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ENVIRONMENTAL
ASSESSMENT &
REMEDIATIONS

October 11, 2023

John Sheehan
New York State Department of Environmental Conservation
Division of Environmental Remediation
50 Circle Road
Stony Brook, New York 11790

RE: Site No. C130164A, 175 Roger Avenue LLC – Off-Site, 175 Roger Avenue, Inwood, NY — Soil Vapor Sampling Summary & Results

Dear Mr. Sheehan:

This letter summarizes field activities conducted by Environmental Assessment & Remediations (EAR) at the above referenced site. Soil vapor samples were collected from offsite locations for analysis of volatile organic compounds (VOCs). A site location map and site map depicting the area of concern have been included in Figures 1 and 2, respectively.

Soil Vapor Sampling
Soil vapor sampling was conducted by EAR between August 18 and August 22, 2023 at a total of 10 locations (TSVMP-1 through TSVMP-10). Sampling was conducted in accordance with The New York State Department of Health (NYSDOH) *Guidance for Evaluating Soil Vapor Intrusion in the State of New York* (October 2006). Sample locations are included in Figure 3.

Vapor monitoring points (VMPs) were installed by EAR via hand auger. At each location, a six-inch stainless steel braided screen implant connected to polyethylene (PE) tubing was installed. An inert filter pack (#60 – 100 mesh glass beads) was installed to approximately one-foot above the screened section, followed by a hydrated bentonite seal. Clean native material was used to backfill the remaining void space to grade. PE tubing extended approximately three feet above grade for sample collection purposes. A typical VMP construction diagram is included in Figure 4.

TSVMPs 1, 4, 5, 6, 7, and 9 were installed to a depth of four feet below grade (bg). Due to the presence of a shallow, tidally influenced groundwater table, wet soil was encountered at four feet bg while installing TSVMPs 2, 3, 8, and 10. To minimize the possibility of drawing in water during sample collection, these locations were installed to a depth of three and a half feet bg.

Soil vapor samples were collected immediately following installation of each VMP. A food-grade polycarbonate test chamber was used to create an enclosed atmosphere around the sample point and was installed on plastic sheeting to provide a clean surface for test chamber installation. Sample tubing was introduced into the test chamber by inserting it through the center of the plastic sheet. Natural modeling clay was used to seal the test chamber in multiple locations, including contact points at the test chamber and plastic sheeting, the sample tubing entry and exit points through the plastic sheeting, and the sample tubing exit point through the test chamber.

Utilizing ports installed on the test chamber, a tracer gas (helium) was introduced into the test chamber prior to sampling. Once the test chamber atmosphere is enriched with helium to a minimum concentration of 50 percent, the ports were closed, and the test chamber is checked for leaks using a multi-gas detector (MGD 2002 Hydrogen/Helium Detector).

Prior to sampling, three volumes of air were purged from sample tubing using an air sampling pump (Gilian GilAir Plus) calibrated to maintain a flow rate no greater than 0.2 L/min. The air sampling pump was calibrated prior to use using a BIOS Defender 510 flow calibrator. At each location, a calibrated photo-ionization detector (RAE Systems, ppb RAE) was used to measure VOC concentrations at the sample tubing and in ambient air before and after sampling. Sample tubing was then connected to the SUMMA canister using a stainless steel compression fitting, the canister valve was opened, and sampling commenced. Upon completion of sampling, test chambers were deconstructed, the VMP was removed, and the location was restored to grade to match existing surrounding conditions.

Soil vapor samples were collected over a two-hour period using laboratory provided six-liter SUMMA canisters (batch certified) equipped with a vacuum gauge and a mass flow valve, calibrated by the laboratory to maintain a flow rate no greater than 0.2 L/min.

Please note a four-hour regulator was inadvertently used for two-hour sample collection at TSVMP-02, the data may be biased low. Additionally, while sampling TSVMP-5, water was observed in sample tubing upon completion of the sampling period. No SUMMA canister issues were reported by the laboratory in either instance.

Outdoor Air Sampling

Outdoor air samples were collected daily from representative upwind locations while conducting soil vapor sampling. The samples were collected from approximately three to five feet above grade and were collected over a four-hour period using laboratory provided six-liter SUMMA canisters (batch certified) equipped with a vacuum gauge and a mass flow valve, calibrated by the laboratory. A total of five outdoor air samples (OA-1 through OA-5) were collected during the event. Approximate outdoor air sample locations are included in Figure 3.

Quality Assurance/Quality Control (QA/QC) Samples

Blind duplicates were collected at rate of one per 10 samples collected. A total of two blind duplicate samples were submitted for VOCs analysis during this event. Blind duplicates were collected from TSVMP-6 (TSVMP-X) and OA-3 (OA-X) using laboratory provided sampling tees.

Laboratory Analysis

All samples were submitted to a NYSDEC standby contracted laboratory (Con-Test, A Pace Analytical Laboratory) for analysis of VOCs via EPA Method TO-15. Additional analysis for the tracer gas, helium, was conducted on soil vapor samples via EPA method 3C. Samples were submitted for 10-day turnaround time with category B deliverables. Analytical data has been summarized in Table 1 and select contaminants of concern have been posted to a site map and included in Figure 5.

DUSR Preparation and Upload to NYENVDATA

Upon receipt of the requested category B deliverables, laboratory data packages will be submitted for preparation of data usability reports (DUSRs). After data validation has been completed, electronic data

files will be processed and submitted to NYENVDATA. DUSRs will be submitted under a separate cover upon completion.

Should you have any questions regarding the activities or data detailed in this report, please feel free to contact me at (631) 447-6400, extension 152.

Sincerely,



Stephen Goetz
Project Manager/Geologist

cc: Jennifer Lawrence (EAR)

Tables

TABLE 1

175 Roger Avenue LLC - Offsite
175 Roger Avenue
Inwood, NY
NYSDEC Site #C130164A

ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

Analytical Results (µg/m^3)
Con-Test, A Pace Analytical Laboratory
EPA Method TO15

Location	TSVMP-1	TSVMP-2[1]	TSVMP-3	TSVMP-4	TSVMP-5[2]	TSVMP-6	TSVMP-7	TSVMP-8	TSVMP-9	TSVMP-10	OA-1	OA-2	OA-3	OA-4	OA-5
Screened Depth (feet)	3.5 – 4	3 – 3.5	3 – 3.5	3.5 – 4	3.5 – 4	3.5 – 4	3.5 – 4	3 – 3.5	3.5 – 4	3 – 3.5	-	-	-	-	-
Date Collected	08/17/23	08/17/23	08/18/23	08/18/23	08/21/23	08/21/23	08/22/23	08/22/23	08/23/23	08/23/23	08/17/23	08/18/23	08/21/23	08/22/23	08/23/23
Tetrachloroethene	1.4	7.2	8.7	540	8.9	26,000	3,300	410	5,200	1,900	0.18 JD	0.47	0.48	0.22 JD	0.33
Trichloroethylene	<0.54	<0.54	<0.54	2.6	<0.54	380	3	6.8	890	1.5	<0.19	<0.19	<0.19	<0.19	<0.19
cis-1,2-Dichloroethene	<0.40	<0.40	<0.40	<0.40	0.59	<59	<2	<0.40	190	<0.40	<0.14	<0.14	<0.14	<0.14	<0.14
1,1 Dichloroethane	<0.40	<0.40	<0.40	<0.40	0.89	<61	<2	<0.40	<2	<0.40	<0.14	<0.14	<0.14	<0.14	<0.14
1,1 Dichloroethene	<0.40	<0.40	<0.40	<0.40	0.75	<59	<2	<0.40	<2	<0.40	0.17	<0.14	0.09 JD	<0.14	0.14
1,1,1 Trichloroethane	<0.55	<0.55	<0.55	<0.55	0.24 JD	<82	2.10 JD	<0.55	3	38	<0.19	<0.19	<0.19	<0.19	<0.19
1,2 Dibromoethane	<0.77	0.34 JD	0.37 JD	0.34 JD	0.31 JD	48 JD	1.50 JD	<0.77	1.60 JD	0.32 JD	0.10 JD	0.09 JD	0.11 JD	0.13 JD	0.16 JD
1,2 Dichloroethane	<0.40	0.45	<0.40	<0.40	0.25 JD	<61	<2	<0.40	<2	<0.40	<0.14	<0.14	<0.14	<0.14	<0.14
1,2,4 Trimethylbenzene	5.3	7	6.8	5.9	8.4	<74	8.2	10	14	20	0.27	1.6	0.59	0.46	0.51
1,3,5 Trimethylbenzene	2.1	3	2.5	2.3	2.7	<74	2.40 JD	3.3	8	5.9	0.11 JD	0.49	0.16 JD	0.14 JD	0.14 JD
1,4 Dichlorobenzene	<0.60	<0.60	<0.60	<0.60	<0.60	<90	<3	<0.60	<3	<0.60	<0.21	0.17 JD	0.3	0.11 JD	0.12 JD
2-Hexanone	2.5	1.9	3.9	3.4	3.6	<61	1.80 JD	4.8	<2	6.2	0.07 JD	0.38	0.58	0.24	0.22
4-Ethyltoluene	1.5	1.8	1.9	1.7	2.2	<74	2.8	1.7	5.3	4.8	<0.17	0.38	0.16 JD	0.10 JD	0.13 JD
4-Methyl-2-Pentanone	3.4	4.6	1.2	<0.41	<0.41	<61	<2	<0.41	<2	<0.41	0.37	0.71	<0.14	<0.14	<0.14
Acetone	22	<9.50	59	82	94	<1,400	26 JD	36	45 JD	190	10	20	24	24	13
Benzene	1.2	1.8	2.3	1	31	65	1.8	7.1	2.2	100	0.33	3.2	1.4	0.8	0.97
Bromomethane	<0.39	<0.39	<0.39	<0.39	<0.39	<58	<1.90	<0.39	<1.90	<0.39	<0.14	0.11 JD	<0.14	<0.14	<0.14
Carbon Disulfide	1.60 JD	3.7	1.50 JD	0.73 JD	17	<470	<16	0.95 JD	<16	5	<1.10	0.23 JD	0.28 JD	<1.10	0.87 JD
Carbon Tetrachloride	0.33 JD	0.86	0.24 JD	0.26 JD	<0.63	<94	2.20 JD	0.21 JD	<3.10	0.34 JD	0.5	0.54	0.48	0.58	0.62
Chloroethane	<0.26	<0.26	<0.26	<0.26	<0.26	<40	<1.30	0.17 JD	<1.30	<0.26	<0.09	<0.09	0.1	<0.09	<0.09
Chloroform	0.77	11	3.1	2.4	2.9	<73	<2.40	1.7	4.6	1.8	0.10 JD	0.17	0.27	0.12 JD	0.18
Chloromethane	0.31 JD	0.81	0.40 JD	0.41 JD	0.65	13 JD	<2.10	0.66	1.30 JD	1.2	1.1	1.1	0.97	1.1	1.1
Cyclohexane	3.3	10	0.84	<0.34	2.5	<52	<1.70	2.8	<1.70	4.8	0.32	1.2	0.69	0.24	0.52
Dichlorodifluoromethane	2	2	2.1	2.1	1.9	<74	11	<0.49	<2.50	2.7	2.4	2.7	2.1	2.8	2.5
Ethanol	150	510	18	25	<7.50	<1,100	<38	20	40	67	13	47	30	78	46
Ethyl Acetate	14	28	<3.60	<3.60	<3.60	<540	<18	1.50 JD	5.60 JD	7.9	1.10 JD	3.2	1.6	3.2	1.20 JD
Ethylbenzene	2.8	6	1.9	2	9	22 JD	5.8	7.2	13	17	0.4	1.9	0.75	0.42	0.44
Freon 113	0.64 JD	0.52 JD	0.52 JD	0.54 JD	0.46 JD	<460	<15	<3.10	<15	0.61 JD	0.52 JD	0.53 JD	0.49 JD	0.61 JD	0.60 JD
Freon 114	<0.70	<0.70	<0.70	<0.70	<0.70	<100	<3.50	<0.70	<3.50	<0.70	0.12 JD	0.13 JD	<0.24	0.12 JD	0.12 JD
Heptane	3.2	5	3.7	4.3	13	110	3.6	10	4.8	15	0.33	1.2	1	0.4	0.58
Hexane	<14	<14	<14	<14	14	<2,100	<70	6.70 JD	<70	11 JD	<4.90	<4.90	1.60 JD	<4.90	<4.90
Isopropyl Alcohol	12	32	4.30 JD	5 JD	<9.80	<1,500	<49	<9.80	<49	14	1.50 JD	4.3	3.30 JD	1.60 JD	3 JD
m + p Xylene	8.7	14	6.5	6.6	25	<130	22	26	51	56	1.1	4.9	1.9	1.4	1.4
Methyl Ethyl Ketone	4.60 JD	7.80 JD	5.70 JD	3.50 JD	25	<1,800	<59	<12	<59	10 JD	<4.10	2.10 JD	4 JD	2.20 JD	1.80 JD
Methylene Chloride	<3.50	1.70 JD	<3.50	<3.50	<3.50	<520	<17	<3.50	<17	1.30 JD	<1.20	0.63 JD	0.54 JD	0.39 JD	0.44 JD
Naphthalene	0.47 JD	0.72	0.49 JD	0.57	0.9	<79	<2.60	0.61	<2.60	0.62	<0.18	0.49	0.19	<0.18	0.17 JD
o-Xylene	3.7	6	2.7	3.1	6.9	<65	6.4	7.5	29	18	0.43	2	0.77	0.47	0.49
Propene	<6.90	<6.90	11	<6.90	61	<1,000	<34	<6.90	<34	13	<2.40	3.4	<2.40	<2.40	<2.40
Styrene	4.1	9.6	3	3.6	2.1	<64	1.20 JD	1.5	1.70 JD	2.7	0.36	0.63	0.24	0.08 JD	0.10 JD
t butylmethylether	1.1	0.6	1.7	1.1	0.69	<54	1.20 JD	1.4	1.70 JD	3.5	<0.13	0.10 JD	<0.13	<0.13	0.14
Tetrahydrofuran	0.86 JD	2.50 JD	0.87 JD	0.93 JD	<2.90	<440	<15	<2.90	<15	<2.90	<1	0.33 JD	0.26 JD	<1	0.41 JD
Toluene	16	39	12	14	46	210	18	24	25	62	2.4	8.5	4.3	3.6	2.4

TABLE 1

175 Roger Avenue LLC - Offsite
175 Roger Avenue
Inwood, NY
NYSDEC Site #C130164A

ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

Analytical Results (µg/m^3)
Con-Test, A Pace Analytical Laboratory
EPA Method TO15

Location	TSVMP-1	TSVMP-2[1]	TSVMP-3	TSVMP-4	TSVMP-5[2]	TSVMP-6	TSVMP-7	TSVMP-8	TSVMP-9	TSVMP-10	OA-1	OA-2	OA-3	OA-4	OA-5
Screened Depth (feet)	3.5 – 4	3 – 3.5	3 – 3.5	3.5 – 4	3.5 – 4	3.5 – 4	3.5 – 4	3 – 3.5	3.5 – 4	3 – 3.5	-	-	-	-	-
Date Collected	08/17/23	08/17/23	08/18/23	08/18/23	08/21/23	08/21/23	08/22/23	08/22/23	08/23/23	08/23/23	08/17/23	08/18/23	08/21/23	08/22/23	08/23/23
trans-1,2-Dichloroethene	<0.40	**0.43**	<0.40	<0.40	<0.40	<59	<2	<0.40	<2	<0.40	<0.14	0.06 JD	<0.14	<0.14	<0.14
Trichlorofluoromethane	0.97 JD	1.70 JD	1.20 JD	1.50 JD	**4.1**	<340	3.10 JD	2 JD	9.60 JD	**3.7**	**1.3**	**1.8**	**1.2**	**1.9**	**1.4**
Vinyl Acetate	**8.2**	**9.6**	3.50 JD	**7.2**	<7	<1,100	<35	**10**	<35	**18**	0.93 JD	**3.5**	**4.9**	**2.7**	**3.7**
Total BTEX	**32**	**67**	**25**	**27**	**118**	**297**	**54**	**72**	**120**	**253**	**5**	**21**	**9**	**7**	**6**
Total VOCs	**279**	**732**	**172**	**724**	**387**	**26,848**	**3,424**	**605**	**6,546**	**2,604**	**40**	**120**	**90**	**128**	**86**

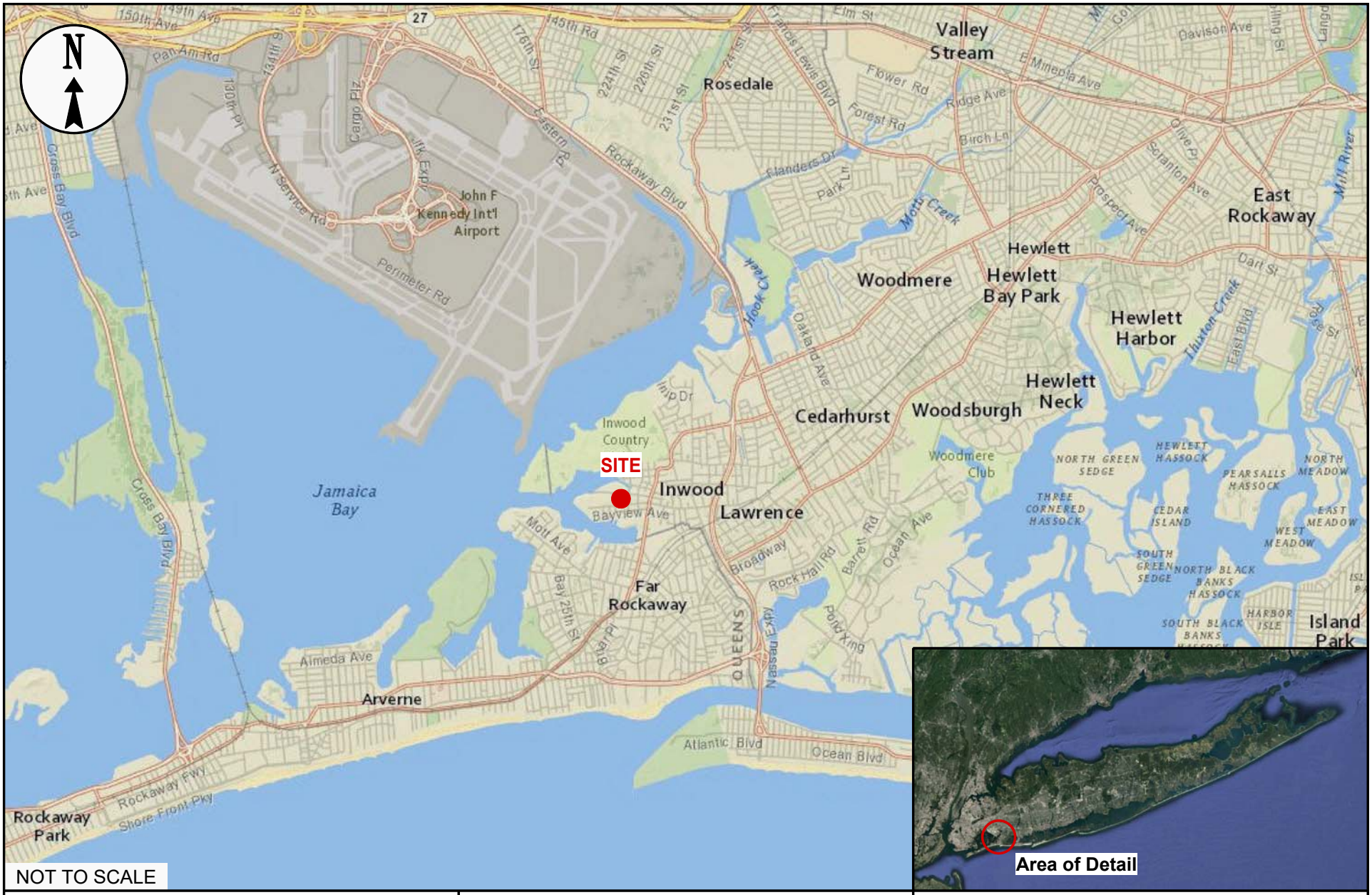
Notes:
J - Laboratory estimated value
D - Sample dilution performed by laboratory
[1]Sample collected over 2 hours using a 4-hour regulator
[2]Groundwater was drawn into sample tubing during sample collection

The chemicals listed below were reported below the LRL:

1,1,2 Trichloroethane	1,3 Butadiene	Bromoform	t 1,3 Dichloropropene
1,1,2,2 Tetrachloroethane	1,3 Dichlorobenzene	c 1,3 Dichloropropene	Vinyl Chloride
1,2 Dichlorobenzene	1,4-Dioxane	Chlorobenzene	
1,2 Dichloropropane	Benzyl Chloride	Dibromochloromethane	
1,2,4 Trichlorobenzene	Bromodichloromethane	Hexachlorobutadiene	

Figures

FIGURE 1



ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

Site Location Map

175 Roger Avenue LLC - Off-Site
175 Roger Avenue
Inwood, NY
NYSDEC Site #C130164A

FIGURE 2



ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

Site Map

175 Roger Avenue LLC - Off-Site
175 Roger Avenue
Inwood, NY
NYSDEC Site #C130164A

FIGURE 3



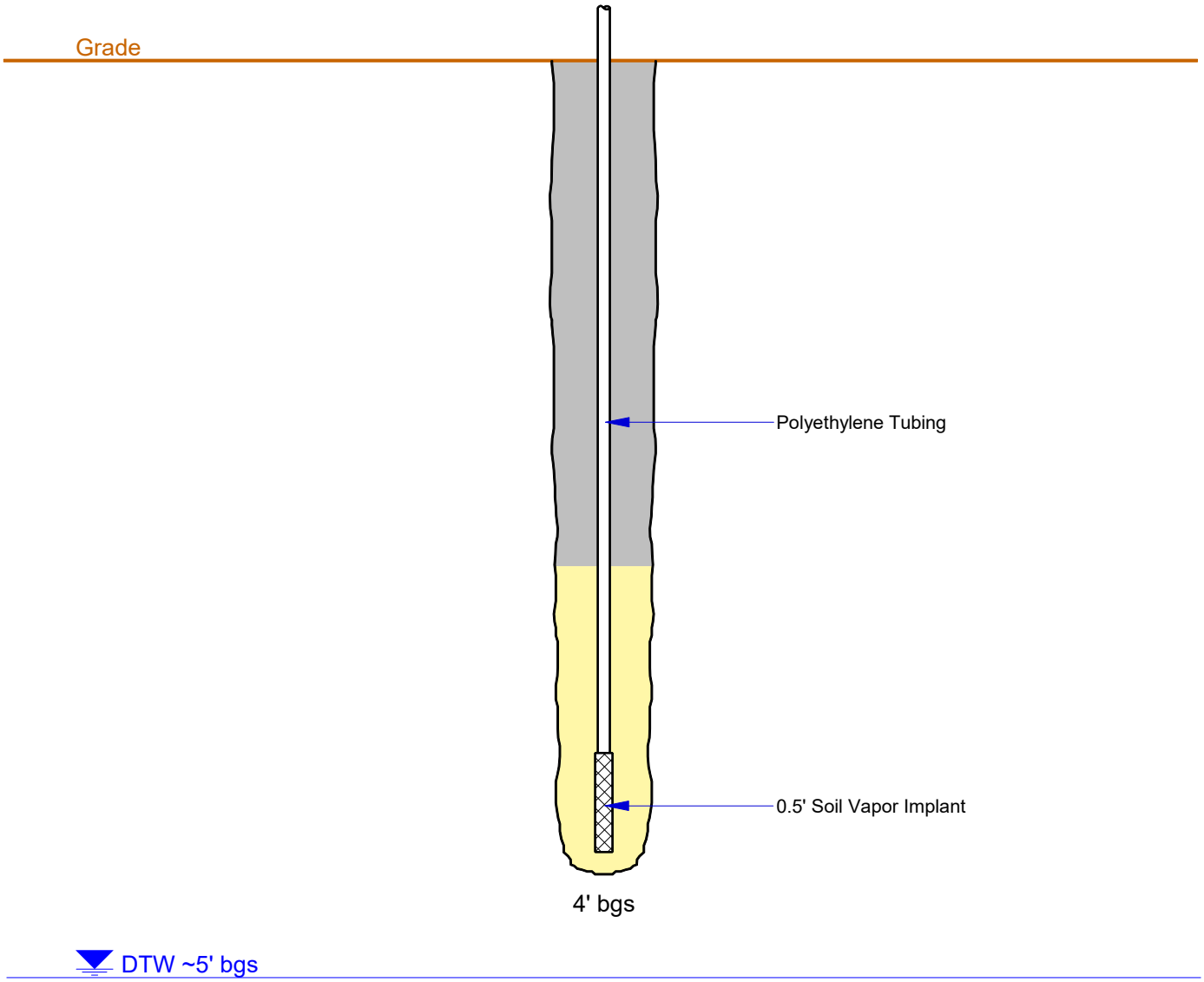
ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

Site Map

175 Roger Avenue LLC - Off-Site
175 Roger Avenue
Inwood, NY
NYSDEC Site #C130164A

FIGURE 4

Vapor Monitoring Point Construction



NOT TO SCALE

ENVIRONMENTAL ASSESSMENT & REMEDIATIONS	Typical VMP Design	175 Roger Avenue LLC - Off-Site 175 Roger Avenue Inwood, NY NYSDEC Site #C130164A

FIGURE 5



ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

Soil Vapor Sampling Analytical Results (µg/m³) August 2023

175 Roger Avenue LLC - Off-Site
175 Roger Avenue
Inwood, NY
NYSDEC Site #C130164A