This Investigation and Remediation of Soils North of the 140 Building Report has been reviewed by URS Corporation – New York, and I am in agreement with the conclusions.

URS Corporation – New York

Robert D. Brathovde, P.E.
Engineer of Record

This Investigation and Remediation of Soils North of the 140 Building Report has been reviewed by Professional Radiation Consulting, Inc. (PRCI), and I am in agreement with the conclusions.

Professional Radiation Consulting, Inc.

SBW, CHP for Shane Brightwell

Shane Brightwell, CHP
President

This Investigation and Remediation of Soils North of the 140 Building Report has been reviewed by Envirocon, Inc. and I am in agreement with the conclusions.

Envirocon, Inc.

Richard Hafner
Radiation Safety Officer

TABLE OF CONTENTS

Tables

Figures

Appendices

1.0 INTRODUCTION

This report provides the results of the soil investigation and limited excavation performed north of the 140 Building at the Former Sylvania Electric Products Incorporated (Sylvania) facility located at 140, 100 and 70 Cantiague Rock Road, Hicksville, New York (the "Site"). The work was performed on surface and subsurface soils located between the 140 Building north wall (building wall) and the northern 140 Property line (property line). This strip of soil is approximately 5 feet wide (north-south) and 500 feet long (east-west), and is comprised of the southern portions of contiguous subcells R52 to Z52 and A03 to O03 (**Figure 1**). The investigation began on November 4, 2004 and was completed November 19, 2004. Excavation, verification sampling, and backfilling in subcells M03 through O03, and a portion of subcell P03, commenced November 30, 2004 and were completed on February 8, 2005. Field procedures and analytical methods identified in the approved *Comprehensive Soil Remediation Program Work Plan, Former Sylvania Electric Products Facility, January 18, 2002 (Revision 5: June 2003)* (Work Plan) were used to complete this investigation and remediation.

Included in this report are descriptions of the investigation sampling and analytical results, subsequent excavation activities, final verification sample analytical results, and conclusions for radiological, volatile organic compounds (VOCs), nickel (Ni) and beryllium (Be) data.

2.0 SOIL INVESTIGATION

A systematic subsurface soil sampling pattern was used to provide uniform lateral coverage of soils in the southern portions of the subcells between the building wall and the property line. A boring was advanced in the geometric center of the southern portion of each subcell, spaced evenly between the building wall and the property line at approximately 2.5 feet north of the building wall (north-south), and in the center of each subcell (east-west) as shown in **Figure 1**. The borings were advanced using a hand auger.

A field geologist classified the soils in general accordance with the Unified Soil Classification System (USCS). Sample descriptions included soil type, color, moisture and visual observations. Soils were also screened for VOCs using a photoionization detector (PID) and radioactivity using a 3-inch sodium iodide (NaI) detector. Boring Logs are provided in **Appendix A**.

Soils were collected continuously in 1-foot (ft) increments from the ground surface to 8 ft below ground surface (bgs). The top seven samples (1 to 7 ft) were collected as delineation (DL) samples and the bottom sample (8-ft) was collected as a sample point (SP) sample. The DL samples were used to guide the investigation and the SP samples were used for verification. The borings were backfilled with clean fill approved by the New York State Department of Environmental Conservation (NYSDEC) upon completion.

There were a total of 24 soil borings advanced resulting in the recovery of 168 DL samples and 24 SP samples.

3.0 SAMPLE COLLECTION AND ANALYTICAL RESULTS

The Work Plan specifies Site cleanup levels for three radionuclides [thorium (Th-232) and uranium (U-234 and U-238)], two VOCs [trichloroethene (TCE) and tetrachloroethene (PCE)], and one metal (Ni). Subsequent to the Work Plan, NYSDEC requested that Be analysis be performed.

DL samples were collected continuously in 1-ft increments and analyzed for radionuclides (Th-232 and U-238) using the on-Site gamma spectroscopy system. The DL samples analyzed for Ni were collected at odd number depth intervals (i.e. 1, 3, 5 and 7 feet) and analyzed on Site using x-ray fluorescence spectroscopy (XRF) by Stone Environmental Inc. (SEI). DL samples were collected and analyzed for VOCs if PID readings were greater than 25 parts per million (ppm) or if visual observations (e.g., staining) warranted. DL samples were analyzed on Site by SEI for TCE and PCE using solid phase microextraction and capillary gas chromatography. Based on field screening results as noted in the boring logs (Appendix A), there were no DL samples analyzed for VOCs.

SP samples were collected and screened at the final boring depth and analyzed both on and off Site. The samples sent off Site were analyzed by Severn Trent Laboratories, Inc. (STL) of Earth City, Missouri. Off-Site sample analyses included radionuclides (Th-232, U-234 and U-238) by alpha spectroscopy [isotopic thorium analysis using National Academy of Science (NAS)/Department of Energy (DOE) 3004/RP-725 and isotopic uranium analysis using NAS/DOE 3050/RP-725], VOCs [TCE and PCE] using United States Environmental Protection Agency (USEPA) Method 8260B and metals (Ni and Be) using USEPA Method 6010B. The analytical results for DL and SP samples are summarized in **Table 1**.

The results of radiological, VOCs and Ni analyses were compared to the Site cleanup levels. The Be results were compared to the NYSDEC Technical and Administrative Guidance Memorandum (TAGM) #4046 values and other published literature sources for New York State soils.

Analytical results showed that surface and subsurface soils in subcells R52 to Z52 and A03 to L03 were below the Site cleanup levels. Results for subsurface soils in subcells M03, N03 and O03 showed concentrations in the range of and slightly above Site cleanup levels for Ni and U-238. The results of the data assessments, described below, were used to plan and excavate in subcells M03, N03 and O03.

3.1 RADIOLOGICAL

The Th-232, U-234 and U-238 analytical results were compared to the Site cleanup levels of 2.8 picoCuries per gram (pCi/g) above background concentrations, 50 pCi/g, and 50 pCi/g, respectively. One sample in subcell O03 at 1 ft bgs had a U-238 concentration slightly above the Site cleanup level (50.19 J pCi/g). No other samples had radiological concentrations above the Site cleanup levels. There were concentrations of U-238 in the range of, but lower than the Site cleanup level, in three other samples (subcell O03 at 3 feet bgs [41.62 J pCi/g], subcell N03 at 3 ft bgs [38.08 pCi/g], and subcell M03 at 2 ft bgs [33.12 pCi/g]).

3.2 VOLATILE ORGANIC COMPOUNDS

The TCE and PCE analytical results were compared to the Site cleanup levels of 0.7 milligrams per kilogram (mg/kg) and 1.82 mg/kg, respectively. Based on a review of analytical data, neither TCE nor PCE were detected above Site cleanup levels.

3.3 METALS

The Ni analytical results were compared to the Site cleanup level of 560 mg/kg. Based on a review of analytical data, Ni was not detected above the Site cleanup level. Ni was detected in the range of, but lower than the Site cleanup level in four samples (subcell O03 at 1 ft bgs [164 mg/kg], subcell O03 at 3 ft bgs [241 mg/kg] subcell N03 at 1 ft bgs [454 mg/kg] and subcell N03 at 3 ft bgs [264 mg/kg]).

The Be results were compared to the NYSDEC TAGM #4046 values (0.16 mg/kg or Site background) and other published literature values for New York State soils. Several locations had concentrations of Be above the TAGM level of 0.16 mg/kg. However, Be concentrations in New York State soils are reported to range between 0 to 7 mg/kg[1, 2]. The Be soil results in **Table 1** are within the reported range in soils for New York State.

4.0 EXCAVATION

Based on investigation results, limited excavation was planned for subcells M03, N03 and O03. The lateral extents and depths of excavation were based on remediation support screening and analytical results. The building wall interfered with the electronic positioning system and radiological field gamma screening instruments. As a result, the excavation dimensions were measured using manual tie back methods to a nearby known control point and radiological screening was primarily performed using on-Site gamma spectroscopy analysis of field samples. Chemical screening for VOCs was performed using a PID.

Residual contaminants encountered during the excavation of subcell O03 resulted in the excavation continuing to the east end of subcell P03. The completed excavation was bounded east-west by the east end of subcell P03 and the west end of subcell M03 and north-south by the building wall and the property line. Excavation depths ranged from ground surface to 5 feet bgs. Approximately 207,900 pounds of soil and debris were excavated and shipped from the Site to the approved waste disposal site, Envirocare of Utah, Inc. (Envirocare) in Clive, Utah.

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[1]Schacklette, H.T., and J.G. Boerngen. 1984. *Elemental Concentrations in Soils and Other Surficial Materials of the Conterminous United States*. US Geological Survey. Pub. 1270.

[2]Dragun, J. and A. Chiasson. 1991. *Elements in North American Soils*. Hazardous Materials Control Resources Institute. Greenbelt, Maryland.

5.0 VERIFICATION SAMPLING AND ANALYSIS

Following excavation, verification (VF) samples were collected from the floor and walls to evaluate if the remaining unexcavated soil surfaces met Site cleanup levels. The locations of VF floor samples are shown in **Figure 2.** The VF wall sample locations are shown in **Figure 3.** The VF sample analyses included radionuclides (Th-232, U-234 and U-238) by alpha spectroscopy [isotopic thorium analysis using NAS)/DOE 3004/RP-725 and isotopic uranium analysis using NAS/DOE 3050/RP-725], VOCs using USEPA Method 8260B and Ni using USEPA Method 6010B.

Due to the small size of the excavation area, NYSDEC agreed that it did not require a full radiological assessment based on NUREG 1575, *Multi-Agency Radiation Survey and Site Investigation Manual* (the MARSSIM). Therefore, only a comparison with Site cleanup levels for VF samples was performed.

6.0 VERIFICATION SAMPLING ANALYTICAL RESULTS

The radiological (Th-232, U-234 and U-238), VOCs (TCE and PCE) and Ni results for off-Site STL analyses of the VF floor samples are provided in **Table 2** and are shown on **Figure 2.** The VF wall sample results are provided in **Table 3** and are shown on **Figure 3**. With the exception of one Ni result above the Site cleanup level in the initial floor VF sample in N03 (1,210 mg/kg at 3.0 feet bgs), VF sample results were below Site cleanup levels. Additional excavation was conducted and a supplemental VF sample was collected. The supplemental VF sample analytical result for Ni was below the Site cleanup level. The supplemental sample is considered the final VF sample and is shown in **Table 2**.

7.0 CONCLUSION

The analytical results demonstrated that the final excavated surfaces and the remaining unexcavated soils North of the 140 Building met Site cleanup levels. Furthermore, this investigation, combined with the characterization of adjacent soils beneath the northern portion of the 140 Building, support the conclusion that there are no contaminants in soils above Site cleanup levels.

Table 1
North of the 140 Building Soil Boring Sample Results

Subcell	Boring Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)	Be (mg/kg)
A03	DL01	20842	1.0	0.83		0.61			<100	
A03	DL01	20843	2.0	0.44		0.34				
A03	DL01	20844	3.0	0.28		0.83 J			<100	
A03	DL01	20845	4.0	0.68		1.26 J				
A03	DL01	20846	5.0	0.58		0.86 J			<100	
A03	DL01	20852	6.0	0.33		1.19				
A03	DL01	20853	7.0	0.40		0.97			<100	
A03	**DL01**	**20895**	**8.0**	**0.246**	**0.496**	**0.320**	**0.0025 U**	**0.0025 U**	**3.4 J**	**0.51 UJ**
B03	DL01	20856	1.0	0.93		12.97			<100	
B03	DL01	20857	2.0	0.73		4.33				
B03	DL01	20858	3.0	0.43		1.74			<100	
B03	DL01	20877	4.0	0.42		1.47				
B03	DL01	20878	5.0	0.39		1.12 J			<100	
B03	DL01	20879	6.0	0.28		1.02				
B03	DL01	20880	7.0	0.29		0.87 J			<100	
B03	**DL01**	**20969**	**8.0**	**0.215**	**1.65**	**0.371**	**0.0026 U**	**0.0026 U**	**3.8 J**	**0.51 UJ**
C03	DL01	20882	1.0	0.57		1.24 J			<100	
C03	DL01	20881	2.0	0.56		0.62				
C03	DL01	20883	3.0	0.32		1.85 J			<100	
C03	DL01	20892	4.0	0.22		2.37				
C03	DL01	20897	5.0	0.43		1.90			<100	
C03	DL01	20898	6.0	0.51		0.92 J				
C03	DL01	20899	7.0	0.20		1.05 J			<100	
C03	**DL01**	**20970**	**8.0**	**0.227**	**2.64**	**0.535**	**0.0026 U**	**0.0026 U**	**3.0 J**	**0.51 UJ**
D03	DL01	20911	1.0	0.79		2.52			<100	
D03	DL01	20916	2.0	0.71		1.02 J				
D03	DL01	20917	3.0	0.98		1.57 J			<100	
D03	DL01	20953	4.0	0.47		0.62 J				
D03	DL01	20954	5.0	0.46		1.03 J			<100	
D03	DL01	20955	6.0	0.37		1.25				
D03	DL01	20956	7.0	0.28		0.53			<100	
D03	**DL01**	**20986**	**8.0**	**0.254**	**0.96**	**0.466**	**0.0026 U**	**0.0026 U**	**4.1 J**	**0.51 UJ**
E03	DL01	20979	1.0	0.65		3.31			<100	
E03	DL01	20980	2.0	0.88		4.39				
E03	DL01	20981	3.0	0.77		2.68			<100	
E03	DL01	20982	4.0	0.94		13.15				
E03	DL01	20983	5.0	1.70		27.91			<100	
E03	DL01	20984	6.0	1.38		7.87				
E03	DL01	20985	7.0	0.45		0.81 J			<100	
E03	**DL01**	**21011**	**8.0**	**0.172**	**0.92**	**0.515**	**0.0025 U**	**0.0025 U**	**4.5**	**0.52 UJ**
F03	DL01	20987	1.0	1.35		11.00			<100	
F03	DL01	20988	2.0	0.06		1.06 J				
F03	DL01	20992	3.0	0.41		1.39			<100	
F03	DL01	20993	4.0	0.35		1.57				
F03	DL01	20995	5.0	0.32		1.75			<100	
F03	DL01	20996	6.0	0.07		1.76 J				
F03	DL01	21003	7.0	0.28		2.28			<100	
F03	**DL01**	**21143**	**8.0**	**0.190**	**0.540**	**0.330**	**0.0025 U**	**0.0025 U**	**2.3 J**	**0.51 U**

Table 1
North of the 140 Building Soil Boring Sample Results

Subcell	Boring Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)	Be (mg/kg)
G03	DL01	21007	1.0	0.52		3.56			57.3 J	
G03	DL01	21008	2.0	0.29		1.10 J				
G03	DL01	21014	3.0	0.28		2.18			<100	
G03	DL01	21015	4.0	0.24		1.17				
G03	DL01	21025	5.0	0.34		1.65			<100	
G03	DL01	21030	6.0	0.56		0.46				
G03	DL01	21031	7.0	0.53		1.18			<100	
G03	**DL01**	**21144**	**8.0**	**0.266**	**5.86**	**0.65**	**0.0026 U**	**0.0026 U**	**3.2 J**	**0.52 U**
H03	DL01	21047	1.0	0.96		9.23			<100	
H03	DL01	21100	2.0	0.29 J		1.15				
H03	DL01	21101	3.0	0.38 J		0.97 J			<100	
H03	DL01	21102	4.0	0.53 J		1.45				
H03	DL01	21103	5.0	0.60 J		1.72			<100	
H03	DL01	21104	6.0	0.41 J		1.00 J				
H03	DL01	21120	7.0	0.41 J		3.35			<100	
H03	**DL01**	**21145**	**8.0**	**0.231**	**2.57**	**1.02**	**0.0026 U**	**0.0026 U**	**2.1 J**	**0.51 U**
I03	DL01	21146	1.0	0.94 J		8.03			<100	
I03	DL01	21147	2.0	0.71 J		2.17				
I03	DL01	21148	3.0	0.32 J		2.33			<100	
I03	DL01	21149	4.0	0.34		0.87 J				
I03	DL01	21163	5.0	0.58 J		1.85			<100	
I03	DL01	21339	6.0	0.49		0.77				
I03	DL01	21344	7.0	0.04 UJ		1.46			<100	
I03	**DL01**	**21392**	**8.0**	**0.197**	**0.56**	**0.485**	**0.0026 U**	**0.0026 U**	**2.1 J**	**0.079 J**
J03	DL01	21161	1.0	0.68		3.46			49.3 J	
J03	DL01	21162	2.0	1.33 J		1.72 J				
J03	DL01	21179	3.0	0.63		2.21 J			<100	
J03	DL01	21180	4.0	0.55 J		2.15 J				
J03	DL01	21181	5.0	0.38 J		1.31			<100	
J03	DL01	21368	6.0	0.49		1.10 J				
J03	DL01	21391	7.0	0.89 J		0.87 J			<100	
J03	**DL01**	**21430**	**8.0**	**0.276**	**0.341**	**0.255**	**0.0026 U**	**0.0026 U**	**5.1**	**0.059 J**
K03	DL01	21199	1.0	0.74 J		2.15			<100	
K03	DL01	21200	2.0	1.11 J		4.04				
K03	DL01	21201	3.0	0.49 J		2.24			<100	
K03	DL01	21206	4.0	0.33 J		0.49				
K03	DL01	21207	5.0	0.30 J		1.00 J			<100	
K03	DL01	21443	6.0	0.54 J		1.50				
K03	DL01	21453	7.0	0.36		0.96 J			<100	
K03	**DL01**	**21500**	**8.0**	**0.220**	**0.66**	**0.497**	**0.0026 U**	**0.0026 U**	**2.3 J**	**0.51 U**
L03	DL01	21264	1.0	0.91 J		6.23			<100	
L03	DL01	21265	2.0	0.69		1.18				
L03	DL01	21266	3.0	0.24 J		2.21			<100	
L03	DL01	21267	4.0	0.71		1.67				
L03	DL01	21277	5.0	0.48		1.76 J			<100	
L03	DL01	21452	6.0	0.60		1.82				
L03	DL01	21472	7.0	0.30		1.02 J			<100	
L03	**DL01**	**21515**	**8.0**	**0.221**	**0.74**	**0.530**	**0.0026 U**	**0.0026 U**	**1.6 J**	**0.10 J**

Table 1
North of the 140 Building Soil Boring Sample Results

Subcell	Boring Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)	Be (mg/kg)
M03	DL01	21294	1.0	1.39		19.31			56.2 J	
M03	DL01	21295	2.0	2.26 J		33.12				
M03	DL01	21296	3.0	0.43		9.18			<100	
M03	DL01	21485	4.0	0.55 J		9.44				
M03	DL01	21660	5.0	0.71		4.37			<100	
M03	DL01	21672	6.0	0.61		7.43				
M03	DL01	21674	7.0	0.41		4.77			<100	
M03	**DL01**	**21679**	**8.0**	**0.148**	**3.10**	**2.79**	**0.0026 U**	**0.0026 U**	**2.2 R**	**0.12 J**
N03	DL01	21297	1.0	1.02		17.18 J			454	
N03	DL01	21298	2.0	0.97 J		14.57				
N03	DL01	21299	3.0	1.35		38.08			264	
N03	DL01	21306	4.0	0.52		5.29				
N03	DL01	21307	5.0	0.90 J		2.05 J			<100	
N03	DL01	21517	6.0	0.54		2.86				
N03	DL01	21518	7.0	0.51		1.38			<100	
N03	**DL01**	**21617**	**8.0**	**0.258**	**0.99**	**0.74**	**0.0026 U**	**0.0026 U**	**1.9 J**	**0.085 J**
O03	DL01	21308	1.0	1.49		50.19 J			164	
O03	DL01	21550	2.0	1.61		20.18				
O03	DL01	21551	3.0	1.49		41.62 J			241	
O03	DL01	21552	4.0	0.80		22.67 J				
O03	DL01	21553	5.0	1.10		7.09			<100	
O03	DL01	21583	6.0	0.52		6.74				
O03	DL01	21604	7.0	0.05		1.26			<100	
O03	**DL01**	**21661**	**8.0**	**0.387**	**5.43**	**4.91**	**0.0026 U**	**0.0026 U**	**10.8 R**	**0.087 J**
R52	DL01	20482	1.0	0.42		3.05 J			40.2 J	
R52	DL01	20487	2.0	0.50		1.07 J				
R52	DL01	20488	3.0	0.54		1.25 J			<100	
R52	DL01	20492	4.0	0.70		2.11				
R52	DL01	20499	5.0	0.92		1.90			<100	
R52	DL01	20501	6.0	0.52		1.71				
R52	DL01	20502	7.0	0.54		1.41 J			<100	
R52	**DL01**	**20568**	**8.0**	**0.317**	**0.66**	**0.61**	**0.0026 U**	**0.0026 U**	**3.9 J**	**0.12 J**
S52	DL01	20528	1.0	0.80		1.17			54.8 J	
S52	DL01	20529	2.0	0.09		10.57				
S52	DL01	20530	3.0	0.38		3.00			<100	
S52	DL01	20531	4.0	0.54		2.57				
S52	DL01	20544	5.0	0.75		3.06			<100	
S52	DL01	20551	6.0	0.75		2.29				
S52	DL01	20552	7.0	0.52		1.61			<100	
S52	**DL01**	**20567**	**8.0**	**0.203**	**0.571**	**0.63**	**0.0025 U**	**0.0025 U**	**4.0 J**	**0.15 J**
T52	DL01	20557	1.0	0.74		6.15			64.0 J	
T52	DL01	20558	2.0	0.74		3.02				
T52	DL01	20559	3.0	0.89		2.70			<100	
T52	DL01	20560	4.0	0.84		5.63				
T52	DL01	20606	5.0	0.66		3.79 J			<100	
T52	DL01	20657	6.0	1.27		2.79				
T52	DL01	20658	7.0	0.16		2.69 J			<100	
T52	**DL01**	**20696**	**8.0**	**0.336**	**0.96**	**0.91**	**0.0025 U**	**0.0025 U**	**2.5 J**	**0.099 J**

Table 1
North of the 140 Building Soil Boring Sample Results

Subcell	Boring Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)	Be (mg/kg)
U52	DL01	20625	1.0	1.01		8.36 J			41.9 J	
U52	DL01	20626	2.0	0.39		6.70				
U52	DL01	20659	3.0	0.37		1.31			40.5 J	
U52	DL01	20660	4.0	0.23		1.13				
U52	DL01	20673	5.0	0.33		1.06 J			<100	
U52	DL01	20680	6.0	0.36		0.74 J				
U52	DL01	20687	7.0	0.54		2.65			<100	
U52	**DL01**	**20710**	**8.0**	**0.57**	**0.448**	**0.456**	**0.0025 U**	**0.0025 U**	**4.9**	**0.18 J**
V52	DL01	20692	1.0	0.61		7.18			<100	
V52	DL01	20693	2.0	0.51		7.73 J				
V52	DL01	20694	3.0	0.10		2.30			<100	
V52	DL01	20701	4.0	0.56		1.99 J				
V52	DL01	20702	5.0	0.07		1.38			<100	
V52	DL01	20716	6.0	0.61		1.92				
V52	DL01	20725	7.0	0.63		0.72 J			<100	
V52	**DL01**	**20770**	**8.0**	**0.293**	**0.517**	**0.539**	**0.0025 U**	**0.0025 U**	**12.8**	**0.17 J**
W52	DL01	20738	1.0	0.34		13.15			<100	
W52	DL01	20739	2.0	0.41		2.37				
W52	DL01	20747	3.0	0.27		0.62 J			<100	
W52	DL01	20748	4.0	0.28		1.82				
W52	DL01	20752	5.0	0.64		1.81			<100	
W52	DL01	20757	6.0	0.37		0.77 J				
W52	DL01	20766	7.0	0.69		1.58			<100	
W52	**DL01**	**20812**	**8.0**	**0.441**	**0.60**	**0.55**	**0.0025 U**	**0.0025 U**	**3.5 J**	**0.15 J**
X52	DL01	20767	1.0	0.30		4.62			<100	
X52	DL01	20768	2.0	0.33		2.31				
X52	DL01	20769	3.0	0.58		2.62			41.1 J	
X52	DL01	20779	4.0	0.31		1.39				
X52	DL01	20782	5.0	0.41		1.68			<100	
X52	DL01	20787	6.0	0.42		1.11 J				
X52	DL01	20788	7.0	0.34		0.90 J			<100	
X52	**DL01**	**20814**	**8.0**	**0.73**	**1.39**	**1.36**	**0.0026 U**	**0.0026 U**	**10.6**	**0.24 J**
Y52	DL01	20807	1.0	0.35		3.14			<100	
Y52	DL01	20808	2.0	0.06		6.02				
Y52	DL01	20809	3.0	0.34		1.66 J			<100	
Y52	DL01	20819	4.0	0.34		1.05 J				
Y52	DL01	20820	5.0	0.48		1.59			<100	
Y52	DL01	20821	6.0	1.04		2.09				
Y52	DL01	20835	7.0	0.29		0.77 J			<100	
Y52	**DL01**	**20854**	**8.0**	**0.306**	**0.58**	**0.551**	**0.0026 U**	**0.0026 U**	**4.2**	**0.51 UJ**
Z52	DL01	20836	1.0	0.54		8.39			<100	
Z52	DL01	20837	2.0	0.38		2.24 J				
Z52	DL01	20838	3.0	0.67		1.95			42.9 J	
Z52	DL01	20839	4.0	0.61		1.57				
Z52	DL01	20840	5.0	0.63		0.79 J			<100	
Z52	DL01	20841	6.0	0.35		0.73 J				
Z52	DL01	20851	7.0	0.26		0.55 J			<100	
Z52	**DL01**	**20896**	**8.0**	**0.177**	**0.328**	**0.344**	**0.0025 U**	**0.0025 U**	**2.1 J**	**0.51 UJ**

Table 1
North of the 140 Building Soil Boring Sample Results

Analytes:

Th-232 - Thorium-232
U-234 - Uranium-234
U-238 - Uranium-238
TCE - Trichloroethene
PCE - Tetrachloroethene
Ni - Nickel
Be - Beryllium

Units:

pCi/g - picoCurie/gram
mg/kg - milligram/kilogram

Qualifiers:

R - Validation qualifier used to indicate that the result is considered unusable.
U - Validation qualifier used to indicate that the result was qualified as non-detect.
J - Validation qualifier used to indicate that the result is considered an estimate.
UJ - Validation qualifier used to indicate that the result was qualified as non-detect and the associated reporting limit is considered an estimate.

Notes:

See Figure 1 for boring locations.
DL sample is analyzed on Site for radionuclides (Th-232 and U-238) using the gamma spectroscopy system.
DL sample is analyzed on Site for Ni using x-ray fluorescence spectroscopy by Stone Environmental Inc. Ni result that is between the detection limit of 40 mg/kg and the reporting limit of 100 mg/kg is estimated. Ni result that is less than the detection limit of 40 mg/kg is reported as less than the reporting limit (<100 mg/kg).
SP sample result is bold and indicates that analysis was performed off Site by Severn Trent Laboratories, Inc.
Due to an artifact in the laboratory data reporting program, the on-Site analytical data should be interpreted to two significant figures.
Blank cell indicates analysis was not performed.
Result is above Site cleanup level.

Table 2
North of the 140 Building Summary of Verification Floor Sample Results
Severn Trent Laboratories, Inc.

Subcell	Sample Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)
M03	WF	22303	3.0	1.56	23.7	20.0	0.00050 J	0.0084	101 J
M03	EF	22345	3.0	0.469	17.5	14.7	0.0026 U	0.00061 J	99.7 J
N03	EF	22492	4.0	0.98	3.18	2.48	0.0026 U	0.0026 U	6.6
N03	WF	25537	4.0	1.10	6.53	5.42	0.024	0.00059 J	17.0
O03	EF	22430	3.0	0.83	2.83	2.46	0.0026 U	0.0026 U	4.6 J
O03	WF	22493	4.0	0.87	15.4	12.4	0.0026 U	0.0026 U	47.4
P03	WF	22600	5.0	0.382	12.3	10.1	0.0026 U	0.0026 U	14.2 J
P03	EF	22601	5.0	0.63	27.9	2.52	0.0026 U	0.0026 U	3.4 J

Analytes:

Th-232 - Thorium-232
U-234 - Uranium-234
U-238 - Uranium-238
TCE - Trichloroethene
PCE - Tetrachloroethene
Ni - Nickel

Units:

pCi/g - picoCurie/gram
mg/kg - milligram/kilogram

Qualifiers:

U - Validation qualifier used to indicate that the result was qualified as non-detect.
J - Validation qualifier used to indicate that the result is considered an estimate.

Notes:

See Figure 2 for sample information.
EF - East Floor
WF - West Floor

Table 3
North of the 140 Building Summary of Verification Wall Sample Results
Severn Trent Laboratories, Inc.

Subcell	Sample Location	Sample ID	Depth (feet)	Th-232 (pCi/g)	U-234 (pCi/g)	U-238 (pCi/g)	TCE (mg/kg)	PCE (mg/kg)	Ni (mg/kg)
M03	NWW	22122	1.5	1.02	18.0	13.4	0.0029 U	0.0025 J	172 J
M03	NEW	22154	1.5	0.76	26.1	24.4	0.0029 U	0.00048 J	10.5 J
M03	NWW	22302	1.5	0.67	18.7	16.0	0.0028 U	0.0017 J	76.0 J
N03	NEW	22269	1.5	1.02	10.7	5.25	0.0031 U	0.0011 J	19.2 J
N03	NWW	22387	1.5	1.09	16.7	6.46	0.0031 U	0.0013 J	11.3 J
O03	NWW	22277	1.5	0.86	2.71	1.99	0.0028 U	0.00061 J	15.9 J
O03	NEW	22431	1.5	1.29	3.04	2.18	0.0033 U	0.0025 J	26.1 J
P03	NEW	22602	1.5	1.17	3.93	2.11	0.0033 U	0.0033 U	13.2 J
P03	NWW	22603	1.5	1.03	7.83	4.79	0.0033 U	0.0017 J	16.6 J
P03	NEW	22604	1.5	1.22	19.4	17.3	0.0029 U	0.0020 J	47 J

Analytes:

Th-232 - Thorium-232
U-234 - Uranium-234
U-238 - Uranium-238
TCE - Trichloroethene
PCE - Tetrachloroethene
Ni - Nickel

Units:

pCi/g - picoCurie/gram
mg/kg - milligram/kilogram

Qualifiers:

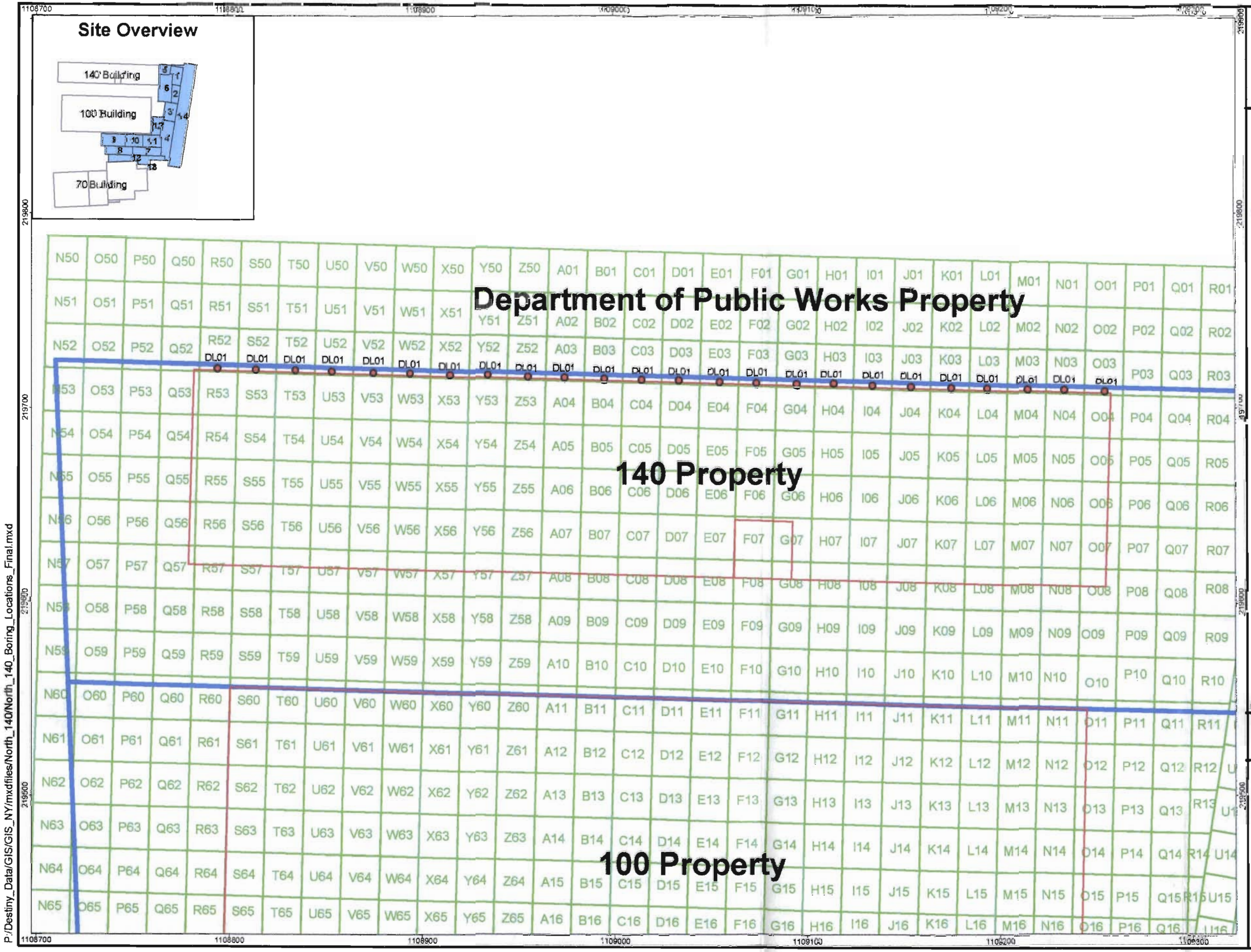
U - Validation qualifier used to indicate that the result was qualified as non-detect.
J - Validation qualifier used to indicate that the result is considered an estimate.

Notes:

See Figure 3 for sample information.
NEW - North East Wall
NWW - North West Wall

Figure 1
North of the 140 Building Boring Locations

Site Overview



Legend

- Boring Location
- Building
- Property Line
- Subcell Boundary

See Table 1 for summarized sample results.

N

Feet

0 25 50

Projection Information
State Plane Projection
Long Island Zone
North American Datum 1983
Feet

NYSDEC V00089-1 URS27010-039

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P:/Destiny_Data/GIS/GIS_NY/mxdfiles/North_140/North_140_Boring_Locations_Final.mxd

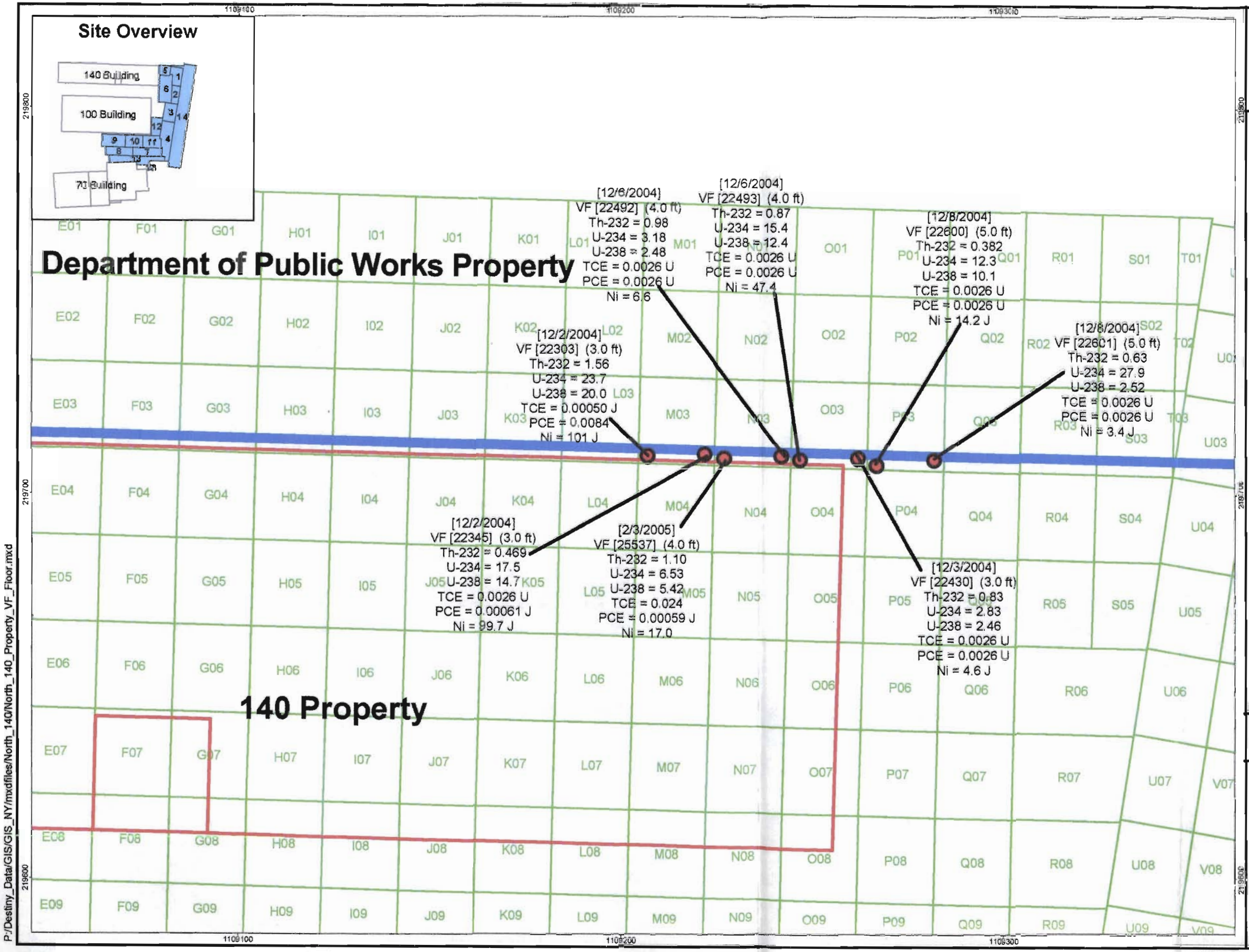

Figure 2
North of the 140 Building Verification Floor Sample Locations and Results

Legend

- Sample Location
- Building
- Property Line
- Subcell Boundary

Label Key

[Date]
Sample Type [Sample ID] (Depth)
Sample Result

- Depth in Feet bgs
- Th-232, U-234 and U-238 in pCi/g
- TCE and PCE in mg/kg
- Ni in mg/kg

See Table 2 for summarized sample results.

N

Feet
0 30 60

Projection Information
State Plane Projection
Long Island Zone
North American Datum 1983
Feet

NYSDEC V00089-1 URS27010-039

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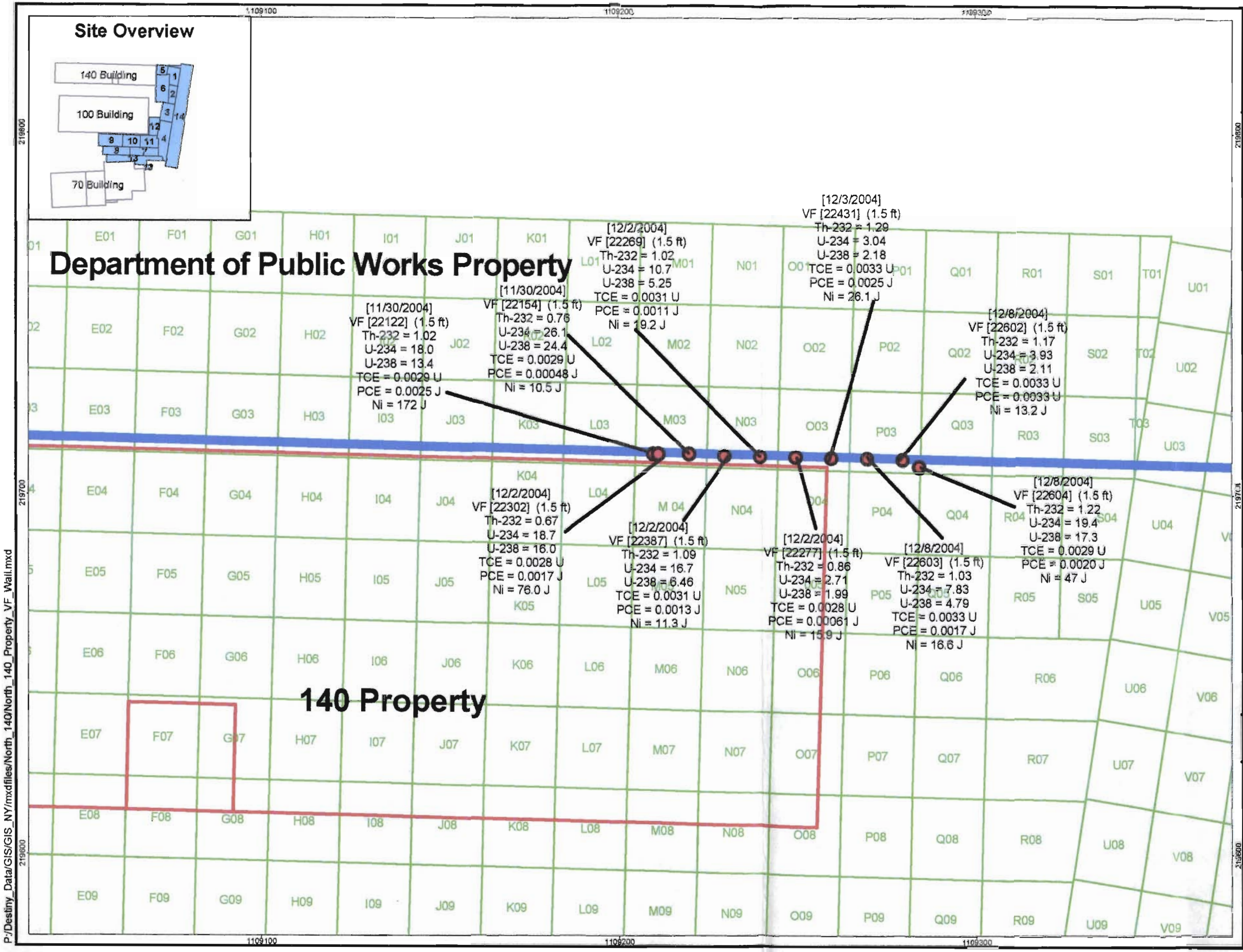
Figure 3
North of the 140 Building Verification Wall Sample Locations and Results



Legend

- Sample Location
- Building
- Property Line
- Subcell Boundary

Label Key

[Date]
Sample Type [Sample ID] (Depth)
Sample Result

- Depth in Feet bgs
- Th-232, U-234 and U-238 in pCi/g
- TCE and PCE in mg/kg
- Ni in mg/kg

See Table 3 for summarized sample results.

N

Feet

0 30 60

Projection Information
State Plane Projection
Long Island Zone
North American Datum 1983
Feet

NYSDEC V00089-1 URS27010-039

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Appendix A – Boring Logs

Boring Logs are available for review on CD provided.