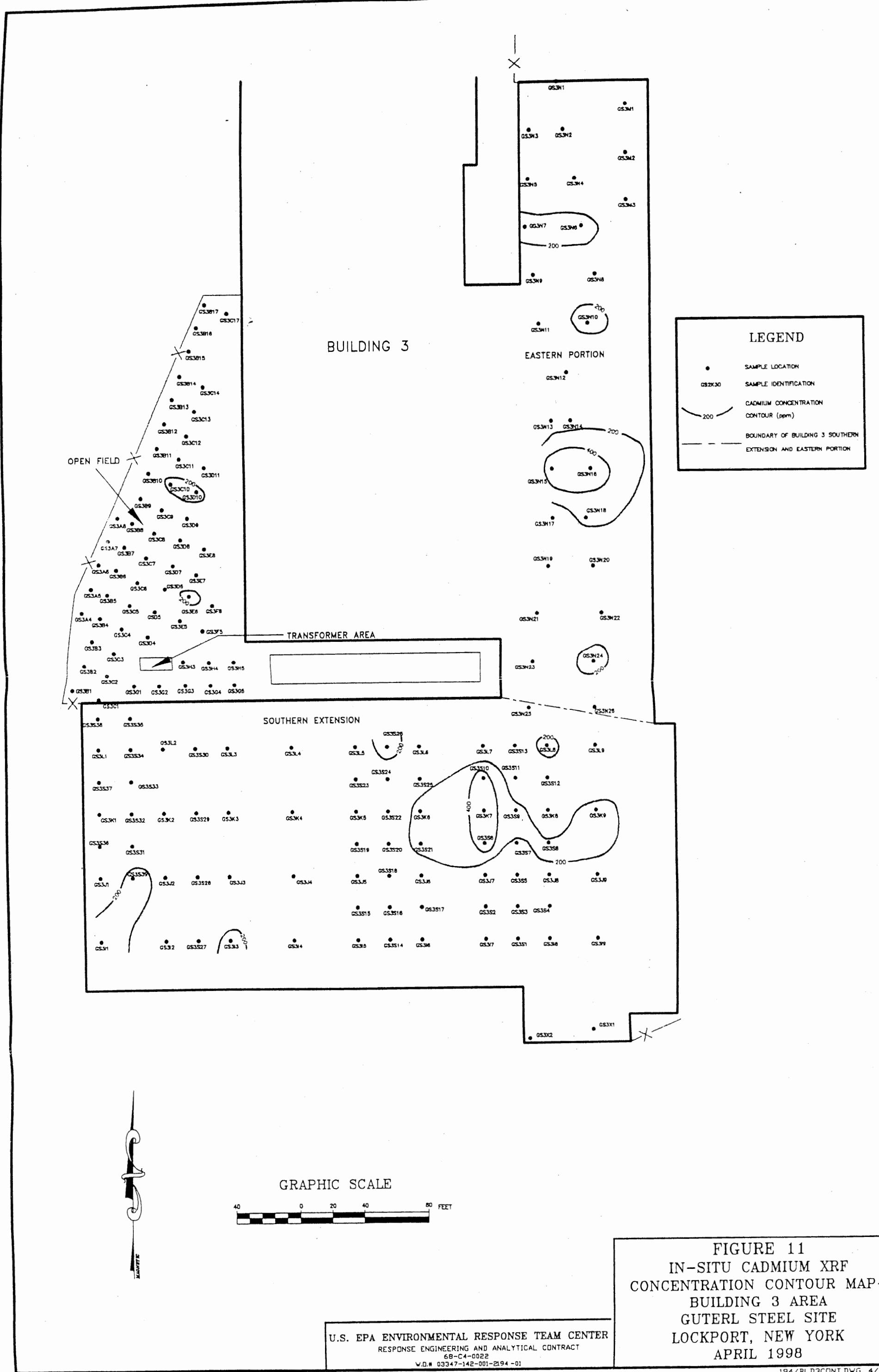
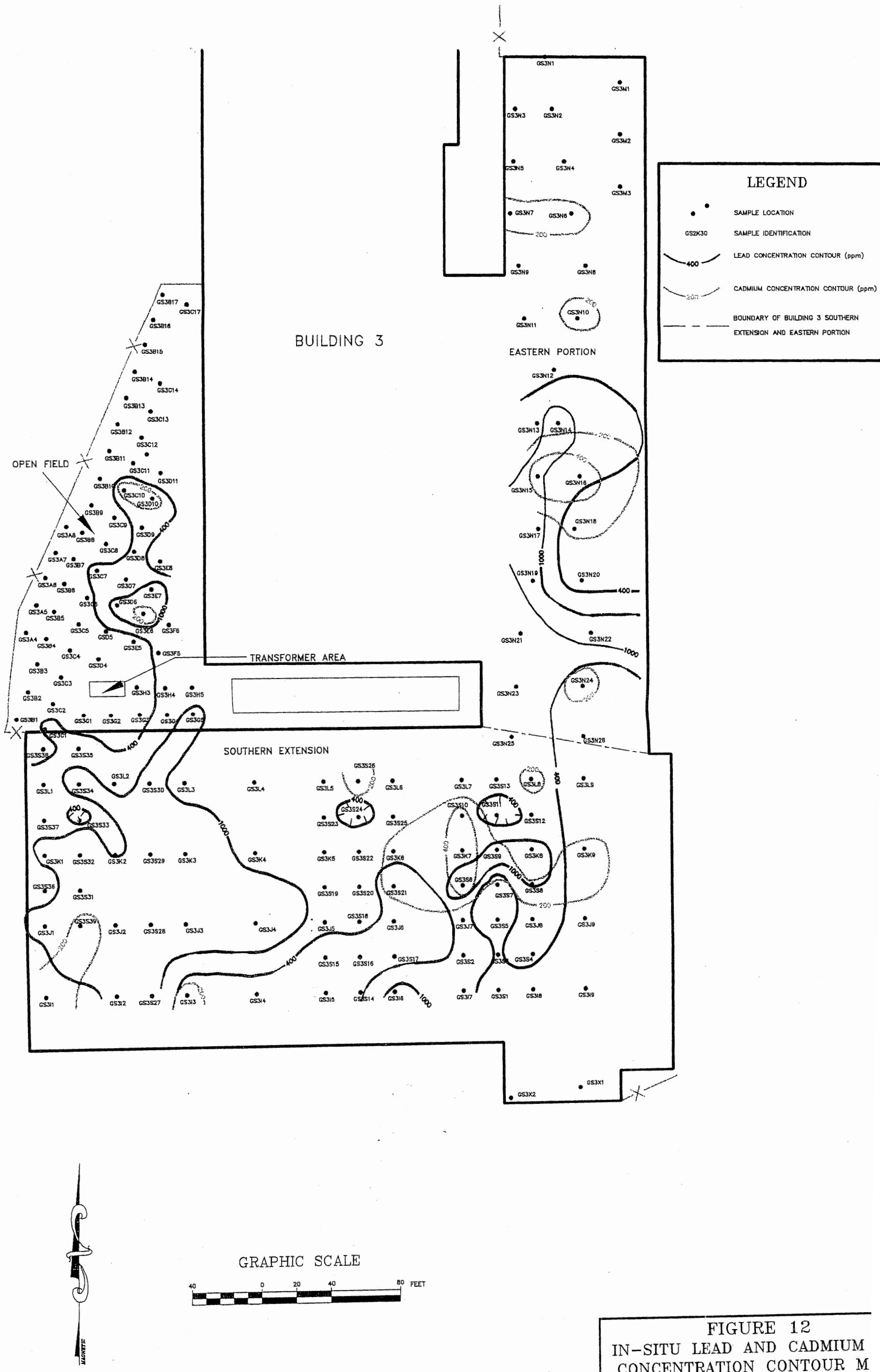
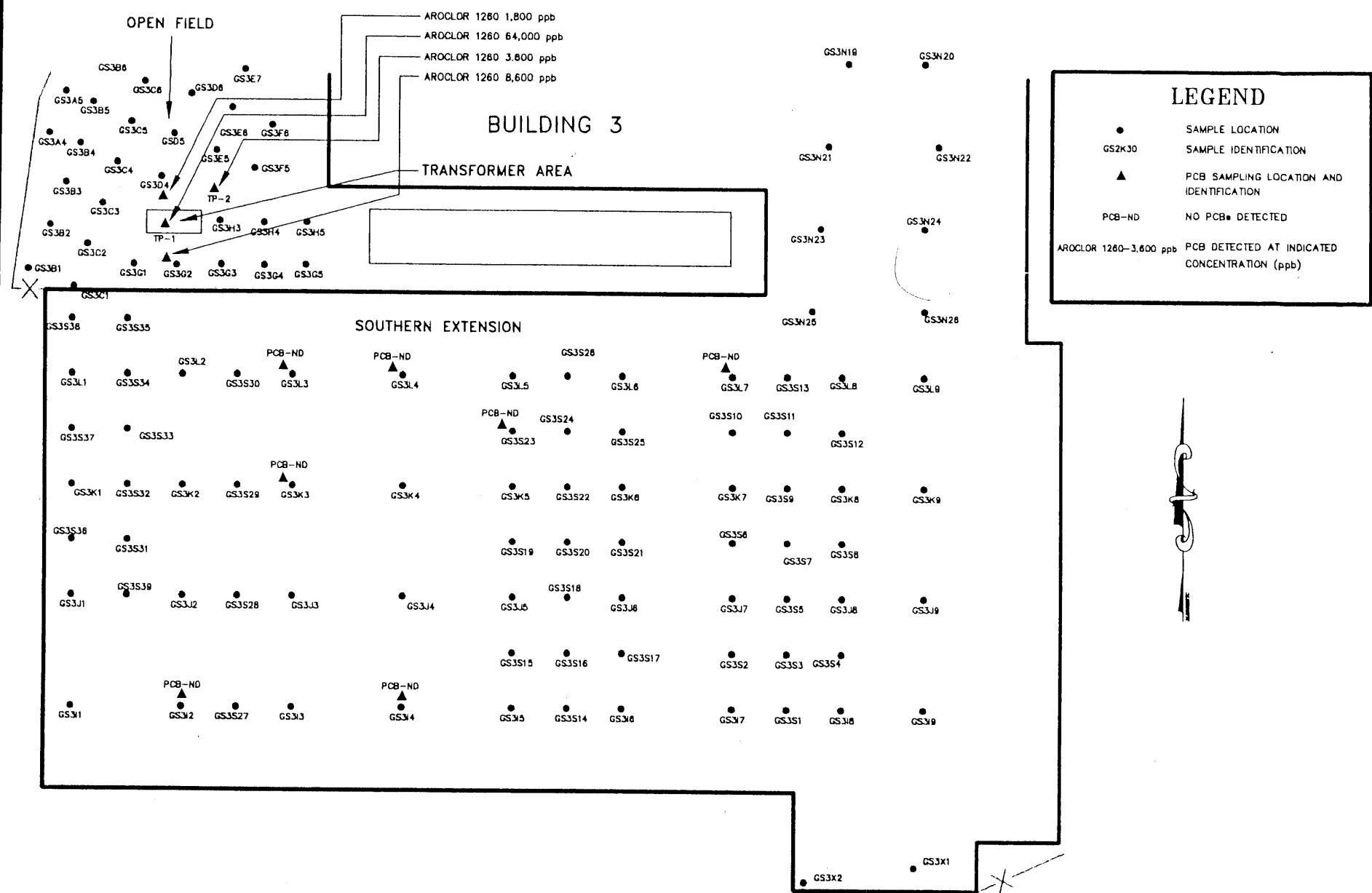


FIGURE 10
IN-SITU LEAD XRF
CONCENTRATION CONTOUR MAP
BUILDING 3 MAP
GUTERL STEEL SITE
LOCKPORT, NEW YORK
APRIL 1998

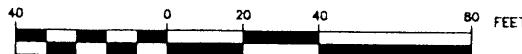
U.S. EPA ENVIRONMENTAL RESPONSE TEAM CENTER
 RESPONSE ENGINEERING AND ANALYTICAL CONTRACT
 6B-C4-0022
 W.D.# 03347-142-001-2194-01







GRAPHIC SCALE



U.S. EPA ENVIRONMENTAL RESPONSE TEAM CENTER
RESPONSE ENGINEERING AND ANALYTICAL CONTRACT
6B-C4-0022
V.D.# 03347-142-001-2194 -01

FIGURE 13
HORIZONTAL DISTRIBUTION OF PCB ANALYTICAL DATA-BUILDING 3 AREA
GUTERL STEEL SITE
LOCKPORT, NEW YORK
APRIL 1998

Appendix F

TABLE 1
SUMMARY OF SURFACE ACTIVITY LEVELS
FOR BUILDING 1
GUTERL SPECIALTY STEEL CORPORATION
LOCKPORT, NEW YORK

Location Description ^a	Location #	Total Activity (dpm/100 cm ²)	Removable Activity (dpm/100 cm ²)	
			Alpha	Beta
North Room				
Metal Floor Plate	9	-15	1	2
East Wall	10	-540	0	-2
Center Room				
Metal Floor Plate	11	97	0	-2
North Wall	12	-38	0	-6
Melting Equip.	13	390	0	2
Metal Floor Plate	14	35	0	-3
South Room				
Pit - Lower Ledge	15	32	0	3
East Wall	16	1,700	1	-2
East Work Room				
Concrete Floor		-240	0	-4
West Work Room				
Countertop	18	7,700	5	7
Lower Shelf	19	11,000	0	7
Concrete Floor at Drain	-- ^b	35,000	--	--
Concrete Floor below Shelf	--	100,000	--	--
Wipe Rag	--	340,000	--	--

^aRefer to Figure 11.

^bNo smear sample collected.

Source: *Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York*. T.J. Vitkus, Oak Ridge Institute for Science and Education, December 1999 (ORISE 99-1699).

TABLE 2
SUMMARY OF SURFACE ACTIVITY LEVELS
FOR BUILDING 2
GUTERL SPECIALTY STEEL CORPORATION
LOCKPORT, NEW YORK

Location Description ^a	Location #	Total Activity (dpm/100 cm ²)	Removable Activity	
			Alpha	Beta
North Section				
Door Facing	21A	24,000	3	-1
Workbench	22A	12,000	1	-1
Near Workbench	23A	-88	0	3
Concrete Floor	24A	-140	0	2
North Wall at 0.5 m	25A	-160	1	-4
Concrete Floor	26A	-410	0	-1
Vat	27A	-270	0	-2
Concrete Floor	28A	-280	1	-1
West Wall at 1.0 m	29A	-190	0	2
Concrete Floor at Track	30A	-360	0	-2
Concrete Floor	31A	-150	1	-2
Tank	32A	-79	0	-1
Concrete Floor	33A	-360	1	-5
Fan	34A	-190	3	3
East Wall at 1.0 m	35A	-190	0	-1
Concrete Floor	36A	-240	0	-1
East Wall at 1.5 m	37A	-65	0	-1
Concrete Floor	38A	-280	0	-3
South Wall at 1.5 m	39A	-97	0	-4
Stair	40A	160	1	-1
Concrete Floor	41A	210	0	-2
Lift Platform	42A	510	0	4
I-beam at 8 m	1B	-29	1	1
On shed	2B	410	0	5
Platform at 8 m	3B	-88	0	7
Lift Frame at 5 m	4B	150	0	1
Crane at 8 m	5B	-380	3	-1

Source: *Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York.* T.J. Vitkus, Oak Ridge Institute for Science and Education, December 1999

^aRefer to Figures 12 and 13.

^bNo sample collected (smear or soil). Contamination was beneath concrete. Vitkus Rad Survey Tablesmsg6-1.xls

TABLE 2 (Continued)

**SUMMARY OF SURFACE ACTIVITY LEVELS
FOR BUILDING 2
GUTERL SPECIALTY STEEL CORPORATION
LOCKPORT, NEW YORK**

Location Description ^a	Location #	Total Activity (dpm/100 cm ²)	Removable Activity	
			Alpha	Beta
Center Section				
Roofing Debris	43A	1,800	1	-1
Concrete Floor	44A	-26	0	-3
North Wall at 0.5 m	45A	-240	0	2
Concrete Floor	46A	-560	0	1
West Wall at 1.0 m	47A	360	0	1
Concrete Floor	48A	-320	0	-4
Equipment	49A	210	0	-3
East Wall at 1.0 m	50A	-270	0	-3
Metal Floor Plate	51A	-94	0	1
Concrete Floor	--b	1,800	--	--
Locker	52A	18,000	5	3
Concrete Floor	--b	11,000	--	--
Equipment	53A	-41	1	-2
East Wall at 1.0 m	54A	130	0	3
Concrete Floor	55A	-300	0	16
Concrete Floor	56A	7,300	1	2
Concrete Floor	57A	4,400	0	2
Shelving	58A	150	1	1
Concrete Floor	59A	-170	3	-3
East Wall at 1.0 m	60A	-160	0	3
Equipment	61A	230	1	-2
Metal Floor Plate at Track	62A	3,900	0	2
Pit Wall	63A	-270	0	-3
East Wall at 0.5 m	64A	-310	1	-4
Metal Floor Plate	65A	340	3	-2
West Wall at 1.0 m	66A	-130	0	2
Stairs	67A	230	3	3
Concrete Floor	68A	-200	0	-4

Source: *Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York.* T.J. Vitkus, Oak Ridge Institute for Science and Education, December 1999

^aRefer to Figures 12 and 13.

^bNo sample collected (smear or soil). Contamination was beneath concrete. Vitkus Rad Survey Tablesmsg6-1.xls

TABLE 2 (Continued)

**SUMMARY OF SURFACE ACTIVITY LEVELS
FOR BUILDING 2
GUTERL SPECIALTY STEEL CORPORATION
LOCKPORT, NEW YORK**

Location Description ^a	Location #	Total Activity (dpm/100 cm ²)	Removable Activity	
			Alpha	Beta
North End at 6m	6B	-320	1	1
I-beam at 8m	7B	240	0	2
East Wall Light at 6 m	8B	650	0	1
I-beam at 5 m	9B	1,200	0	-3
Crane Operator Bench at 7 m	10B	59	1	2
West Wall at 4 m	11B	1,100	0	-1
West Platform at 6m	12B	29	0	-1
Light Fixture	13B	500	0	-1
South Section				
Furnace	69A	97	0	1
Concrete Floor	70A	-350	0	2
Countertop	71A	6	0	-2
West Wall at 1.0 m	72A	-50	0	-1
Exhaust Hood at 2.5 m	73A	-9	1	3
Concrete Floor	74A	-410	3	3
Concrete Floor	75A	-380	0	-3
Pedestal	76A	-390	0	-1
Steps to Vat	77A	-120	0	3
Wood Floor	78A	260	0	-1
Door Facing at 1.5 m	79A	-300	0	18
Concrete Floor	80A	-490	0	4
Concrete Floor	81A	-530	0	3

Source: *Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York.* T.J. Vitkus, Oak Ridge Institute for Science and Education, December 1999

^aRefer to Figures 12 and 13.

^bNo sample collected (smear or soil). Contamination was beneath concrete. Vitkus Rad Survey Tablesmsg6-1.xls

TABLE 3
SUMMARY OF SURFACE ACTIVITY LEVELS
FOR BUILDING 3
GUTERL SPECIALTY STEEL CORPORATION
LOCKPORT, NEW YORK

Location Description ^a	Location #	Total Activity (dpm/100 cm ²)	Removable Activity (dpm/100 cm ²)	
			Alpha	Beta
North Section				
Stairs	20	300	0	2
Concrete Floor at Track Intersect	21	-530	1	2
Concrete Floor	22	-420	1	-2
Incinerator Ledge	23	460	5	-1
Concrete Floor	24	310	1	1
25	25	2,700	0	2
Concrete Floor	26	-550	1	-2
I-Beam at 1.5 m	27	660	3	2
Roller	28	4,500	5	2
Concrete Floor Near Track	29	8,300	3	10
Electric Wire Casing	30	2,700	0	3
Roller Stack Pedestal	31	9,600	3	9
Concrete Floor	32	10,000	3	6
Concrete Floor	33	13,000	13	12
Equipment Room	34	270	1	-2
Equipment Room	35	-510	1	-2
Roller Stack Pedestal	36	6,900	3	2
Roller	37	2,800	7	3
Stairs Near Bldg. 6 Opening	38	3,600	7	5
Concrete Floor Near Bldg. 6	39	6,500	14	16
Concrete Floor Near Bldg. 6	40	640	1	4
Center Throughway Near Track	41	67,000	0	-1
Bathroom Floor	42	650	0	3
Top of Furnace at 4 m	19B	790	1	-1
North Wall at 7m	20B	2,400	1	-3
Light at 6 m	21B	3,400	0	-3
Overhang at 4 m	22B	2,200	0	3
Furnace I-beam at 4 m	23B	3100	3	1
Top of Electric Box at 4 m	24B	3700	1	7

Source: *Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York.* T.J. Vitkus, Oak Ridge Institute for Science and Education, December 1999 (ORISE 99-1699).

^aRefer to Figures 14 and 15.

^bNo smear sample collected.

TABLE 3 (Continued)

**SUMMARY OF SURFACE ACTIVITY LEVELS
FOR BUILDING 3**
GUTERL SPECIALTY STEEL CORPORATION
LOCKPORT, NEW YORK

Location Description ^a	Location #	Total Activity (dpm/100 cm ²)	Removable Activity (dpm/100 cm ²)	
			Alpha	Beta
Truss above Furnace at 4 m	25B	56,000	9	4
Window Ledge at 8 m	26B	25,000	3	2
South Section				
I-beam Pedestal	43	5,400	53	10
Trench Cover	44	2,600	3	1
Cabinet Top	45	5,000	11	17
Trench Cover	46	660	9	2
Exterior Wall of Cafeteria at 1.5 m	47	630	3	-2
Concrete Floor	48	-28	0	7
West Wall at 1.5 m	49	-1,300	0	-3
Concrete Floor	50	470	0	-1
Concrete Floor	51	1,500	7	3
North End of Trench	52	-57	0	-3
Equipment Pedestal	53	-620	1	-4
South End of Trench	54	16,000	14	16
Roller Cap	55	340,000	130	195
South End of Trench	56	160,000	185	248
Concrete Floor Near Trench	57	12,000	3	6
Concrete Floor at Track	58	-550	0	1
Concrete Floor at Track Intersect	59	-620	0	3
Window Ledge at 8 m	27B	8,300	9	1
Top of Room at 3 m	28B	4,000	3	-3
Crane Rail I-beam at 8 m	29B	21,000	3	4
I-beam at 5 m	30B	5,200	0	1
I-beam at 7 m	31B	12,000	0	3
I-beam at 5 m	32B	10,000	1	-1
Crane Stand at 5 m	33B	6,100	1	-1
Sidewalk at Cafeteria	15E ^b	5,700	--	--
Sidewalk at Cafeteria	16E ^b	4,400	--	--
Sidewalk at Cafeteria	17E ^b	3,800	--	--

Source: *Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York.* T.J. Vitkus, Oak Ridge Institute for Science and Education, December 1999 (ORISE 99-1699).

^aRefer to Figures 14 and 15.

^bNo smear sample collected.

TABLE 4
SUMMARY OF SURFACE ACTIVITY LEVELS
FOR BUILDINGS 4 AND 9
GUTERL SPECIALTY STEEL CORPORATION
LOCKPORT, NEW YORK

Location Description ^a	Location #	Total Activity (dpm/100 cm ²)	Removable Activity (dpm/100 cm ²)	
			Alpha	Beta
Brick Floor	82A	490	1	4
Equipment Pedestal	83A	550	0	-4
Concrete Floor	84A	-56	1	-2
South Wall at 0.25 m	85A	59	7	-1
Roller Furnace	86A	500	0	2
Brick Floor	87A	310	3	3
Concrete Floor	88A	44	0	4
Press	89A	-110	3	-4
South Wall at 1 m	90A	-220	0	7
Concrete Floor	91A	-260	3	5
Concrete Floor	92A	-330	1	-3
Loading Dock	93A	280	3	4
Concrete Floor	94A	-450	0	-3
Stairs	95A	-240	3	-5
Furnace	96A	130	1	4
Concrete Floor	97A	-210	0	-3
Brick Floor	98A	16,000	24	32
Brick Floor	99A	5,200	11	12
Brick Floor	100A	13,000	14	20
Roller Furnace	43B	210	1	3
Brick Floor	44B	11,000	26	110
Brick Floor	-- ^b	23,000	--	--
Brick Floor	45B	190	0	1
Platform	46B	1,500	0	-4
Furnace	47B	3,300	3	2
Brick Floor	48B	390	1	2
Concrete Floor	49B	47	0	-4
Misc. Equipment	50B	1,300	1	1

Source: *Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York.* T.J. Vitkus, Oak Ridge Institute for Science and Education, December 1999 (ORISE 99-1699).

^aRefer to Figures 16 and 17.

^bNo smear sample collected.

TABLE 4 (Continued)

SUMMARY OF SURFACE ACTIVITY LEVELS
FOR BUILDINGS 4 AND 9
GUTERL SPECIALTY STEEL CORPORATION
LOCKPORT, NEW YORK

Location Description ^a	Location #	Total Activity (dpm/100 cm ²)	Removable Activity (dpm/100 cm ²)	
			Alpha	Beta
North Wall at 1.5 m	51B	230	0	-2
Pit	52B	-440	1	-1
I-beam at 1.5 m	53B	110	3	-3
Brick Floor	54B	5,300	9	9
Air Duct	55B	210	3	14
Concrete Floor	56B	-85	0	-1
Furnace Hood at 4 m	34B	6,300	0	1
Crane Rail I-beam at 7 m	35B	88	5	2
Roof Truss at 10 m	36B	5,000	0	2
Light at 7m	37B	650	3	-2
Roof Truss at 10 m	38B	9,800	7	-1
Roof Truss at 10 m	39B	180	3	-2
Roof Truss at 10 m	40B	1,700	1	-4
Crane Rail I-beam at 7 m	41B	740	0	-2
Light at 7 m	42B	2,300	1	-1

Source: *Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York.* T.J. Vitkus, Oak Ridge Institute for Science and Education, December 1999 (ORISE 99-1699).

^aRefer to Figures 16 and 17.

^bNo smear sample collected.

TABLE 5

**SUMMARY OF SURFACE ACTIVITY LEVELS
FOR BUILDING 6
GUTERL SPECIALTY STEEL CORPORATION
LOCKPORT, NEW YORK**

Location Description ^a	Location #	Total Activity (dpm/100 cm ²)	Removable Activity (dpm/100 cm ²)	
			Alpha	Beta
South Wall at 1 m	7	-24	1	-2
South Wall at 1 m	8	100	1	1
Metal Floor Plate	50C	30,000	1	-1
Metal Floor Plate	51C	810	3	5
Concrete Floor	52C	-330	1	4
Concrete Floor	53C	4,200	0	2
Brick Floor	54C	0	1	2
Brick Floor	55C	780	0	15
Brick Floor	62C	-480	0	2
Concrete Floor	65C	1,000	0	2
Metal Floor Plate	66C	680	0	4
Brick Floor	67C	320	0	3
Metal Floor Plate	68C	1,200	0	2
Brick Floor	69C	1,200	1	-2
Brick Floor	70C	440	1	-2
Brick Floor	71C	740	0	-1
Brick Floor	72C	1,600	1	-3
Metal Floor Plate	73C	350	1	-1
Metal Floor Plate	74C	970	0	4
Metal Floor Plate	75C	450	0	1
Metal Floor Plate	80C	1,900	7	3
Concrete Floor	81C	1,900	1	9
Concrete Floor	82C	2,200	0	-3
Concrete Floor	83C	2,400	7	4
Metal Floor Plate	85C	420	5	-2
Metal Floor Plate	86C	920	1	1
Brick Floor	87C	1800	1	2
Concrete Floor	88C	1500	0	-1
Brick Floor	89C	860	1	4
Concrete Floor	90C	250	0	-1

Source: *Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York.* T.J. Vitkus, Oak Ridge Institute for Science and Education, December 1999 (ORISE 99-1699).

^aRefer to Figure 18.

TABLE 6

**SUMMARY OF SURFACE ACTIVITY LEVELS
FOR BUILDING 8
GUTERL SPECIALTY STEEL CORPORATION
LOCKPORT, NEW YORK**

Location Description ^a	Location #	Total Activity (dpm/100 cm ²)	Removable Activity (dpm/100 cm ²)	
			Alpha	Beta
West Wall	1	10,000	7	9
Saw Horse	-- ^b	62,000	--	--
West Wall	2	8,000	11	10
I-beam at 4 m	3	64,000	3	2
Electric Box at 5 m	4	39,000	20	19
I-beam at 3 m	5	29,000	13	46
Furnace Support at 3 m	6	30,000	27	35
Equipment, 10" Rolling Mill - Side	60	8,800	1	1
Equipment, 10" Rolling Mill - Base	61	4,600	0	7
Equipment, 10" Rolling Mill - Side	62	10,000	1	-2
Equipment, 10" Rolling Mill - Side	63	3,000	1	-1
Concrete Floor	64	5,500	5	-2
Equipment, 10" Cooling Bed	65	510	1	2
Concrete Floor	66	960	1	2
Equipment, 10" Cooling Bed	67	1,400	1	4
Equipment, 10" Cooling Bed	68	660	0	-2
Concrete Floor	69	4,200	3	-3
Concrete Floor	70	6,000	0	-1
Equipment, 10" Cooling Bed	71	740	1	4
Equipment, 10" Cooling Bed	72	980	1	-1
Brick Floor	73	2,000	0	-1
Concrete Floor	74	5,300	3	7
Brick Floor	75	54,000	54	40
Concrete Floor	76	1,500	7	8
Equipment, 16" Cooling Bed	77	850	0	6
Metal Floor Plate	78	5,600	0	2
Metal Floor Plate	79	870	1	21
Metal Floor Plate	80	1,600	5	5
Metal Floor Plate	81	890	1	1
Metal Floor Plate	82	3,000	1	-2
Equipment, 16" Cooling Bed, Roller	85	1,200	1	-4

Source: *Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York.* T.J. Vitkus, Oak Ridge Institute for Science and Education, December 1999 (ORISE 99-1699).

^aRefer to Figure 19.

^bNo smear sample collected.

TABLE 6 (Continued)

**SUMMARY OF SURFACE ACTIVITY LEVELS
FOR BUILDING 8**
GUTERL SPECIALTY STEEL CORPORATION
LOCKPORT, NEW YORK

Location Description ^a	Location #	Total Activity (dpm/100 cm ²)	Removable Activity (dpm/100 cm ²)	
			Alpha	Beta
Concrete Floor	86	2,400	3	7
Concrete Floor	87	4,800	3	4
Equipment, 16" Cooling Bed, Tray	88	5,600	3	4
Metal Floor Plate	89	6,300	1	6
Metal Floor Plate	90	7,600	3	10
Metal Floor Plate	91	5,800	3	6
Furnace Interior	92	2,500	0	-3
Conveyor	93	14,000	3	16
Furnace - Top	94	4,200	3	1
Furnace - Side	95	690	1	-1
Conveyor	96	16,000	5	12
Conveyor	97	260	3	7
Stair to 16" Cooling Bed	98	1,300	0	-2
Metal Floor Plate	99	19,000	22	17
Metal Floor Plate	100	22,000	20	23
Equipment, 16" Cooling Bed, Tray	1C	16,000	7	9
Concrete Floor	2C	5,900	11	10
Concrete Floor	3C	1,700	3	2
Equipment, 16" Cooling Bed, Tray	4C	16,000	20	19
Motor	SC	29,000	13	46
Metal Floor Plate	6C	13,000	27	35
Furnace - Top	7C	19,000	5	9
Metal Floor Plate	8C	2,900	1	-2
Furnace - Top	9C	18,000	9	6
Concrete Floor	10C	35,000	74	120
Metal Floor Plate	11C	38,000	14	16
Equipment, 16" Cooling Bed	12C	20,000	18	9
Concrete Floor	13C	3,300	7	2
Concrete Floor	14C	7,300	7	4
Equipment, 16" Cooling Bed	15C	18,000	22	17
Metal Floor Plate	16C	24,000	37	33
Metal Floor Plate	17C	23,000	13	25
Metal Floor Plate	18C	26,000	22	17

Source: *Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York.* T.J. Vitkus, Oak Ridge Institute for Science and Education, December 1999 (ORISE 99-1699).

^aRefer to Figure 19.

^bNo smear sample collected.

TABLE 6 (Continued)

**SUMMARY OF SURFACE ACTIVITY LEVELS
FOR BUILDING 8**
GUTERL SPECIALTY STEEL CORPORATION
LOCKPORT, NEW YORK

Location Description ^a	Location #	Total Activity (dpm/100 cm ²)	Removable Activity (dpm/100 cm ²)	
			Alpha	Beta
Motor Mount	19C	33,000	22	23
Motor	20C	24,000	26	31
Equipment, 16" Rolling Mill	21C	10,000	7	5
Equipment, 16" Rolling Mill	22C	40,000	24	15
Equipment, 16" Rolling Mill	23C	36,000	18	27
Wood Platform - Step	24C	14,000	9	8
Metal Basin	25C	7,000	16	18
Lip of Platform	26C	20,000	7	10
Wood Platform	27C	25,000	27	15
Metal Floor Plate	28C	20,000	14	19
Grating	29C	26,000	14	20
Gear Shaft	30C	13,000	5	2
Furnace-Top	31C	13,000	14	16
Metal Floor Plate	32C	5,200	1	-2
Concrete Floor	33C	4,800	11	9
Concrete Floor	34C	5,600	7	2
Metal Floor Plate	35C	20,000	5	11
Furnace	36C	1,400	0	2
Wood Platform	37C	15,000	13	37
Wood Platform	38C	3,300	3	1
Wood Shelf	39C	21,000	5	7
Concrete Floor	40C	6,600	5	6
Bench	41C	11,000	5	11
Furnace Door	42C	5,900	3	5
Concrete Floor	43C	12,000	5	8
Press	44C	12,000	0	-2
Metal Floor Plate	45C	17	0	1
Metal Floor Plate	46C	110	1	-2
Rolling Mill	47C	870	0	1
Rolling Mill	48C	2,300	0	-3
Metal Floor Plate	49C	450	0	1
Metal Floor Plate	56C	990	0	5
Wood Platform	57C	8,100	7	11

Source: *Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York.* T.J. Vitkus, Oak Ridge Institute for Science and Education, December 1999 (ORISE 99-1699).

^aRefer to Figure 19.

^bNo smear sample collected.

TABLE 6 (Continued)

**SUMMARY OF SURFACE ACTIVITY LEVELS
FOR BUILDING 8**
GUTERL SPECIALTY STEEL CORPORATION
LOCKPORT, NEW YORK

Location Description^a	Location #	Total Activity (dpm/100 cm²)	Removable Activity (dpm/100 cm²)	
			Alpha	Beta
Wood Platform	58C	16,000	13	18
Wood Platform	59C	14,000	22	20
Concrete Footer	60C	13,000	37	95
Wood Platform	61C	7,000	7	5
Metal Floor Plate	63C	5,700	5	4
Wood Platform	64C	7,400	26	19
Concrete Floor	76C	3,600	0	1
Concrete Floor	77C	6,600	0	4
Concrete Floor	78C	12,000	5	3
Concrete Floor	79C	1,300	3	20
Concrete Floor	84C	6,700	1	1
Concrete Floor	91C	550	5	2
Concrete Floor	92C	860	0	-4
Concrete Floor	93C	3,100	0	1
Concrete Floor	94C	3,800	3	6
Concrete Floor	95C	6,100	9	8
Concrete Floor	96C	5,100	5	6
Metal Floor Plate	97C	2,500	0	3
Vat	98C	16,000	1	3
Concrete Floor	99C	15,000	5	11
I-beam at 1 m	100C	12,000	1	-2
Brick Floor	1E ^b	200	--	--
Brick Floor	2E ^b	500	--	--
Concrete Floor at Track	3E ^b	840	--	--
Concrete Floor	4E ^b	430	--	--
Concrete Floor at Track	5E ^b	860	--	--
Metal Floor Plate	6E ^b	2,300	--	--
Metal Floor Plate	7E ^b	1,600	--	--
Concrete Floor	8E ^b	6,700	--	--
Frame for Tank	9E ^b	5,000	--	--
Metal Floor Plate	10E ^b	2,000	--	--

Source: *Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York.* T.J. Vitkus, Oak Ridge Institute for Science and Education, December 1999 (ORISE 99-1699).

^aRefer to Figure 19.

^bNo smear sample collected.

TABLE 6 (Continued)

**SUMMARY OF SURFACE ACTIVITY LEVELS
FOR BUILDING 8**
GUTERL SPECIALTY STEEL CORPORATION
LOCKPORT, NEW YORK

Location Description ^a	Location #	Total Activity (dpm/100 cm ²)	Removable Activity (dpm/100 cm ²)	
			Alpha	Beta
Concrete Floor	11E ^b	3,800	--	--
Metal Floor Plate	12E ^b	2,300	--	--
Metal Floor Plate	13E ^b	2,300	--	--
Metal Floor Plate	14E ^b	430	--	--
North Wall	15E ^b	16,000	--	--

Source: *Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York.* T.J. Vitkus, Oak Ridge Institute for Science and Education, December 1999 (ORISE 99-1699).

^aRefer to Figure 19.

^bNo smear sample collected.

TABLE 7
SUMMARY OF SURFACE ACTIVITY LEVELS
FOR BUILDING 24, NORTH SECTION
GUTERL SPECIALTY STEEL CORPORATION
LOCKPORT, NEW YORK

Location Description ^a	Location #	Total Activity (dpm/100 cm ²)	Removable Activity (dpm/100 cm ²)	
			Alpha	Beta
Concrete Floor	57B	-240	1	-1
Concrete Floor	58B	-230	0	-2
Concrete Floor	59B	-370	3	4
Concrete Floor	60B	-390	0	-2
Concrete Floor	61B	-360	1	-1
Concrete Floor	62B	-390	3	2
I-beam at 1.5 m	63B	-240	0	1
Concrete Floor	64B	-390	0	1
Concrete Floor	65B	-240	1	1
Ledge	668	120	0	-2
Concrete Floor	67B	-300	0	1
Concrete Floor	68B	-290	0	2
Concrete Floor	69B	-200	0	1
Concrete Floor	708	-260	0	6
Concrete Floor	71B	-90	0	1
Concrete Floor	72B	-240	1	1
Concrete Floor	738	-240	0	-3

Source: *Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York.* T.J. Vitkus, Oak Ridge Institute for Science and Education, December 1999 (ORISE 99-1699).

^aRefer to Figure 20.

TABLE 8

SUMMARY OF SURFACE ACTIVITY LEVELS
FOR BUILDING 24, SOUTH SECTION
GUTERL SPECIALTY STEEL CORPORATION
LOCKPORT, NEW YORK

Location Description^a	Location #	Total Activity (dpm/100 cm²)	Removable Activity (dpm/100 cm²)	
			Alpha	Beta
Concrete Floor	74B	-210	0	-2
Concrete Floor	75B	-140	1	-3
Concrete Floor	76B	-190	0	1
Concrete Floor	77B	-270	3	3
Concrete Floor at Expansion Joint	78B	-320	0	2
Concrete Floor	79B	-160	0	14
East Wall at 1.5 m	80B	-610	0	7
Trench Cover	81B	170	1	1
Concrete Floor	82B	-200	0	-1
Concrete Floor	83B	-190	0	3
Concrete Floor	84B	-220	0	-2
Concrete Floor	85B	-40	3	3
Concrete Floor	86B	-100	3	5
Concrete Floor at Expansion Joint	87B	-100	5	2
Electric Box	88B	150	1	11
Concrete Floor	89B	200	0	-1
Concrete Floor	90B	-130	3	14
Concrete Floor	91B	19,000	27	20
Concrete Floor	92B	230	0	7
Concrete Floor	93B	4,300	0	1
Concrete Floor	94B	100	3	5
Concrete Floor	1D	190	0	-3
Concrete Floor	2D	130	1	1
Concrete Floor	3D	1,100	5	-2
Rail Track	4D	4,200	1	2
Concrete Floor	SD	-510	5	4
Concrete Floor	6D	-650	1	1

Source: *Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York.* T.J. Vitkus, Oak Ridge Institute for Science and Education, December 1999 (ORISE 99-1699).

^aRefer to Figures 21 through 24.

TABLE 8 (Continued)

**SUMMARY OF SURFACE ACTIVITY LEVELS
FOR BUILDING 24, SOUTH SECTION
GUTERL SPECIALTY STEEL CORPORATION
LOCKPORT, NEW YORK**

Location Description ^a	Location #	Total Activity (dpm/100 cm ²)	Removable Activity (dpm/100 cm ²)	
			Alpha	Beta
Concrete Floor	7D	250	5	4
Concrete Floor	8D	350	7	2
Concrete Floor	9D	-60	1	1
Pit	10D	4,100	1	15
Concrete Floor	11D	360	0	3
Concrete Floor	12D	750	0	1
Concrete Floor	13D	20,000	3	4
Concrete Floor	14D	6,600	1	5
Concrete Floor	15D	12,000	3	8
Concrete Floor	I 6D	40,000	5	-1
Concrete Floor	17D	99,000	65	80
Concrete Floor	18D	36,000	3	5
Concrete Floor	19D	12,000	1	1
Concrete Floor	20D	19,000	5	1
Concrete Floor	21D	18,000	9	31
Concrete Floor	22D	11,000	1	6
Concrete Floor	23D	8,500	0	-1
Concrete Floor	24D	-140	0	4
Concrete Floor	25D	-20	1	4
Concrete Floor	26D	18,000	5	-2
Concrete Floor	27D	13,000	3	-5
Concrete Floor	28D	1,200	1	-4
Concrete Floor	29D	830	0	3
Concrete Floor	30D	23,000	0	4
Concrete Floor	31D	21,000	3	2
Concrete Floor	32D	19,000	1	2
Concrete Floor	33D	14,000	0	1

Source: *Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York.* T.J. Vitkus, Oak Ridge Institute for Science and Education, December 1999 (ORISE 99-1699).

^aRefer to Figures 21 through 24.

TABLE 8 (Continued)

**SUMMARY OF SURFACE ACTIVITY LEVELS
FOR BUILDING 24, SOUTH SECTION
GUTERL SPECIALTY STEEL CORPORATION
LOCKPORT, NEW YORK**

Location Description ^a	Location #	Total Activity (dpm/100 cm ²)	Removable Activity (dpm/100 cm ²)	
			Alpha	Beta
Concrete Floor	34D	11,000	0	1
Concrete Floor	35D	610	3	2
Concrete Floor	36D	870	3	4
Concrete Floor	37D	7,700	1	-1
Concrete Floor	38D	15,000	22	7
Concrete Floor	39D	5,900	0	-1
Concrete Floor	40D	8,800	1	6
Concrete Floor	41D	10,000	0	4
Concrete Floor	42D	6,600	0	-5
Concrete Floor	43D	6,700	1	-1
Concrete Floor	44D	2,500	0	-1
Concrete Floor	45D	31,000	13	10
Concrete Floor	46D	3,500	1	5
Concrete Floor	47D	6,600	1	2
Concrete Floor	48D	24,000	0	1
Concrete Floor	49D	26,000	0	-3
Concrete Floor	SOD	26,000	0	3
Concrete Floor	51D	31,000	1	-2
Concrete Floor	52D	14,000	1	-3
Concrete Floor	53D	10,000	3	8
Concrete Floor	54D	1,400	1	-3
I-beam (above 2 m)	56D	8,100	3	2
I-beam (above 2 m)	57D	12,000	26	21
Roll-Up Door (above 2 m)	58D	150	1	3
I-beam (above 2 m)	59D	14,000	5	3
Electric Box (above 2 m)	60D	66,000	16	22
I-beam, Top of Kiln (above 2 m)	61D	2,600	0	3

Source: *Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York.* T.J. Vitkus, Oak Ridge Institute for Science and Education, December 1999 (ORISE 99-1699).

^aRefer to Figures 21 through 24.

TABLE 8 (Continued)

**SUMMARY OF SURFACE ACTIVITY LEVELS
FOR BUILDING 24, SOUTH SECTION
GUTERL SPECIALTY STEEL CORPORATION
LOCKPORT, NEW YORK**

Location Description ^a	Location #	Total Activity (dpm/100 cm ²)	Removable Activity (dpm/100 cm ²)	
			Alpha	Beta
I-beam 1W at 1.5 m	62D	60	0	-2
I-beam 2W at 2 m	63D	2,800	5	4
I-beam 4W at 2 m	64D	15,000	7	11
I-beam SW at 2 m	65D	8,800	7	7
I-beam 6W at 2 m	66D	15,000	13	14
I-beam 7W at 1.5 m	67D	7,100	3	1
I-beam 9W at 1.5 m	68D	13,000	11	3
I-beam 12W at 1.5 m	69D	9,800	1	5
I-beam 13W at 1.5 m	70D	7,300	9	14
I-beam 7E at 1.5 m	71D	6,000	0	2
I-beam 2E at 1.2 m	72D	20,000	1	9
I-beam 1E at 1.5 m	73D	6,900	1	3

Source: *Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York.* T.J. Vitkus, Oak Ridge Institute for Science and Education, December 1999 (ORISE 99-1699).

^aRefer to Figures 21 through 24.

Vitkus Rad Survey Tablesmsg6-1.xls

TABLE 9
SUMMARY OF SURFACE ACTIVITY LEVELS
FOR BUILDING 35
GUTERL SPECIALTY STEEL CORPORATION
LOCKPORT, NEW YORK

Location Description ^a	Location #	Total Activity (dpm/100 cm ²)	Removable Activity (dpm/100 cm ²)	
			Alpha	Beta
Concrete Floor	1A	-210	3	-1
Concrete Floor	2A	-270	1	-2
Concrete Floor	3A	-200	0	-4
Floor Drain	4A	85	0	3
Concrete Floor	5A	-290	0	2
Floor Drain	6A	120	0	-1
Concrete Floor	7A	-380	0	-2
Concrete Floor	8A	-260	0	-3
Misc. Equipment	9A	-26	0	-3
Concrete Floor	10A	-260	1	-3
I-beam at 1.5 m	11A	-250	0	-1
West Wall at 1 m	12A	-760	0	-4
West Wall at 1 m	13A	-640	0	-2
Workbench	14A	100	0	-2
South Wall at 1.5 m	15A	-44	0	2
South Wall at 1 m	16A	-160	1	-1
East Wall at 1 m	17A	-270	1	1
I-beam at 1.5 m	18A	-230	0	-1
East Wall at 0.5 m	19A	-230	0	-4
East Wall at 1 m	20A	-720	0	4
North Wall at 4 m	14B	-59	0	-5
Crane Rail I-beam at 5 m	15B	180	1	2
Crane Center at 6 m	16B	-59	0	2
Crane Rail at 5m	17B	290	1	-5
Roof Truss at 7 m	18B	650	0	-4

Source: *Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York.* T.J. Vitkus, Oak Ridge Institute for Science and Education, December 1999 (ORISE 99-1699).

^aRefer to Figures 25 and 26.

TABLE 10

SUMMARY OF EXPOSURE RATES
GUTERL SPECIALTY STEEL CORPORATION
LOCKPORT, NEW YORK

Location	Number of Measurements	Exposure Rate Range (mR/h at 1 meter)
Interior		
Building 1	5	6 to 12
Building 2	17	5 to 12
Building 3	20	5 to 11
Building 4/9	5	5 to 10
Building 6	7	5 to 12
Building 8	8	6 to 50
Building 24, South Section	5	5 to 9
Building 35	5	5 to 8
Exterior		
Excised Property	131	3 to 50
All Remaining Property	129	3 to 25

Source: *Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York.* T.J. Vitkus, Oak Ridge Institute for Science and Education, December 1999 (ORISE 99-1699).

TABLE 11
RADIONUCLIDE CONCENTRATIONS IN
SEDIMENT SAMPLES
GUTERL SPECIALTY STEEL CORPORATION
LOCKPORT, NEW YORK

Location	Sample ID ^a	Radionuclide Concentration (pCi/g wet weight)				
		Sample Quantity (g)	Ra-226	Th-232	U-235	U-238
Building 3	3	1290	<0.1	<0.1	0.2 ± 0.1^b	3.8 ± 0.1
Building 3	4	341	0.2 ± 0.1	<0.1	1.3 ± 0.4	29.9 ± 12.5
Building 3	5	1545	0.1 ± 0.1	0.5 ± 0.1	0.3 ± 0.1	7.8 ± 1.9
Building 8	6	1272	0.2 ± 0.1	1.2 ± 0.2	3.6 ± 0.4	96.8 ± 7.6
Building 8	7	875	0.1 ± 0.1	0.7 ± 0.1	3.9 ± 0.4	90.2 ± 7.3
Oil/Water Separator	8	1296	0.2 ± 0.1	0.2 ± 0.1	0.3 ± 0.1	9.6 ± 2.2

Source: *Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York.* T.J. Vitkus, Oak Ridge Institute for Science and Education, December 1999 (ORISE 99-1699).

^a Refer to Figures 28 and 31.

^b Uncertainties are total propagated uncertainties at the 95% confidence level. Vitkus Rad Survey Tablesmsg6-1.xls

TABLE 12

**RADIONUCLIDE CONCENTRATIONS IN SOIL
INTERIOR LOCATIONS
GUTERL SPECIALTY STEEL CORPORATION
LOCKPORT, NEW YORK**

Location	Sample Quantity (g)	Radionuclide Concentration (pCi/g)			
		Ra-226	Th-232	U-235	U-238
Building 2					
343	781	1.0 ± 0.2	1.0 ± 0.3 ^b	<0.3	<10 (2.8 ± 1.2) ^c
344	907	0.7 ± 0.2	0.7 ± 0.2	<0.3	<6.6 (<1.3)
345	749	1.1 ± 0.2	1.1 ± 0.3	0.6 ± 0.3	12.0 ± 5.2
346	816	1.3 ± 0.4	<1.0	0.2 ± 0.4	<16 (5.3 ± 1.7)
347	896	0.8 ± 0.2	1.0 ± 0.2	<0.3	<6.8 (6.8 ± 1.1)
348	790	0.8 ± 0.2	<0.4	0.2 ± 0.2	<9.2 (3.3 ± 0.9)
349	993	0.7 ± 0.1	0.7 ± 0.2	<0.2	<5.4 (1.8 ± 0.6)
350	1,001	0.4 ± 0.1	<0.6	<0.4	<8.9 (1.1 ± 0.8)
351	798	0.8 ± 0.3	0.8 ± 0.3	0.4 ± 0.3	< 16 (6.1 ± 1.3)
352	797	0.5 ± 0.1	1.0 ± 0.3	0.4 ± 0.3	11.6 ± 5.8
353	774	0.4 ± 0.1	2.3 ± 0.4	4.4 ± 0.6	113 ± 15
354	716	0.8 ± 0.2	<0.6	1.9 ± 0.5	56 ± 12
526 Subfloor	* ^d	<480	119,000 ± 11,000	<1300	<18,000
527 Subfloor	* ^d	<350	14,200 ± 1600	<900	15,000
553	927	8.4 ± 0.7	1.9 ± 0.3	0.9 ± 0.3	13.4 ± 4.1
Building 3					
355	1,179	0.2 ± 0.1	<.3	0.2 ± 0.2	3.5 ± 3.0
356	775	<0.2	<0.2	<0.2	<5.9 (1.7 ± 0.8)
357	905	0.7 ± 0.1	1.1 ± 0.2	0.6 ± 0.3	17.6 ± 4.8
358	1,035	<0.3	1.3 ± 0.3	4.0 ± 0.7	98 ± 17
359	776	0.5 ± 0.1	0.6 ± 0.2	0.5 ± 0.2	<11 (5.2 ± 1.3)
360	957	<0.2	<0.5	14.1 ± 1.4	374 ± 30
361	902	<0.2	<0.3	0.8 ± 0.3	22.9 ± 5.8
362	879	1.1 ± 0.2	0.8 ± 0.4	0.5 ± 0.3	16.4 ± 8.4
363	930	<0.2	1.0 ± 0.3	1.4 ± 0.5	43.6 ± 9.3
364	957	<0.2	1.0 ± 0.3	1.3 ± 0.5	33.6 ± 9.2
365	821	0.9 ± 0.2	1.0 ± 0.2	2.7 ± 0.4	58.1 ± 9.4

Source: *Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York.* T.J. Vitkus, Oak Ridge Institute for Science and Education, December 1999 (ORISE 99-1699).

^a Refer to Figures 27 through 32.

^b Uncertainties are total propagated uncertainties at the 95% confidence level.

^c Pa-234m (1001 keV) peak was used to determine activity except where values were less than the MDC in which case the

^d Semi-quantitative data, results are total activity. Sample collected was piece of a slag-like material.

TABLE 12 (Continued)

**RADIONUCLIDE CONCENTRATIONS IN SOIL
INTERIOR LOCATIONS
GUTERL SPECIALTY STEEL CORPORATION
LOCKPORT, NEW YORK**

Location	Sample Quantity (g)	Radionuclide Concentration (pCi/g)			
		Ra-226	Th-232	U-235	U-238
Building 3 (Continued)					
366	715	0.7 ± 0.2	2.3 ± 0.5	2.1 ± 0.5	63 ± 14
367	724	0.7 ± 0.2	0.8 ± 0.2	0.2 ± 0.2	<9.3 (3.4 ± 1.4)
368	883	0.4 ± 0.1	<0.4	<0.2	<6.0 (<1.0)
369	1,019	0.3 ± 0.1	0.6 ± 0.1	0.4 ± 0.2	14.7 ± 3.7
370	879	<0.4	<0.4	10.3 ± 1.2	264 ± 27
371	1,014	<0.3	<0.5	33.6 ± 2.7	850 ± 53
372	1,083	<0.2	<0.3	12.3 ± 1.1	338 ± 24
373	985	<0.2	<0.3	2.6 ± 0.5	64 ± 12
374	695	<0.3	<0.4	18.7 ± 1.9	444 ± 39
375	818	<0.8	<1.1	60.4 ± 5.1	6,020 ± 290
376	938	<3.0	<3.4	796 ± 53	41,600 ± 1900
550	1,184	<0.3	<0.3	64.6 ± 4.3	1595 ± 76
551	1,002	0.7 ± 0.1	0.6 ± 0.1	0.2 ± 0.1	5.4 ± 2.1
552 Subfloor (0 to 4 cm)	999	<0.3	78.5 ± 7.3	1.9 ± 0.6	90 ± 11
549 Subfloor (4 to 25 cm)	775	0.7 ± 0.1	27.0 ± 2.5	<0.4	<6.6 (3.7 ± 1.3)
Building 4					
528 (Residue)	505	0.3 ± 0.1	0.4 ± 0.2	4.4 ± 0.5	274 ± 19
529 Subfloor Soil	707	0.6 ± 0.1	0.6 ± 0.1	<0.1	<3.0 (1.8 ± 0.4)
530 (Residue)	490	0.6 ± 0.1	0.4 ± 0.2	6.8 ± 0.7	140.2 ± 13.4
531 Subfloor Soil	883	0.4 ± 0.1	0.4 ± 0.1	<0.1	<4.1 (1.9 ± 0.6)
Building 6					
1	768	<0.5	58.2 ± 5.7	<1.6	50 ± 30
5	705	<0.2	<0.4	0.8 ± 0.3	24.2 ± 7.8
475	806	0.5 ± 0.1	<0.4	<0.2	<9.1 (1.2 ± 0.9)

Source: *Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York.* T.J. Vitkus, Oak Ridge Institute for Science and Education, December 1999 (ORISE 99-1699).

^a Refer to Figures 27 through 32.

^b Uncertainties are total propagated uncertainties at the 95% confidence level.

^c Pa-234m (1001 keV) peak was used to determine activity except where values were less than the MDC in which case the

^d Semi-quantitative data, results are total activity. Sample collected was piece of a slag-like material.

TABLE 12 (Continued)

**RADIONUCLIDE CONCENTRATIONS IN SOIL
INTERIOR LOCATIONS
GUTERL SPECIALTY STEEL CORPORATION
LOCKPORT, NEW YORK**

Location	Sample Quantity (g)	Radionuclide Concentration (pCi/g)			
		Ra-226	Th-232	U-235	U-238
Building 6 (Continued)					
476	1,151	<0.5	68.7 ± 6.6	7.8 ± 1.6	297 ± 32
477	920	0.5 ± 0.1	<0.4	<0.3	<8.1 (1.7 ± 11)
478	724	<0.4	<0.6	<.04	< 12 (<2.1)
479	693	<0.2	0.4 ± 0.2	<0.3	<9.5 (3.9 ± 1.4)
480	687	0.5 ± 0.1	0.7 ± 0.2	<0.3	<8.1 (4.8 ± 1.4)
481	664	<0.3	1.1 ± 0.3	1.8 ± 0.6	39 ± 10
482	613	0.7 ± 0.2	1.4 ± 0.4	0.7 ± 0.4	17 ± 11
483	896	0.2 ± 0.1	0.6 ± 0.2	0.2 ± 0.1	6.6 ± 3.9
484	737	<0.3	8.7 ± 1.1	10.9 ± 1.3	272 ± 29
486	804	0.4 ± 0.2	0.7 ± 0.3	<0.4	<11 (1.5 ± 1.5)
487	735	0.6 ± 0.1	<0.4	<0.3	<10 (1.1 ± 0.8)
488	488	0.6 ± 0.2	0.9 ± 0.4	<0.4	<12 (1.6 ± 1.4)
489	788	<0.2	2.1 ± 0.4	0.8 ± 0.3	26.5 ± 7.8
490	771	<0.3	0.6 ± 0.3	<0.4	<12.7 (<1.7)
491	1,030	<0.2	0.6 ± 0.2	0.7 ± 0.3	13.4 ± 6.1
493	742	0.6 ± 0.2	0.5 ± 0.2	<0.3	<8.5 (1.4 ± 1.0)
494	637	0.5 ± 0.1	1.7 ± 0.4	2.2 ± 0.5	61 ± 12
495	674	<0.4	36.7 ± 3.6	1.2 ± 0.9	54 ± 14
Building 8					
2	829	<2.2	<2.8	213 ± 15	25,200 ± 1200
3	1,120	<0.7	213 ± 20	84.4 ± 6.1	2,520 ± 130
4	633	<2.1	<2.3	238 ± 17	9,300 ± 460
435	1,135	<0.1	<0.1	0.6 ± 0.2	17.7 ± 4.8
436	808	0.5 ± 0.1	0.6 ± 0.2	<0.2	<5.6 (0.8 ± 0.8)
437	1,215	<0.2	2.0 ± 0.4	5.1 ± 0.8	151 ± 17
438	846	<0.2	1.0 ± 0.3	4.5 ± 0.7	132 ± 11
439	939	<0.2	<0.4	1.7 ± 0.4	41.1 ± 8.6

Source: *Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York.* T.J. Vitkus, Oak Ridge Institute for Science and Education, December 1999 (ORISE 99-1699).

^a Refer to Figures 27 through 32.

^b Uncertainties are total propagated uncertainties at the 95% confidence level.

^c Pa-234m (1001 keV) peak was used to determine activity except where values were less than the MDC in which case the

^d Semi-quantitative data, results are total activity. Sample collected was piece of a slag-like material.

TABLE 12 (Continued)

**RADIONUCLIDE CONCENTRATIONS IN SOIL
INTERIOR LOCATIONS
GUTERL SPECIALTY STEEL CORPORATION
LOCKPORT, NEW YORK**

Location	Sample Quantity (g)	Radionuclide Concentration (pCi/g)			
		Ra-226	Th-232	U-235	U-238
Building 8 (Continued)					
440	924	<.02	<0.3	9.2 ± 0.9	251 ± 21
441	841	0.5 ± 0.2	<0.6	0.5 ± 0.3	13.0 ± 7.1
442	953	<0.2	0.4 ± 0.2	1.3 ± 0.4	35.0 ± 7.7
443	735	<0.2	0.8 ± 0.2	0.5 ± 0.2	12.8 ± 4.9
444	1,018	<0.5	2.5 ± 0.6	142.6 ± 9.5	$4,200 \pm 200$
445	1,141	<0.7	5.4 ± 0.9	78.5 ± 5.5	$2,470 \pm 130$
446	1,139	<1.1	<1.7	275 ± 18	$10,250 \pm 480$
447 (0 to 15 cm)	1,100	<1.2	<1.4	187 ± 13	$9,720 \pm 450$
539 (15 to 30 cm)	1,130	<0.1	0.7 ± 0.1	25.2 ± 1.7	660 ± 31
448 (0 to 15 cm)	652	0.7 ± 0.3	2.8 ± 0.6	26.2 ± 2.1	722 ± 47
538 (15 to 20 cm)	692	1.0 ± 0.3	1.1 ± 0.2	18.0 ± 1.4	430 ± 26
450	725	<0.3	<0.5	17.6 ± 1.7	471 ± 38
451 (0 to 15 cm)	1,105	<1.4	9.2 ± 1.8	348 ± 23	$14,680 \pm 680$
536 (15 to 30 cm)	367	1.3 ± 0.2	1.3 ± 0.3	10.4 ± 0.9	238 ± 19
537 (30 to 45 cm)	404	1.6 ± 0.2	1.7 ± 0.3	1.8 ± 0.3	36.9 ± 7.4
452	1,136	<0.6	30.3 ± 3.0	128.5 ± 8.6	$4,970 \pm 230$
453	1,025	<0.8	3.5 ± 0.8	103.7 ± 7.2	$3,270 \pm 170$
454	1,087	<0.1	<0.1	0.6 ± 0.2	29.6 ± 6.6
455	865	<0.2	<0.3	2.1 ± 0.5	57 ± 12
456	1,049	<0.2	1.4 ± 0.3	36.5 ± 2.7	$1,028 \pm 56$
457	1,142	<0.7	<1.0	0.9 ± 0.3	26.5 ± 7.1
458 (0 to 15 cm)	1,196	-3.00000	-1.00000	164 ± 11	$5,400 \pm 260$

Source: *Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York.* T.J. Vitkus, Oak Ridge Institute for Science and Education, December 1999 (ORISE 99-1699).

^a Refer to Figures 27 through 32.

^b Uncertainties are total propagated uncertainties at the 95% confidence level.

^c Pa-234m (1001 keV) peak was used to determine activity except where values were less than the MDC in which case the

^d Semi-quantitative data, results are total activity. Sample collected was piece of a slag-like material.

TABLE 12 (Continued)

**RADIONUCLIDE CONCENTRATIONS IN SOIL
INTERIOR LOCATIONS
GUTERL SPECIALTY STEEL CORPORATION
LOCKPORT, NEW YORK**

Location	Sample Quantity (g)	Radionuclide Concentration (pCi/g)			
		Ra-226	Th-232	U-235	U-238
Building 8 (Continued)					
532 (15 to 30 cm)	522	1.3 ± 0.2	1.5 ± 0.2	4.3 ± 0.4	84.8 ± 7.8
533 (30 to 45 cm)	597	0.8 ± 0.1	1.0 ± 0.2	1.6 ± 0.3	37.2 ± 6.1
459	582	<0.3	1.2 ± 0.4	7.4 ± 1.0	194 ± 24
460	1,137	<0.7	<0.9	280 ± 18	9,350 ± 430
461	1,232	<0.5	<0.7	39.4 ± 3.1	1,144 ± 67
462	1,107	<0.3	1.3 ± 0.5	26.6 ± 2.2	692 ± 45
463	726	<0.6	<0.8	158 ± 11	3,980 ± 200
464	884	<0.7	<0.8	156 ± 10	5,990 ± 280
465	992	<0.2	0.8 ± 0.2	0.6 ± 0.4	21.3 ± 7.8
466	995	<0.3	10.3 ± 1.2	2.6 ± 0.7	49 ± 16
467	676	<0.4	12.0 ± 1.5	38.8 ± 3.2	1,133 ± 71
468	872	0.8 ± 0.2	4.4 ± 0.6	4.2 ± 0.6	116 ± 15
469	826	<0.6	7.4 ± 1.0	14.9 ± 1.7	736 ± 53
470	1,154	<0.3	20.7 ± 2.1	10.5 ± 1.4	332 ± 31
471	830	<0.3	5.2 ± 0.8	15.2 ± 1.4	486 ± 37
472	1,016	<2.0	442 ± 41	7.2 ± 3.0	158 ± 53
473	758	0.4 ± 0.1	0.5 ± 0.2	0.2 ± 0.2	<5.9 (2.0 ± 0.9)
474	802	<0.3	0.9 ± 0.3	<0.5	<15 (4.4 ± 1.6)
485	751	0.5 ± 0.1	<0.4	0.5 ± 0.3	12.5 ± 5.6
492	616	<0.6	15.1 ± 1.9	25.6 ± 2.5	730 ± 58
497	1,034	<0.5	7.6 ± 1.1	27.5 ± 2.4	763 ± 53
498	827	0.2 ± 0.1	<0.4	1.2 ± 0.3	32.1 ± 6.2
534 (0 to 15 cm)	886	<0.2	1.3 ± 0.4	128.8 ± 8.4	3260 ± 150
535 (15 to 30 cm)	469	1.0 ± 0.3	<0.5	13.8 ± 1.2	313 ± 22

Source: *Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York.* T.J. Vitkus, Oak Ridge Institute for Science and Education, December 1999 (ORISE 99-1699).

^a Refer to Figures 27 through 32.

^b Uncertainties are total propagated uncertainties at the 95% confidence level.

^c Pa-234m (1001 keV) peak was used to determine activity except where values were less than the MDC in which case the

^d Semi-quantitative data, results are total activity. Sample collected was piece of a slag-like material.

TABLE 12 (Continued)

**RADIONUCLIDE CONCENTRATIONS IN SOIL
INTERIOR LOCATIONS**
GUTERL SPECIALTY STEEL CORPORATION
LOCKPORT, NEW YORK

Location	Sample Quantity (g)	Radionuclide Concentration (pCi/g)			
		Ra-226	Th-232	U-235	U-238
Building 8 (Continued)					
540 (0 to 15 cm)	855	0.7 ± 0.4	1.9 ± 0.6	221 ± 15	5610 ± 260
541 (15 to 30cm)	526	1.5 ± 0.4	1.4 ± 0.3	1.8 ± 0.3	38.2 ± 7.4
542 (30 to 45 cm)	603	1.0 ± 0.1	1.2 ± 0.2	1.2 ± 0.3	23.5 ± 5.7
Building 24					
543 (25 to 30 cm)	676	0.7 ± 0.1	0.9 ± 0.2	1.5 ± 0.2	37.4 ± 4.9
544 (30 to 45 cm)	546	1.2 ± 0.3	1.2 ± 0.3	0.5 ± 0.2	14.9 ± 6.6
545 (15 to 30cm)	567	1.1 ± 0.1	1.2 ± 0.2	0.2 ± 0.2	8.4 ± 3.6
546 (10 to 15 cm)	418	1.7 ± 0.2	1.7 ± 0.3	1.2 ± 0.3	24.9 ± 4.8
547 (15 to 30cm)	436	1.4 ± 0.3	1.3 ± 0.3	<0.4	<7.3 (3.4 ± 0.9)
548 (30 to 45 cm)	537	1.0 ± 0.1	1.2 ± 0.2	0.3 ± 0.2	<6.2 (4.8 ± 1.0)

Source: *Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York.* T.J. Vitkus, Oak Ridge Institute for Science and Education, December 1999 (ORISE 99-1699).

^a Refer to Figures 27 through 32.

^b Uncertainties are total propagated uncertainties at the 95% confidence level.

^c Pa-234m (1001 keV) peak was used to determine activity except where values were less than the MDC in which case the Th-234 (63 keV) result was included in parenthesis.

^d Semi-quantitative data, results are total activity. Sample collected was piece of a slag-like material.

TABLE 13
RADIONUCLIDE CONCENTRATIONS IN SURFACE SOIL
EXTERIOR SYSTEMATIC LOCATIONS
GUTERL SPECIALTY STEEL CORPORATION
LOCKPORT, NEW YORK

Grid Coordinates ^a	Sample Quantity (g)	Radionuclide Concentration (pCi/g)			
		Ra-226	Th-232	U-235	U-238
0N, 0E	987	<0.2	0.5 ± 0.2 ^b	<0.3	<8.3 (4.3 + 1.1) ^c
5N, 125E	921	0.2 ± 0.1	<0.5	<0.3	<7.1 (1.6 ± 0.9)
5N, 145E	900	0.2 ± 0.1	<0.2	<0.2	<4.8 (0.4 ± 0.6)
15N, 155E	907	<0.3	<0.4	<0.4	<8.0 (1.6 ± 1.0)
15N, 165E	825	0.8 ± 0.2	1.0 ± 0.3	<0.4	<6.0 (2.1 ± 1.3)
20N, 122E	728	<0.1	<0.3	<0.2	<4.6 (0.5 ± 0.7)
25N, 175E	759	0.8 ± 0.2	0.7 ± 0.3	<0.3	<7.7 (1.4 ± 1.2)
35N, 155E	850	0.3 ± 0.1	0.3 ± 0.1	<0.2	<6.0 (2.8 ± 0.8)
35N, 175E	1164	0.1 ± 0.1	<0.2	<0.1	<2.4 (<0.5)
35N, 185E	867	<0.2	<0.3	<0.2	<6.2 (0.6 ± 0.7)
40N, 0E	939	<0.1	<0.1	<0.1	<2.4 (<0.5)
40N, 122E	1141	<0.1	<0.3	0.2 ± 0.2	<5.5 (1.3 ± 0.5)
45N, 185E	775	0.6 ± 0.1	<0.4	<0.2	<8.6 (3.1 ± 1.1)
45N, 195E	939	0.4 ± 0.1	<0.4	<0.3	<7.8 (1.3 ± 1.0)
55N, 155E	790	0.6 ± 0.1	1.2 ± 0.3	0.6 ± 0.3	<9.2 (6.4 ± 1.6)
55N, 175E	880	0.5 ± 0.1	<0.3	0.2 ± 0.2	<5.0 (2.2 ± 0.8)
55N, 185E	936	0.6 ± 0.1	0.6 ± 0.2	<0.2	<4.4 (2.0 ± 0.7)
55N, 195E	792	0.7 ± 0.1	0.9 ± 0.2	<0.2	<5.9 (1.8 ± 1.0)
60N, 124E	877	0.4 ± 0.1	<0.4	0.5 ± 0.4	6.5 ± 4.0
65N, 5E	1214	<0.1	0.2 ± 0.1	<0.2	<5.8 (1.2 ± 0.7)
65N, 25E	856	0.2 ± 0.1	0.4 ± 0.1	0.2 ± 0.2	6.4 ± 2.6
65N, 185E	796	0.7 ± 0.2	0.8 ± 0.2	<0.3	<9.3 (3.4 ± 1.2)
65N, 195E	1077	0.4 ± 0.1	0.5 ± 0.2	<0.2	4.3 ± 3.1
70N, 45E	789	0.5 ± 0.2	1.3 ± 0.3	1.1 ± 0.4	24.8 ± 9.6
75N, 15E	1230	0.2 ± 0.1	0.4 ± 0.1	0.4 ± 0.2	9.2 ± 3.8
75N, 155E	831	<0.3	1.0 ± 0.3	0.7 ± 0.4	9.2 ± 6.9
75N, 175E	1086	0.6 ± 0.1	<0.3	<0.2	<4.5 (1.8 ± 0.5)

Source: *Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York.* T.J. Vitkus, Oak Ridge Institute for Science and Education, December 1999 (ORISE 99-1699).

^a Refer to Figures 33 through 34.

^b Uncertainties are total propagated uncertainties at the 95% confidence level.

^c Pa-234m (1001 keV) peak was used to determine activity except where values were less than the MDC in which case the Th-234 (63 keV) result was included in parenthesis.

TABLE 13 (Continued)

**RADIONUCLIDE CONCENTRATIONS IN SURFACE SOIL
EXTERIOR SYSTEMATIC LOCATIONS
GUTERL SPECIALTY STEEL CORPORATION
LOCKPORT, NEW YORK**

Grid Coordinates ^a	Sample Quantity (g)	Radionuclide Concentration (pCi/g)			
		Ra-226	Th-232	U-235	U-238
75N, 185E	843	1.3 ± 0.3	1.4 ± 0.3	<0.6	<13.0 (2.5 ± 1.0)
75N, 195E	850	0.9 ± 0.2	0.9 ± 0.2	<0.3	<6.5 (2.8 ± 1.0)
75N, 205E	667	0.8 ± 0.2	1.2 ± 0.3	<0.4	17.4 ± 9.4
80N, 0E	736	0.6 ± 0.2	0.8 ± 0.3	<0.5	<15 (2.0 ± 0.8)
85N, 5E	1253	0.3 ± 0.1	0.5 ± 0.1	<0.2	<4.8 (1.7 ± 0.6)
85N, 185E	737	0.5 ± 0.1	0.9 ± 0.2	<0.2	6.4 ± 3.4
85N, 195E	1147	0.5 ± 0.1	0.6 ± 0.2	<0.3	<7.9 (1.6 ± 0.9)
85N, 205E	684	0.5 ± 0.2	0.5 ± 0.2	<0.4	<9.6 (1.9 ± 0.9)
95N, 15E	1552	<0.1	<0.1	0.2 ± 0.1	10.2 ± 3.0
95N, 155E	744	0.5 ± 0.2	0.9 ± 0.3	<0.5	<15 (2.6 ± 1.1)
95N, 175E	544	1.0 ± 0.2	<0.6	<0.3	5.2 ± 5.1
95N, 185F	679	1.1 ± 0.2	1.4 ± 0.3	0.3 ± 0.3	12.0 ± 6.1
95N, 195F	901	0.2 ± 0.1	<0.3	<0.2	<4.2 (0.5 ± 0.8)
95N, 205E	967	0.6 ± 0.1	0.9 ± 0.2	0.4 ± 0.2	6.7 ± 4.2
105N, 165F	544	0.9 ± 0.2	<0.7	<0.5	<11 (7.2 ± 1.8)
105N, 195E	835	<0.1	<0.2	<0.1	<2.9 (<0.7)
105N, 205E	958	0.5 ± 0.1	0.7 ± 0.2	<0.3	<7.4 (2.0 ± 0.8)
115N, 15E	936	<0.2	<0.4	<0.3	<9.9 (<1.5)
115N, 155E	878	0.5 ± 0.1	0.4 ± 0.2	<0.4	<12 (<1.5)
115N, 175E	1162	0.4 ± 0.1	0.4 ± 0.1	0.2 ± 0.1	2.8 ± 2.3
115N, 185E	946	0.4 ± 0.1	0.6 ± 0.2	0.5 ± 0.2	14.0 ± 4.7
115N, 195E	702	1.0 ± 0.2	0.6 ± 0.3	0.9 ± 0.3	19.8 ± 7.0
115N, 205E	873	<0.2	0.5 ± 0.2	<0.3	<8.6 (1.6 ± 1.0)
120N, 0E	580	<0.1	0.2 ± 0.1	<0.2	<4.8 (0.9 ± 0.7)
125N, 25E	259	<0.3	<0.6	0.9 ± 0.6	28 ± 13
125N, 165E	866	0.5 ± 0.2	<0.7	<0.5	<11 (1.8 ± 1.1)
125N, 185E	548	0.9 ± 0.2	0.7 ± 0.3	<0.4	<9.9 (2.4 ± 1.4)

Source: *Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York.* T.J. Vitkus, Oak Ridge Institute for Science and Education, December 1999 (ORISE 99-1699).

^a Refer to Figures 33 through 34.

^b Uncertainties are total propagated uncertainties at the 95% confidence level.

^c Pa-234m (1001 keV) peak was used to determine activity except where values were less than the MDC in which case the Th-234 (63 keV) result was included in parenthesis.

TABLE 13 (Continued)
RADIONUCLIDE CONCENTRATIONS IN SURFACE SOIL
EXTERIOR SYSTEMATIC LOCATIONS
GUTERL SPECIALTY STEEL CORPORATION
LOCKPORT, NEW YORK

Grid Coordinates ^a	Sample Quantity (g)	Radionuclide Concentration (pCi/g)			
		Ra-226	Th-232	U-235	U-238
125N, 195E	611	3.0 ± 0.7	1.2 ± 0.4	0.6 ± 0.5	<18 (7.2 ± 1.9)
125N, 205E	893	0.4 ± 0.1	0.5 ± 0.2	<0.4	<7.6 (1.9 ± 0.9)
128N, 115E	837	0.4± 0.1	0.6 ± 0.2	0.2 ± 0.2	8.0 ± 4.7
135N, 155E	730	1.1 ± 0.2	1.2 ± 0.3	<0.3	<11 (1.9 ± 1.2)
135N, 175E	1153	0.3 ± 0.1	<0.5	0.9 ± 0.3	21.1 ± 6.3
135N, 185E	524	<0.3	<0.4	<0.3	<8.7 (0.4 ± 1.0)
135N, 195E	643	<0.3	0.8 ± 0.3	<0.3	<7.0 (1.5 ± 1.2)
135N, 205E	919	0.6 ± 0.1	<0.3	0.3 ± 0.2	4.4 ± 2.6
140N, 20E	568	<0.1	<0.2	<0.1	<3.0 (0.6 ± 0.5)
145N, 165E	596	0.7 ± 0.1	1.1 ± 0.3	0.7 ± 0.3	<9.7 (7.1 ± 1.4)
145N, 185E	639	1.0 ± 0.2	0.9 ± 0.3	<0.3	<6.9 (<1.2)
145N, 195E	712	0.6 ± 0.1	<0.3	<0.3	<6.8 (1.4 ± 1.0)
145N, 205E	522	2.1 ± 0.3	1.5 ± 0.4	<0.5	<11 (3.7 ± 1.7)
150N, 112E	891	<0.2	0.4 ± 0.2	1.2 ± 0.4	34.6 ± 7.7
155N, 155E	808	0.4 ± 0.1	0.5 ± 0.2	<0.2	<5.4 (1.7 ± 0.6)
155N, 175E	1164	0.2 ± 0.1	<0.4	<0.3	5.5 ± 3.9
155N, 185E	985	<0.1	<0.2	<0.2	<4.6 (0.1 ± 0.4)
155N, 195E	659	<0.2	0.9 ± 0.2	<0.3	<7.9 (2.3 ± 1.0)
155N, 205E	638	1.1 ± 0.2	1.0 ± 0.3	<0.3	<8.8 (1.8 ± 1.3)
160N, 0E	508	0.3 ± 0.1	0.6 ± 0.2	<0.2	<4.6 (1.4 ± 0.8)
160N, 82E	814	0.5 ± 0.1	1.3 ± 0.3	0.8 ± 0.3	14.6 ± 6.3
165N, 165E	521	0.5 ± 0.2	<0.5	0.8 ± 0.4	20.7 ± 9.1
165N, 185E	851	0.2 ± 0.1	<0.3	<0.2	<4.0 (1.2 ± 0.8)
165N, 195E	697	0.7 ± 0.2	<0.7	0.3 ± 0.4	<15 (8.7 ± 1.8)
165N, 205E	857	0.7 ± 0.2	1.1 ± 0.3	<0.3	<8.4 (2.5 ± 1.3)
170N, 118E	1059	0.2 ± 0.1	0.5 ± 0.1	<0.2	<5.4(2.8 ± 0.7)
175N, 175E	1535	<0.1	<0.2	<0.2	<4.4 (0.4 ± 0.3)

Source: *Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York.* T.J. Vitkus, Oak Ridge Institute for Science and Education, December 1999 (ORISE 99-1699).

^a Refer to Figures 33 through 34.

^b Uncertainties are total propagated uncertainties at the 95% confidence level.

^c Pa-234m (1001 keV) peak was used to determine activity except where values were less than the MDC in which case the Th-234 (63 keV) result was included in parenthesis.

TABLE 13 (Continued)
RADIONUCLIDE CONCENTRATIONS IN SURFACE SOIL
EXTERIOR SYSTEMATIC LOCATIONS
GUTERL SPECIALTY STEEL CORPORATION
LOCKPORT, NEW YORK

Grid Coordinates ^a	Sample Quantity (g)	Radionuclide Concentration (pCi/g)			
		Ra-226	Th-232	U-235	U-238
175N, 185E	697	0.3 ± 0.2	0.7 ± 0.2	<0.4	<9.8 (1.0 ± 0.9)
175N, 195E	907	0.6 ± 0.2	0.8 ± 0.2	0.7 ± 0.5	18.5 ± 7.8
175N, 205E	1051	0.6 ± 0.1	0.6 ± 0.2	0.2 ± 0.2	<6.9 (1.2 ± 0.9)
178N, 95E	959	0.4 ± 0.1	0.5 ± 0.2	<0.2	0.7 ± 0.6
180N, 20E	1071	0.2 ± 0.1	<0.3	<0.2	<6.1 (0.8 ± 0.7)
180N, 80E	754	0.5 ± 0.2	<0.7	0.5 ± 0.3	3.6 ± 1.1
185N, 165E	501	<0.3	0.8 ± 0.3	0.7 ± 0.4	13 ± 11
185N, 185E	1204	0.3 ± 0.1	0.5 ± 0.1	<0.2	3.6 ± 2.6
185N, 195E	891	0.6 ± 0.1	<0.7	<0.4	<12 (2.3 ± 1.4)
185N, 205E	702	1.0 ± 0.3	1.2 ± 0.3	<0.5	<15 (2.8 ± 1.9)
190N, 122E	819	0.4 ± 0.1	0.8 ± 0.2	0.4 ± 0.3	15.3 ± 7.5
195N, 75E	663	0.3 ± 0.1	0.5 ± 0.2	<0.2	2.4 ± 1.0
195N, 95E	1023	0.4 ± 0.1	0.6 ± 0.2	<0.2	3.1 ± 1.0
195N, 175E	1356	0.2 ± 0.1	0.4 ± 0.1	<0.2	<5.5 (1.3 ± 0.5)
195N, 185E	1349	0.2 ± 0.1	<0.3	<0.2	<5.1 (0.9 ± 0.5)
195N, 195E	926	0.4 ± 0.1	<0.2	<0.2	<4.1 (0.7 ± 0.6)
195N, 205E	1164	0.3 ± 0.1	0.4 ± 0.1	<0.2	<3.9 (0.9 ± 0.5)
200N, 0E	816	0.6 ± 0.1	0.8 ± 0.3	<0.3	<9.3 (2.8 ± 1.2)
205N, 165E	558	0.5 ± 0.2	0.7 ± 0.3	<0.5	<13 (2.0 ± 0.9)
205N, 185E	1435	0.2 ± 0.1	<0.2	<0.1	<2.9 (<0.4)
205N, 195E	710	0.4 ± 0.1	0.5 ± 0.2	<0.3	<8.5 (2.1 ± 1.3)
205N, 205E	1497	<0.1	0.2 ± 0.1	<0.1	<4.2 (0.4 ± 0.4)
210N, 118E	929	<0.2	0.4 ± 0.2	<0.3	1.3 ± 0.6
215N, 75E	702	0.5 ± 0.1	0.7 ± 0.2	<0.3	1.4 ± 0.9
215N, 95E	730	<0.2	0.4 ± 0.2	<0.2	1.2 ± 0.9
215N, 135E	897	0.2 ± 0.1	0.4 ± 0.2	<0.2	1.5 ± 0.8
215N, 155E	787	0.6 ± 0.1	0.8 ± 0.2	<0.2	<6.2 (1.2 ± 0.7)

Source: *Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York.* T.J. Vitkus, Oak Ridge Institute for Science and Education, December 1999 (ORISE 99-1699).

^a Refer to Figures 33 through 34.

^b Uncertainties are total propagated uncertainties at the 95% confidence level.

^c Pa-234m (1001 keV) peak was used to determine activity except where values were less than the MDC in which case the Th-234 (63 keV) result was included in parenthesis.

TABLE 13 (Continued)

**RADIONUCLIDE CONCENTRATIONS IN SURFACE SOIL
EXTERIOR SYSTEMATIC LOCATIONS
GUTERL SPECIALTY STEEL CORPORATION
LOCKPORT, NEW YORK**

Grid Coordinates ^a	Sample Quantity (g)	Radionuclide Concentration (pCi/g)			
		Ra-226	Th-232	U-235	U-238
215N, 175E	1414	0.2 ± 0.1	0.4 ± 0.1	<0.1	<3.5 (0.6 ± 0.3)
215N, 185E	1509	<0.1	0.2 ± 0.1	<0.1	<2.8 (0.4 ± 0.3)
215N, 195E	1035	<0.1	<0.2	<0.2	<5.7 (0.8 ± 0.6)
215N, 205E	401	0.7 ± 0.2	<0.7	<0.5	<11 (2.7 ± 1.2)
220N, 20E	770	0.7 ± 0.2	0.8 ± 0.3	<0.5	<9.9 (1.4 ± 1.2)
240N, 80E	750	0.6 ± 0.2	0.7 ± 0.2	<0.4	<12 (<1.9)
240N, 160E	627	<0.2	<0.4	<0.2	<6.2 (<1.0)
240N, 200E	832	0.7 ± 0.2	0.7 ± 0.2	<0.3	<7.1 (1.2 ± 0.9)
241N, 0E	954	0.4 ± 0.1	0.4 ± 0.1	<0.2	<6.3 (<0.9)
260N, 20E	681	0.6 ± 0.2	0.9 ± 0.2	<0.3	<5.8 (0.7 ± 0.9)
260N, 140E	1222	0.4 ± 0.1	1.0 ± 0.2	0.4 ± 0.2	5.4 ± 3.0
260N, 180E	940	0.4 ± 0.1	0.5 ± 0.2	<0.4	<7.8 (2.2 ± 0.8)
280N, 80E	1187	0.5 ± 0.1	0.5 ± 0.2	0.2 ± 0.2	<7.0 (2.0 ± 0.7)
280N, 120E	1090	0.6 ± 0.1	0.6 ± 0.2	0.2 ± 0.2	<6.9 (2.4 ± 0.8)
280N, 160E	1115	0.2 ± 0.1	<0.2	<0.2	<5.6 (0.8 ± 0.7)
280N, 200E	785	0.6 ± 0.1	<0.4	<0.2	<5.4 (<0.9)
300N, 20E	778	<0.2	0.7 ± 0.2	<0.3	<7.4 (1.9 ± 1.1)
300N, 60E	964	0.4 ± 0.1	<0.5	<0.4	<5.3 (1.5 ± 0.8)
300N, 100E	834	0.7 ± 0.1	1.1 ± 0.3	2.6 ± 0.5	51 ± 11
300N, 140E	1108	0.3 ± 0.1	0.8 ± 0.2	0.5 ± 0.3	13.2 ± 4.6
300N, 180E	610	0.8 ± 0.2	1.0 ± 0.4	<0.4	<7.6 (2.4 ± 1.6)
320N, 40E	732	0.6 ± 0.1	0.6 ± 0.2	0.3 ± 0.2	11.5 ± 4.2
320N, 80E	1174	0.5 ± 0.1	0.6 ± 0.2	0.3 ± 0.2	4.6 ± 3.9
320N, 120E	1003	<0.2	0.4 ± 0.1	0.2 ± 0.2	7.8 ± 4.6
320N, 160E	792	0.7 ± 0.1	<0.4	<0.3	<6.4 (2.4 ± 1.1)
320N, 200E	732	0.6 ± 0.2	<0.7	<0.5	<11 (2.2 ± 1.3)
340N, 20E	517	<0.3	1.0 ± 0.3	<0.4	<12 (5.1 ± 1.7)

Source: *Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York.* T.J. Vitkus, Oak Ridge Institute for Science and Education, December 1999 (ORISE 99-1699).

^a Refer to Figures 33 through 34.

^b Uncertainties are total propagated uncertainties at the 95% confidence level.

^c Pa-234m (1001 keV) peak was used to determine activity except where values were less than the MDC in which case the Th-234 (63 keV) result was included in parenthesis.

TABLE 13 (Continued)

**RADIONUCLIDE CONCENTRATIONS IN SURFACE SOIL
EXTERIOR SYSTEMATIC LOCATIONS
GUTERL SPECIALTY STEEL CORPORATION
LOCKPORT, NEW YORK**

Grid Coordinates ^a	Sample Quantity (g)	Radionuclide Concentration (pCi/g)			
		Ra-226	Th-232	U-235	U-238
340N, 60E	988	<0.2	0.5 ± 0.2	<0.3	<7.8 (1.4 ± 0.7)
340N, 100E	686	0.5 ± 0.2	<0.8	1.4 ± 0.5	36.2 ± 9.6
340N, 140E	766	0.5 ± 0.1	0.9 ± 0.2	0.3 ± 0.2	<7.7 (3.4 ± 1.1)
340N, 180E	821	<0.2	<0.3	<0.2	<4.2 (0.9 ± 0.7)
359N, 0E	686	0.5 ± 0.1	0.8 ± 0.3	<0.3	<9.6 (0.8 ± 1.0)
359N, 40E	852	<0.3	<0.5	<0.3	<12 (1.8 ± 0.8)
359N, 80E	755	0.4 ± 0.1	0.7 ± 0.2	<0.3	<8.0 (1.2 ± 0.9)
359N, 120E	728	0.6 ± 0.1	0.9 ± 0.2	<0.3	<6.6 (1.8 ± 0.9)
359N, 160E	785	1.4 ± 0.4	1.4 ± 0.4	<0.6	<14 (2.1 ± 1.3)
359N, 200E	839	0.6 ± 0.1	0.9 ± 0.2	<0.3	<8.2 (2.0 ± 1.3)
240N, 280W	649	0.5 ± 0.1	0.5 ± 0.1	0.1 ± 0.1	5.2 ± 1.8
260N, 20W	1040	0.4 ± 0.1	0.7 ± 0.2	<0.2	<4.4 (1.2 ± 0.6)
260N, 100W	775	0.5 ± 0.2	0.7 ± 0.2	<0.3	<10 (1.1 ± 1.2)
260N, 140W	911	0.5±0.1	<0.4	<0.3	<11 (0.8 ± 0.8)
260N, 180W	1027	<0.1	0.2 ± 0.1	<0.2	<3.9 (1.6 ± 0.7)
260N, 260W	750	0.6 ± 0.1	0.5 ± 0.1	0.9 ± 0.2	18.2 ± 2.9
260N, 300W	658	0.8 ± 0.2	0.5 ± 0.1	0.2 ± 0.2	<4.9
262N, 60W	925	0.4 ± 0.1	0.6 ± 0.2	<0.2	<6.6 (<1.1)
280N, 0W	939	0.6 ± 0.2	0.9 ± 0.3	0.3 ± 0.3	<13 (3.3 ± 1.2)
280N, 40W	742	0.5 ± 0.1	0.7 ± 0.3	<0.3	<9.3 (2.5 ± 1.2)
280N, 80W	795	0.9 ± 0.2	1.2 ± 0.3	0.5 ± 0.3	<9.0 (5.9 ± 1.5)
280N, 160W	776	<0.2	<0.5	<0.3	<7.3 (0.9 ± 1.0)
280N, 200W	800	<0.1	<0.3	<0.2	<5.8 (<0.9)
280N, 240W	613	0.5 ± 0.1	0.8 ± 0.1	0.3 ± 0.1	5.0 ± 2.1
280N, 280W	723	0.4 ± 0.1	0.4 ± 0.1	0.2 ± 0.1	<4.9
280N, 338W	490	0.6 ± 0.1	0.7 ± 0.2	0.2 ± 0.2	5.1 ± 2.4
283N, 120W	992	0.2±0.1	<0.2	<0.2	<4.9 (2.1 ± 0.7)

Source: *Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York.* T.J. Vitkus, Oak Ridge Institute for Science and Education, December 1999 (ORISE 99-1699).

^a Refer to Figures 33 through 34.

^b Uncertainties are total propagated uncertainties at the 95% confidence level.

^c Pa-234m (1001 keV) peak was used to determine activity except where values were less than the MDC in which case the Th-234 (63 keV) result was included in parenthesis.

TABLE 13 (Continued)

**RADIONUCLIDE CONCENTRATIONS IN SURFACE SOIL
EXTERIOR SYSTEMATIC LOCATIONS
GUTERL SPECIALTY STEEL CORPORATION
LOCKPORT, NEW YORK**

Grid Coordinates ^a	Sample Quantity (g)	Radionuclide Concentration (pCi/g)			
		Ra-226	Th-232	U-235	U-238
300N,20W	738	0.7 ± 0.2	<0.8	<0.5	<13 (2.8 ± 1.2)
300N, 60W	648	0.4 ± 0.1	0.5 ± 0.2	<0.2	<5.6 (1.5 ± 0.8)
300N, 100W	891	0.4 ± 0.1	<0.4	0.5 ± 0.3	8.6 ± 3.8
300N, 140W	1058	0.6 ± 0.1	0.9 ± 0.3	1.3 ± 0.4	32.3 ± 7.6
300N, 180W	1003	<0.1	<0.2	<0.2	<5.8 (<0.7)
300N, 220W	877	0.3 ± 0.1	0.4 ± 0.1	0.2 ± 0.1	4.5 ± 2.4
300N, 260W	767	0.4 ± 0.1	0.5 ± 0.1	0.2 ± 0.1	4.9 ± 2.0
300N, 300W	618	0.3 ± 0.1	0.6 ± 0.1	0.1 ± 0.1	<5.1 (1.6 ± 0.5)
320N, 0W	796	0.4 ± 0.1	0.5 ± 0.2	<0.2	<6.0 (1.8 ± 1.1)
320N, 40W	633	0.5 ± 0.1	<0.4	<0.3	<7.7 (2.3 ± 0.9)
320N, 80W	814	0.6 ± 0.2	<0.7	<0.4	<10 (2.2 ± 1.0)
320N, 120W	815	0.3 ± 0.1	<0.2	0.3 ± 0.2	<4.0 (1.3 ± 0.7)
320N, 160W	999	0.5 ± 0.1	0.7 ± 0.2	0.3 ± 0.2	< 12 (3.3 ± 1.2)
320N, 200W	767	0.5 ± 0.1	0.6 ± 0.2	<0.3	<8.6 (2.6 ± 1.2)
320N, 240W	700	0.5 ± 0.1	0.5 ± 0.1	0.2 ± 0.2	6.9 ± 2.9
320N, 280W	723	0.6 ± 0.1	0.8 ± 0.1	0.3 ± 0.1	6.5 ± 2.3
320N, 320W	644	0.6 ± 0.1	0.5 ± 0.1	<0.2	2.0 ± 2.7
340N, 20W	758	0.5 ± 0.1	<0.5	<0.3	<11 (5.0 ± 1.4)
340N, 60W	697	0.6 ± 0.1	0.8 ± 0.2	<0.4	<11 (4.4 ± 1.3)
340N, 100W	929	0.4 ± 0.1	0.5 ± 0.3	0.3 ± 0.2	7.4 ± 4.5
340N. 140W	964	0.8 ± 0.2	<0.5	<0.4	<12 (<1.6)
340N, 180W	981	0.4 ± 0.1	0.3 ± 0.1	<0.2	<5.7 (2.6 ± 0.8)
340N, 220W	567	0.4 ± 0.1	0.6 ± 0.1	0.6 ± 0.2	13.5 ± 3.2
340N, 260W	742	0.5 ± 0.1	0.5 ± 0.1	0.4 ± 0.1	10.2 ± 2.8
340N. 300W	698	0.7 ± 0.2	0.8 ± 0.2	0.3 ± 0.2	5.2 ± 2.9
357N, 120W	781	1.5 ± 0.4	<0.7	<0.5	<11(1.9 ± 1.1)
359N, 40W	632	0.7 ± 0.2	0.8 ± 0.3	0.3 ± 0.2	<9.7 (4.8 ± 1.5)

Source: *Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York.* T.J. Vitkus, Oak Ridge Institute for Science and Education, December 1999 (ORISE 99-1699).

^a Refer to Figures 33 through 34.

^b Uncertainties are total propagated uncertainties at the 95% confidence level.

^c Pa-234m (1001 keV) peak was used to determine activity except where values were less than the MDC in which case the

TABLE 13 (Continued)

**RADIONUCLIDE CONCENTRATIONS IN SURFACE SOIL
EXTERIOR SYSTEMATIC LOCATIONS
GUTERL SPECIALTY STEEL CORPORATION
LOCKPORT, NEW YORK**

Grid Coordinates ^a	Sample Quantity (g)	Radionuclide Concentration (pCi/g)			
		Ra-226	Th-232	U-235	U-238
359N, 80W	702	0.6 ± 0.1	0.8 ± 0.2	<0.3	<6.3 (2.5 ± 1.1)
359N, 160W	750	0.8 ± 0.2	0.7 ± 0.3	<0.3	<8.3 (<1.5)
359N, 200W	737	0.7 ± 0.2	0.8 ± 0.2	<0.3	<8.5 (2.6 ± 1.3)
360N, 240W	967	0.6 ± 0.1	0.6 ± 0.2	0.8 ± 0.3	12.4±8.0
360N, 280W	827	0.6 ± 0.2	0.4 ± 0.3	<0.4	<11 (2.4 ± 1.0)
360N, 320W	736	0.6 ± 0.1	0.5 ± 0.1	0.2 ± 0.1	1.9 ± 1.4
380N, 140W	683	0.6 ± 0.2	0.8 ± 0.4	<0.3	<8.9 (1.0 ± 1.1)
380N, 180W	714	0.6 ± 0.1	0.9 ± 0.3	<0.3	<8.2 (1.8 ± 1.3)
380N, 220W	842	0.4 ± 0.1	0.7 ± 0.2	1.0 ± 0.3	22.6 ± 6.9
380N, 260W	784	0.6 ± 0.1	0.7 ± 0.2	<0.2	<6.0 (3.1 ± 0.9)
380N, 300W	800	0.5 ± 0.1	0.6 ± 0.1	0.2 ± 0.1	3.6 ± 1.9
400N, 120W	579	0.7 ± 0.1	0.8 ± 0.3	<0.3	<8.3 (1.0 ± 0.9)
400N, 160W	755	<0.3	0.7 ± 0.2	<0.3	<8.2 (1.0 ± 0.9)
400N, 200W	1014	0.4 ± 0.1	<0.4	0.3 ± 0.2	7.3 ± 3.3
400N, 240W	861	0.7 ± 0.1	<0.6	0.3 ± 0.3	<9.9 (3.2 ± 1.2)
400N, 280W	775	0.5 ± 0.2	<0.5	<0.4	<10 (2.3 ± 1.3)
400N, 320W	723	0.5 ± 0.1	0.6 ± 0.1	<0.1	<3.9
420N, 140W	596	0.8 ± 0.3	0.9 ± 0.3	<0.5	<12 (<2.3)
420N, 180W	583	0.5 ± 0.2	<0.6	<0.4	<13 (2.8 ± 1.7)
420N, 220W	864	0.4 ± 0.1	0.5 ± 0.2	0.2 ± 0.2	9.1 ± 6.7
420N, 260W	879	0.5 ± 0.1	0.6 ± 0.2	0.4 ± 0.2	<15.5 ± 4.9
420N, 300W	707	0.6 ± 0.1	0.5 ± 0.1	0.1 ± 0.1	2.8 ± 2.4
420N, 340W	536	0.9 ± 0.2	0.6 ± 0.2	0.2 ± 0.2	<5.5 (1.1 ± 0.6)
440N, 320W	653	0.5 ± 0.1	0.5 ± 0.1	0.2 ± 0.1	<3.5

Source: *Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York.* T.J. Vitkus, Oak Ridge Institute for Science and Education, December 1999 (ORISE 99-1699).

^a Refer to Figures 33 through 34.

^b Uncertainties are total propagated uncertainties at the 95% confidence level.

^c Pa-234m (1001 keV) peak was used to determine activity except where values were less than the MDC in which case the Th-234 (63 keV) result was included in parenthesis.

TABLE 14

**RADIONUCLIDE CONCENTRATIONS IN SOIL
EXTERIOR LOCATIONS OF ELEVATED ACTIVITY
GUTERL SPECIALTY STEEL CORPORATION
LOCKPORT, NEW YORK**

Grid Coordinates ^a	Depth (cm)	Sample Quantity	Radionuclide Concentration (pCi/g)			
			Ra-226	Th-232	U-235	U-238
62N, 58E	0-15	688	<0.4	<0.9	5.9 ± 0.9 ^b	108.5 ± 5.8
70N,124E	0-15	1040	<0.3	<0.4	33.3 ± 2.5	912 ± 51
70N, 124E	15-30	928	<0.9	<1.2	137.1 ± 9.4	3,640 ± 190
79N,26E	0-15	682	0.7±0.2	3.8 ± 0.7	2.0 ± 0.7	48 ± 19
82N, 26E	0-15	663	1.0±0.3	39.5 ± 3.8	6.8 ± 1.3	238
83N, 26E	15-30	461	<2.8	307 ± 30	6.6 ± 6.1	320 ± 150
85N, 124E	0-15	1082	<0.5	95.1 ± 8.9	2.4 ± 1.2	185 ± 25
85N, 124E	15-30	924	<0.3	17.9 ± 1.8	3.3 ± 0.7	138 ± 18
89N, 10E	0-15	834	<0.2	7.8 ± 1.0	0.6 ± 0.4	23.4 ± 9.2
90N, 24E	0-15	843	<0.3	6.1 ± 0.8	3.5 ± 0.7	86 ± 15
90N, 24E	15-30	651	0.5 ± 0.2	1.3 ± 0.4	1.5 ± 0.6	45 ± 10
94N, 26E	0-15	795	<0.3	19.6 ± 2.1	3.0 ± 0.9	91 ± 17
94N, 26E	15-30	699	0.7 ± 0.1	<0.6	<0.3	<9.1(1.6 ± 1.5) ^c
101N, 188E	0-15	934	4.3 ± 0.6	2.3±0.7	<0.9	17±16
105N, 116E	0-15	911	<0.5	4.3 ± 0.8	35.3 ± 3.0	2,660 ± 140
105N, 116E	15-30	774	<0.5	1.4 ± 0.4	11.1 ± 1.4	736 ± 57
105N, 186E	0-15	941	1.3 ± 0.2	0.8 ± 0.3	<0.5	<10 (2.2 ± 1.2)
106N, 184E	0-15	875	0.3 ± 0.1	<0.3	0.8 ± 0.3	16.8 ± 6.2
106N, 184E	15-30	876	0.9 ± 0.3	39.1 ± 3.8	1.9 ± 0.8	59 ± 19
106N, 185E	0-15	412	<6.9	<8.7	341 ± 32	44,400 ± 2,200
111N,199E	0-15	608	<1.1	<1.5	433 ± 29	13,020 ± 600
116N,18E	0-15	1152	<0.2	1.7 ± 0.4	11.0 ± 13	266 ± 25
134N, 80E	0-15	846	<0.3	<0.6	13.2 ± 1.4	329 ± 30
135N, 75E	0-15	683	<1.7	<2.1	299 ± 20	8,770 ± 430
135N, 75E	15-30	563	<0.6	<0.9	109.5 ± 7.6	2,750 ± 140
168N, 26E	0-15	161	<5.3	<5.4	1,079 ± 76	54,800 ± 2,700
201N, 185E	0-15	1159	0.4±0.2	11.6 ± 1.2	10.9 ± 1.1	279 ± 21
272N, 108E	0-15	887	<3.7	<4.3	293 ± 23	23,500 ± 1,100

Source: *Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York.* T.J. Vitkus, Oak Ridge Institute for Science and Education, December 1999 (ORISE 99-1699).

^a Refer to Figures 33.

^b Uncertainties are total propagated uncertainties at the 95% confidence level.

^c Pa-234m (1001 keV) peak was used to determine activity except where values were less than the MDC in which case the Th-234 (63 keV) result was included in parenthesis.

TABLE 14 (Continued)

**RADIONUCLIDE CONCENTRATIONS IN SOIL
EXTERIOR LOCATIONS OF ELEVATED ACTIVITY
GUTERL SPECIALTY STEEL CORPORATION
LOCKPORT, NEW YORK**

Grid Coordinates ^a	Depth (cm)	Sample Quantity	Radionuclide Concentration (pCi/g)			
			Ra-226	Th-232	U-235	U-238
276N, 119E	0-15	809	<0.3	33.5 ± 3.3	11.4 ± 1.5	343 ± 29
276N, 119E	15-30	825	0.4 ± 0.2	83 ± 1.0	8.1 ± 0.9	218 ± 19
278N, 145W	0-15	737	0.7 ± 0.2	1.9 ± 0.3	3.1 ± 0.5	84 ± 11
285N, 115E	0-15	870	0.5 ± 0.1	1.2 ± 0.3	1.8 ± 0.4	35.3 ± 7.9
289N, 144W	15-30	720	<0.6	<0.9	118.0 ± 8.1	3,050 ± 160
289N, 144W	0-15	1032	<1.5	<2.0	246 ± 18	6,970 ± 370
296N, 88E	0-15	1006	<0.7	13.0 ± 2.2	48.1 ± 4.7	1,196 ± 98
296N, 88E	15-30	736	<0.4	8.6 ± 1.1	17.6 ± 1.8	397 ± 38
297N, 126W	0-15	1237	<0.1	0.4 ± 0.1	1.0 ± 0.3	23.1 ± 5.8
297N, 126W	15-30	1175	<0.7	<1.0	61.7 ± 5.4	1,860 ± 120
306N, 139W	0-15	936	<0.4	1.1 ± 0.5	16.9 ± 1.8	615 ± 43
306N, 139W	15-30	858	1.1 ± 0.2	1.1 ± 0.3	9.3 ± 1.0	241 ± 21
306N, 94E	0-15	654	0.6 ± 0.3	4.9 ± 0.9	15.5 ± 1.7	397 ± 38
306N, 94E	15-30	707	<0.4	5.4 ± 0.8	19.8 ± 1.8	465 ± 40
326N, 205W	0-15	614	0.4 ± 0.2	5.5 ± 0.9	0.9 ± 0.5	17.8 ± 9.5
345N, 208W	0-15	883	0.4 ± 0.1	<0.3	8.2 ± 0.7	182 ± 13
379N, 199W	0-15	779	1.1 ± 0.3	8.7 ± 0.9	0.5 ± 0.3	6.5 ± 4.9
379N, 199W	15-30	685	1.5 ± 0.2	21.8 ± 2.1	0.3 ± 0.4	12.8 ± 6.1
395N, 204W	0-15	781	1.4 ± 0.2	11.0 ± 1.1	0.7 ± 0.2	17.0 ± 4.0
405N, 215W	0-15	817	21.0 ± 1.8	1.2 ± 0.3	0.3 ± 0.3	<8.6 (5.2 ± 1.5)

Source: *Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York.* T.J. Vitkus, Oak Ridge Institute for Science and Education, December 1999 (ORISE 99-1699).

^a Refer to Figures 33 through 34.

^b Uncertainties are total propagated uncertainties at the 95% confidence level.

^c Pa-234m (1001 keV) peak was used to determine activity except where values were less than the MDC in which case the Th-234 (63 keV) result was included in parenthesis.

TABLE 15

**RADIONUCLIDE CONCENTRATIONS IN SOIL
EXTERIOR BOREHOLE LOCATIONS
GUTERL SPECIALTY STEEL CORPORATION
LOCKPORT, NEW YORK**

Grid Coordinates ^a	Depth (cm)	Sample Quantity (g)	Radionuclide Concentration (pCi/g)			
			Ra-226	Th-232	U-235	U-238
107N, 184E	0-15	904	<0.2	<0.3	0.2 ± 0.2 ^b	3.8 ± 4.7
107N, 184E	15-60	438	0.6 ± 0.1	1.0 ± 0.3	1.6 ± 0.4	35.9 ± 8.5
107N, 184E	60-120	309	1.2 ± 0.3	<0.9	<0.7	10.4 ± 8.4
168N, 24E	0-15	931	<0.1	<0.3	<0.2	<6.9 (0.9 ± 0.7)
168N, 24E	15-60	166	0.5 ± 0.1	<0.4	<0.3	<7.4 (1.5 ± 0.8)
168N, 24E	60-120	646	0.6 ± 0.2	0.8 ± 0.3	<0.4	<9.0 (3.2 ± 0.7)
200N, 184E	0-15	967	0.3 ± 0.2	11.5 ± 1.2	10.4 ± 1.1	225 ± 21
200N, 184E	15-60	681	0.9 ± 0.3	2.9 ± 0.6	2.4 ± 0.6	30 ± 12
200N, 184E	60-120	382	1.0 ± 0.2	1.2 ± 0.4	0.3 ± 0.3	<11 (5.7 ± 0.8)
224N, 160E	0-15	1076	1.0 ± 0.1	1.3 ± 0.2	<0.2	<5.8 (2.0 ± 0.5)
224N, 160E	15-60	193	2.1 ± 0.3	2.6 ± 0.4	<0.4	<9.2 (3.3 ± 0.5)
224N, 160E	60-120	817	1.2 ± 0.2	1.2 ± 0.3	<0.3	<9.4 (1.5 ± 0.7)
224N, 160E	120-180	169	1.0 ± 0.2	<0.6	<0.3	<9.5 (1.7 ± 0.6)
275N, 146E	0-15	816	0.8 ± 0.3	1.9 ± 0.4	1.4 ± 0.6	83 ± 15
275N, 146E	15-60	418	1.1 ± 0.2	1.4 ± 0.4	0.8 ± 0.3	33 ± 12
275N, 146E	60-120	148	0.6 ± 0.2	1.0 ± 0.3	0.3 ± 0.4	9.0 ± 8.7
277N, 84E	0-15	1328	<0.1	0.3 ± 0.1	0.2 ± 0.1	<5.1(0.7 ± 0.4)
277N, 84E	15-60	932	0.4 ± 0.1	0.5 ± 0.1	<0.2	<5.9 (1.5 ± 0.5)
277N, 84E	60-120	536	0.4 ± 0.1	0.5 ± 0.2	<0.2	<5.3 (2.1 ± 0.4)
289N, 87E	0-15	717	<0.7	23.0 ± 2.6	34.7 ± 3.1	828 ± 62
289N, 87E	15-60	440	<0.3	6.0 ± 0.8	10.3 ± 1.2	268 ± 26
290N, 76E	0-15	783	0.8 ± 0.1	0.8 ± 0.2	0.2 ± 0.3	8.5 ± 4.7
290N, 76E	15-60	403	0.7 ± 0.1	<0.4	<0.3	<8.1 (3.7 ± 0.6)
290N, 76E	60-120	194	0.2 ± 0.1	<0.3	<0.3	<7.4 (1.1 ± 0.5)
290N, 98E	0-15	924	0.5 ± 0.1	0.6 ± 0.3	1.1 ± 0.4	32 ± 11
290N, 98E	15-60	419	<0.3	1.2 ± 0.3	1.7 ± 0.5	24 ± 12
290N, 98E	60-120	142	0.7 ± 0.2	1.2 ± 0.3	1.1 ± 0.3	25 ± 12
291N, 120E	0-15	1039	<0.2	<0.4	<0.4	<11 (4.3 ± 0.7)
291N, 120E	15-60	160	0.5 ± 0.2	<0.6	0.6 ± 0.3	12 ± 10
291N, 120E	60-120	449	0.7 ± 0.2	<0.6	<0.4	<11 (2.4 ± 0.6)
291N, 154E	0-15	490	0.4 ± 0.1	3.4 ± 0.5	0.3 ± 0.3	9.1 ± 6.3
291N, 154E	15-60	361	1.0 ± 0.2	7.2 ± 0.9	<0.5	<11 (8.7 ± 1.1)

Source: *Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York.* T.J. Vitkus,
Oak Ridge Institute for Science and Education, December 1999 (ORISE 99-1699).

^a Refer to Figures 33 and 34.

^b Uncertainties are total propagated uncertainties at the 95% confidence level.

^c Pa-234m (1001 keV) peak was used to determine activity except where values were less than the MDC in which case the Th-234 (63 keV) result was included in parenthesis.

TABLE 15 (Continued)

**RADIONUCLIDE CONCENTRATIONS IN SOIL
EXTERIOR BOREHOLE LOCATIONS
GUTERL SPECIALTY STEEL CORPORATION
LOCKPORT, NEW YORK**

Grid Coordinates ^a	Depth (cm)	Sample Quantity (g)	Radionuclide Concentration (pCi/g)			
			Ra-226	Th-232	U-235	U-238
291N, 154E	60-120	452	0.7 ± 0.1	1.2 ± 0.3	<0.3	<9.4 (1.4 ± 0.6)
291N, 154E	120-180	201	0.2±0.1	<0.5	<0.4	-<9.4 (0.7± 0.5)
303N, 112E	0-15	762	0.8 ± 0.1	1.2 ± 0.3	0.8 ± 0.3	18.9 ± 6.0
303N, 112E	15-60	381	1.0 ± 0.2	1.7 ± 0.4	1.1 ± 0.4	12.5 ± 8.5
303N, 112E	60-120	177	0.9 ± 0.2	1.3 ± 0.4	<0.4	<14 (6.0 ± 0.8)
304N,118E	0-15	873	<0.7	<1.1	105.7 ± 7.6	3110 ± 160
304N, 126E	0-15	804	<0.2	1.3 ± 0.3	3.6 ± 0.6	79 ± 13
304N, 126E	15-60	376	0.6 ± 0.2	1.9 ± 0.4	2.6 ± 0.4	79 ± 13
304N, 126E	60-120	132	<0.4	<0.8	0.8 ± 0.5	79 ± 13
310N, 84E	0-15	819	0.6 ± 0.2	1.0 ± 0.3	0.9 ± 0.4	14.6 ± 8.7
310N, 84E	15-60	694	0.7 ± 0.2	0.7 ± 0.3	<0.3	<11 (5.4 ± 1.0)
310N, 84E	60-120	799	0.6 ± 0.2	<0.6	<0.4	<11 (1.9 ± 0.9)
310N, 118E	0-15	936	<0.2	1.0 ± 03	1.0 ± 0.4	30.2 ± 8.4
310N, 118E	15-60	849	0.8 ± 0.1	1.1 ± 0.3	0.4 ± 0.4	14.8 ± 5.3
310N, 118E	60-120	423	0.6 ± 0.1	0.6 ± 0.2	0.5 ± 0.3	11.2 ± 6.4
311N, 13E	0-15	713	0.9 ± 0.2	2.7 ± 0.4	0.3 ± 0.4	<9.3 (5.8 ± 1.9)
311N, 13E	15-60	363	0.8 ± 0.2	0.5 ± 0.3	0.2 ± 0.3	<9.4 (3.8 ± 1.3)
311N, 13E	60-120	778	0.4 ± 0.1	0.7 ± 0.2	<0.3	<7.4 (0.5 ± 0.7)
311N, 13E	0-15	896	0.5 ± 0.1	4.7 ± 0.2	11.2 ± 0.4	288.4 ± 9.7
312N, 65E	15-60	579	0.5 ± 0.1	1.2 ± 0.3	1.5 ± 0.3	37.2 ± 8.5
312N, 65E	60-120	928	0.3 ± 0	0.4 ± 0.1	<0.2	<4.7 (1.4 ± 0.3)
313N, 64E	0-15	955	0.4 ± 0.3	6.7 ± 0.7	16.4 ± 1.2	397 ± 29
313N, 64E	15-60	525	0.5 ± 0.2	2.0 ± 0.3	3.3 ± 0.4	89 ± 15
313N, 64E	60-120	178	<0.2	2.3 ± 0.5	5.6 ± 0.6	159 ± 18
272N, 79W	0-15	888	<0.3	<0.5	14.6 ± 1.3	428 ± 29
272N, 79W	15-60	668	<0.3	0.8 ± 0.3	18.0 ± 1.6	471 ± 34
272N, 79W	60-120	454	0.4 ± 0.1	<0.3	3.4 ± 0.5	85 ± 10
272N, 79W	120-180	805	<0.3	<0.5	1.3 ± 0.4	23 ± 10
282N, 87W	0-15	1194	<0.2	<0.4	12.2 ± 1.2	343 ± 26
282N, 87W	15-60	678	1.0 ± 0.2	0.8 ± 0.3	4.6 ± 0.7	118 ± 14
282N, 87W	60-120	452	0.6 ± 0.2	<0.6	1.2 ± 0.3	34.7 ± 8.2

Source: *Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York.* T.J. Vitkus,
Oak Ridge Institute for Science and Education, December 1999 (ORISE 99-1699).

^a Refer to Figures 33 and 34.

^b Uncertainties are total propagated uncertainties at the 95% confidence level.

^c Pa-234m (1001 keV) peak was used to determine activity except where values were less than the MDC in which case the Th-234 (63 keV) result was included in parenthesis.

TABLE 15 (Continued)

**RADIONUCLIDE CONCENTRATIONS IN SOIL
EXTERIOR BOREHOLE LOCATIONS
GUTERL SPECIALTY STEEL CORPORATION
LOCKPORT, NEW YORK**

Grid Coordinates ^a	Depth (cm)	Sample Quantity (g)	Radionuclide Concentration (pCi/g)			
			Ra-226	Th-232	U-235	U-238
282N, 87W	120-180	511	0.5 ± 0.1	<0.4	0.3 ± 0.2	11.9 ± 5.4
282N, 165W	0-15	817	0.3 ± 0.1	0.4 ± 0.1	<0.2	<4.4 (1.5 ± 0.8)
282N, 165W	15-60	343	0.6 ± 0.1	0.9 ± 0.3	0.9 ± 0.3	21.0 ± 8.8
282N, 165W	60-120	156	1.2 ± 0.2	1.2 ± 0.4	0.9 ± 0.3	22 ± 10
284N, 147W	0-15	837	<0.2	0.7 ± 0.2	0.9 ± 0.3	15.6 ± 6.9
284N, 147W	15-60	391	<0.2	0.7 ± 0.3	0.4 ± 0.3	7.7 ± 5.6
284N, 147W	60-120	725	0.6 ± 0.1	0.7 ± 0.2	<0.2	5.0 ± 4.4
284N, 147W	120-180	173	<0.2	0.4 ± 0.2	0.5 ± 0.2	10.7 ± 7.6
290N, 126W	0-15	977	0.5 ± 0.1	0.5 ± 0.2	0.6 ± 0.3	20.3 ± 6.7
290N, 126W	15-60	176	0.5 ± 0.2	<0.5	2.6 ± 0.5	73 ± 12
290N, 126W	60-120	390	1.4 ± 0.2	1.5 ± 0.3	0.4 ± 0.3	15.1 ± 7.2
290N, 126W	120-180	166	0.7 ± 0.2	0.9 ± 0.3	0.6 ± 0.3	< 14 (12.8 ± 1.6)
299N, 43W	0-15	1136	0.5 ± 0.1	0.7 ± 0.2	1.9 ± 0.4	28.0 ± 1.8
299N, 43W	15-60	566	<0.5	<0.7	93.1 ± 6.6	2,830 ± 140
299N, 43W	60-120	641	<0.1	0.8 ± 0.2	2.2 ± 0.3	50.2 ± 8.1
299N, 43W	120-180	836	0.5 ± 0.1	<0.4	2.7 ± 0.4	64 ± 12
299N, 43W	180-210	298	<0.3	0.6 ± 0.4	17.7 ± 1.6	415 ± 33
304N, 80W	0-15	750	0.7 ± 0.4	19.5 ± 2.1	<1.0	<13 (<3.6)
304N, 80W	15-60	319	0.6 ± 0.2	2.5 ± 0.6	<0.4	< 11 (3.0 ± 1.4)
304N, 80W	60-120	338	1.5 ± 0.3	1.5 ± 0.4	0.4 ± 0.4	12.8 ± 8.6
304N, 80W	120-180	467	0.8 ± 0.2	1.0 ± 0.3	0.5 ± 0.3	9.0 ± 7.5
304N, 158W	0-15	841	<0.3	<0.5	17.1 ± 1.6	425 ± 35
304N, 158W	15-60	572	<1.0	<1.3	525 ± 35	17,780 ± 810
304N, 158W	60-120	478	<0.8	<1.1	262 ± 18	6,970 ± 330
304N, 158W	120-180	535	<0.3	<0.4	4.6 ± 0.7	121 ± 17
304N, 158W	0-15	758	0.5 ± 0.2	0.8 ± 0.3	<0.4	< 15 (2.4 ± 1.3)
319N, 145W	15-60	813	<0.3	0.8 ± 0.2	8.2 ± 1.0	223 ± 23
319N, 145W	60-120	191	1.2 ± 0.3	<0.8	31.3 ± 2.6	819 ± 56
319N, 145W	120-180	390	<0.3	1.0 ± 0.3	0.5 ± 0.2	11.3 ± 7.4
325N, 177W	0-15	1272	<0.4	<0.5	63.8 ± 2.0	1,843 ± 49
325N, 177W	15-60	249	0.2 ± 0.1	0.7 ± 0.3	1.1 ± 0.4	31.7 ± 8.9
325N, 177W	60-120	198	0.4 ± 0.1	0.7 ± 0.1	1.1 ± 0.2	35.1 ± 4.1
342N, 121W	0-15	587	1.3 ± 0.2	1.7 ± 0.4	<0.4	<14 (3.6 ± 1.8)

Source: *Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York.* T.J. Vitkus,
Oak Ridge Institute for Science and Education, December 1999 (ORISE 99-1699).

^a Refer to Figures 33 and 34.

^b Uncertainties are total propagated uncertainties at the 95% confidence level.

^c Pa-234m (1001 keV) peak was used to determine activity except where values were less than the MDC in which case the Th-234 (63 keV) result was included in parenthesis.

TABLE 15 (Continued)

**RADIONUCLIDE CONCENTRATIONS IN SOIL
EXTERIOR BOREHOLE LOCATIONS
GUTERL SPECIALTY STEEL CORPORATION
LOCKPORT, NEW YORK**

Grid Coordinates ^a	Depth (cm)	Sample Quantity (g)	Radionuclide Concentration (pCi/g)			
			Ra-226	Th-232	U-235	U-238
342N, 121W	15-60	137	<0.5	<1.0	<0.7	<21 (5.3 ± 1.7)
342N, 121W	60-120	794	0.7 ± 0.2	1.1 ± 0.3	<0.5	<14 (1.2 ± 1.1)
358N, 19W	0-15	732	<0.4	<0.5	6.0 ± 0.9	142 ± 24
358N, 19W	15-60	459	0.6 ± 0.1	0.9 ± 0.1	5.2 ± 0.3	136.3 ± 6.5
358N, 19W	60-120	768	0.6 ± 0.1	0.8 ± 0.3	2.3 ± 0.5	48 ± 13
358N, 19W	120-180	277	0.5 ± 0.2	0.6 ± 0.3	1.0 ± 0.4	31 ± 13
362N, 197W	0-15	960	0.7 ± 0.2	2.0 ± 0.3	0.6 ± 0.4	8.0 ± 7.4
362N, 197W	15-60	174	1.1 ± 0.2	3.2 ± 0.5	1.3 ± 0.4	19 ± 16
362N, 197W	60-120	79 ^d	<0.5	3.2 ± 1.2	<0.8	<35 (5.7 ± 2.5)
362N, 197W	120-180	192	1.0 ± 0.2	5.5 ± 0.8	0.9 ± 0.5	27 ± 12
402N, 186W	0-15	833	0.7 ± 0.3	17.1 ± 1.8	<0.9	18 ± 10
402N, 186W	15-60	175	<0.4	15.8 ± 1.8	<0.8	<17 (15.2 ± 1.8)
402N, 186W	60-120	523	0.8 ± 0.2	3.1 ± 0.5	0.3 ± 0.3	<11 (6.2 ± 0.9)
402N, 186W	120-180	159	1.2 ± 0.3	6.8 ± 0.9	<0.6	9.8 ± 7.6
410N, 189W	0-15	435	<2.0	371 ± 35	<5.4	<75 (20 ± 10)
410N, 189W	15-60	423	0.7 ± 0.3	13.1 ± 1.5	<0.7	<14 (5.5 ± 2.7)
410N, 189W	60-120	488	0.8 ± 0.3	17.4 ± 1.9	<1.2	<19 (1.7 ± 2.8)
410N, 189W	120-180	876	0.9 ± 0.2	3.9 ± 0.6	<0.5	<8.6 (2.5 ± 1.7)
412N, 191W	0-15	667	0.9 ± 0.2	2.9 ± 0.4	<0.4	<8.4 (6.5 ± 1.9)
412N, 191W	15-60	467	1.8 ± 0.2	5.1 ± 0.6	0.5 ± 0.3	10.7 ± 4.9
412N, 191W	60-120	475	1.2 ± 0.2	1.9 ± 0.4	<0.5	<12 (3.1 ± 1.4)
412N, 191W	120-180	510	0.9 ± 0.1	1.3 ± 0.3	<0.3	<7.5 (0.9 ± 0.9)

Source: *Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York.* T.J. Vitkus,
Oak Ridge Institute for Science and Education, December 1999 (ORISE 99-1699).

^a Refer to Figures 33 and 34.

^b Uncertainties are total propagated uncertainties at the 95% confidence level.

which case the Th-234 (63 keV) result was included in parenthesis.

^d Sample had insufficient volume for an appropriate geometry. Values are semi-quantitative.

TABLE 16
RADIONUCLIDE CONCENTRATIONS IN SOIL
EXTERIOR CLASS 3 AREA
GUTERL SPECIALTY STEEL CORPORATION
LOCKPORT, NEW YORK

Sample ID ^a	Sample Quantity (g)	Radionuclide Concentration (pCi/g)			
		Ra-226	Th-232	U-235	U-238
253	675	0.7 ± 0.1 ^b	<0.4	<0.3	<5.6 (0.4 ± 0.7) ^c
254	951	0.5 ± 0.1	0.6 ± 0.2	<0.2	<4.6 (<0.9)
255	844	0.2 ± 0.1	<0.4	<0.3	<7.5 (<1.1)
256	831	0.5 ± 0.1	<0.4	<0.2	<7.9 (<1.0)
257	663	<0.2	0.9 ± 0.2	<0.3	<5.8 (1.9 ± 1.0)
258	929	0.6 ± 0.1	0.4 ± 0.2	<0.3	<5.8 (1.7±1.1)
259	1039	0.3 ± 0.1	<0.3	<0.2	<6.5 (<0.9)
260	1004	0.5 ± 0.1	<0.3	<0.2	<5.9 (1.1 ± 0.8)
261	964	2.1 ± 0.2	0.9 ± 0.2	<0.3	<6.9(1.4 ± 0.9)
262	961	0.7 ± 0.1	0.5 ± 0.2	<0.2	<4.8 (0.7± 0.5)
263	595	1.5 ± 0.2	0.9 ± 0.2	<0.3	4.6 ± 4.1
264	993	5.3 ± 0.5	1.9 ± 0.5	<0.8	<15 (5.7 ± 2.1)
265	567	0.8 ± 0.1	0.5 ± 0.2	<0.2	<4.9 (0.9 ± 0.8)
266	864	0.5 ± 0.1	0.6 ± 0.2	<0.3	<7.5 (1.6 ± 0.7)
267	1225	<0.1	<0.2	<0.1	<3.7 (<0.6)
268	843	<0.3	<0.4	<0.3	<8.8 (1.4 ± 0.9)
269	547	0.8 ± 0.2	<1.0	<0.6	<13 (1.6 ± 2.0)
270	939	9.7 ± 0.9	2.2 ± 0.6	<0.7	<15 (8.8 ± 2.4)

Source: *Radiological Survey of the Guterl Specialty Steel Corporation, Lockport, New York.* T.J. Vitkus,
Oak Ridge Institute for Science and Education, December 1999 (ORISE 99-1699).

^a Refer to Figure 35.

^b Uncertainties are total propagated uncertainties at the 95% confidence level.

^c Pa-234m (1001 keV) peak was used to determine activity except where values were less than the MDC in which case the Th-234 (63 keV) result was included in parenthesis.

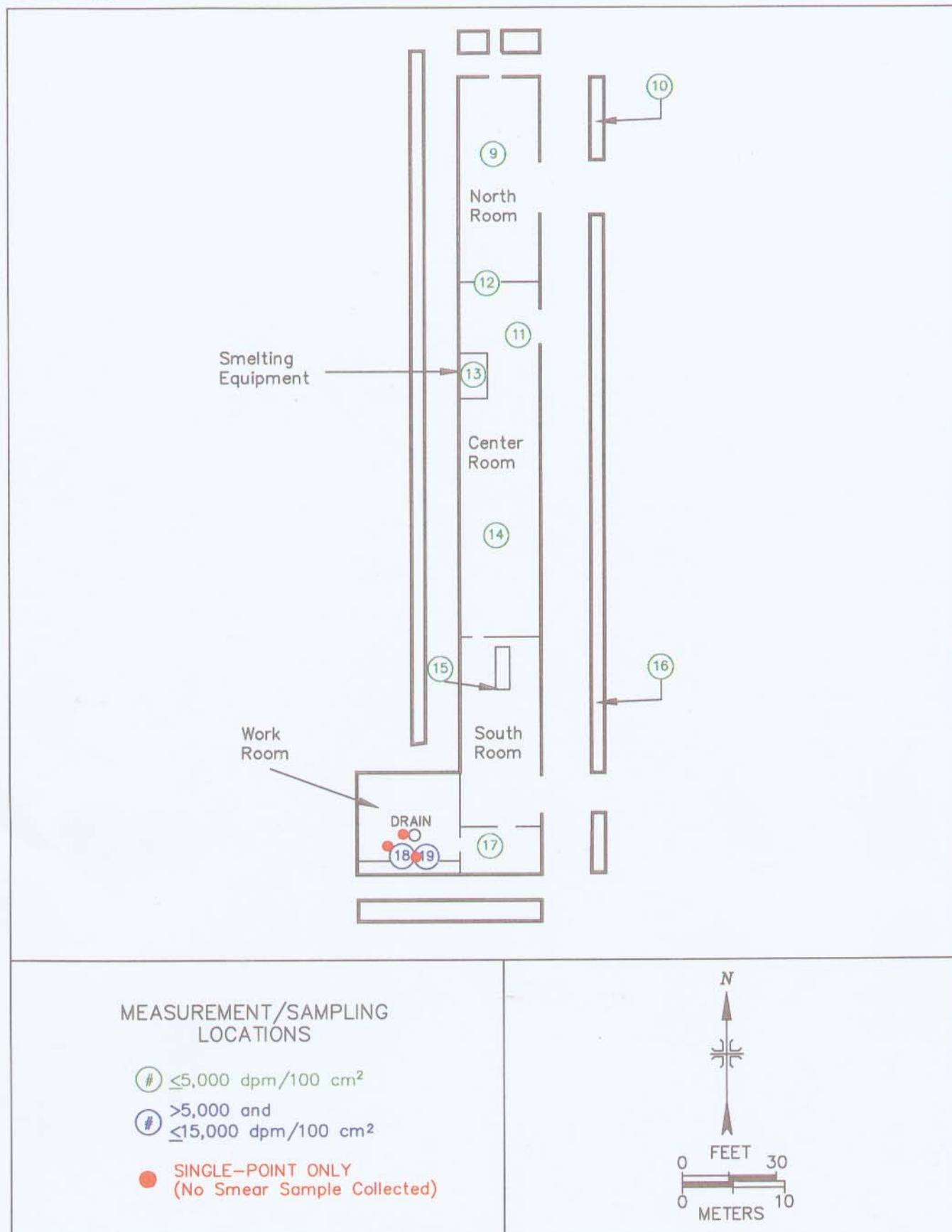


FIGURE 11: Building 1, Floors, Lower Walls, and Equipment – Direct Measurement and Sampling Locations

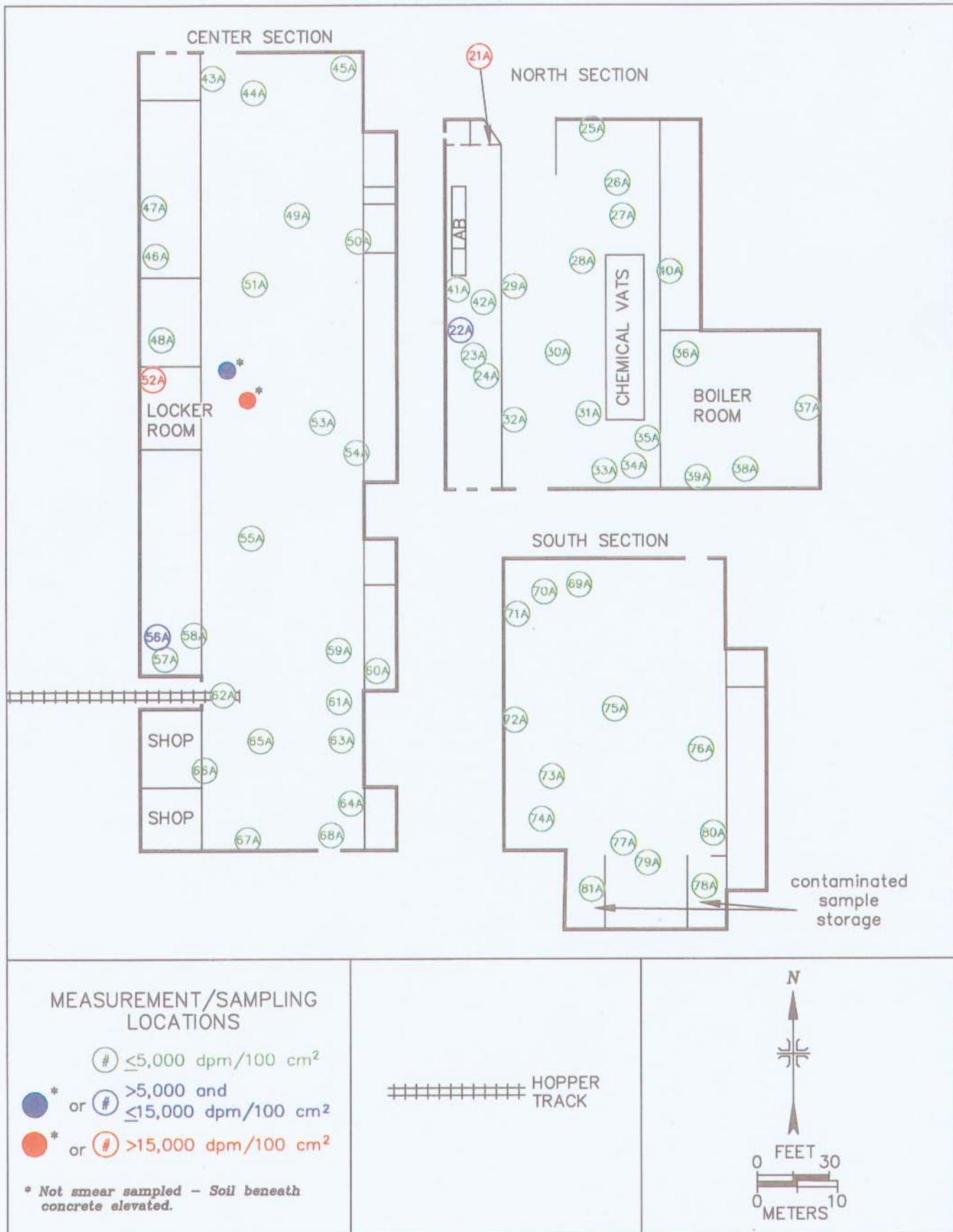


FIGURE 12: Building 2, Floor, Lower Walls, and Equipment – Direct Measurement and Sampling Locations

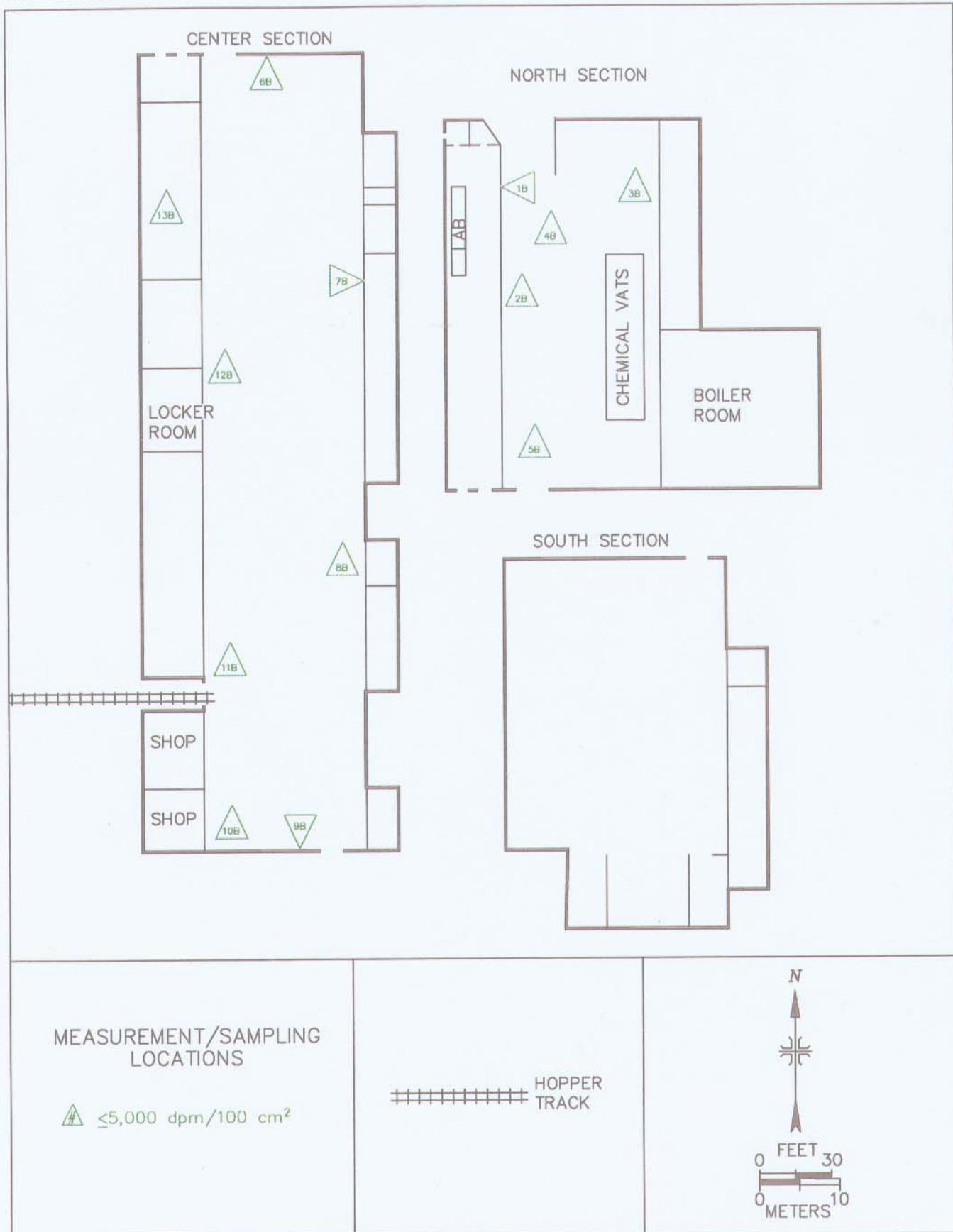


FIGURE 13: Building 2, Upper Surfaces – Direct Measurement and Sampling Locations

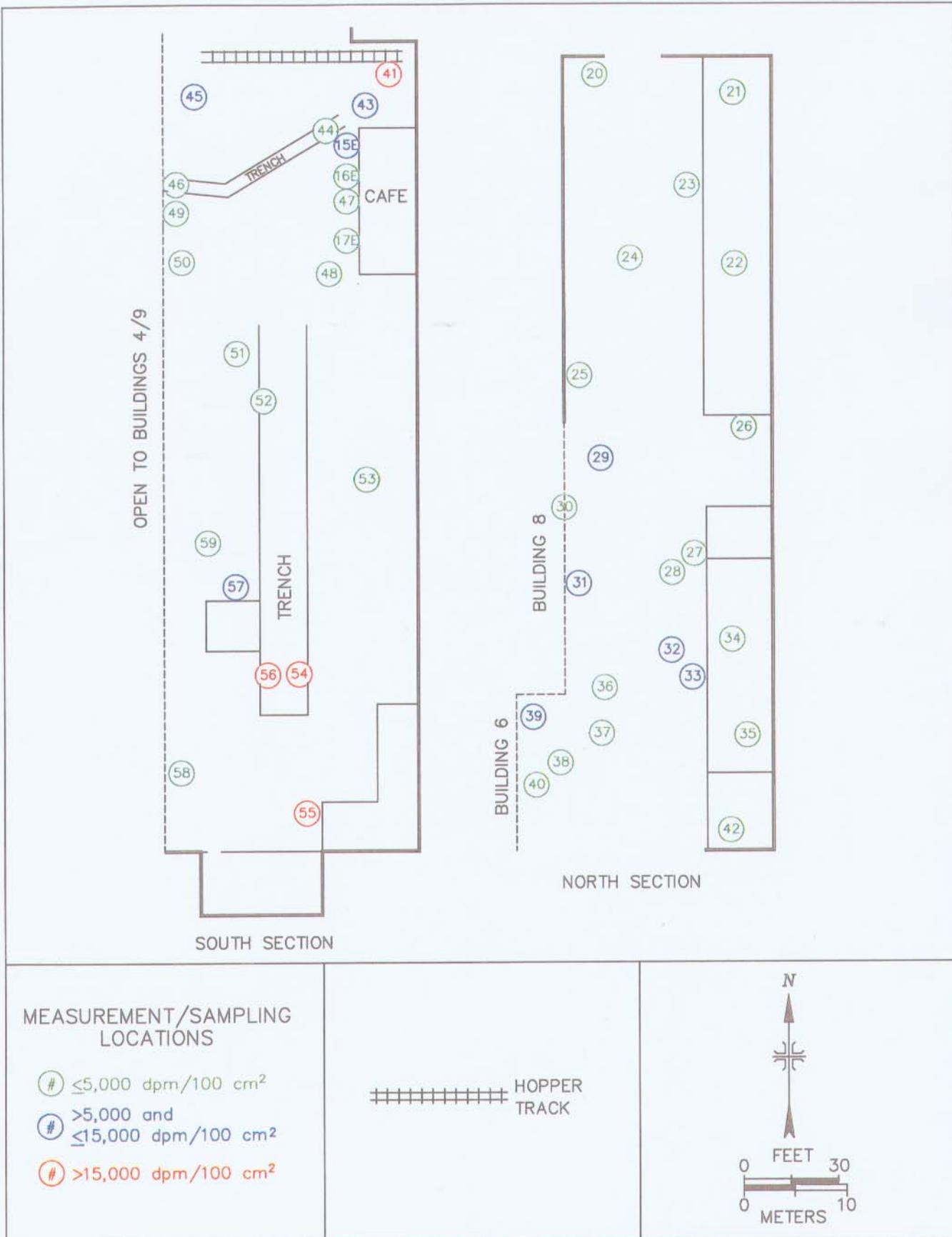


FIGURE 14: Building 3, Floors, Lower Walls, and Equipment – Direct Measurement and Sampling Locations

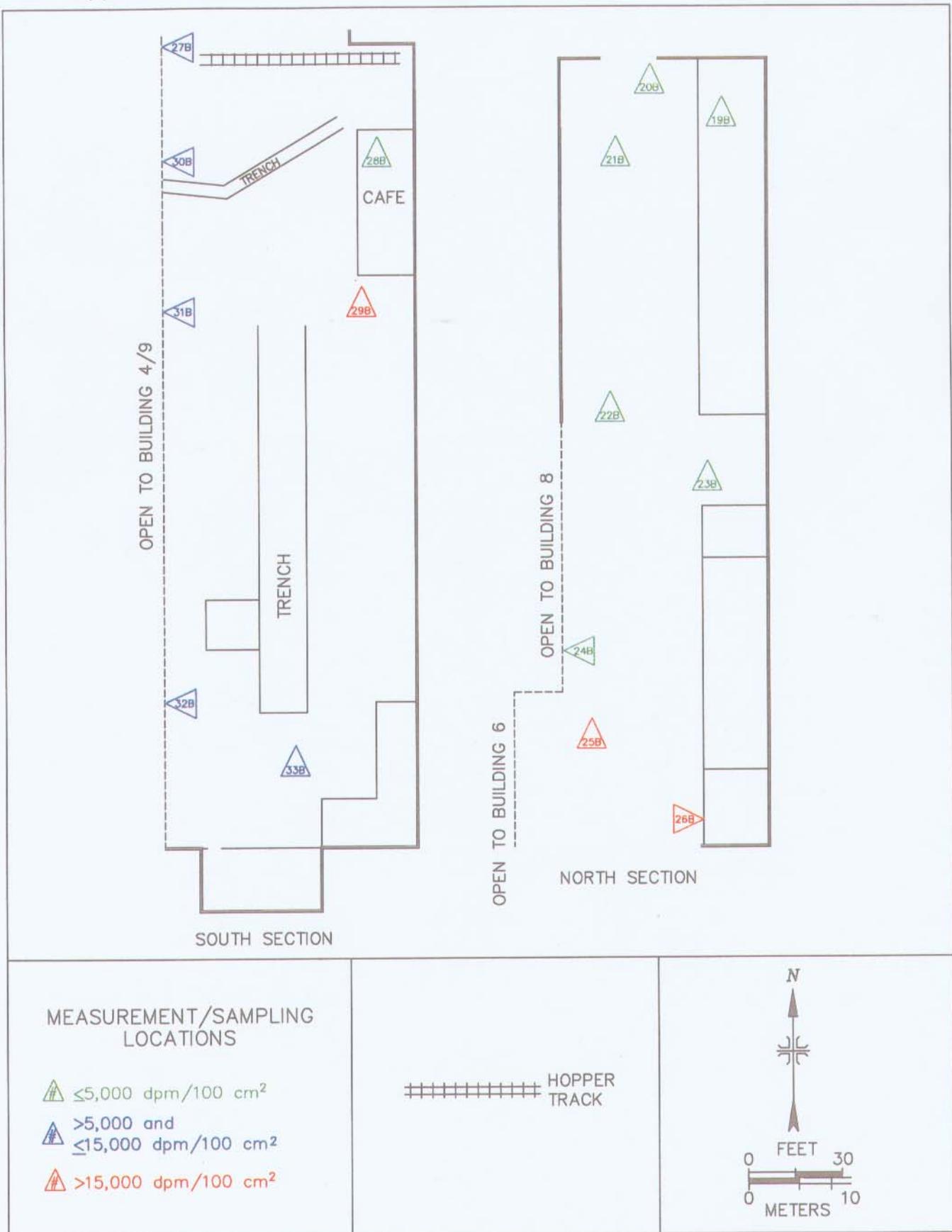


FIGURE 15: Building 3, Upper Surfaces – Direct Measurement and Sampling Locations

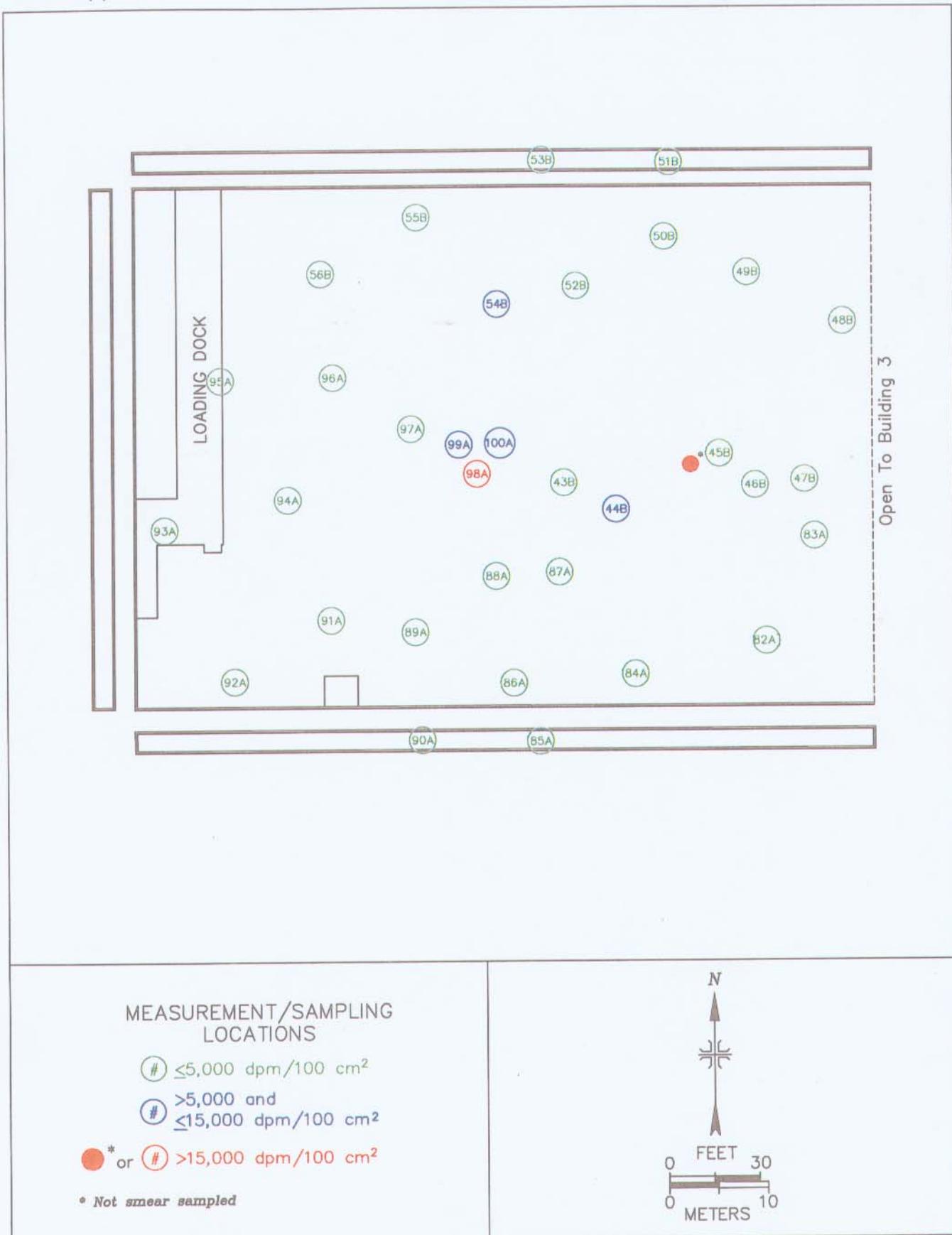


FIGURE 16: Building 4 and 9, Floors, Lower Walls, and Equipment – Direct Measurement and Sampling Locations

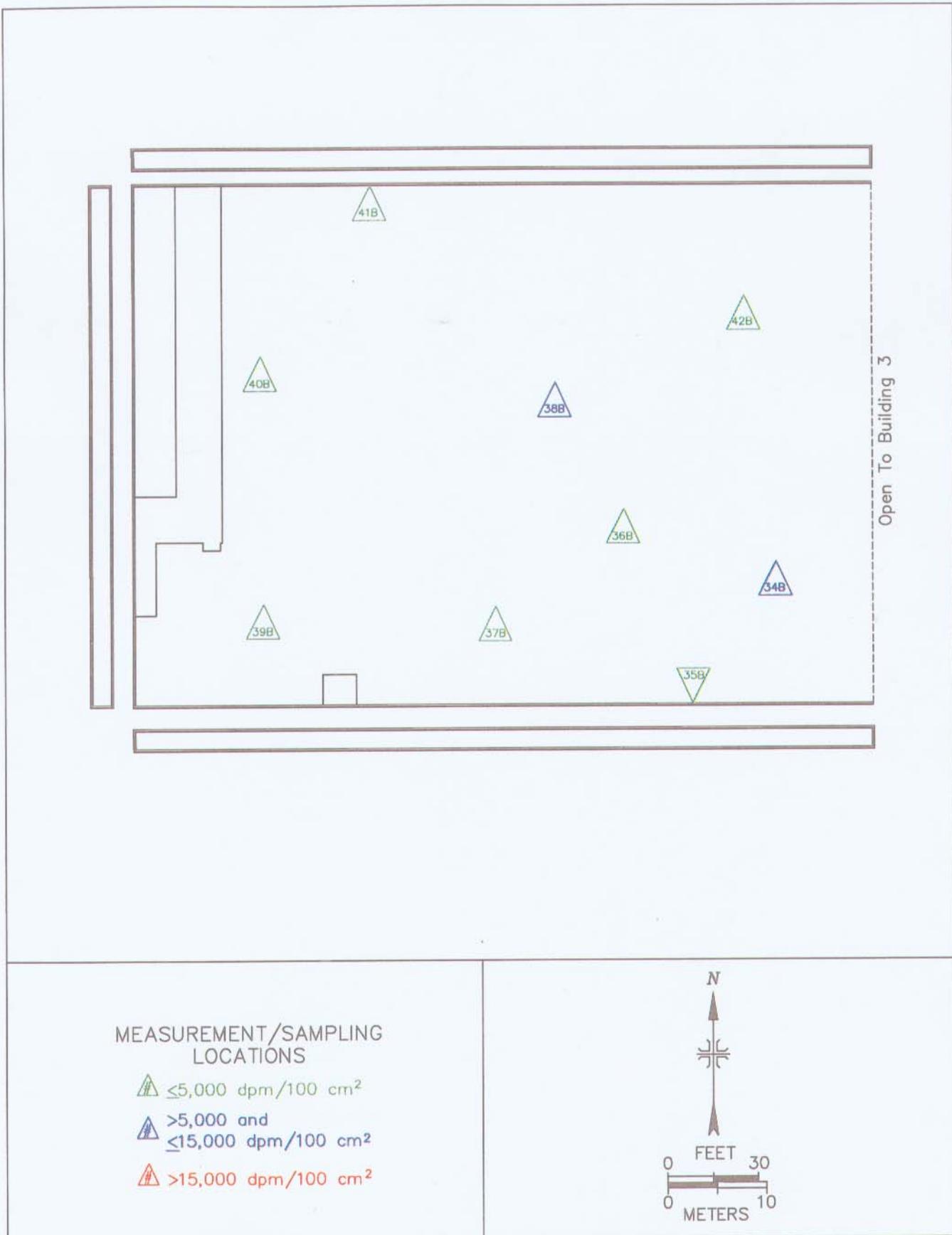


FIGURE 17: Building 4 and 9, Upper Surfaces – Direct Measurement and Sampling Locations

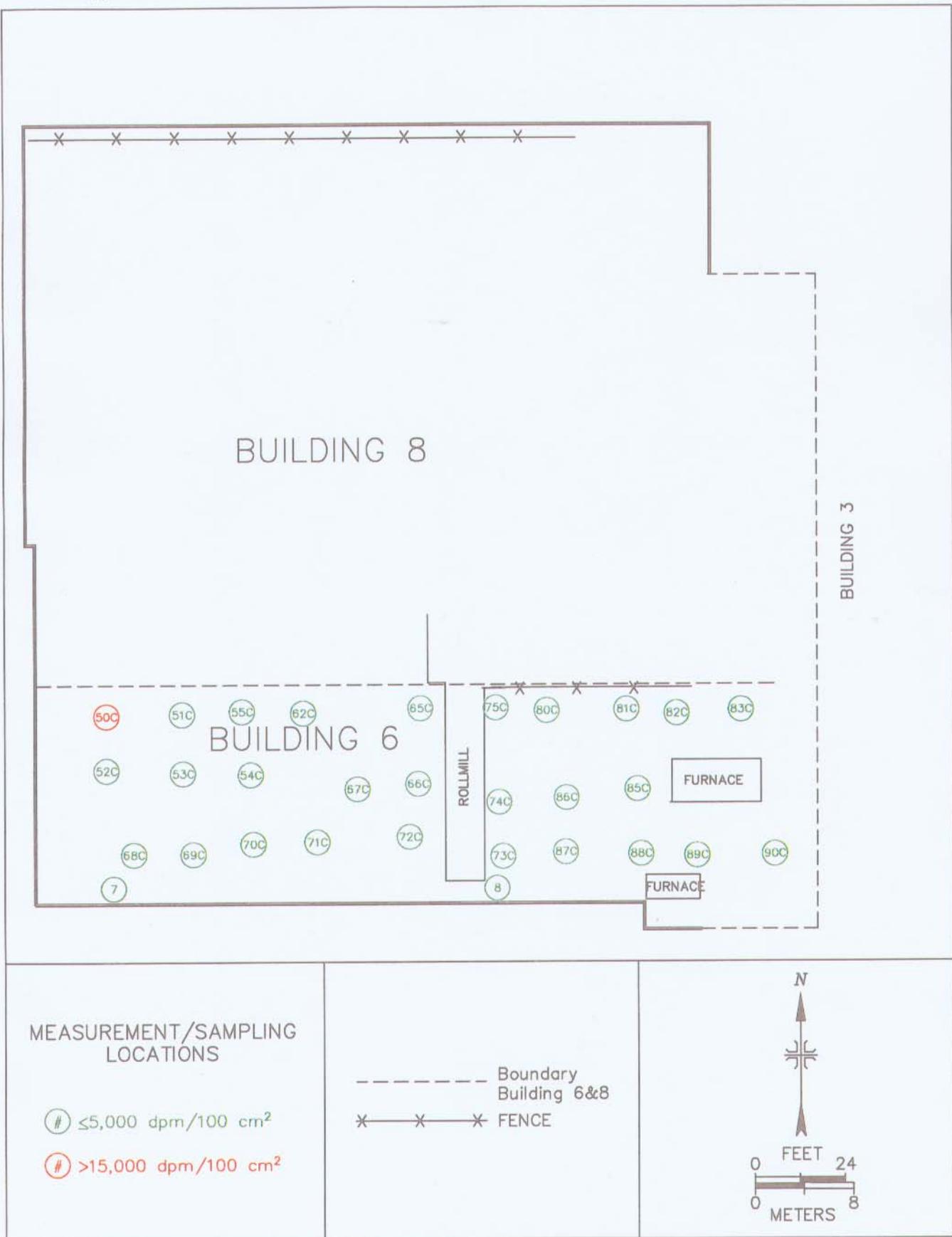


FIGURE 18: Building 6, Floors, Lower Walls, and Equipment – Direct Measurement and Sampling Locations

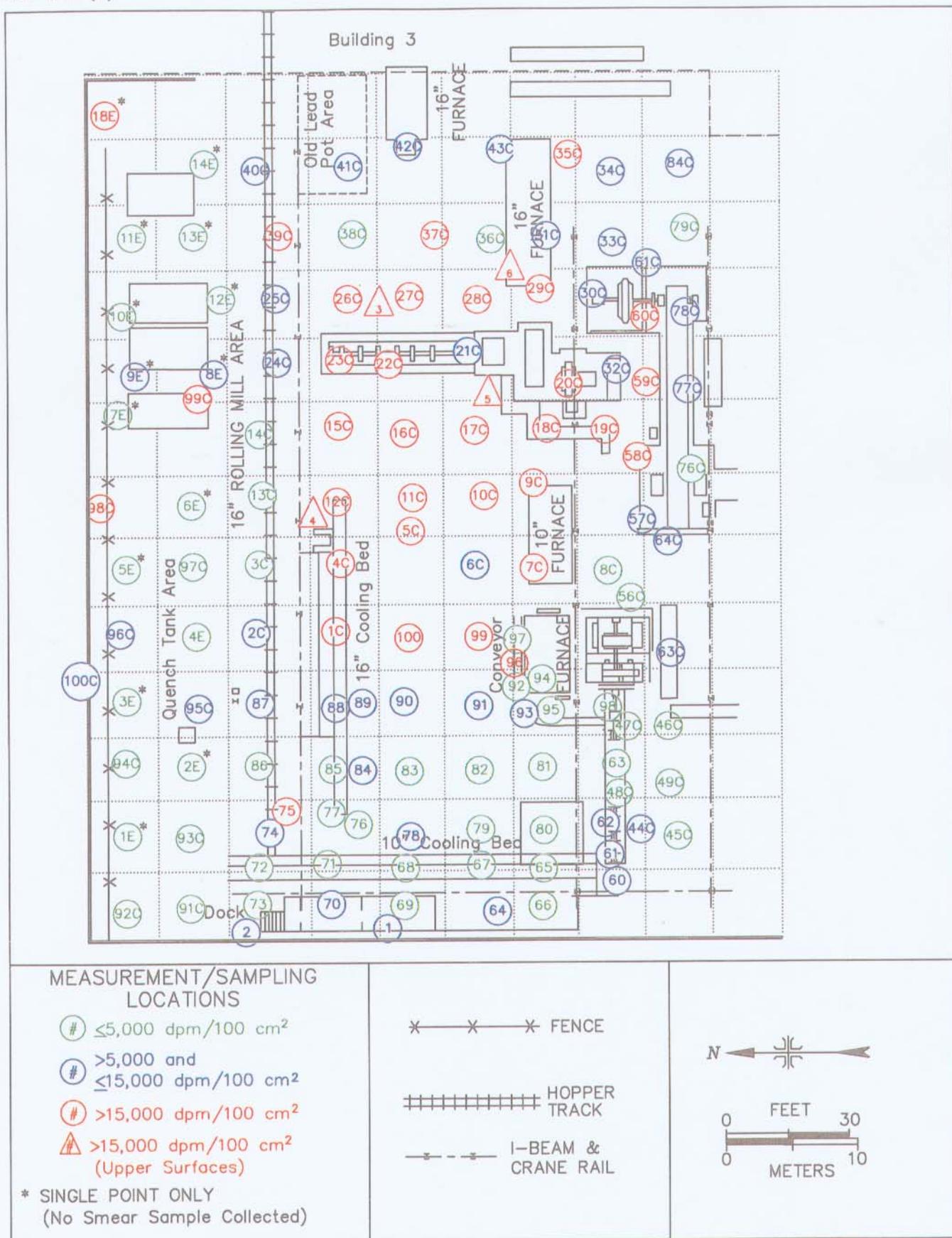


FIGURE 19: Building 8, Floors, Lower Walls, and Equipment – Direct Measurement and Sampling Locations

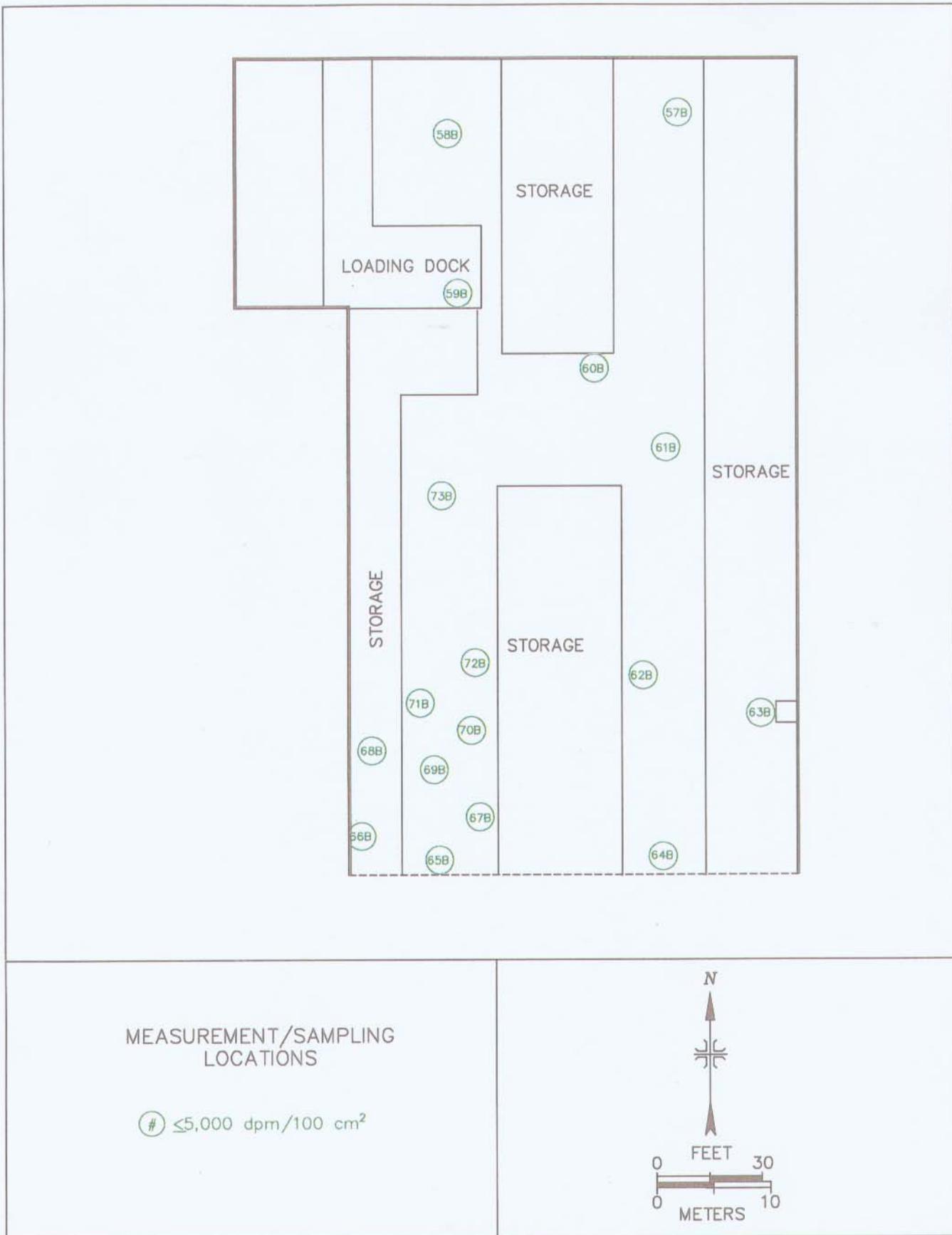


FIGURE 20: Building 24, North Area, Floor, Lower Walls, and Equipment – Direct Measurement and Sampling Locations

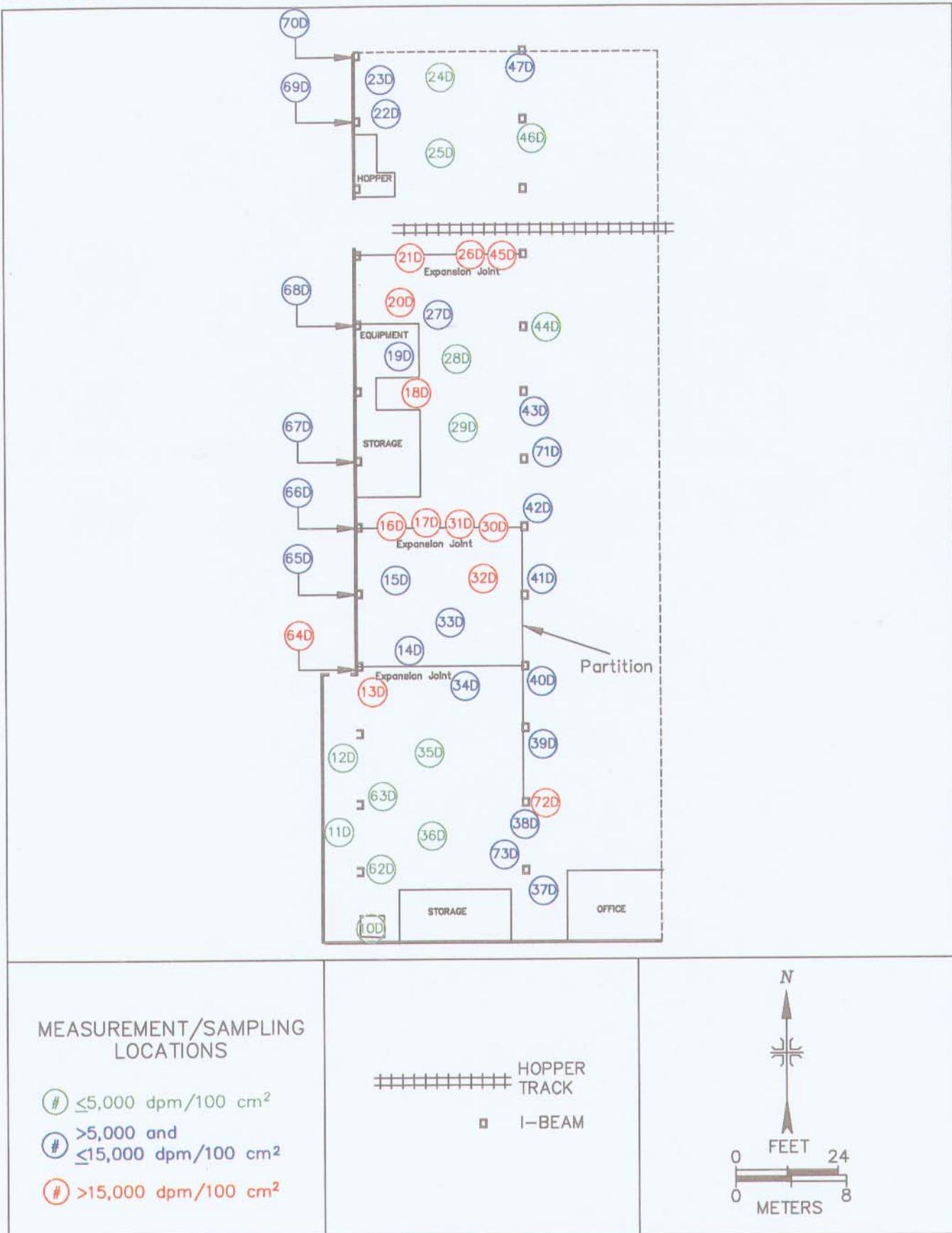


FIGURE 21: Building 24, Southwest Area, Floors, Lower Walls, and Equipment – Direct Measurement and Sampling Locations

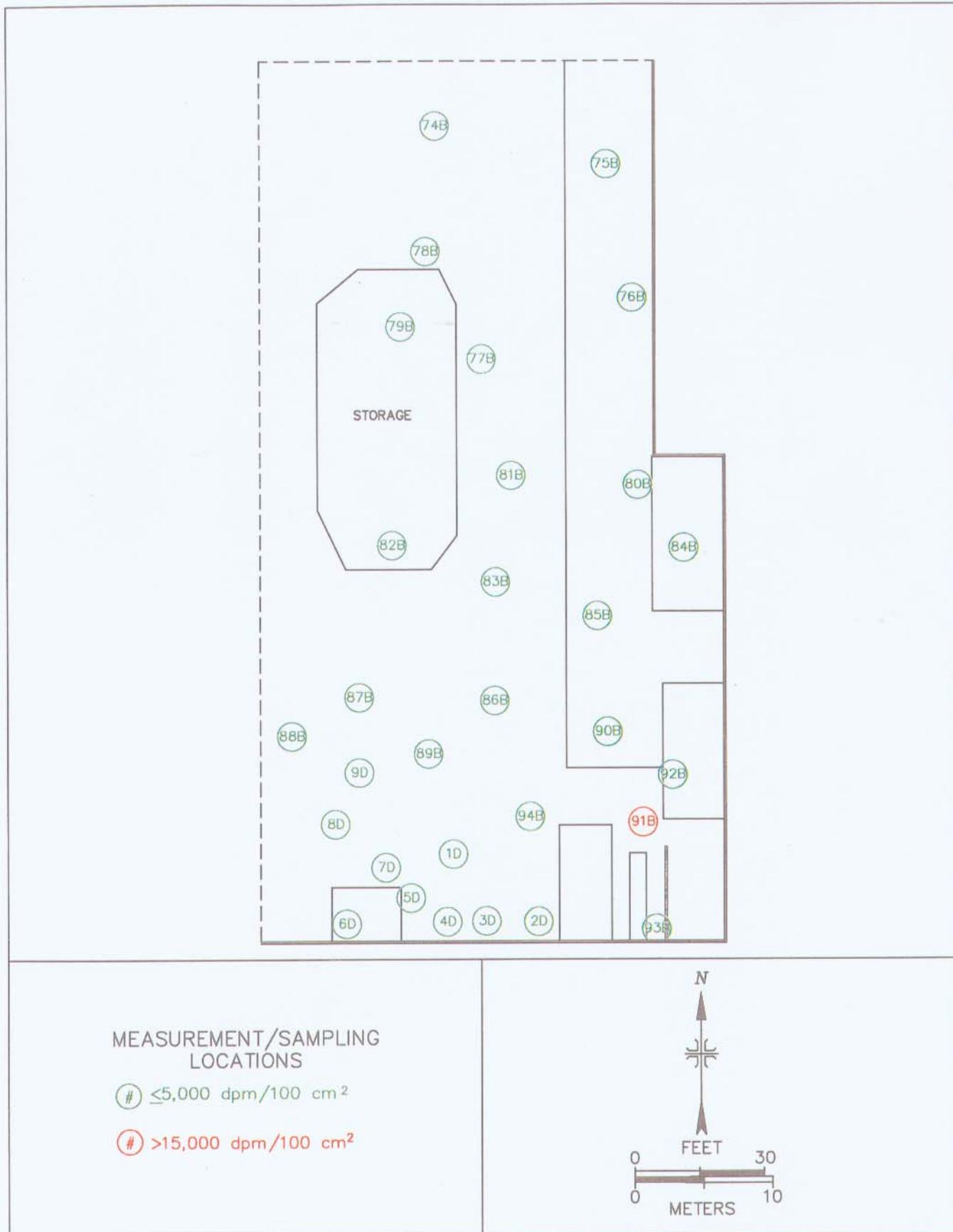
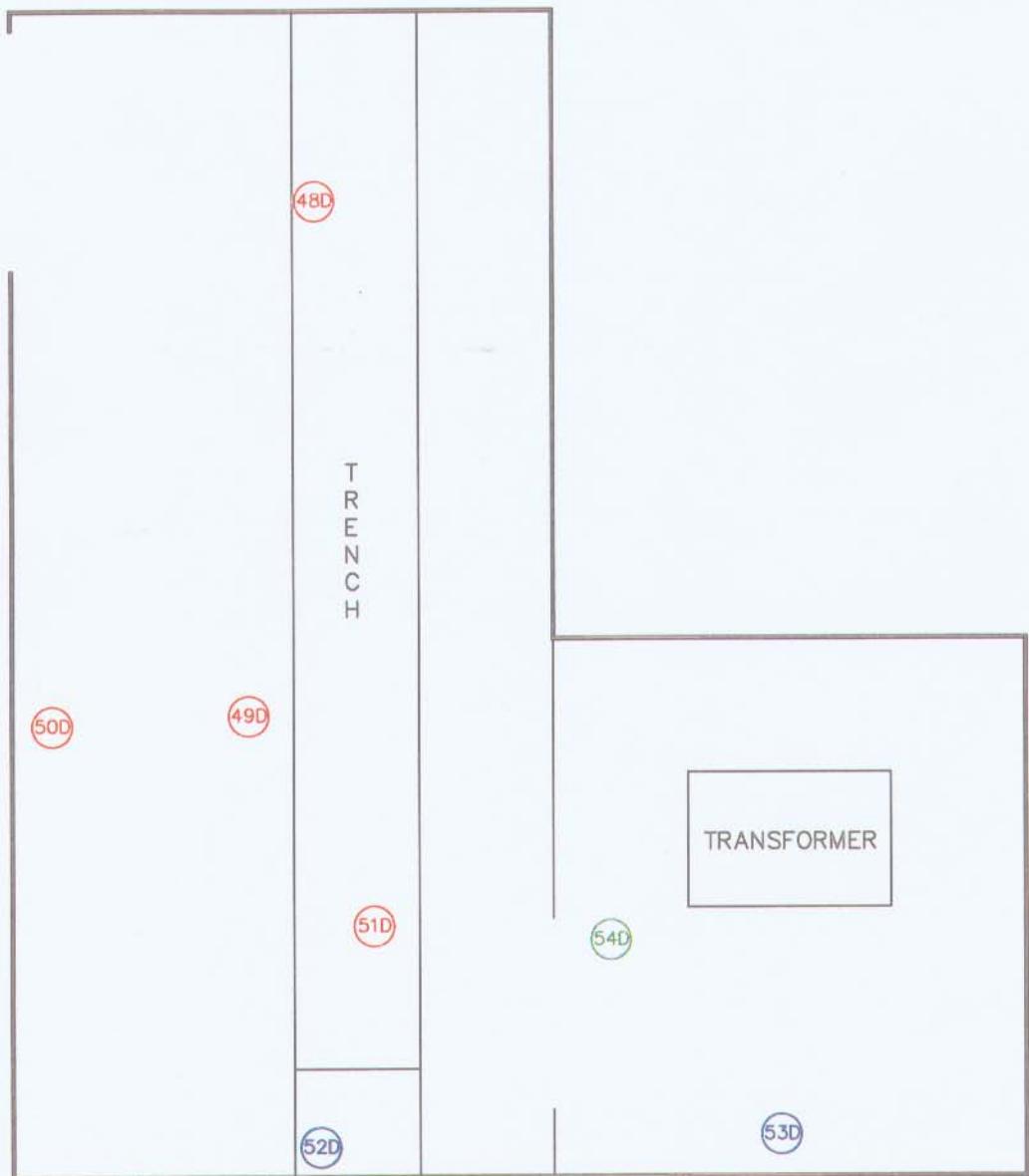


FIGURE 22: Building 24, Southeast Area, Floors, Lower Walls, and Equipment – Direct Measurement and Sampling Locations



MEASUREMENT/SAMPLING LOCATIONS

- (#) $\leq 5,000 \text{ dpm}/100 \text{ cm}^2$
- (#) $> 5,000 \text{ and } \leq 15,000 \text{ dpm}/100 \text{ cm}^2$
- (#) $> 15,000 \text{ dpm}/100 \text{ cm}^2$

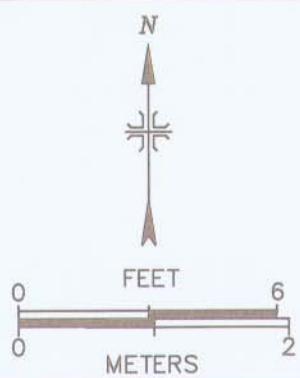


FIGURE 23: Building 24, Southeast Storage Room, Floors, Lower Walls, and Equipment – Direct Measurement and Sampling Locations

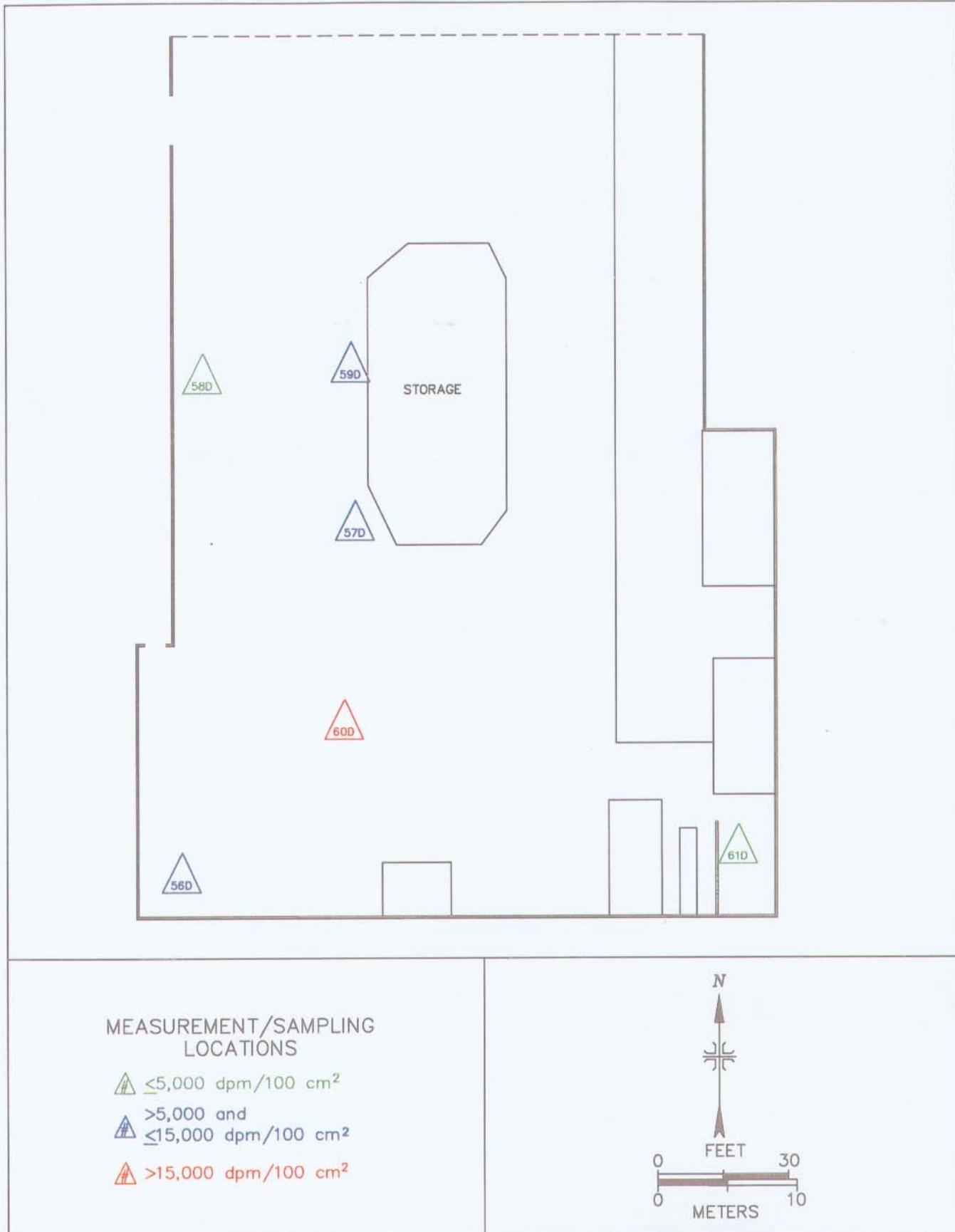


FIGURE 24: Building 24, Upper Surfaces – Direct Measurement and Sampling Locations

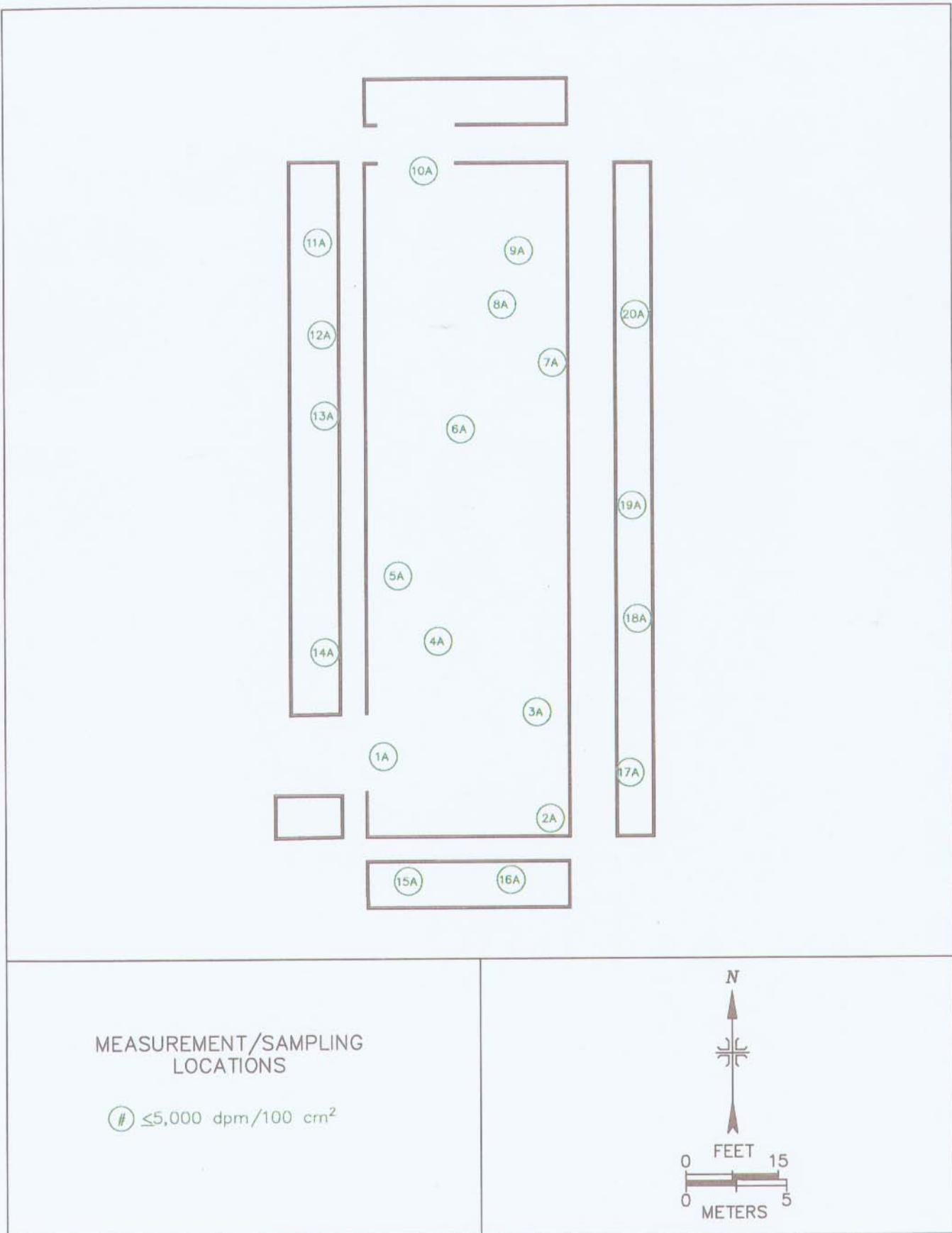


FIGURE 25: Building 35, Floor, Lower Walls, and Equipment – Direct Measurement and Sampling Locations

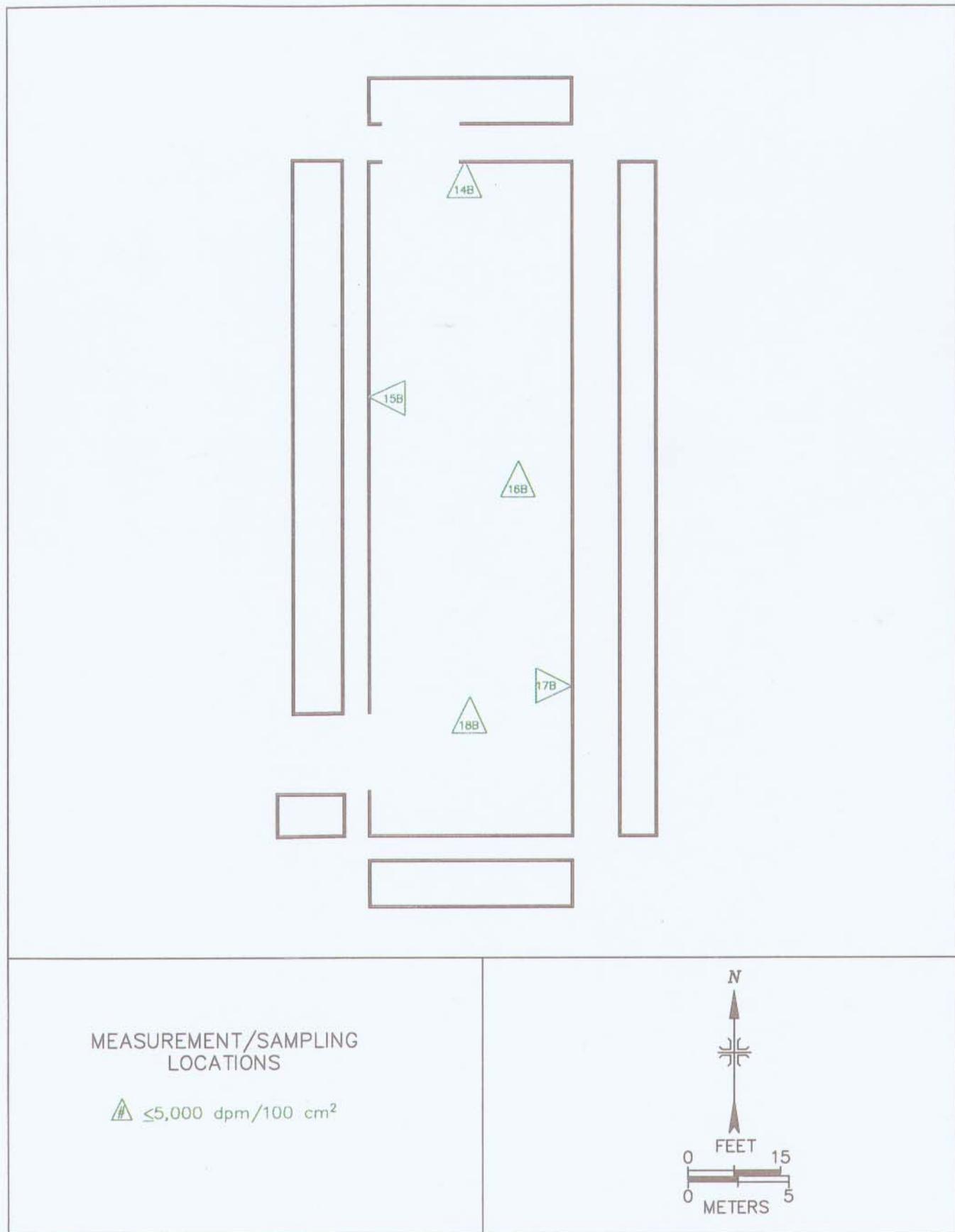


FIGURE 26: Building 35, Upper Surfaces – Direct Measurement and Sampling Locations

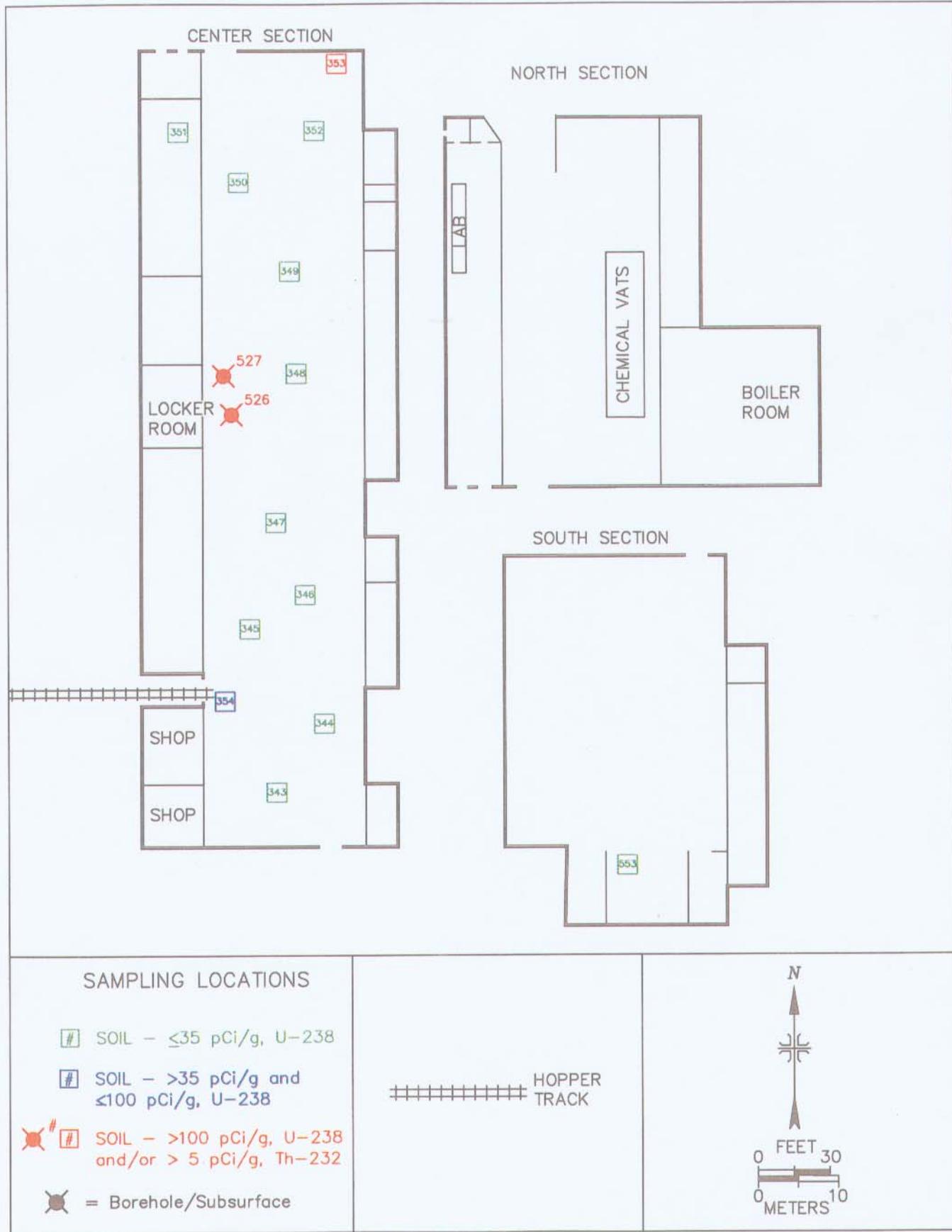


FIGURE 27: Building 2 – Sampling Locations

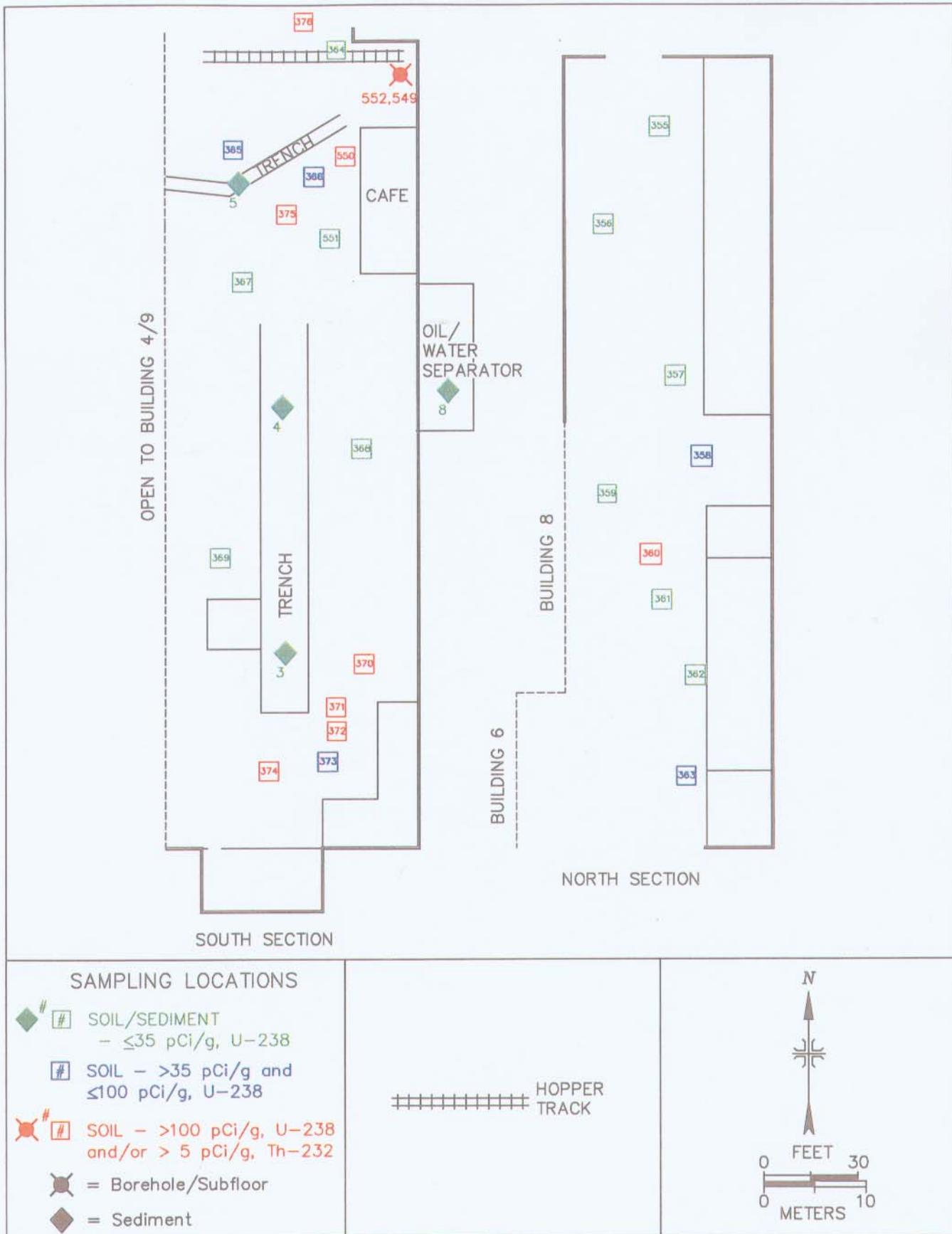


FIGURE 28: Building 3 – Sampling Locations

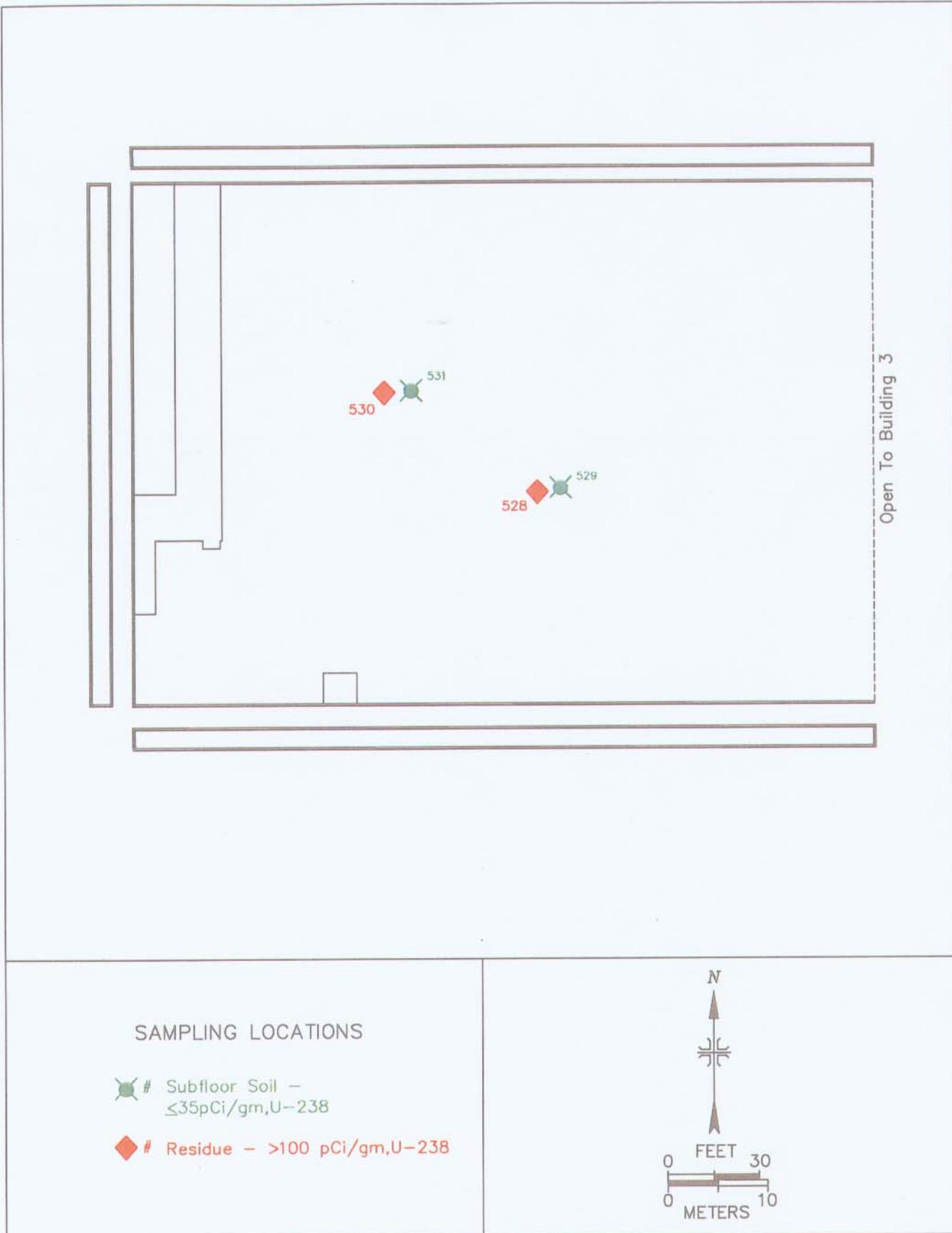


FIGURE 29: Building 4 and 9 – Sampling Locations

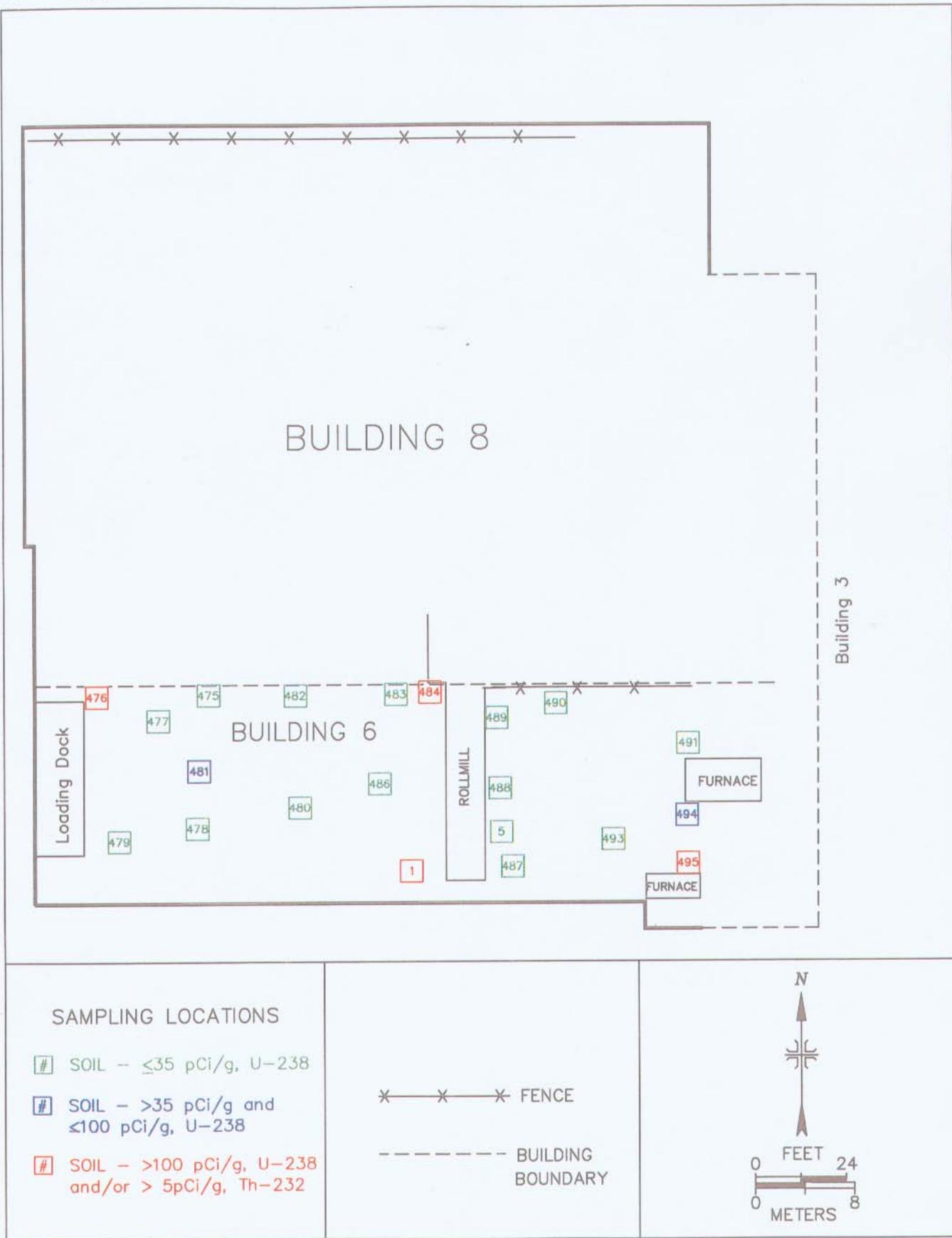


FIGURE 30: Building 6 – Sampling Locations

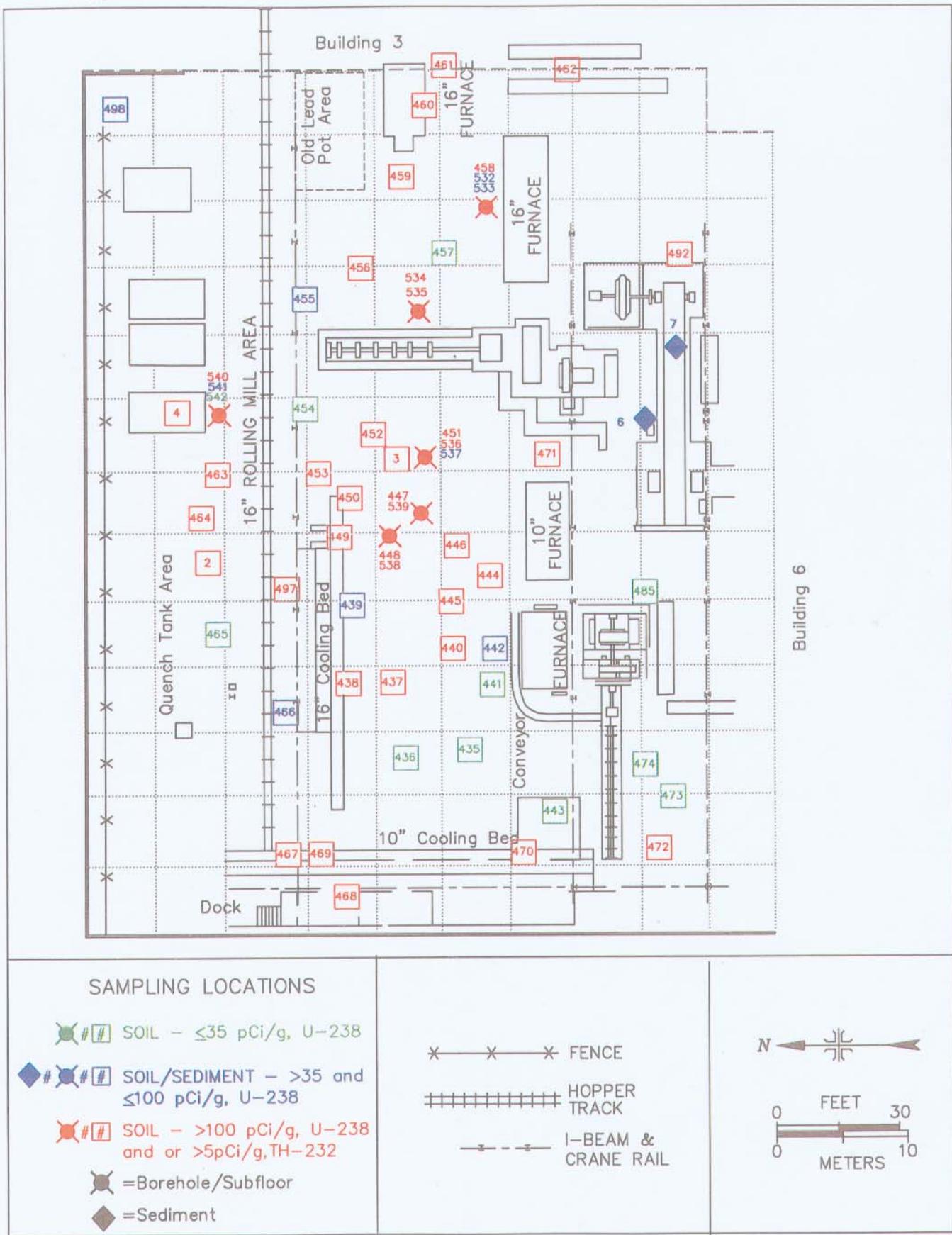
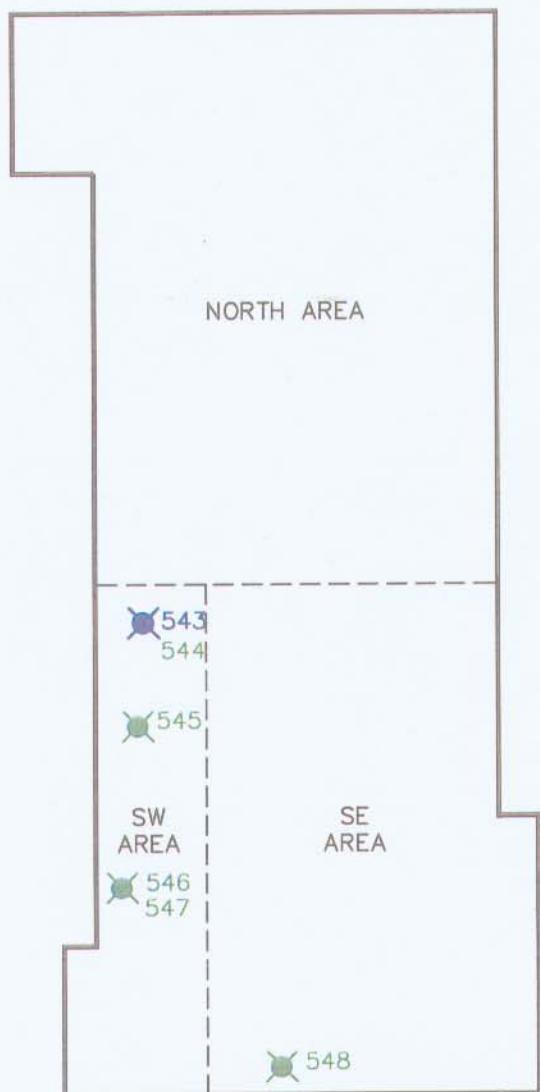


FIGURE 31: Building 8 – Sampling Locations



SAMPLING LOCATIONS

█ # Subfloor Soil
 $< 35 \text{ pCi/g}$, U-238

█ # Subfloor Soil
 $\geq 35 \text{ pCi/g}$, and $< 100 \text{ pCi/g}$, U-238

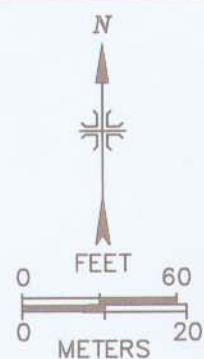


FIGURE 32: Building 24 – Sampling Locations

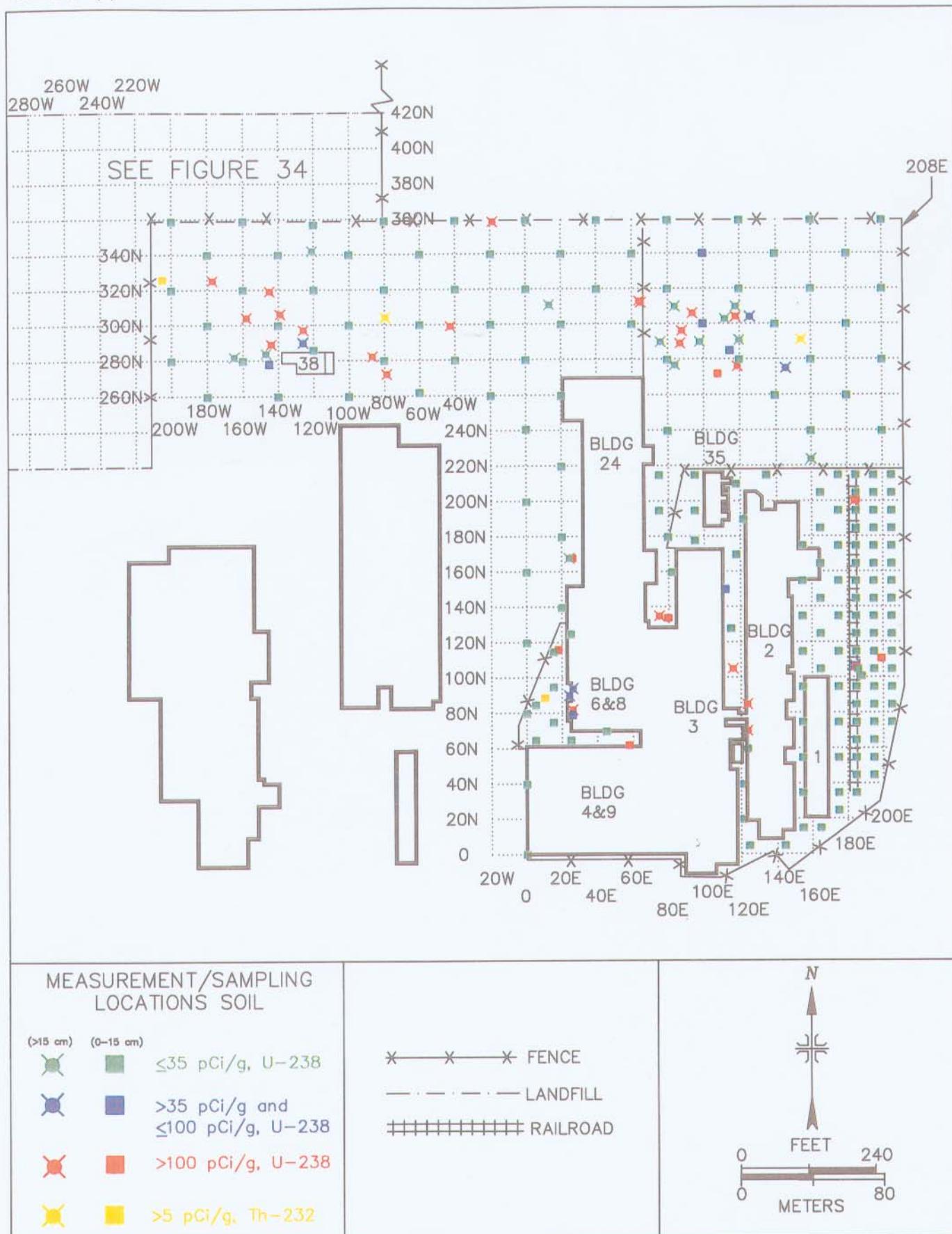


FIGURE 33: Guterl Specialty Steel Corporation – Class 1 and 2 Areas
Measurement and Sampling Locations

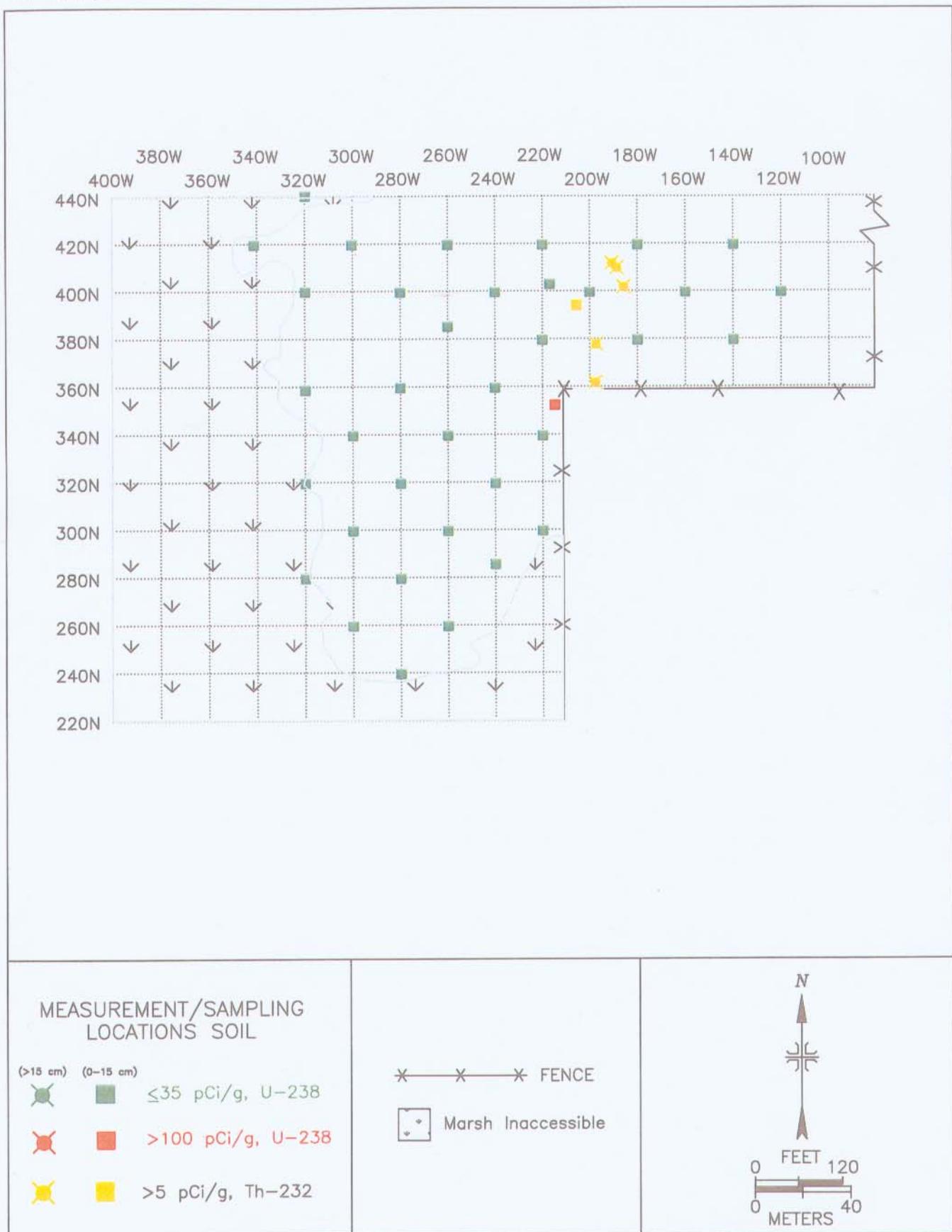
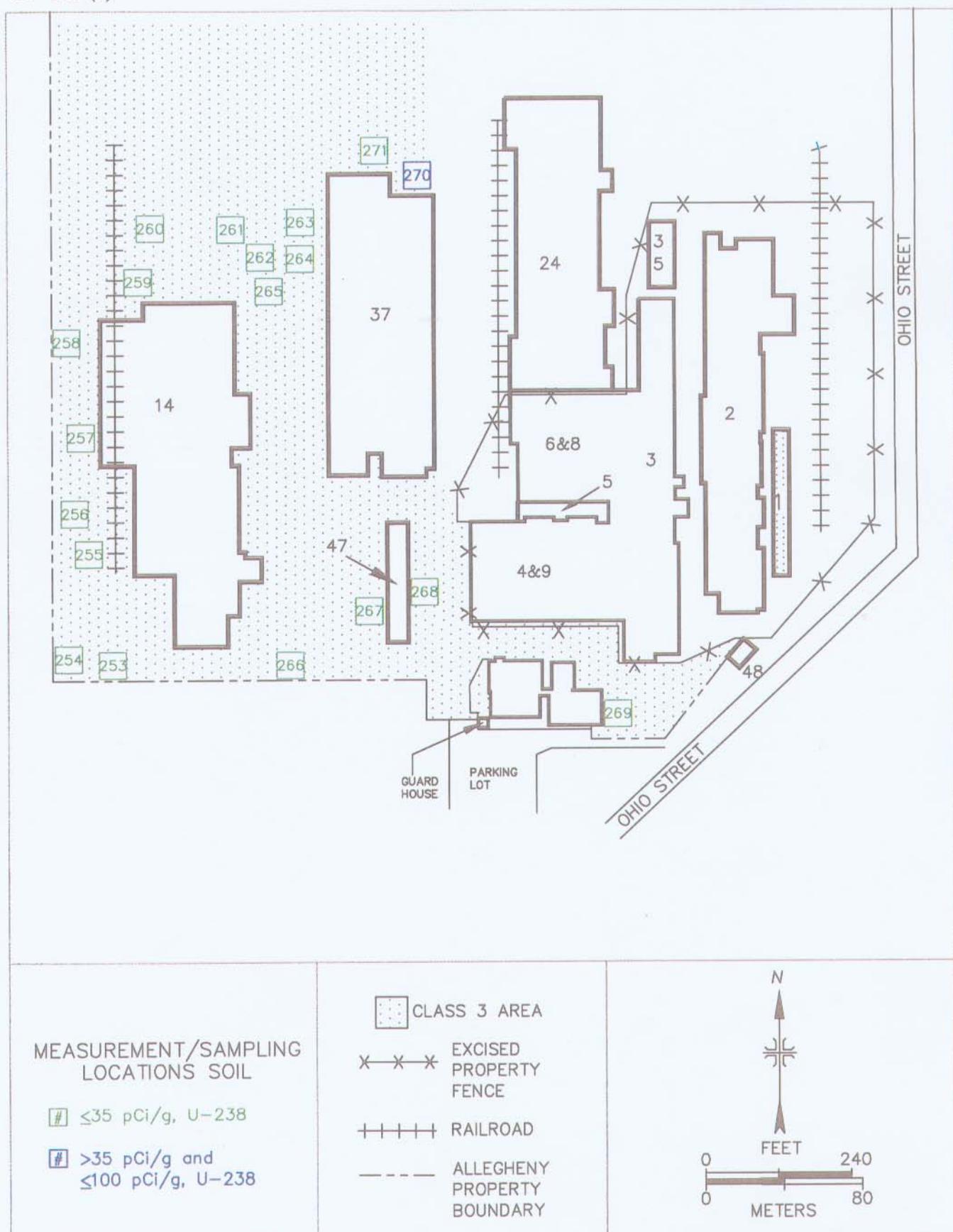


FIGURE 34: Landfill Area – Measurement and Sampling Locations



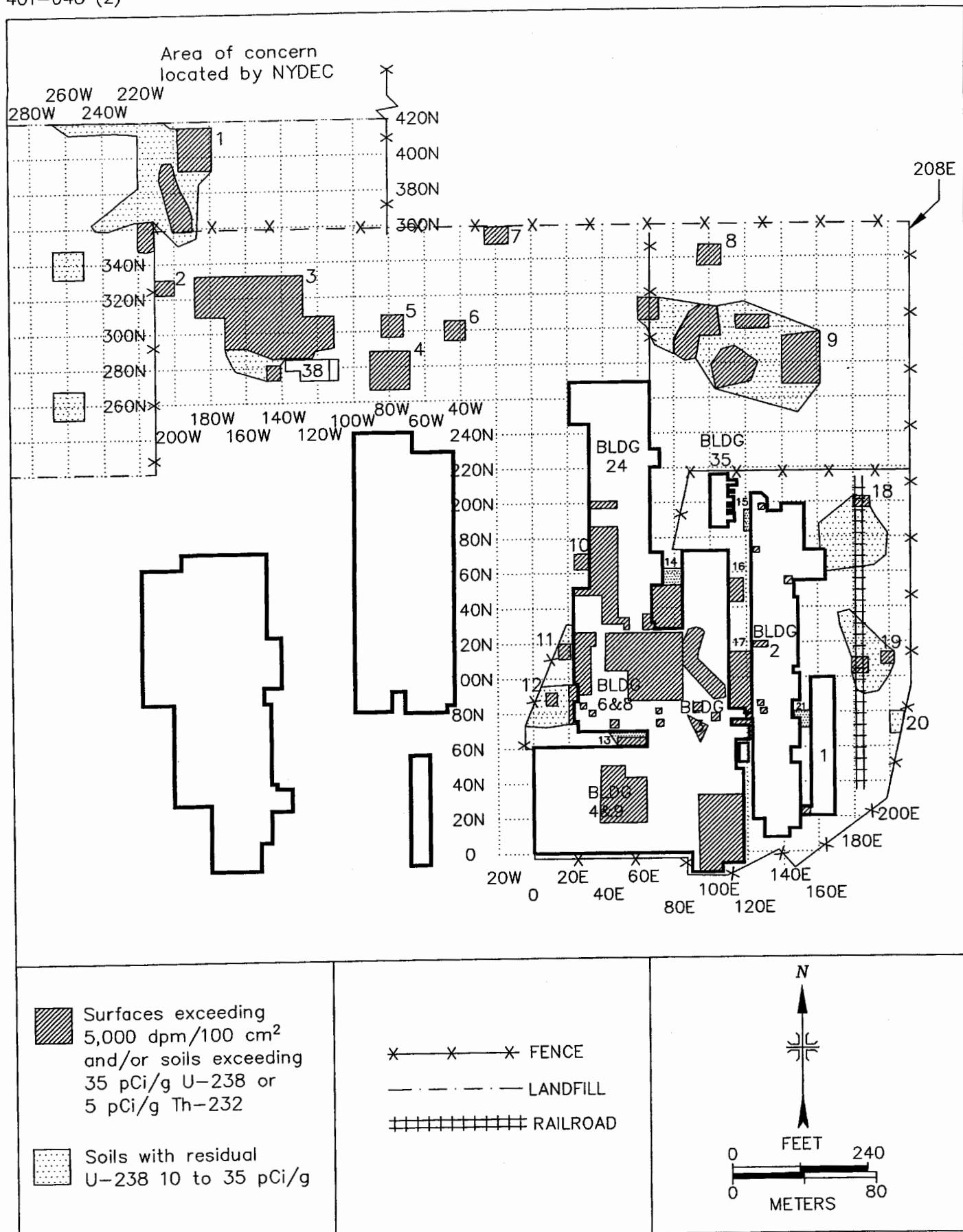


FIGURE 36: Guterl Specialty Steel Corporation - Impacted Areas

Appendix G

USEPA METALS ANALYSIS
Surface Soils

NYSDEC TECHNICAL AND ADMINISTRATIVE GUIDANCE
MEMORANDA No. 4046.

	DEC Cleanup Goal	TCLP Regulatory Limits	GS-1 TCL	GS-1 TCLP	GS-2 TCL	GS-2 TCLP	GS-3 TCL	GS-3 TCLP	GS-4 TCL	GS-4 TCLP	GS-5 TCL	GS-5 TCLP	GS-6 TCL	GS-6 TCLP	GS-7 TCL	GS-7 TCLP	GS-8 TCL
Metals	mg/kg	ug/L	mg/kg	ug/L	mg/kg	ug/L	mg/kg	ug/L	mg/kg	ug/L	mg/kg	ug/L	mg/kg	ug/L	mg/kg	ug/L	mg/kg
Aluminum	BG (1000)		7870		2330		5080		17200		10700		3420		1660		2720
Antimony	BG (20)				26.7		50.9		279 N		27.6 N						
Arsenic	7.5	5000			43.5 B		373 B		5.3	3.1 B	61.2	18.2 B	31.2	4.2 B	18.2	0.57 B	4.6
Barium	300	100000			168	1330 B	225	402 B		161	197 B	127	473 B	121	862 B	13 B	41.7 B
Beryllium	0.16				0.48 B		0.14 B		0.25 B		0.89 B		0.41 B		0.26 B	0.05 B	0.17 B
Cadmium	10	1000			3.8 B	1.8 B	50.9 B	0.19 B	10.6 B		7.9 B		15.6	7.6 B	9.2 B	0.15 B	5.9 B
Calcium	BG (10000)				7240		24300		14500		47400		39800		31900		6850
Chromium	50	5000			4690	428	2410	1370	303	2.2 B	4350	2.7 B	1440	11.8 B	6140	38.6	143
Cobalt	30				961		970		66.6		548		458		1290		527
Copper	25				6220		610		135		1060		526		2830		315
Iron	2000				161000		106000		37600		144000		80400		170000		23400
Lead	400	5000			422 E	22.6 B	396 E	9.6 B	55.8 E	8.9 B	2220 E	2030	940 E	4.1 B	422 E	17.1 B	441 E
Magnesium	BG (10000)				2800 B		14200		4300		16900		21100		13200		4650
Manganese	BG (1500)				9510		3630		1600		4370		4960		11000		2270
Mercury	0.1	200			0.1 B		0.44				0.13		0.29		0.15		0.06 B
Nickel	13				22900		15600		807		19500		4460		28500		945
Potassium	BG (500)				383 B		422 B		929 B		1310		1540		431 B		384 B
Selenium	2	1000					5.6 B	7.8 B	1.6	4 B			2 B	6 B		1.2	1.6
Silver	BG (5)	5000			3.7 B	10 B	4.6 B	10 B		20 B		20 B	4.4 B	20 B	1.2 B	10 B	0.19 B
Sodium	BG (1000)				426 B		228 B		270 B		2300		526 B		177 B		121 B
Thallium	BG (8)				4.8 B				0.7 B				1.6 B		6.8 B		
Vanadium	150				376 N		209 N		86.4 N		393 N		111 N		422 N		15.7 N
Zinc	20				299		427		144		404		1220		746		76.2
																	85.5

Source: *Immediate Investigative Work Assignment Report, Guterl Excised Area, City of Lockport, Niagara County. NYSDEC, October 2000.*

BG = Background

B = Value greater than or equal to the instrument detection limit, but less than the contract required detection limit

E = Estimated concentration due to the presence of interference

N = Spike sample recovery is not within control limits

Bold values exceed the DEC Cleanup Goals or regulatory limits

USEPA METALS ANALYSIS

Surface Soils

	DEC Cleanup Goal	TCLP Regulatory Limits	GS-8 TCLP	GS-9 TCL	GS-9 TCLP	GS-10 TCL	GS-10 TCLP	GS-11 TCL	GS-11 TCLP	GS-12/13 TCL	GS-12/13(dup) TCL	GS-12/13 TCLP	GS-12/13(dup) TCLP
Metals	mg/kg	ug/L	ug/L	mg/kg	ug/L	mg/kg	ug/L	mg/kg	ug/L	mg/kg	ug/L	ug/L	ug/L
Aluminum	BG (1000)			5330		4070		4120		505		698	
Antimony	BG (20)									ND		9.2 B	
Arsenic	7.5	5000	2.9 B	12.6		16.5		18.9		3.3 B	38.8	34	57.1 B
Barium	300	100000	735 B	126	716 B	101	685 B	91	1080 B	29.8 B	27.7 B	827 B	792 B
Beryllium	0.16					0.25 B		0.35 B		0.23 B	0.17 B		
Cadmium	10	1000	1.6 B			1.5 B		3.5 B		4.8 B		5.1 B	3.9 B
Calcium	BG (10000)			41100		18400		34600		26400		22800	
Chromium	50	5000	1 B	964		2000		1240		3.8 B	2770	1640	8.2 B
Cobalt	30			433		2700		299		6940		5740	
Copper	25			422		3050		404		1360		2670	
Iron	2000			58900		87800		94300		169000		98800	
Lead	400	5000	122 B	183 E	49.5 B	1810 E	27.3 B	233 E	51.7 B	449 E	2150 E	13200	2270
Magnesium	BG (10000)			20700		9290		16600		14100		12000	
Manganese	BG (1500)			1610		4560		974		1550		1240	
Mercury	0.1	200		0.08 B		0.06 B		0.06 B					
Nickel	13			4950		15200		3820		4860		4660	
Potassium	BG (500)			405 B		382 B		598 B		173 B		136 B	
Selenium	2	1000		3.7		3.3 B		1.4 B	3 B				
Silver	BG (5)	5000	10 B	0.35 B	10 B	0.99 B	10 B		10 B	ND	1.1 B	10 B	10 B
Sodium	BG (1000)			329 B		197 B		195 B		65.8 B		71.6 B	
Thallium	BG (8)			0.89 B		4.2 B							
Vanadium	150			107 N		229 N		170		1060 N		703 N	
Zinc	20			202		322		328		92.7		116	

Source: *Immediate Investigative Work Assignment Report, Guterl Excised Area, City of Lockport, Niagara County.* NYSDEC, October 2000.

BG = Background

B = Value greater than or equal to the instrument detection limit, but less than the contract required detection limit

E = Estimated concentration due to the presence of interference

N = Spike sample recovery is not within control limits

Bold values exceed the DEC Cleanup Goals or regulatory limits

USEPA - GUTERL EXCISED AREA, 1997

Surface Soils

NYSDEC TECHNICAL AND ADMINISTRATIVE GUIDANCE
MEMORANDA No. 4046.

	DEC Cleanup Goal	GS-1 TCL	GS-1 (dup) TCL	GS-2 TCL	GS-2 (dup) TCL	GS-3 TCL	GS-3 (dup) TCL	GS-4 TCL	GS-4 TCLP	GS-5 TCL	GS-5 (dup) TCL	GS-6 TCL	GS-7 TCL
Volatile Compounds (ug/kg)													
Methylene Chloride	100	2 JB		2 JB		2 JB		2 J		3 J		2 J	3 J
Carbon Disulfide	2700								6 J*				
Benzene	60												
Tetrachloroethane	1400												
Toluene	1500												
Ethylbenzene	5500												
Xylene (Total)	1200												
Acetone	200	12		8 J		11						3 J	
2-Butanone	300	3		3 J		5 J							
Semi-Volatile Compounds (ug/kg)													
Phenol	30	130 J				ND	45 J	71 J		130 J		84 J	380
2,4-Dimethylphenol													
Naphthalene	13000	1400		180 J				510		530	470 J	290 J	42 J
2-Methylnaphthalene	36400	1800		170 J				490		460	360 J	340 J	54 J
Acenaphthene	50000	1400		71 J				240 J		200		130 J	
Dibenzofuran	6200	1900		130 J				360 J		260 J	220 J	230 J	
Fluorene	50000	1300		59 J				170 J		250 J	220 J	110 J	
Phenanthrene	50000	19000 E	5200 J	410		890	640	1100		3600 E	3700	980	89 J
Anthracene	50000	6900 E	1800 J					71 J		1100	970 J	100 J	
Carbazole		2100						39 J		940	1000 J		
Fluoranthene	50000	35000 E	20000	280 J				670		6000 E	8800	1100	58 J
Pyrene	50000	57000 E	19000	160 J				190 J		500	7400 E	5400	740
Benzo(a)anthracene	224	58000 E	14000	52 J				320 J		150 J	4400 E	3700	410
Chrysene	400	29000 E	21000	180 J				93 J		69 J	410	7200 E	5700
Bis(2-Ethylhexyl)phthalate	50000	2100						280 J		180 J			
Benzo(b)fluoranthene	224	25000 E	17000	57 J				100 J		80 J	210 J		
Benzo(k)flouranthene	224	25000 E	11000	140 J				120 J		95 J	130 J	3200 E	2700
Benzo(a)pyrene	61	8400 E	16000					130 J		67 J	140 J	3000	3100
Indeno(1,2,3-cd)pyrene	3200	12000 E	9900					66 J		42 J	64 J	3200 E	2900
Benzo(g,h,i)perylene	8100	16000 E	14000					35 J		62 J	98 J	1100	1600 J
Acenaphthylene	41000	160						43 J				1500	
4-Methylphenol	900	46 J		41 J						40 J		61 J	

USEPA - GUTERL EXCISED AREA, 1997

Surface Soils

	DEC Cleanup Goal	GS-1 TCL	GS-1 (dup) TCL	GS-2 TCL	GS-2 (dup) TCL	GS-3 TCL	GS-3 (dup) TCL	GS-4 TCL	GS-4 TCLP	GS-5 TCL	GS-5 (dup) TCL	GS-6 TCL	GS-7 TCL	
Pesticides and PCBs (ug/kg)														
Aldrin	41									6.4 P			1 JP	
Heptachlor Epoxide	20	120 PE	140 P				8.2 PX		6.2	4.8 P		4.8		1.1 JPX
Endosulfan I	900		3.2 PE				18 P		2.7 P	10 P		4.2 P		
Dieldrin	44		12 PX						2.4 JPX	11 PX		6.7 X		
4,4'-DDE	2100		37 PX	34 JPX	3 JPX		14 PX		10 X	17 X		13 X		
Endrin	100		3.7 PX		10 PX		9.6 PX		2.8 JPX	3.4 JPX		5.1 PX		
4,4'-DDD	2900		3.2 JP				14 X			6.4 P				
Endosulfan Sulfate	1000		25 P	30 JP		4.4 PX	6.9 PX			2.2 JP			5.7 PX	1.8 JPX
4,4'-DDT	2100		22 PX	26 JPX		15 PX	12 PX		6.2 PX	11 PX		1.8 JPX		
Endrin Ketone			45 PX	33 JPX		53 X	6.5 PX			13 PX				
Endrin Aldehyde						57			10 PX	16 X		20 PX		2.8 JX
gamma Chlordane	540						2.3 PX		7 PX	21 X		6.1 PX		
Arochlor 1248	1000									120 J				
Arochlor 1254	1000		180 P	150 JP		980 E			380	410 P		470		23 JP
Arochlor 1260	1000					800			150 PJ	250 JP		300 J		
alpha Chlordane	540		2.4 P				1.5 JP			3.6 P				

USEPA - GUTERL EXCISED AREA, 1997

Surface Soils

	DEC Cleanup Goal	GS-8 TCL	GS-9 TCL	GS-9 (dup) TCL	GS-10 TCL	GS-11 TCL	GS-12/13 TCL	GS-12/13 (dup) TCL
Volatile Compounds (ug/kg)								
Methylene Chloride	100	4 J	ND	6 J	2 JB			
Carbon Disulfide	2700		ND	2 J				
Benzene	60		ND	7 J				
Tetrachloroethane	1400				7 J	17		
Toluene	1500		ND	3 J	2 J			
Ethylbenzene	5500		ND	4 J				
Xylene (Total)	1200		ND	16				
Acetone	200							
2-Butanone	300							
Semi-Volatile Compounds (ug/kg)								
Phenol	30		85 J		240 J			
2,4-Dimethylphenol			130 J					
Naphthalene	13000	150 J	5600 E	4300	990	590	180 J	36 J
2-Methylnaphthalene	36400	210 J	8200 E	6900	1300	860	260 J	57 J
Acenaphthene	50000				230 J	38 J		
Dibenzofuran	6200	66 J	2300	1700 J	550	240 J	84 J	
Fluorene	50000		290 J		180 J			
Phenanthrene	50000	210 J	3200 E	2400	1400	450	220 J	250 J
Anthracene	50000		140 J		82 J		ND	57 J
Carbazole			240 J		54 J		ND	42 J
Fluoranthene	50000	220 J	590	380 J	860	260 J	170 J	360
Pyrene	50000	170 J	780	510 J	580	230 J	140 J	270 J
Benzo(a)anthracene	224	110 J	610	430 J	240 J	170 J	81 J	180 J
Chrysene	400	250 J	1600	870 J	570	390	190 J	350 J
Bis(2-Ethylhexyl)phthalate	50000				71 J			
Benzo(b)fluoranthene	224	140 J	550	300 J	290 J	200 J	100 J	200 J
Benzo(k)flouranthene	224	130 J	410	240 J	310 J	240 J	120 J	250 J
Benzo(a)pyrene	61	130 J	500	240 J	210 J	150 J	81 J	170 J
Indeno(1,2,3-cd)pyrene	3200	36 J	85 J		63 J	52 J	ND	50 J
Benzo(g,h,i)perylene	8100	49 J	130 J		88 J	74 J	44 J	55 J
Acenaphthylene	41000							
4-Methylphenol	900							

USEPA - GUTERL EXCISED AREA, 1997

Surface Soils

	DEC Cleanup Goal	GS-8 TCL	GS-9 TCL	GS-9 (dup) TCL	GS-10 TCL	GS-11 TCL	GS-12/13 TCL	GS-12/13 (dup) TCL
Pesticides and PCBs (ug/kg)								
Aldrin	41	0.99 JP			1.4 JP		2.7 P	2.4 P
Heptachlor Epoxide	20	2.9 P	0.96 JP		6.7 P	4.5	6.7 P	5.6 P
Endosulfan I	900				1.8 P	1.8 JP	1.6 JP	
Dieldrin	44	2.3 JPX					6.2 PX	8.2 X
4,4'-DDE	2100		8.4 PX		3.2 JP	5.4 X	12 PX	13 X
Endrin	100	2.4 JPX					2.1 JPX	4.7 PX
4,4'-DDD	2900		3.9 P					
Endosulfan Sulfate	1000		3.9 P					
4,4'-DDT	2100	2.6 JPX	14 PX		3.4 JPX	9.9 PX	5.1 PX	5.5 PX
Endrin Ketone			7.9 PX		5 X	4 PX	4.6 PX	8 PX
Endrin Aldehyde		4.2 PX	3.1 JPX		3.7 PX	9.6 PX	17 PX	26 X
gamma Chlordane	540	1.2 JPX	3.1 PX				10 PX	
Arochlor 1248	1000						100 P	96 P
Arochlor 1254	1000	210	160 P		140	79 J	430	520
Arochlor 1260	1000	40 JP	36 JP		70 JP	280	490	470
alpha Chlordane	540							

Source: *Immediate Investigative Work Assignment Report, Guterl Excised Area, City of Lockport, Niagara County. NYSDEC, October 2000.*

J = Estimated Concentration

E = Estimated concentration that exceeds the calibration range

B = Analyte was detected in the associated blank as well as the sample

P = >25% difference between the analytical results on two GC columns, lower value reported

X = Manually integrated and calculated

* = TCLP regulatory limit for benzene is 500 ug/L

Bold values exceed the DEC Cleanup Goals or regulatory limits

NYSDEC - GUTERL EXCISED AREA, MAY 1997 NYSDEC TECHNICAL AND ADMINISTRATIVE GUIDANCE
 Surface Soils MEMORANDA No. 4046.

	DEC Cleanup Goal	SS-1	SS-2	SS-3	SS-3 DUP	SS-4	SS-5
Semi-Volatile Compounds (ug/kg)							
Phenol	30			110 J	120 J		
2-Methylphenol	100			69 J	66 J		
4-Methylphenol	900			100 J	110 J		
Naphthalene	13000	66 J		92 J	150 J		
4-Chloro-3-Methylphenol	240			72 J	100 J	3100 J	
2-Methylnaphthalene	36400	100 J		150 J	270 J		
Dibenzofuran	6200			69 J	110 J		
Fluorene	50000					89 J	
Phenanthrene	50000	100 J	490 J	1000	1400 J		1300
Anthracene	50000		140 J	76 J			260 J
Carbazole				180 J			190 J
Di-n-Butylphthalate	8100	90 J		65 J			
Fluoranthene	50000	150 J	2500	570	740 J		1500
Pyrene	50000	120 J	2100	910	1200 J		1300
Butylbenzylphthalate	50000			190 J			
Benzo(a)anthracene	224	70 J	2400	380			650 J
Chrysene	400	100 J	2100	430	890 J		680 J
Bis(2-Ethylhexyl)phthalate	50000	320 J	360 J	1500	18000		85 J
Di-n-Octyl Phthalate	50000	670		76 J	160 J		
Benzo(b)fluoranthene	224	150 J	3900	210 J	410		1100
Benzo(k)flouranthene	224		980				360 J
Benzo(a)pyrene	61	62 J	2700	93 J			730 J
Indeno(1,2,3-cd)pyrene	3200	55 J	1400	43 J			410 J
Dibenz(a,h)anthracene	14		360 J				82 J
Benzo(g,h,i)perylene	50000	83 J	1200	44 J			350 J

Source: *Immediate Investigative Work Assignment Report, Guterl Excised Area, City of Lockport, Niagara County.* NYSDEC, October 2000.

J = Estimated concentration

E = Estimated concentration that exceeds the calibration range

Bold values exceed DEC Cleanup Goals

NYSDEC - GUTERL

EXCISED AREA, MAY 1997

Surface Soils

NYSDEC TECHNICAL AND ADMINISTRATIVE GUIDANCE

MEMORANDA No. 4046.

	DEC Cleanup Goal	SS-1	SS-2	SS-3	SS-3 DUP	SS-4	SS-5
Metals (mg/kg)							
Aluminum	BG (1000)	1990	3630	2430		472	2300
Antimony	BG (20)	37.4	46.4	110		17.1	108
Arsenic	7.5	18.9	25.9	36.1		5	36.5
Barium	300	64.4	87.3	249		279	146
Beryllium	0.16	0.51 B	0.58 B	0.64 B			0.78 B
Cadmium	10	0.43 BN				2.8 N	
Calcium	BG (10000)	77200 E	29700 E	20900 E		10500 E	37500 E
Chromium	50	2510	5300	4060		1120	1590
Cobalt	30	660	1050	734		77	3070
Copper	25	1140 N	2850 N	2600 N		1030 N	7590 N
Iron	2000	61800	113000	73700		53400	128000
Lead	400	447	148	775		67.6	2820
Magnesium	BG (10000)	44100 E	9500 E	5740 E		7190 E	18500 E
Manganese	BG (1500)	2930 N	10400 N	5620 N		1480 N	3150 N
Mercury	0.1	0.15		0.11			0.13
Nickel	13	14400 N	26600 N	25200 N		1930 N	20200 N
Potassium	BG (500)	559 B	402 B	2090		1170	372 B
Selenium	2	14.6	20.4	27.3		3	19.9
Silver	BG (5)	1.1 B	1.2 B	16.5			2.4 B
Sodium	BG (1000)	372 B	297 B	7890		2040	434 B
Thallium	BG (8)	7.2	16	17.4		2	15.5
Vanadium	150	322	475	405		29.7	498
Zinc	20	903	183	1010		563	507

Source: *Immediate Investigative Work Assignment Report, Guterl Excised Area, City of Lockport, Niagara County.* NYSDEC, October 2000.

BG = Background

J = Estimated Concentration

B = Value greater than or equal to the instrument detection limit, but less than the contract required detection limit

E = Estimated concentration due to the presence of interference

N = Spike sample recovery is not within control limits

***Bold** values exceed the DEC Regulatory Cleanup goals*

**NYSDEC MAY 1997 DATA
SUB-SURFACE SOILS (CORE SAMPLES)**

**NYSDEC TECHNICAL AND ADMINISTRATIVE GUIDANCE
MEMORANDA No. 4046.**

	DEC Cleanup Goal	Duplicate		Duplicate		Duplicate		Duplicate		Duplicate		
		SB-1/MW-1 (2 - 4ft BGS)	SB-2/MW-2 (0 - 4ft BGS)	SB-2/MW-2 (0 - 4ft BGS)	SB-3/MW-3 (0.2 - 0.8ft BC)	SB-3/MW-3 (0.2 - 0.8ft BC)	SB-4/MW-4 (0 - 1.5ft BGS)	SB-4/MW-4 (0 - 1.5ft BGS)	SB-6 (0 - 2ft BGS)	SB-6 (0 - 2ft BGS)	SB-7 (6 - 8ft BG)	SB-7 (6 - 8ft BG)
Volatile Compounds (ug/kg)												
Methylene Chloride	100		1 J	1 J	3 BJ	2 BJ			2 BJ	2 BJ		
Acetone	200								23	23		
Carbon Disulfide	2700			8 J								
Toluene	1500			6 J	4 J							
Semi-Volatile Compounds (ug/kg)												
Phenol	30			67 J							300 J	270 J
4-Methylphenol	900										120 J	110 J
2,4-Dimethylphenol											600	500
Naphthalene	13000			190 J		74 J	120 J	180 J	280 J	42 J	74 J	67 J
2-Methylnaphthalene	36400			320 J		85 J	160 J	210 J	250 J	59 J	290 J	370 J
Dimethyl Phthalate	2000										ND	350 J
Acenaphthene	50000							390	550 J			94 J
Dibenzofuran	6200			88 J		43 J	50 J	230 J	370 J			64 J
Fluorene	50000							400	690 J			160 J
Phenanthrene	50000			360 J		140 J	170 J	3800 E	5900	550	510 J	810
Anthracene	50000							930	1500	190 J		110 J
Carbazole								380	490 J	51 J		910
Fluoranthene	50000			310 J		180 J	140 J	4200 E	6100	1400	2500	300 J
Pyrene	50000			300 J		150 J	140 J	4100 E	5300	4000 E	2700	1200
Benzo(a)anthracene	224			150 J		130 J	120 J	2400	3200	2100	1900	360 J
Chrysene	400			200 J		170 J	140 J	1900	3300	1900	1800	400 J
Bis(2-Ethylhexyl)phthalate	50000	370		240 J		210 J	860		530	330 J		840
Benzo(b)fluoranthene	1100		72 J	220 J		200 J	230 J	2800	3400	3400 E	3700	
Benzo(k)flouranthene	1100			79 J		82 J	110 J	790	950 J	970	1200 J	
Benzo(a)pyrene	61			120 J		120 J	100 J	1700	2700	2100	2400	
Indeno(1,2,3-cd)pyrene	3200					92 J	87 J	620	1500	7800 E	1200 J	ND
Dibenz(a,h)anthracene	14					38 J		55 J	360 J	1100	290 J	
Benzo(g,h,i)perylene	50000			75 J		110 J	100 J	480	100 J	14000 E	1000 J	250 J

Source: *Immediate Investigative Work Assignment Report, Guterl Excised Area, City of Lockport, Niagara County.* NYSDEC, October 2000.

J = Estimated concentration

E = Estimated concentration that exceeds the calibration range

B = Analyte was detected in the associated blank as well as the sample.

Bold values exceed DEC Cleanup Goals

NYSDEC MAY 1997 DATA
SUB-SURFACE SOILS (CORE SAMPLES)

Metals	DEC Cleanup Goal mg/kg	TCLP Regulatory Limits ug/L	SB-1/MW-1 (2 - 4ft BGS) TCL (mg/kg)	SB-1/MW-1 (2 - 4ft BGS) TCLP (ug/L)	SB-2/MW-2 (0 - 4ft BGS) TCL (mg/kg)	SB-2/MW-2 (0 - 4ft BGS) TCLP (ug/L)	SB-3/MW-3 (0.2 - 0.8ft BG) TCL (mg/kg)	SB-4/MW-4 (0 - 1.5ft BGS) TCL (mg/kg)	SB-4/MW-4 (0 - 1.5ft BGS) TCLP (ug/L)	SB-6 (0 - 2ft BGS) TCL (mg/kg)	SB-6 (0 - 2ft BGS) TCLP (ug/L)	SB-6 (2ft BGS) TCL (mg/kg)	SB-7 (6-8ft BGS) TCL (mg/kg)
Aluminum	BG (1000)		4430		4340		1010	4730		4270			3540
Antimony	BG (20)		2 B				32	14.8		28.6			19.8
Arsenic	7.5	5000	5.9		13.5		43.1	14.8		69			6.2
Barium	300	100000	28.1	299 E	91.8	554 E	151	68.2	574 E	84.6	359 E	328 E	69.4
Beryllium	0.16		0.4 B		0.5 B		0.47 B	0.35 B		0.34 B			
Cadmium	10	1000		10.4		3.4 B			2.8 B				
Calcium	BG (10000)		3270 E		13600		859 BE	59000 E		9340 E			144000 E
Chromium	50	5000	40.6		459		1420	328		1880	46	4.8 B	561
Cobalt	30		18.5		238		26.2	290		508			210
Copper	25		91.4		1410 N		59.9 N	696 N		1980 N			1970 N
Iron	2000		10700		55000		81800	32800		100000			26300
Lead	400	5000	14.1	12.2	52 E	26.5	31.6	347	105	240	18.5	84	329
Magnesium	BG (10000)		2020		7460 E		204 BE	43300 E		2150			34600 E
Manganese	BG (1500)		393		2550 N		180	785 N		3200 N			854 N
Mercury	0.1	200		0.2				0.11					0.21
Nickel	13		305		22200		447 N	1540 N		26600 N			1450 N
Potassium	BG (500)		401 B		316 B		85.6 B	754 B		417 B			727 B
Selenium	2	1000	1.8	8.8	6.8	15.5	16.1	8.4		23.1			3.1
Sodium	BG (1000)		305 B		430 B		285 B	590 B		251 B			396 B
Thallium	BG (8)		3.2 B		5		5.4	4		12.6			3.3
Vanadium	150		9.1 B		265		431	57.1		180			63.6
Zinc	20		169		102		37.3	119		164			173

Source: *Immediate Investigative Work Assignment Report, Guterl Excised Area, City of Lockport, Niagara County.* NYSDEC, October 2000.

BG = Background

B = Value greater than or equal to the instrument detection limit, but less than the contract required detection limit

E = Estimated concentration due to the presence of interference

N = Spike sample recovery is not within control limits

***Bold** values exceed the DEC Cleanup Goals or regulatory limits*

**NYSDEC Technical Guidance for
Screening Contaminated Sediments**

Volatile Organic Compounds	DEC Sediment Criteria ug/kg	TCLP Regulatory Limits ug/L	TCL SED-3 ug/kg	TCL Dup. SED-3 ug/kg	TCLP SED-3 ug/L
1,1-Dichloroethane			1500 J		
Toluene	49000		16000		
Chlorobenzene	3500	100000	610 J		
Semi-volatile Organic Compounds					
Phenol	500		8700	13000 J	
2-Methylphenol		200000	680 J		
m-Cresol		200000			92
4-Methylphenol		200000	9200	19000 J	92
2,4-Dimethylphenol			24000 E	250000	
2-Methylnaphthalene	34000		4000	6200 J	
Dimethyl Phthalate			14000	14000 E	
Acenaphthene	140000		940 J	1100 J	
Fluorene	8000		2300	2600 J	
Phenanthrene	120000		7000	14000 J	
Anthracene	107000		1300 J	2100 J	
Carbazole			310 J	470 J	
Fluoranthene	1020000		2000	8600 J	
Pyrene	961000		11000	10000 J	
Pesticide/PCBs					
Endosulfan Sulfate			28 JP		
Endrin Ketone			130 P	440 PD	
Aroclor 1242	19300		38000 E	44000	
Metals					
Aluminum			6050		
Antimony	2		193		
Arsenic	6	5000	44		7 B
Barium		100000	113		581 E
Beryllium			0.64 B		
Cadmium	0.6	1000			25.5
Calcium			20900		
Chromium	26	5000	1910		96.4
Cobalt			3370		
Copper	16		25900		
Iron	20000		91200		
Lead	31	5000	4860		16600
Magnesium			9320		
Manganese	460		1560		
Mercury	0.15	200	1		0.2
Nickel	16		10800		
Potassium			1100 B		
Selenium		1000	24.1		10.6
Silver	1	5000	9.4		
Sodium			756 B		
Thallium			15		
Vanadium			512		
Zinc	120		690		

Source: *Immediate Investigative Work Assignment Report, Guterl Excised Area, City of Lockport, Niagara County.* NYSDEC, October 2000.

* = Guidance value, unspecified organic contaminant

D = Compound identified in an analysis at a secondary dilution factor

E = Concentration exceeds the calibration range of the GC (MS instrument)

J = Estimated value

P = There is a >25% difference between the analytical results of the 2 GC columns, lower value reported

B = Value greater than or equal to the instrument detection limit, but less than the contract required detection limit

Bold values exceed the Class GA ambient water quality standards or guidance values.

UST Data

Volatile Organic Compounds	UST ug/L	UST (Dup) ug/L	
Benzene	13000	E	10000 D
Ethylbenzene	2300		1600 DJ
Toluene	39000	E	31000 D
Total Xylenes	30000	E	23000 D

*Source: Immediate Investigative Work Assignment Report, Guterl
Excised Area, City of Lockport, Niagara County. NYSDEC, October
2000.*

D = Compound identified in an analysis at a secondary dilution factor

E = Concentration exceeds the calibration range of the GC (MS instrument

J = Estimated value

Drill Water Results **Analyses of Organic Compounds and Metals
Utilized during the Guterl Excised Area IIWA
Investigation**

Volatile Organic Compounds	Drill Water ug/L	
Chloroform	23	
Bromodichloromethane	6	J
Dibromochloromethane	2	J
Semi-volatile Organic Compounds		
Di-n-Butylphthalate	3	J
Bis(2-ethylhexyl)phthalate	1	J
Total Semi-Volatile TICs	64	J
Pesticide/PCBs		
Total Pesticides	ND	
Total PCBs	ND	
Metals		
Aluminum	700	
Barium	24.3	
Calcium	34000	
Chromium	4.5	B
Cobalt	11.8	B
Copper	47.5	
Iron	1050	
Lead	14.2	
Magnesium	9400	
Manganese	79.8	
Nickel	17.9	B
Potassium	1560	B
Sodium	12700	
Zinc	18.2	B

Source: *Immediate Investigative Work Assignment Report, Guterl Excised Area, City of Lockport, Niagara County. NYSDEC, October 2000.*

B = Concentration is between the instrument detection limit (DL) and the contract required DL
J = Estimated value

Pumphouse Water - 1997 (Water taken from the pumphouse and intake reservoir used by Guterl for process and cooling purposes..) **NYSDEC Water Quality Standards and\ Guidance values established for Class C waters**

Volatile Organic Compounds	Surfacewater Standard ug/L	SW-2 ug/L	SW-3 ug/L
Chloroethane			2 J
1,1-Dichloroethene			10
1,1-Dichloroethane			87
1,2-Dichloroethene (total)			9 J
Chloroform			7 J
1,1,1-Trichloroethane			140
Carbon Tetrachloride			3 J
Trichloroethene	40		41
Semi-volatile Organic Compounds			
1,2,4-Trichlorobenzene	5		4 J
Bis(2-ethylhexyl)phthalate	0.6		3 BJ
Pesticide/PCBs			
Aroclor 1248	0.00012		8.8 J

Note: Class "C" surface water standards

J = Estimated value

B = Compound detected in blank

P = There is a >25% difference between the analytical results of the 2 GC columns, lower value reported

Bold values exceed the ambient water quality standards

Metals			
Aluminum	100	153 B	830
Antimony		9.2 B	25.7 B
Arsenic	150		6.2 B
Barium		28.6 B	57.1 BE
Cadmium	6.2		1.4 B
Calcium		56300 B	73900
Chromium	231		403
Cobalt	5		253
Copper	29		1890
Iron	300	137	14300
Lead	16.5		463
Magnesium		13700	19000
Manganese		119	397
Nickel	168	16.9 B	1710
Potassium		12500	2920 B
Selenium	4.6		6.3
Sodium		10500	24600
Vanadium	14		62.3
Zinc	268	7.7 B	502

Source: *Immediate Investigative Work Assignment Report, Guterl Excised Area, City of Lockport, Niagara County.* NYSDEC, October 2000.

Note: Class "C" surface water standards

B = Concentration is between the instrument detection limit (DL) and the contract required DL

E = Estimated value

Bold values exceed the ambient water quality standards

	Groundwater Standard ug/L	MW-4 ug/L	Duplicate MW-4 ug/L	MW-3 ug/L	MW-5 ug/L	MW6-94** ug/L	MW-1 ug/L	MW-2 ug/L
Volatile Organic Compounds								
Chloroethane	50				64			11
Methylene Chloride	5				10	J		
1,1-Dichloroethene	5	54	37	DJ	4	J	18	J
1,1-Dichloroethane	5	130	100	D	20		730	
1,2-Dichloroethene (total)	50	24	16	DJ		7	J	
Chloroform	7					82		
1,1,1-Trichloroethane	5	480	E	380	D	7	J	270
Trichloroethene	5	130		110	D	10	J	
Semi-volatile Organic Compounds								
Bis(2-ethylhexyl)phthalate	50	7	BJ		2	BJ	2	BJ
Total Semi-Volatile TICs		103	J		15	J	24	J
Pesticide/PCBs								
alpha-BHC	ND							
Aroclor 1260	0.1				1.9	P	0.0071	JP
Metals								
Aluminum		377			5520		394	170
Arsenic	25				7.3	B	2.8	
Barium	1000	76.8	BJ		86.1	BJ	59.3	BJ
Calcium		102000			178000		109000	130000
Chromium	50				10			
Cobalt					39.5	B	7.6	B
Copper	200	4.1	B		48.3		35.5	
Iron	300	406			15500		1830	
Lead	25				12.7			
Magnesium	35000	45600			55300		30600	53000
Manganese	300	260			632		325	98
Nickel		6.1	B		2150		807	21
Potassium		6290			6460		4310	B
Sodium	20000	167000			47300		27800	62000
Vanadium					7	B		
Zinc	300	123			359		50.8	53
							272	117

Source: *Immediate Investigative Work Assignment Report, Guterl Excised Area, City of Lockport, Niagara County.* NYSDEC, October 2000.

* = Guidance value, unspecified organic contaminant

** = Sample collected on 11/10/94

B = Compound detected in blank

D = Compound identified in an analysis at a secondary dilution factor

E = Concentration exceeds the calibration range of the GC (MS instrument)

J = Estimated value

ND = Non-detect

P = There is a >25% difference between the analytical results of the 2 GC columns, lower value reported

Bold values exceed the Class GA ambient water quality standards or guidance values.

