



VIA ELECTRONIC MAIL

July 2, 2019

Jenelle Wallace
Environmental Engineer
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, New York 12233-7017

Re: 2019 Semiannual Progress Report – January through June 2019
Former Dover Electronics Site, Kirkwood, Broome County, New York
NYSDEC Site No. 7-04-026

Dear Ms. Wallace,

On behalf of Dover Corporation, Verina Engineering, P.C. (VERINA) has prepared this 2019 Semiannual Progress Report to summarize the remedial activities which have been performed from January through June 2019 at the former Dover Electronics site in Kirkwood, New York, NYSDEC Site No. 7-04-026. Figure 1 is the site map with the monitoring well locations.

The field activities completed during the reporting period include:

- Six rounds of monthly manual injection of sodium permanganate as part of the in-situ chemical oxidation (ISCO) remediation process at select wells;
- Site-wide groundwater gauging and well inspections in March 2019;
- Collection of groundwater samples for laboratory analysis from select monitoring wells/points in March 2019;
- Abandonment of seven select wells at the site in April 2019;
- Repair to the inner casing and manhole at well MW-28 in April 2019;
- Monthly inspection of seven areas associated with the environmental Deed Restrictions and their engineering controls;
- Monthly operation, monitoring and maintenance (OM&M) of the ASD system; and,
- Collection of annual indoor air samples in March 2019.

ISCO Injection System Operation

Monthly manual ISCO injection events, utilizing a 10% sodium permanganate solution, began in December 2013. The goal of the ISCO injection events is to reduce the levels of the residual site compounds of concern (COCs) in groundwater.



Between January and March 2019, manual injection was implemented monthly at wells IJ-1, IJ-2, IJ-3, IJ-4, IJ-5, IJ-7, IJ-8, IJ-9, IJ-10, MW-7A, MW-16, MW-24, MP-4, MP-5, MP-11, MP-12, and MP-14 located within the source area and at wells IJ-6, MW-25R, and MW-28 located within the Pilot Truck Stop area. However, as discussed below, wells IJ-3, IJ-4, IJ-9 and IJ-10 were abandoned in April 2019 and therefore were not used for injection past March 2019. During the reporting period, a total of 5,895 gallons of 10% sodium permanganate solution were injected into the select wells, with about 1,000 gallons of permanganate solution being injected on a monthly basis, except for the month of June. During the June injection event, severe thunderstorms had occurred and therefore limited the amount injection activities that took place in June. A summary of each monthly injection event occurring between January and June 2019 is presented in Table 1.

Monitoring Well Abandonment and Repair

In February 2019, VERINA was informed by the property owner, Modern Marketing Concepts, of their plan to repave their entire parking lot area in Spring 2019. As several of the monitoring wells and points were located within this parking area, VERINA developed a plan to abandon several of these wells and points. Additionally, VERINA included two monitoring wells from the Pilot Truck Stop area, MW-30 and MW-37, in the abandonment plan as these wells were previously noted to be in disrepair and unfit for sampling and were located in a high truck traffic area, which was also a health and safety concern.

VERINA's well abandonment plan was approved by NYSDEC on March 21, 2019. The abandonment work was performed in April 2019 by Parratt Wolff, Inc. of East Syracuse, New York and was done in accordance with NYSDEC's CP-43: Groundwater Monitoring Well Decommissioning Policy. The monitoring wells and points abandoned included IJ-3, IJ-4, IJ-9, IJ-10, MW-8, MW-30 and MW-37. The updated site map showing the abandoned well locations is presented as Figure 1 and the well abandonment logs are presented in Attachment 1. In addition, Parratt Wolff, Inc. also repaired the inner casing and replaced the manhole cover at MW-28 within the Pilot Truck Stop area during April 2019. MW-28 will be resurveyed for its vertical elevation prior to the September 2019 groundwater sampling event.

Groundwater Monitoring Program

Site-wide groundwater elevation measurements were collected on March 18, 2019 from all available monitoring wells and points at the site. These groundwater elevation measurements were then used to generate groundwater flow maps for both the shallow and intermediate aquifers at the site. The groundwater elevation measurements are presented in Table 2. The groundwater flow maps for the March 2019 gauging event for the shallow aquifer and the intermediate aquifer are shown on Figure 2 and Figure 3, respectfully.

The groundwater flow maps indicate groundwater in both the shallow and intermediate aquifers generally flows from northeast to south-southwest, which is consistent with previous observations.

Between March 18 and 19, 2019, groundwater samples were collected from a total of 19 monitoring wells and points in both the source area and the Pilot Truck Stop area. The samples were submitted for laboratory analysis as part of the ISCO performance monitoring program. The wells and points sampled in this event are listed below:



- Source Area: MP-3D, MP-4, MP-5, MP-6S, MP-12, MP-14, MW-2, MW-7A, MW-16, MW-17, MW-22 and injection points IJ-4, IJ-5, IJ-8 and IJ-10.
- The Pilot Truck Stop Area: MW-25R, MW-27 and MW-28.

One additional well, MP-11, was scheduled to be sampled but a thick layer of snow was found to have been plowed over the location of the well during this sampling event and, therefore, prevented VERINA personnel from accessing this well.

Groundwater samples were collected using the low flow purging and sampling method. During purging, the groundwater was monitored using a calibrated YSI Model 600XL portable water quality meter for several parameters including dissolved oxygen (D.O.), temperature, pH, oxidation-reduction potential (ORP), and specific conductivity. A LaMotte 2020we turbidity meter was used to monitor the turbidity. The groundwater samples were analyzed for site-specific parameter list (SSPL) VOCs, which includes tetrachloroethene (PCE), trichloroethene (TCE), 1,1,1-trichloroethane (1,1,1-TCA), cis- and trans-1,2-dichloroethene (1,2-DCE), 1,1-dichloroethane (1,1-DCA), and vinyl chloride (VC) via USEPA Method 8260C.

A summary of the March 2019 groundwater analytical results is provided on Table 3 and the distribution of VOCs is presented on Figure 4. The complete laboratory analytical report and the NYSDEC EDD submittal for the March 2019 groundwater sampling event will be provided with the annual progress report.

The following observations were made upon review of the groundwater quality data:

- SSPL VOCs detected in the groundwater samples collected from the monitoring wells and injection wells in the shallow and intermediate aquifers showed generally decreasing trends since the implementation of ISCO at the site.
- The analytical results show that the major daughter products resulting from the breakdown of PCE continue to be present within monitoring wells or points, particularly cis-1,2-DCE and TCE.

Deed Restriction Area Inspections

Monthly inspections of the seven deed restriction areas were conducted during the reporting period. The location of each deed restriction area is presented on Figure 5.

The inspections included a visual evaluation of the condition and integrity of the capped deed restrictions areas and documentation with photos. All asphalt, concrete, or soil caps were noted to be in good condition in all deed restriction areas. VERINA will continue the monthly inspections of the deed restriction areas and will take action to repair such caps if a poor condition is observed during inspection.

ASD System Inspection

Monthly inspections of the ASD system were conducted during the reporting period. The ASD system was also checked daily by MMC personnel to verify that it was operating. The monthly



inspections indicated that the system is operating as designed and satisfactorily. During this period there was no reported down time for the ASD system.

Indoor Air Sampling

Annual indoor air samples were taken from seven locations within the site building on March 21, 2019 (Figure 6). The sampling locations include areas where employees commonly work and areas where SSPL VOCs were detected in historic sub-slab vapor samples, and are consistent with the previous indoor air sampling locations. Additionally, one ambient air sample was collected from the exterior of the building.

Indoor and ambient air samples were collected over an 8-hour period in 6-liter stainless steel Summa canisters and analyzed for VOCs by USEPA Method TO-15. The analytical results are presented in Table 4. The complete laboratory analytical report and the NYSDEC EDD submittal for the March 2019 indoor air sampling event will be provided in the annual progress report.

A review of the indoor air analytical results indicated that all detected compounds were below the NYSDOH guidance values.

Proposed Schedule for the Second Half of 2019

VERINA is planning to perform the following work from July to December of 2019:

- Refilling of the sodium permanganate above ground storage tank (AST) in Fall 2019;
- Pending Modern Marketing Concepts' parking lot pavement activity, repair well manholes and pads at 10 well locations;
- Installation of replacement intermediate zone monitoring well (proposed well MW-39) for abandoned well MW-37 within the Pilot Truck Stop Area;
- Survey of the replacement monitoring well MW-39 and repaired well MW-28;
- Conduct site-wide groundwater gauging event in September 2019;
- Conduct annual groundwater sampling event in September 2019;
- Conduct monthly ASD system inspection to ensure proper operation of the system;
- Conduct monthly manual sodium permanganate injections in both the source area and Pilot Truck Stop; and
- Conduct monthly inspections on the deed restriction areas in accordance with the approved OM&M Plan, with maintenance of such cap areas occurring as needed.

The annual progress report is scheduled for submittal in January 2020.



Please call if you have any questions or need additional information.

Very truly yours,

VERINA ENGINEERING, P.C.

D. Robert Gan, Ph.D., P.E.
President

ATTACHMENTS:

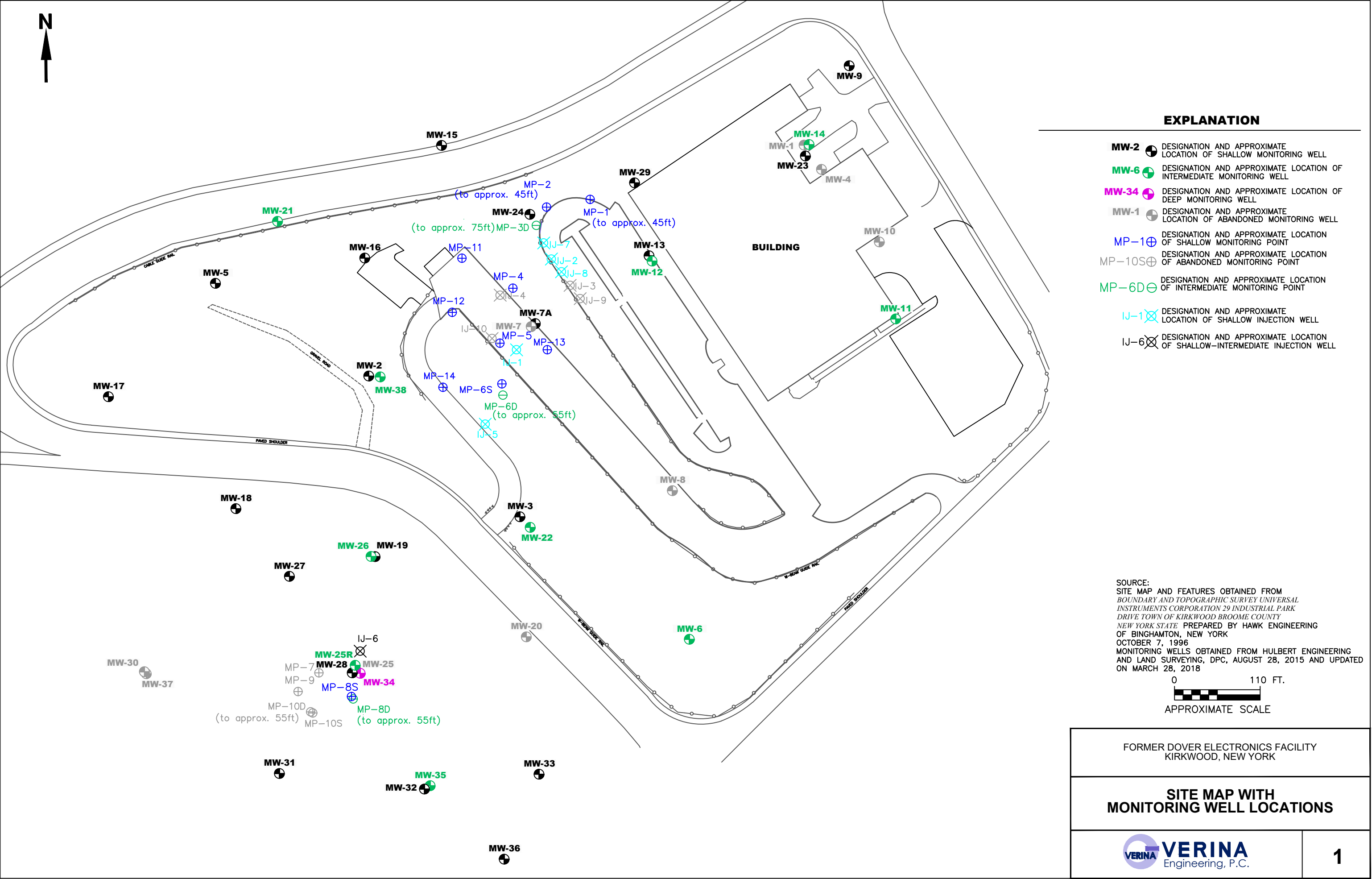
Figure 1 – Site Map with Monitoring Well Locations
Figure 2 – Shallow Groundwater Elevation Isocontours, March 18, 2019
Figure 3 – Intermediate Groundwater Elevation Isocontours, March 18, 2019
Figure 4 – Groundwater Analytical Results
Figure 5 – Soil Cap Areas
Figure 6 – ASD System and Indoor Air Sampling Locations

Table 1 – Manual ISCO Injection Summary, January – June 2019
Table 2 – Groundwater Elevation Data - March 2019
Table 3 – Groundwater Analytical data – March 2019
Table 4 – Indoor Air Sampling Analytical Results - March 2019

Attachment 1 – Monitoring Well Abandonment Logs

cc: w/enc.: M. Post (DOVER)

Figures



SOURCE:
SITE MAP AND FEATURES OBTAINED FROM
BOUNDARY AND TOPOGRAPHIC SURVEY UNIVERSAL
INSTRUMENTS CORPORATION 29 INDUSTRIAL PARK
DRIVE TOWN OF KIRKWOOD BROOME COUNTY
NEW YORK STATE PREPARED BY HAWK ENGINEERING
OF BINGHAMTON, NEW YORK
OCTOBER 7, 1996
MONITORING WELLS OBTAINED FROM HULBERT ENGINEERING
AND LAND SURVEYING, DPC, AUGUST 28, 2015 AND UPDATED
ON MARCH 28, 2018

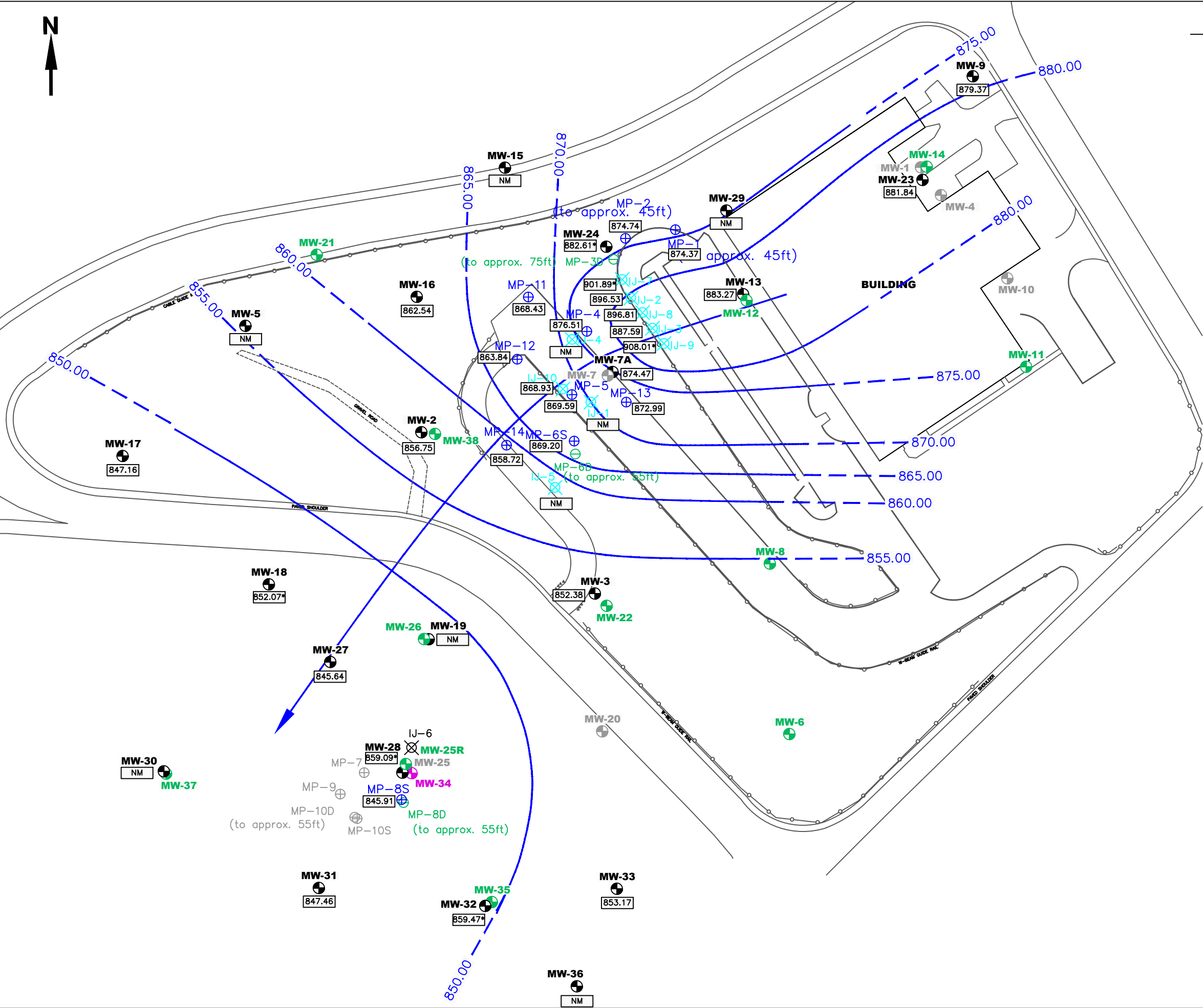


FORMER DOVER ELECTRONICS FACILITY
KIRKWOOD, NEW YORK

**SITE MAP WITH
MONITORING WELL LOCATIONS**



1



EXPLANATION

MW-2 DESIGNATION AND APPROXIMATE LOCATION OF SHALLOW MONITORING WELL

MW-1 DESIGNATION AND APPROXIMATE LOCATION OF ABANDONED MONITORING WELL

MP-1 DESIGNATION AND APPROXIMATE LOCATION OF SHALLOW MONITORING POINT

MP-10S DESIGNATION AND APPROXIMATE LOCATION OF ABANDONED MONITORING POINT

MP-6D DESIGNATION AND APPROXIMATE LOCATION OF INTERMEDIATE MONITORING POINT

IJ-1 DESIGNATION AND APPROXIMATE LOCATION OF SHALLOW INJECTION WELL

IJ-6 DESIGNATION AND APPROXIMATE LOCATION OF SHALLOW-INTERMEDIATE INJECTION WELL

MW-6 DESIGNATION AND LOCATION OF INTERMEDIATE MONITORING WELL

MW-34 DESIGNATION AND LOCATION OF DEEP MONITORING WELL

876.88 GROUNDWATER ELEVATION (FT., MSL)

GROUNDWATER ELEVATION ISOCONTOUR INTERVAL IN FT., MSL (DASHED WHERE INFERRED)

ARROW INDICATES GENERALIZED GROUNDWATER FLOW DIRECTION

CONTOUR INTERVAL = 5.0 FT., MSL
AVERAGE HYDRAULIC GRADIENT = 0.036 FT/FT

NOTES:
1) FT., MSL = FEET, MEAN SEA LEVEL
2) NM = NOT MEASURED
3) * = INDICATES RESULT NOT INCLUDED IN GENERATION OF ISOCONTOURS

SOURCE:
SITE MAP AND FEATURES OBTAINED FROM BOUNDARY AND TOPOGRAPHIC SURVEY UNIVERSAL INSTRUMENTS CORPORATION 29 INDUSTRIAL PARK DRIVE TOWN OF KIRKWOOD BROOME COUNTY NEW YORK STATE PREPARED BY HAWK ENGINEERING OF BINGHAMTON, NEW YORK OCTOBER 7, 1996
MONITORING WELLS OBTAINED FROM HULBERT ENGINEERING AND LAND SURVEYING, DPC, AUGUST 28, 2015 AND UPDATED ON MARCH 28, 2018

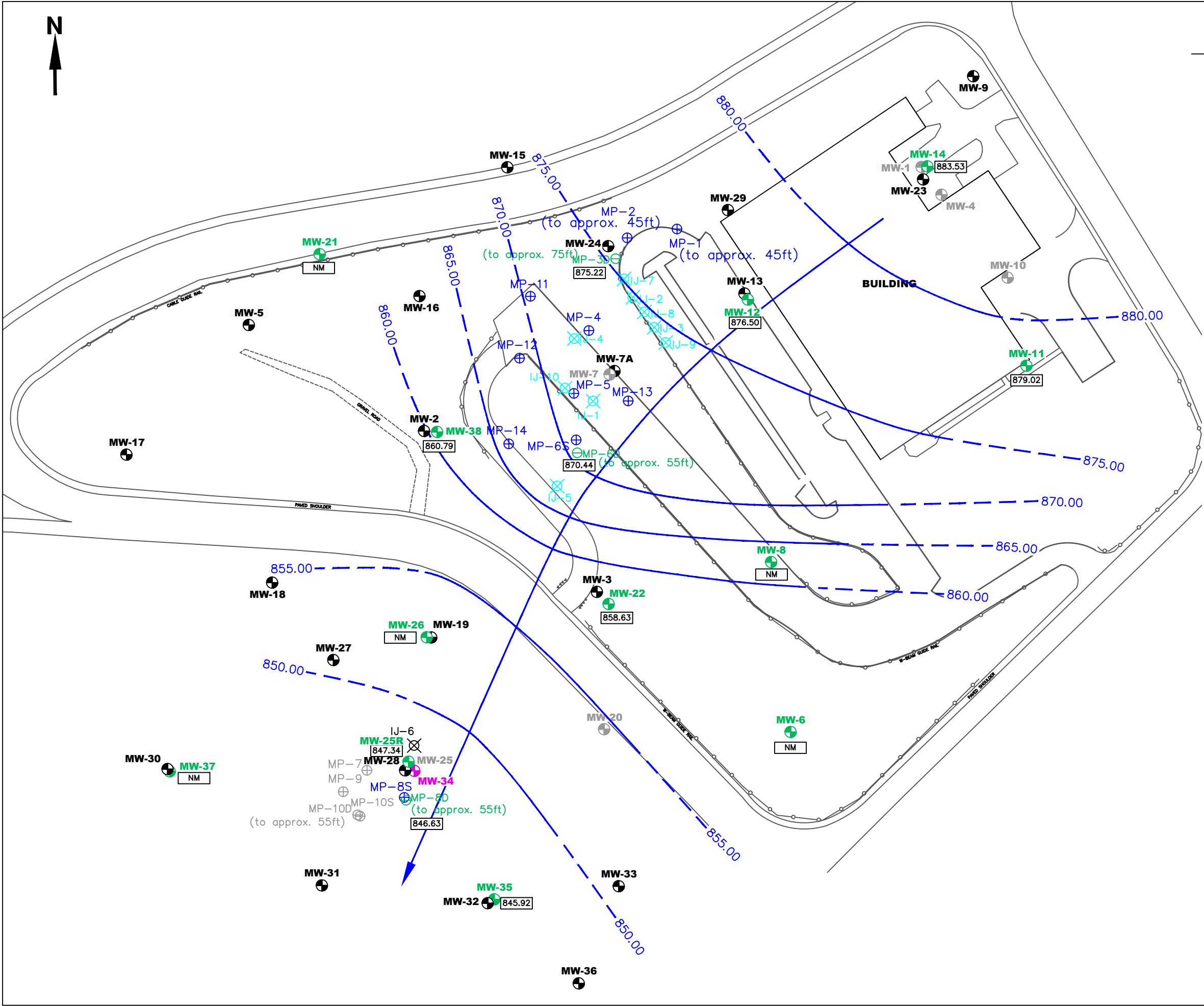
0 110 FT.
APPROXIMATE SCALE

FORMER DOVER ELECTRONICS FACILITY
KIRKWOOD, NEW YORK

**SHALLOW GROUNDWATER
ELEVATION ISOCONTOURS
MARCH 18, 2019**

VERINA
Engineering, P.C.

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EXPLANATION

- MW-2 DESIGNATION AND APPROXIMATE LOCATION OF SHALLOW MONITORING WELL
- MW-1 DESIGNATION AND APPROXIMATE LOCATION OF ABANDONED MONITORING WELL
- MP-1 DESIGNATION AND APPROXIMATE LOCATION OF SHALLOW MONITORING POINT
- MP-10S DESIGNATION AND APPROXIMATE LOCATION OF ABANDONED MONITORING POINT
- MP-6D DESIGNATION AND APPROXIMATE LOCATION OF INTERMEDIATE MONITORING POINT
- IJ-1 DESIGNATION AND APPROXIMATE LOCATION OF SHALLOW INJECTION WELL
- IJ-6 DESIGNATION AND APPROXIMATE LOCATION OF SHALLOW-INTERMEDIATE INJECTION WELL
- MW-6 DESIGNATION AND LOCATION OF INTERMEDIATE MONITORING WELL
- MW-34 DESIGNATION AND LOCATION OF DEEP MONITORING WELL

880.04 GROUNDWATER ELEVATION (FT., MSL)

GROUNDWATER ELEVATION ISOCONTOUR INTERVAL IN FT., MSL (DASHED WHERE INFERRED)

CONTOUR INTERVAL = 5.0 FT., MSL
AVERAGE HYDRAULIC GRADIENT = 0.036 FT/FT

- NOTES:
- 1) FT., MSL = FEET, MEAN SEA LEVEL
 - 2) NM = NOT MEASURED
 - 3) * = INDICATES RESULT NOT INCLUDED IN GENERATION OF ISOCONTOURS

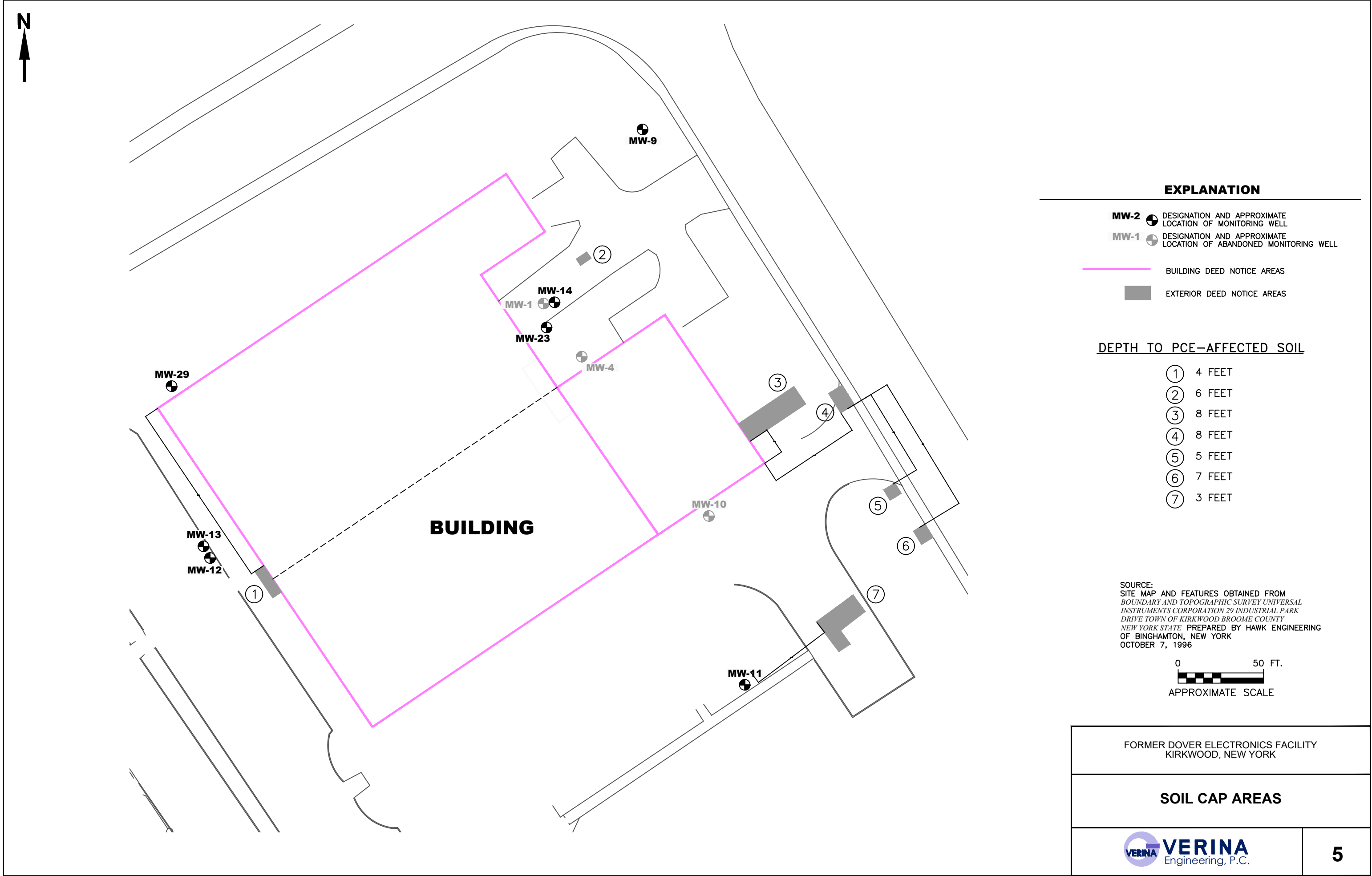
SOURCE:
SITE MAP AND FEATURES OBTAINED FROM
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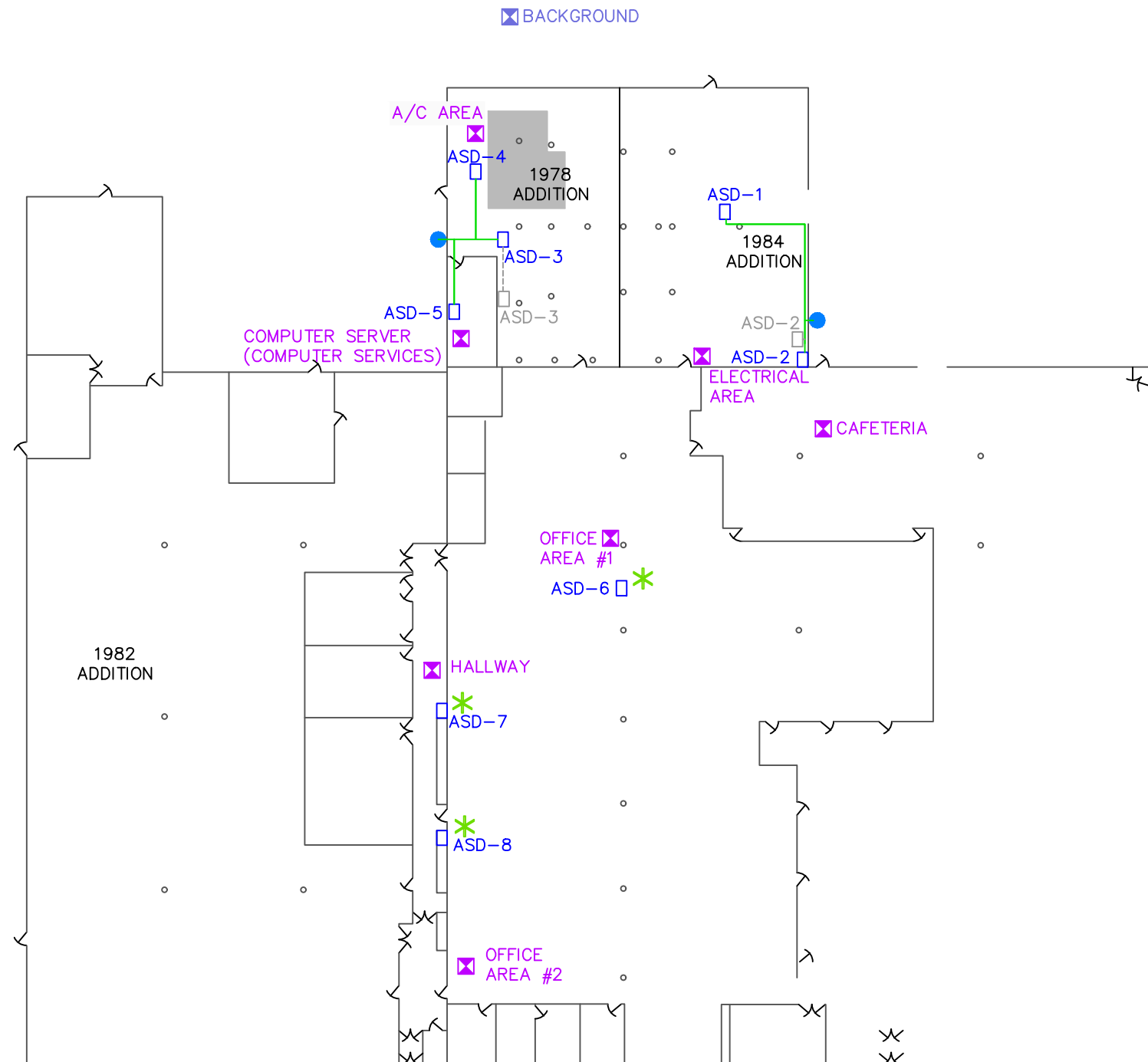
0 110 FT.
APPROXIMATE SCALE

FORMER DOVER ELECTRONICS FACILITY
KIRKWOOD, NEW YORK

INTERMEDIATE GROUNDWATER
ELEVATION ISOCONTOURS
MARCH 18, 2019







EXPLANATION

- EXISTING SUB-SLAB DEPRESSURIZATION POINT LOCATION
- EXISTING ASD PIPING RUN
- PREVIOUS SUB-SLAB DEPRESSURIZATION POINT LOCATION
- PREVIOUS ASD PIPING RUN
- EXTERIOR FAN AND EXHAUST LOCATION
- VERTICAL BUILDING POST
- INACCESSIBLE AREA
- INDOOR AIR SAMPLING LOCATION AND DESIGNATION
- AMBIENT (OUTDOOR) AIR SAMPLING LOCATION AND DESIGNATION
- DEDICATED FAN LOCATED ON RISER PIPE

SOURCE:
BUILDING LAYOUT DIGITIZED FROM PHOTOCOPY
OF DRAWING FAXED FROM UNIVERSAL INSTRUMENTS
CORPORATION FACILITIES DEPARTMENT.
NO FILE NAME OR SCALE PROVIDED.

DRAWING NOT TO SCALE

FORMER DOVER ELECTRONICS FACILITY
KIRKWOOD, NEW YORK

ASD SYSTEM AND INDOOR AIR SAMPLING LOCATIONS



Tables

Table 1 - Manual ISCO Injection Summary, January - June 2019 - Former Dover Electronics Site, Kirkwood, New York

Injection Well ID	Injection Date(s)					
	January 15-17, 2019	February 19-21, 2019	March 21-23, 2019	April 23-25, 2019	May 14-16, 2019	June 18-20, 2019
	Volume Injected (gal)	Volume Injected (gal)	Volume Injected (gal)	Volume Injected (gal)	Volume Injected (gal)	Volume Injected (gal)
MW-7A	35	30	50	25	35	35
MW-16	150	155	150	150	150	140
MW-24	35	45	60	95	115	45
MW-25R	155	130	50	155	155	120
MW-28	30	5	15	20	30	25
MP-4	25	25	30	20	25	50
MP-5	85	70	125	140	140	130
MP-8S	0	5	0	0	0	10
MP-11	30	0	0	25	25	40
MP-12	120	210	135	100	105	55
MP-14	50	50	100	65	65	45
IJ-1	70	57	30	65	50	75
IJ-2	45	70	85	50	50	70
IJ-3	0	0	0			
IJ-4	20	13	15			
IJ-5	5	3	0	5	0	5
IJ-6	30	35	45	50	45	15
IJ-7	35	5	15	0	5	25
IJ-8	25	40	50	35	5	10
IJ-9	0	0	0			
IJ-10	55	52	45			
Total Injected Volume (gal)	1000	1000	1000	1000	1000	895

NOTES:

Gal = Gallons

ISCO injection solution is a 10% by weight sodium permanganate solution.

Gray = well abandoned

Table 2 Groundwater Elevation Data - March 2019, Former Dover Electronics Site, Kirkwood, New York

Monitoring Well/Point	Top of Casing (ft, msl)	Date	Depth to Water (ft, btoc)	Groundwater Elevation (ft, msl)	Total Depth (ft, btoc)	Screened Interval (ft, btoc)	Water Bearing Unit
MW-2	863.28	3/18/2019	6.53	856.75	16.61	5-15	Shallow
MW-3	859.16	3/18/2019	6.78	852.38	NM	5-15	Shallow
MW-5	864.68	3/18/2019	NM	-	NM	5-20	Shallow
MW-6	863.67	3/18/2019	NM	-	NM	15-35	Intermediate
MW-7A	882.74	3/18/2019	8.27	874.47	16.29	7-17	Shallow
MW-8	899.21	3/18/2019	NM	-	NM	30-60	Intermediate
MW-9	923.94	3/18/2019	44.57	879.37	60.67	30-60	Shallow
MW-11	918.87	3/18/2019	39.85	879.02	62.12	52-62	Intermediate
MW-12	912.31	3/18/2019	35.81	876.50	73.82	63-73	Intermediate
MW-13	912.14	3/18/2019	28.87	883.27	48.89	39-49	Shallow
MW-14	915.40	3/18/2019	31.87	883.53	72.69	62-72	Intermediate
MW-15	899.38	3/18/2019	NM	-	NM	36-46	Shallow
MW-16	878.87	3/18/2019	16.33	862.54	30.62	18-28	Shallow
MW-17	859.29	3/18/2019	12.13	847.16	19.98	8-18	Shallow
MW-18	857.34	3/18/2019	5.27	852.07	13.47	8-18	Shallow
MW-19	859.59	3/18/2019	NM	-	NM	8-18	Shallow
MW-21	883.22	3/18/2019	NM	-	NM	31-41	Intermediate
MW-22	861.62	3/18/2019	2.99	858.63	21.40	17-22	Intermediate
MW-23	916.62	3/18/2019	34.78	881.84	51.18	40.5-50.5	Shallow
MW-24	907.66	3/18/2019	25.05	882.61	42.40	35-45	Shallow
MW-25R	856.91	3/18/2019	9.57	847.34	40.01	34-39	Intermediate
MW-26	859.04	3/18/2019	NM	-	NM	22.5-27.5	Intermediate
MW-27	860.01	3/18/2019	14.37	845.64	NM	16.5-26.5	Shallow
MW-28	859.09	3/18/2019	0.00	859.09	NM	15-25	Shallow
MW-29	917.36	3/18/2019	NM	-	NM	39-49	Shallow
MW-30	857.69	3/18/2019	NM	-	NM	15-25	Shallow
MW-31	856.90	3/18/2019	9.44	847.46	21.37	13-23	Shallow
MW-32	861.18	3/18/2019	1.71	859.47	23.30	15.1-25.1	Shallow
MW-33	863.64	3/18/2019	10.47	853.17	22.44	15-25	Shallow
MW-34	857.03	3/18/2019	1.55	855.48	53.22	53-58	Deep
MW-35	856.89	3/18/2019	10.97	845.92	36.50	32-37	Intermediate
MW-36	857.19	3/18/2019	NM	-	NM	14-24	Shallow
MW-37	857.71	3/18/2019	NM	-	NM	31-36	Intermediate
MW-38	862.70	3/18/2019	1.91	860.79	NM	20-25	Intermediate
MP-1	912.63	3/18/2019	38.26	874.37	41.00	31-41	Shallow
MP-2	911.00	3/18/2019	36.26	874.74	45.74	34-44	Shallow
MP-3D	910.59	3/18/2019	35.37	875.22	NM	46-56	Intermediate
MP-4	883.65	3/18/2019	7.14	876.51	26.97	17-27	Shallow
MP-5	881.66	3/18/2019	12.07	869.59	24.19	14-24	Shallow
MP-6S	875.67	3/18/2019	6.47	869.20	24.03	14-24	Shallow
MP-6D	873.83	3/18/2019	3.39	870.44	49.00	39-49	Intermediate
MP-8S	857.40	3/18/2019	11.49	845.91	23.14	13-23	Shallow
MP-8D	857.20	3/18/2019	10.57	846.63	53.41	44-54	Intermediate
MP-11	875.80	3/18/2019	7.37	868.43	30.07	20-30	Shallow
MP-12	876.60	3/18/2019	12.76	863.84	25.01	15-25	Shallow
MP-13	884.30	3/18/2019	11.31	872.99	24.71	15-25	Shallow
MP-14	867.80	3/18/2019	9.08	858.72	25.13	15-25	Shallow
IJ-1	-	3/18/2019	NM	-	NM	15-25	Shallow
IJ-2	908.90	3/18/2019	12.37	896.53	NM	30-45	Shallow
IJ-3	909.40	3/18/2019	21.81	887.59	NM	30-45	Shallow
IJ-4	-	3/18/2019	NM	-	NM	10-25	Shallow
IJ-5	-	3/18/2019	NM	-	NM	10-25	Shallow
IJ-6	-	3/18/2019	NM	-	NM	10-20, 30-40	Shallow-Intermediate
IJ-7	909.00	3/18/2019	7.11	901.89	NM	30-45	Shallow
IJ-8	909.20	3/18/2019	12.39	896.81	NM	30-45	Shallow
IJ-9	909.50	3/18/2019	1.49	908.01	NM	30-45	Shallow
IJ-10	880.70	3/18/2019	11.77	868.93	26.01	10-25	Shallow

Notes:

NM = Not Measured

- = Not Available.

All wells gauged within a 24-hour period.

ft, btoc = Feet below top of inner well casing.

ft, msl = Feet above mean sea level.

Table 3 Groundwater Analytical Data - March 2019, Former Dover Electronics Site, Kirkwood, New York

Sample ID		IJ-4	IJ-5	IJ-8	IJ-10	MW-2	MW-7A
Laboratory ID		R1902347-007	R1902347-002	R1902347-017	R1902347-009	R1902347-006	R1902347-019
Date Sampled	NYSDEC	3/18/2019	3/18/2019	3/19/2019	3/18/2019	3/18/2019	3/19/2019
Units	GWQS	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
1,1-Dichloroethane	5	5.0 U	1.0 U	5.0 U	10 U	1.0 U	1.0 U
1,1-Dichloroethene	5	5.0 U	1.0 U	5.0 U	10 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	5	5.0 U	1.0 U	5.0 U	10 U	2.6	1.0 U
trans-1,2-Dichloroethene	5	5.0 U	1.0 U	5.0 U	10 U	1.0 U	1.0 U
Tetrachloroethene	5	5.0 U	1.0 U	5.0 U	10 U	0.43 J	120
1,1,1-Trichloroethane	5	5.0 U	1.0 U	5.0 U	10 U	1.0 U	1.0 U
Trichloroethene	5	5.0 U	1.0 U	5.0 U	10 U	2.4	1.0 U
Vinyl Chloride	2	5.0 U	1.0 U	5.0 U	10 U	1.0 U	1.0 U

Sample ID		MW-16	MW-17	MW-22	MW-25R	MW-27	MW-28
Laboratory ID		R1902347-022	R1902347-020	R1902347-005	R1902347-018	R1902347-008	R1902347-016
Date Sampled	NYSDEC	3/19/2019	3/19/2019	3/18/2019	3/19/2019	3/18/2019	3/19/2019
Units	GWQS	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
1,1-Dichloroethane	5	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
1,1-Dichloroethene	5	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
cis-1,2-Dichloroethene	5	2.0 U	0.23 J	1.0 U	1.0 U	11	5.0 U
trans-1,2-Dichloroethene	5	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Tetrachloroethene	5	0.66 J	0.79 J	1.0 U	9.3	0.55 J	5.0 U
1,1,1-Trichloroethane	5	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Trichloroethene	5	2.0 U	1.0 U	1.0 U	0.21 J	0.57 J	5.0 U
Vinyl Chloride	2	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U

Sample ID		MP-3D	MP-4	MP-5	MP-6S	DUP 031819	MP-12
Laboratory ID		R1902347-003	R1902347-012	R1902347-004	R1902347-011	R1902347-014	R1902347-021
Date Sampled	NYSDEC	3/18/2019	3/18/2019	3/18/2019	3/18/2019	3/18/2019	3/19/2019
Units	GWQS	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
1,1-Dichloroethane	5	1.0 U	2.5 U	5.0 U	1.0 U	1.0 U	10 U
1,1-Dichloroethene	5	1.0 U	2.5 U	5.0 U	1.0 U	1.0 U	10 U
cis-1,2-Dichloroethene	5	0.63 J	2.5 U	5.0 U	1.0 U	1.0 U	10 U
trans-1,2-Dichloroethene	5	1.0 U	2.5 U	5.0 U	1.0 U	1.0 U	10 U
Tetrachloroethene	5	1.0 U	1.0 J	5.0 U	330 D	350 D	10 U
1,1,1-Trichloroethane	5	1.0 U	2.5 U	5.0 U	1.0 U	1.0 U	10 U
Trichloroethene	5	1.0 U	2.5 U	5.0 U	1.0 U	1.0 U	10 U
Vinyl Chloride	2	1.0 U	2.5 U	5.0 U	1.0 U	1.0 U	10 U

Sample ID		MP-14	FB-031819	FB-031919	TRIP BLANK		
Laboratory ID		R1902347-010	R1902347-013	R1902347-015	R1902347-001		
Date Sampled	NYSDEC	3/18/2019	3/18/2019	3/19/2019	3/18/2019		
Units	GWQS	ug/L	ug/L	ug/L	ug/L		
1,1-Dichloroethane	5	1.0 U	1.0 U	1.0 U	1.0 U		
1,1-Dichloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U		
cis-1,2-Dichloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U		
trans-1,2-Dichloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U		
Tetrachloroethene	5	9.7	1.0 U	1.0 U	1.0 U		
1,1,1-Trichloroethane	5	1.0 U	1.0 U	1.0 U	1.0 U		
Trichloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U		
Vinyl Chloride	2	1.0 U	1.0 U	1.0 U	1.0 U		

Notes:

J = Estimated value

µg/l = micrograms per liter

U = Compound analyzed for but not detected above method reporting limit given

"DUP" indicates the sample is a duplicate sample of that sample immediately preceding the duplicate sample on this table

Bold = concentration exceeds NYSDEC GWQS

NYSDEC = New York State Department of Environmental Conservation

GWQS = Ground Water Quality Standards

"FB" indicates the sample is an equipment blank sample

Table 4 Indoor Air Sampling Analytical Results - March 2019 - Former Dover Electronics Site, Kirkwood, New York

Sample Location	Background 3/22/2019 P1901630-008				Office Area #1 3/21/2019 P1901630-006				Office Area #2 3/21/2019 P1901630-005			
Sampling Date												
Laboratory Sample ID												
Units	ppbv	Q	µg/m³	Q	ppbv	Q	µg/m³	Q	ppbv	Q	µg/m³	Q
Volatile Organic Compounds												
1,1,1-Trichloroethane	0.14	U	0.76	U	0.15	U	0.83	U	0.16	U	0.87	U
1,1,2,2-Tetrachloroethane	0.11	U	0.74	U	0.12	U	0.82	U	0.13	U	0.86	U
1,1,2-Trichloroethane	0.14	U	0.76	U	0.15	U	0.83	U	0.16	U	0.87	U
1,1-Dichloroethane	0.18	U	0.73	U	0.20	U	0.80	U	0.21	U	0.84	U
1,1-Dichloroethene	0.19	U	0.76	U	0.21	U	0.83	U	0.22	U	0.87	U
1,2,4-Trichlorobenzene	0.10	U	0.74	U	0.11	U	0.82	U	0.12	U	0.86	U
1,2,4-Trimethylbenzene	0.15	U	0.74	U	0.17	U	0.82	U	0.17	U	0.86	U
1,2-Dibromo-3-chloropropane	0.075	U	0.73	U	0.083	U	0.80	U	0.087	U	0.84	U
1,2-Dibromoethane	0.098	U	0.76	U	0.11	U	0.83	U	0.11	U	0.87	U
Freon 114	0.10	U	0.71	U	0.11	U	0.79	U	0.12	U	0.83	U
1,2-Dichlorobenzene	0.13	U	0.76	U	0.14	U	0.83	U	0.15	U	0.87	U
1,2-Dichloroethane	0.18	U	0.74	U	0.20	U	0.82	U	0.21	U	0.86	U
1,2-Dichloropropane	0.16	U	0.76	U	0.18	U	0.83	U	0.19	U	0.87	U
1,3,5-Trimethylbenzene	0.15	U	0.74	U	0.17	U	0.82	U	0.17	U	0.86	U
1,3-Butadiene	0.33	U	0.73	U	0.36	U	0.80	U	0.38	U	0.84	U
1,3-Dichlorobenzene	0.13	U	0.76	U	0.14	U	0.83	U	0.15	U	0.87	U
1,4-Dichlorobenzene	0.13	U	0.76	U	0.14	U	0.83	U	0.15	U	0.87	U
1,4-Dioxane	0.21	U	0.74	U	0.23	U	0.82	U	0.24	U	0.86	U
2-Butanone	3.6		10		1.1		3.3		1.2		3.5	
2-Hexanone	0.18	U	0.76	U	0.20	U	0.83	U	0.21	U	0.87	U
2-Propanol	1.2	U	2.9	U	38		93		63		160	
3-Chloropropene	0.24	U	0.74	U	0.26	U	0.82	U	0.27	U	0.86	U
4-Ethyltoluene	0.15	U	0.74	U	0.17	U	0.82	U	0.17	U	0.86	U
4-Methyl-2-Pentanone	0.18	U	0.74	U	0.20	U	0.82	U	0.21	U	0.86	U
Acetone	7.9		19		8.2		19		8.4		20	
Acetonitrile	0.43	U	0.73	U	0.48	U	0.80	U	0.50	U	0.84	U
Acrolein	0.61	U	1.4	U	0.67	U	1.5	U	0.71	U	1.6	U
Acrylonitrile	0.34	U	0.73	U	0.37	U	0.80	U	0.39	U	0.84	U
alpha-Pinene	0.13	U	0.73	U	0.14	U	0.80	U	0.15	U	0.84	U
Benzene	0.23	U	0.73	U	0.25	U	0.80	U	0.26	U	0.84	U
Benzyl Chloride	0.30	U	1.5	U	0.33	U	1.7	U	0.34	U	1.8	U
Bromodichloromethane	0.11	U	0.74	U	0.12	U	0.82	U	0.13	U	0.86	U
Bromoform	0.072	U	0.74	U	0.079	U	0.82	U	0.083	U	0.86	U
Bromomethane	0.18	U	0.70	U	0.20	U	0.77	U	0.21	U	0.81	U
Carbon Disulfide	0.49	U	1.5	U	0.54	U	1.7	U	0.57	U	1.8	U
Carbon Tetrachloride	0.063		0.39		0.061		0.39		0.063		0.40	
Chlorobenzene	0.16	U	0.74	U	0.18	U	0.82	U	0.19	U	0.86	U
Chloroethane	0.27	U	0.71	U	0.30	U	0.79	U	0.31	U	0.83	U
Chloroform	0.15	U	0.76	U	0.17	U	0.83	U	0.18	U	0.87	U
Chloromethane	0.34	U	0.70	U	0.37	U	0.77	U	0.39	U	0.81	U
cis-1,2-Dichloroethene	0.19	U	0.74	U	0.21	U	0.82	U	0.22	U	0.86	U
cis-1,3-Dichloropropene	0.17	U	0.78	U	0.19	U	0.86	U	0.20	U	0.91	U
Cumene	0.15	U	0.74	U	0.17	U	0.82	U	0.17	U	0.86	U
Dibromochloromethane	0.089	U	0.76	U	0.098	U	0.83	U	0.10	U	0.87	U
Dichlorodifluoromethane	0.50		2.5		0.55		2.7		0.56		2.8	
d-Limonene	0.13	U	0.71	U	0.80		4.4		1.1		5.9	
Ethanol	6.7		13		270		500		360		670	
Ethylbenzene	0.17	U	0.73	U	0.18	U	0.80	U	0.19	U	0.84	U
Hexachlorobutadiene	0.070	U	0.74	U	0.077	U	0.82	U	0.081	U	0.86	U
m/p-Xylene	0.35	U	1.5	U	0.39	U	1.7	U	0.41	U	1.8	U
Methyl t-Butyl Ether	0.21	U	0.76	U	0.23	U	0.83	U	0.24	U	0.87	U
Methylene Chloride	1.9		6.6		0.24	U	0.83	U	0.25	U	0.87	U
Napthalene	0.14	U	0.71	U	0.15	U	0.79	U	0.16	U	0.83	U
n-Butyl Acetate	0.16	U	0.76	U	0.18	U	0.83	U	0.18	U	0.87	U
n-Hexane	0.21	U	0.76	U	0.24	U	0.83	U	0.25	U	0.87	U
n-Nonane	0.14	U	0.76	U	0.16	U	0.83	U	0.17	U	0.87	U
o-Xylene	0.17	U	0.74	U	0.19	U	0.82	U	0.20	U	0.86	U
Styrene	0.17	U	0.74	U	0.19	U	0.82	U	0.20	U	0.86	U
Tetrachloroethene (PCE)	0.11	U	0.74	U	0.12	U	0.82	U	0.13	U	0.86	U
Toluene	14		52		0.27		1.0		0.29		1.1	
trans-1,2-Dichloroethene	0.19	U	0.74	U	0.21	U	0.82	U	0.22	U	0.86	U
trans-1,3-Dichloropropene	0.16	U	0.74	U	0.18	U	0.82	U	0.19	U	0.86	U
Trichloroethene (TCE)	0.026	U	0.14	U	0.029	U	0.15	U	0.030	U	0.16	U
Trichlorofluoromethane	0.25		1.4		2.3		13		2.3		13	
Freon 113	0.097	U	0.74	U	0.11	U	0.82	U	0.11	U	0.86	U
Vinyl Acetate	2.1	U	7.4	U	2.3	U	8.2	U	2.4	U	8.6	U
Vinyl Chloride	0.29	U	0.74	U	0.32	U	0.82	U	0.34	U	0.86	U

Notes:

Bold = compound detected in sample

Red = compounds of concern

µg/m³ = micrograms per cubic meter

ppbv = parts per billion by volume

Q = Qualifier

U = Constituent not detected above reporting limit given

All samples analyzed by ALS Environmental of Rochester, NY

Gray shading indicates compound exceeds respective NYSDOH Indoor Air Guidance Value

NYSDOH = New York State Department of Health

NYSDOH Indoor Air Guidance Values in µg/m³ are:

Methylene Chloride - 10

1,1,1-Trichloroethane - 10

cis-1,2-Dichloroethene - 1

Vinyl Chloride - 0.2

1,1-Dichloroethene - 1

Carbon Tetrachloride - 1

PCE - 10

TCE - 1

Table 4 (Continued) Indoor Air Sampling Analytical Results - March 2019 - Former Dover Electronics Site, Kirkwood, New York

Sample Location	Cafeteria 3/21/2019 P1901630-001				Hallway 3/21/2019 P1901630-007				Computer Services 3/21/2019 P1901630-004			
Sampling Date												
Laboratory Sample ID	P1901630-001				P1901630-007				P1901630-004			
Units	ppbv	Q	µg/m³	Q	ppbv	Q	µg/m³	Q	ppbv	Q	µg/m³	Q
Volatile Organic Compounds												
1,1,1-Trichloroethane	0.15	U	0.82	U	0.14	U	0.78	U	0.15	U	0.83	U
1,1,2,2-Tetrachloroethane	0.12	U	0.81	U	0.11	U	0.77	U	0.12	U	0.81	U
1,1,2-Trichloroethane	0.15	U	0.82	U	0.14	U	0.78	U	0.15	U	0.83	U
1,1-Dichloroethane	0.20	U	0.79	U	0.19	U	0.75	U	0.20	U	0.80	U
1,1-Dichloroethene	0.21	U	0.82	U	0.20	U	0.78	U	0.21	U	0.83	U
1,2,4-Trichlorobenzene	0.11	U	0.81	U	0.10	U	0.77	U	0.11	U	0.81	U
1,2,4-Trimethylbenzene	0.16	U	0.81	U	0.16	U	0.77	U	0.17	U	0.81	U
1,2-Dibromo-3-chloropropane	0.082	U	0.79	U	0.078	U	0.75	U	0.082	U	0.80	U
1,2-Dibromoethane	0.11	U	0.82	U	0.10	U	0.78	U	0.11	U	0.83	U
Freon 114	0.11	U	0.78	U	0.11	U	0.74	U	0.11	U	0.78	U
1,2-Dichlorobenzene	0.14	U	0.82	U	0.13	U	0.78	U	0.14	U	0.83	U
1,2-Dichloroethane	0.20	U	0.81	U	0.19	U	0.77	U	0.20	U	0.81	U
1,2-Dichloropropane	0.18	U	0.82	U	0.17	U	0.78	U	0.18	U	0.83	U
1,3,5-Trimethylbenzene	0.16	U	0.81	U	0.16	U	0.77	U	0.17	U	0.81	U
1,3-Butadiene	0.36	U	0.79	U	0.34	U	0.75	U	0.36	U	0.80	U
1,3-Dichlorobenzene	0.14	U	0.82	U	0.13	U	0.78	U	0.14	U	0.83	U
1,4-Dichlorobenzene	0.14	U	0.82	U	0.13	U	0.78	U	0.14	U	0.83	U
1,4-Dioxane	0.22	U	0.81	U	0.21	U	0.77	U	0.23	U	0.81	U
2-Butanone	1.1		3.3		0.99		2.9		1.0		3.0	
2-Hexanone	0.20	U	0.82	U	0.19	U	0.78	U	0.20	U	0.83	U
2-Propanol	29		72		36		88		32		79	
3-Chloropropene	0.26	U	0.81	U	0.25	U	0.77	U	0.26	U	0.81	U
4-Ethyltoluene	0.16	U	0.81	U	0.16	U	0.77	U	0.17	U	0.81	U
4-Methyl-2-Pentanone	0.20	U	0.81	U	0.19	U	0.77	U	0.20	U	0.81	U
Acetone	6.8		16		7.5		18		7.1		17	
Acetonitrile	0.47	U	0.79	U	0.45	U	0.75	U	0.47	U	0.80	U
Acrolein	0.66	U	1.5	U	0.63	U	1.5	U	0.67	U	1.5	U
Acrylonitrile	0.36	U	0.79	U	0.35	U	0.75	U	0.37	U	0.80	U
alpha-Pinene	0.23		1.3		0.29		1.6		0.39		2.2	
Benzene	0.25	U	0.79	U	0.24	U	0.75	U	0.25	U	0.80	U
Benzyl Chloride	0.32	U	1.7	U	0.31	U	1.6	U	0.33	U	1.7	U
Bromodichloromethane	0.12	U	0.81	U	0.11	U	0.77	U	0.12	U	0.81	U
Bromoform	0.078	U	0.81	U	0.074	U	0.77	U	0.078	U	0.81	U
Bromomethane	0.20	U	0.76	U	0.19	U	0.73	U	0.20	U	0.77	U
Carbon Disulfide	0.54	U	1.7	U	0.51	U	1.6	U	0.54	U	1.7	U
Carbon Tetrachloride	0.067		0.42		0.065		0.41		0.060		0.38	
Chlorobenzene	0.17	U	0.81	U	0.17	U	0.77	U	0.18	U	0.81	U
Chloroethane	0.29	U	0.78	U	0.28	U	0.74	U	0.30	U	0.78	U
Chloroform	0.17	U	0.82	U	0.16	U	0.78	U	0.17	U	0.83	U
Chloromethane	0.37	U	0.76	U	0.35	U	0.73	U	0.37	U	0.77	U
cis-1,2-Dichloroethene	0.20	U	0.81	U	0.19	U	0.77	U	0.20	U	0.81	U
cis-1,3-Dichloropropene	0.19	U	0.85	U	0.18	U	0.81	U	0.19	U	0.86	U
Cumene	0.16	U	0.81	U	0.16	U	0.77	U	0.17	U	0.81	U
Dibromochloromethane	0.096	U	0.82	U	0.092	U	0.78	U	0.097	U	0.83	U
Dichlorodifluoromethane	0.80		4.0		0.92		4.6		0.88		4.3	
d-Limonene	1.2		6.5		0.85		4.8		0.79		4.4	
Ethanol	150		280		230		430		220		410	
Ethylbenzene	0.18	U	0.79	U	0.17	U	0.75	U	0.18	U	0.80	U
Hexachlorobutadiene	0.076	U	0.81	U	0.072	U	0.77	U	0.076	U	0.81	U
m/p-Xylene	0.39	U	1.7	U	0.37	U	1.6	U	0.39	U	1.7	U
Methyl t-Butyl Ether	0.23	U	0.82	U	0.22	U	0.78	U	0.23	U	0.83	U
Methylene Chloride	0.24	U	0.82	U	0.23	U	0.78	U	0.24	U	0.83	U
Napthalene	0.15	U	0.78	U	0.14	U	0.74	U	0.15	U	0.78	U
n-Butyl Acetate	0.17	U	0.82	U	0.16	U	0.78	U	0.17	U	0.83	U
n-Hexane	0.23	U	0.82	U	0.22	U	0.78	U	0.23	U	0.83	U
n-Nonane	0.16	U	0.82	U	0.15	U	0.78	U	0.16	U	0.83	U
o-Xylene	0.19	U	0.81	U	0.18	U	0.77	U	0.19	U	0.81	U
Styrene	0.19	U	0.81	U	0.18	U	0.77	U	0.19	U	0.81	U
Tetrachloroethene (PCE)	0.33		2.3		0.21		1.4		0.19		1.3	
Toluene	0.40		1.5		0.30		1.1		0.39		1.5	
trans-1,2-Dichloroethene	0.20	U	0.81	U	0.19	U	0.77	U	0.20	U	0.81	U
trans-1,3-Dichloropropene	0.18	U	0.81	U	0.17	U	0.77	U	0.18	U	0.81	U
Trichloroethene (TCE)	0.028	U	0.15	U	0.027	U	0.15	U	0.028	U	0.15	U
Trichlorofluoromethane	1.3		7.2		1.7		9.8		1.5		8.3	
Freon 113	0.11	U	0.81	U	0.10	U	0.77	U	0.11	U	0.81	U
Vinyl Acetate	2.3	U	8.1	U	2.2	U	7.7	U	2.3	U	8.1	U
Vinyl Chloride	0.32	U	0.81	U	0.30	U	0.77	U	0.32	U	0.81	U

Notes:

Bold = compound detected in sample

Red = compounds of concern

µg/m³ = micrograms per cubic meter

ppbv = parts per billion by volume

Q = Qualifier

U = Constituent not detected above reporting limit given

All samples analyzed by ALS Environmental of Rochester, NY

Gray shading indicates compound exceeds respective NYSDOH Indoor Air Guidance Value

NYSDOH = New York State Department of Health

NYSDOH Indoor Air Guidance Values in µg/m³ are:

Methylene Chloride - 10

1,1,1-Trichloroethane - 10

cis-1,2-Dichloroethene - 1

Vinyl Chloride - 0.2

1,1-Dichloroethene - 1

Carbon Tetrachloride - 1

PCE - 10

TCE - 1

Table 4 (Continued) Indoor Air Sampling Analytical Results - March 2019 - Former Dover Electronics Site, Kirkwood, New York

Sample Location Sampling Date Laboratory Sample ID Units	A/C Area 3/21/2019 P1901630-003				Electric Area 3/22/2018 P1801540-008			
	ppbv	Q	µg/m³	Q	ppbv	Q	µg/m³	Q
Volatile Organic Compounds								
1,1,1-Trichloroethane	0.15	U	0.81	U	0.15	U	0.84	U
1,1,2,2-Tetrachloroethane	0.12	U	0.80	U	0.12	U	0.82	U
1,1,2-Trichloroethane	0.15	U	0.81	U	0.15	U	0.84	U
1,1-Dichloroethane	0.19	U	0.78	U	0.20	U	0.81	U
1,1-Dichloroethene	0.20	U	0.81	U	0.21	U	0.84	U
1,2,4-Trichlorobenzene	0.11	U	0.80	U	0.11	U	0.82	U
1,2,4-Trimethylbenzene	0.16	U	0.80	U	0.17	U	0.82	U
1,2-Dibromo-3-chloropropane	0.081	U	0.78	U	0.083	U	0.81	U
1,2-Dibromoethane	0.11	U	0.81	U	0.11	U	0.84	U
Freon 114	0.11	U	0.77	U	0.11	U	0.79	U
1,2-Dichlorobenzene	0.13	U	0.81	U	0.14	U	0.84	U
1,2-Dichloroethane	0.20	U	0.80	U	0.20	U	0.82	U
1,2-Dichloropropane	0.18	U	0.81	U	0.18	U	0.84	U
1,3,5-Trimethylbenzene	0.16	U	0.80	U	0.17	U	0.82	U
1,3-Butadiene	0.35	U	0.78	U	0.36	U	0.81	U
1,3-Dichlorobenzene	0.13	U	0.81	U	0.14	U	0.84	U
1,4-Dichlorobenzene	0.13	U	0.81	U	0.14	U	0.84	U
1,4-Dioxane	0.22	U	0.80	U	0.23	U	0.82	U
2-Butanone	1.3		3.8		1.2		3.5	
2-Hexanone	0.20	U	0.81	U	0.20	U	0.84	U
2-Propanol	27		67		54		130	
3-Chloropropene	0.25	U	0.80	U	0.26	U	0.82	U
4-Ethyltoluene	0.16	U	0.80	U	0.17	U	0.82	U
4-Methyl-2-Pentanone	0.19	U	0.80	U	0.20	U	0.82	U
Acetone	7.7		18		5.3		13	
Acetonitrile	0.46	U	0.78	U	0.48	U	0.81	U
Acrolein	0.65	U	1.5	U	0.68	U	1.6	U
Acrylonitrile	0.36	U	0.78	U	0.37	U	0.81	U
alpha-Pinene	0.26		1.4		0.14	U	0.81	U
Benzene	0.24	U	0.78	U	0.25	U	0.81	U
Benzyl Chloride	0.32	U	1.7	U	0.33	U	1.7	U
Bromodichloromethane	0.12	U	0.80	U	0.12	U	0.82	U
Bromoform	0.077	U	0.80	U	0.079	U	0.82	U
Bromomethane	0.19	U	0.75	U	0.20	U	0.78	U
Carbon Disulfide	0.53	U	1.7	U	0.55	U	1.7	U
Carbon Tetrachloride	0.068		0.42		0.063		0.39	
Chlorobenzene	0.17	U	0.80	U	0.18	U	0.82	U
Chloroethane	0.29	U	0.77	U	0.30	U	0.79	U
Chloroform	0.17	U	0.81	U	0.17	U	0.84	U
Chloromethane	0.36	U	0.75	U	0.38	U	0.78	U
cis-1,2-Dichloroethene	0.20	U	0.80	U	0.21	U	0.82	U
cis-1,3-Dichloropropene	0.19	U	0.84	U	0.19	U	0.87	U
Cumene	0.16	U	0.80	U	0.17	U	0.82	U
Dibromochloromethane	0.095	U	0.81	U	0.098	U	0.84	U
Dichlorodifluoromethane	0.81		4.0		0.72		3.6	
d-Limonene	1.4		7.9		0.14	U	0.79	U
Ethanol	170		320		58		110	
Ethylbenzene	0.18	U	0.78	U	0.19	U	0.81	U
Hexachlorobutadiene	0.075	U	0.80	U	0.077	U	0.82	U
m/p-Xylene	0.38	U	1.7	U	0.39	U	1.7	U
Methyl t-Butyl Ether	0.22	U	0.81	U	0.23	U	0.84	U
Methylene Chloride	0.70		2.4		0.24	U	0.84	U
Napthalene	0.15	U	0.77	U	0.15	U	0.79	U
n-Butyl Acetate	0.17	U	0.81	U	0.18	U	0.84	U
n-Hexane	0.23	U	0.81	U	0.24	U	0.84	U
n-Nonane	0.15	U	0.81	U	0.16	U	0.84	U
o-Xylene	0.18	U	0.80	U	0.19	U	0.82	U
Styrene	0.19	U	0.80	U	0.19	U	0.82	U
Tetrachloroethene (PCE)	0.36		2.4		0.16		1.1	
Toluene	0.44		1.6		0.22	U	0.82	U
trans-1,2-Dichloroethene	0.20	U	0.80	U	0.21	U	0.82	U
trans-1,3-Dichloropropene	0.18	U	0.80	U	0.18	U	0.82	U
Trichloroethene (TCE)	0.028	U	0.15	U	0.029	U	0.16	U
Trichlorofluoromethane	1.4		7.7		0.61		3.5	
Freon 113	0.10	U	0.80	U	0.11	U	0.82	U
Vinyl Acetate	2.3	U	8.0	U	2.3	U	8.2	U
Vinyl Chloride	0.31	U	0.80	U	0.32	U	0.82	U

Notes:

Bold = compound detected in sample

Red = compounds of concern

µg/m³ = micrograms per cubic meter

ppbv = parts per billion by volume

Q = Qualifier

U = Constituent not detected above reporting limit given

All samples analyzed by ALS Environmental of Rochester, NY

Gray shading indicates compound exceeds respective NYSDOH Indoor Air Guidance Value

NYSDOH = New York State Department of Health

NYSDOH Indoor Air Guidance Values in µg/m³ are:

Methylene Chloride - 10

Vinyl Chloride - 0.2

PCE - 10

1,1,1-Trichloroethane - 10

1,1-Dichloroethene - 1

TCE - 1

cis-1,2-Dichloroethene - 1

Carbon Tetrachloride - 1

Attachment 1

FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name:	Well I.D.: IJ-3
Site Location: 29 Industrial Park Drive, Binghamton, NY	Driller: Ian Grassie
Drilling Co.: Parratt-Wolff, Inc.	Inspector:
Date: April 23, 2019	

DECOMMISSIONING DATA (Fill in all that apply)	WELL SCHEMATIC*																																																
<u>OVERDRILLING</u> <table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 60%;">Interval Drilled</td><td style="border: 1px solid black; padding: 2px;">0-5</td></tr> <tr><td>Drilling Method(s)</td><td style="border: 1px solid black; padding: 2px;">Auger</td></tr> <tr><td>Borehole Dia. (in.)</td><td style="border: 1px solid black; padding: 2px;">8</td></tr> <tr><td>Temporary Casing Installed? (y/n)</td><td style="border: 1px solid black; padding: 2px;">N</td></tr> <tr><td>Depth temporary casing installed</td><td style="border: 1px solid black; padding: 2px;"></td></tr> <tr><td>Casing type/dia. (in.)</td><td style="border: 1px solid black; padding: 2px;"></td></tr> <tr><td>Method of installing</td><td style="border: 1px solid black; padding: 2px;"></td></tr> </table> <u>CASING PULLING</u> <table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 60%;">Method employed</td><td style="border: 1px solid black; padding: 2px;"></td></tr> <tr><td>Casing retrieved (feet)</td><td style="border: 1px solid black; padding: 2px;"></td></tr> <tr><td>Casing type/dia. (in.)</td><td style="border: 1px solid black; padding: 2px;">6-inch PVC</td></tr> </table> <u>CASING PERFORATING</u> <table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 60%;">Equipment used</td><td style="border: 1px solid black; padding: 2px;"></td></tr> <tr><td>Number of perforations/foot</td><td style="border: 1px solid black; padding: 2px;"></td></tr> <tr><td>Size of perforations</td><td style="border: 1px solid black; padding: 2px;"></td></tr> <tr><td>Interval perforated</td><td style="border: 1px solid black; padding: 2px;"></td></tr> </table> <u>GROUTING</u> <table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 60%;">Interval grouted (FBLs)</td><td style="border: 1px solid black; padding: 2px;">5-45</td></tr> <tr><td># of batches prepared</td><td style="border: 1px solid black; padding: 2px;">1</td></tr> <tr><td colspan="2">For each batch record:</td></tr> <tr><td>Quantity of water used (gal.)</td><td style="border: 1px solid black; padding: 2px;">55</td></tr> <tr><td>Quantity of cement used (lbs.)</td><td style="border: 1px solid black; padding: 2px;">658</td></tr> <tr><td>Cement type</td><td style="border: 1px solid black; padding: 2px;">Portland</td></tr> <tr><td>Quantity of bentonite used (lbs.)</td><td style="border: 1px solid black; padding: 2px;">40</td></tr> <tr><td>Quantity of calcium chloride used (lbs.)</td><td style="border: 1px solid black; padding: 2px;">0</td></tr> <tr><td>Volume of grout prepared (gal.)</td><td style="border: 1px solid black; padding: 2px;">70</td></tr> <tr><td>Volume of grout used (gal.)</td><td style="border: 1px solid black; padding: 2px;">70</td></tr> </table>	Interval Drilled	0-5	Drilling Method(s)	Auger	Borehole Dia. (in.)	8	Temporary Casing Installed? (y/n)	N	Depth temporary casing installed		Casing type/dia. (in.)		Method of installing		Method employed		Casing retrieved (feet)		Casing type/dia. (in.)	6-inch PVC	Equipment used		Number of perforations/foot		Size of perforations		Interval perforated		Interval grouted (FBLs)	5-45	# of batches prepared	1	For each batch record:		Quantity of water used (gal.)	55	Quantity of cement used (lbs.)	658	Cement type	Portland	Quantity of bentonite used (lbs.)	40	Quantity of calcium chloride used (lbs.)	0	Volume of grout prepared (gal.)	70	Volume of grout used (gal.)	70	The schematic shows a vertical well with a depth scale from 0 to 60 feet. At the surface (0 feet), there is a cloud-like shape representing the overdrill, labeled 'Overdrill - 0-5\''. A grey vertical bar represents the casing, extending down to approximately 45 feet. An arrow points to this bar with the label 'Tremie Grout in Place'.
Interval Drilled	0-5																																																
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<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 5px;"> COMMENTS: Grout to 5' below ground surface. Removed PVC from 0-5' and backfilled with soil. </td> <td style="width: 50%; padding: 5px; vertical-align: top;"> * Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc. </td> </tr> <tr><td colspan="2" style="height: 20px;"></td></tr> <tr><td colspan="2" style="height: 20px;"></td></tr> </table>		COMMENTS: Grout to 5' below ground surface. Removed PVC from 0-5' and backfilled with soil.	* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.																																														
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Date: 2019.05.28 09:30:45 -0400

Drilling Contractor

Department Representative

FIGURE 3

WELL DECOMMISSIONING RECORD

Site Name:	Well I.D.: IJ-4
Site Location: 29 Industrial Park Drive, Binghamton, NY	Driller: Ian Grassie
Drilling Co.: Parratt-Wolff, Inc.	Inspector:
	Date: April 23, 2019

DECOMMISSIONING DATA (Fill in all that apply)		WELL SCHEMATIC*
<u>OVERDRILLING</u> Interval Drilled: 0-5 Drilling Method(s): Auger Borehole Dia. (in.): 8 Temporary Casing Installed? (y/n): N Depth temporary casing installed: Casing type/dia. (in.): Method of installing:		
<u>CASING PULLING</u> Method employed: Casing retrieved (feet): Casing type/dia. (in.): 6-inch PVC		
<u>CASING PERFORATING</u> Equipment used: Number of perforations/foot: Size of perforations: Interval perforated:		
<u>GROUTING</u> Interval grouted (FBLs): 5-25 # of batches prepared: 1 For each batch record: Quantity of water used (gal.): 29 Quantity of cement used (lbs.): 352.5 Cement type: Portland Quantity of bentonite used (lbs.): 25 Quantity of calcium chloride used (lbs.): 0 Volume of grout prepared (gal.): 40 Volume of grout used (gal.): 40		
COMMENTS: Grout to 5' below ground surface. Removed PVC from 0-5' and backfilled with soil.		

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Danylo Kulczycky
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Date: 2019.05.28 09:30:45 -0400

Drilling Contractor

Department Representative

FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name:	Well I.D.: IJ-9
Site Location: 29 Industrial Park Drive, Binghamton, NY	Driller: Ian Grassie
Drilling Co.: Parratt-Wolff, Inc.	Inspector:
	Date: April 23, 2019

DECOMMISSIONING DATA (Fill in all that apply)	WELL SCHEMATIC*																																																
<u>OVERDRILLING</u> <table style="width: 100%;"> <tr><td>Interval Drilled</td><td>0-5</td></tr> <tr><td>Drilling Method(s)</td><td>Auger</td></tr> <tr><td>Borehole Dia. (in.)</td><td>8</td></tr> <tr><td>Temporary Casing Installed? (y/n)</td><td>N</td></tr> <tr><td>Depth temporary casing installed</td><td></td></tr> <tr><td>Casing type/dia. (in.)</td><td></td></tr> <tr><td>Method of installing</td><td></td></tr> </table> <u>CASING PULLING</u> <table style="width: 100%;"> <tr><td>Method employed</td><td></td></tr> <tr><td>Casing retrieved (feet)</td><td></td></tr> <tr><td>Casing type/dia. (in.)</td><td>6-inch PVC</td></tr> </table> <u>CASING PERFORATING</u> <table style="width: 100%;"> <tr><td>Equipment used</td><td></td></tr> <tr><td>Number of perforations/foot</td><td></td></tr> <tr><td>Size of perforations</td><td></td></tr> <tr><td>Interval perforated</td><td></td></tr> </table> <u>GROUTING</u> <table style="width: 100%;"> <tr><td>Interval grouted (FBLs)</td><td>5-45</td></tr> <tr><td># of batches prepared</td><td>1</td></tr> <tr><td colspan="2">For each batch record:</td></tr> <tr><td>Quantity of water used (gal.)</td><td>55</td></tr> <tr><td>Quantity of cement used (lbs.)</td><td>658</td></tr> <tr><td>Cement type</td><td>Portland</td></tr> <tr><td>Quantity of bentonite used (lbs.)</td><td>40</td></tr> <tr><td>Quantity of calcium chloride used (lbs.)</td><td>0</td></tr> <tr><td>Volume of grout prepared (gal.)</td><td>70</td></tr> <tr><td>Volume of grout used (gal.)</td><td>70</td></tr> </table>	Interval Drilled	0-5	Drilling Method(s)	Auger	Borehole Dia. (in.)	8	Temporary Casing Installed? (y/n)	N	Depth temporary casing installed		Casing type/dia. (in.)		Method of installing		Method employed		Casing retrieved (feet)		Casing type/dia. (in.)	6-inch PVC	Equipment used		Number of perforations/foot		Size of perforations		Interval perforated		Interval grouted (FBLs)	5-45	# of batches prepared	1	For each batch record:		Quantity of water used (gal.)	55	Quantity of cement used (lbs.)	658	Cement type	Portland	Quantity of bentonite used (lbs.)	40	Quantity of calcium chloride used (lbs.)	0	Volume of grout prepared (gal.)	70	Volume of grout used (gal.)	70	The schematic shows a vertical well shaft. At the surface (0 feet), there is a cloud-like shape representing the overdrill interval, labeled 'Overdrill - 0-5\''. A vertical line with an upward-pointing arrow is labeled 'Tremie Grout in Place'. The depth scale on the left ranges from 0 to 60 feet in increments of 10.
Interval Drilled	0-5																																																
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FIGURE 3 WELL DECOMMISSIONING RECORD

Site Name:	Well I.D.: IJ-10
Site Location: 29 Industrial Park Drive, Binghamton, NY	Driller: Ian Grassie
Drilling Co.: Parratt-Wolff, Inc.	Inspector:
	Date: April 23, 2019

DECOMMISSIONING DATA (Fill in all that apply)		WELL SCHEMATIC*
<u>OVERDRILLING</u> Interval Drilled: 0-5 Drilling Method(s): Auger Borehole Dia. (in.): 8 Temporary Casing Installed? (y/n): N Depth temporary casing installed: Casing type/dia. (in.): Method of installing: <u>CASING PULLING</u> Method employed: Casing retrieved (feet): Casing type/dia. (in.): 6-inch PVC <u>CASING PERFORATING</u> Equipment used: Number of perforations/foot: Size of perforations: Interval perforated: <u>GROUTING</u> Interval grouted (FBLs): 5-25 # of batches prepared: 1 For each batch record: Quantity of water used (gal.): 29 Quantity of cement used (lbs.): 352.5 Cement type: Portland Quantity of bentonite used (lbs.): 25 Quantity of calcium chloride used (lbs.): 0 Volume of grout prepared (gal.): 40 Volume of grout used (gal.): 40		The schematic shows a vertical well shaft. At the top (0 feet), there is a cloud-like shape representing the ground surface. A label 'Overdrill - 0-5'' points to the top 5 feet of the shaft. At approximately 20 feet depth, a label 'Tremie Grout in Place' points to a shaded area. A well stickup is shown extending from the bottom of the shaft towards the top. The depth scale on the left ranges from 0 to 60 feet in increments of 10.
COMMENTS: Grout to 5' below ground surface. Removed PVC from 0-5' and backfilled with soil.		* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Danylo Kulczycky

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email=dkulczyckypw@parratt-woff.com, c=US
Date: 2019.05.28 09:30:45 -0400

Drilling Contractor

Department Representative

FIGURE 3

WELL DECOMMISSIONING RECORD

Site Name:	Well I.D.: MW-8
Site Location: 29 Industrial Park Drive, Binghamton, NY	Driller: Ian Grassie
Drilling Co.: Parratt-Wolff, Inc.	Inspector:
	Date: April 23, 2019

DECOMMISSIONING DATA (Fill in all that apply) OVERDRILLING Interval Drilled 0-5 Drilling Method(s) Auger Borehole Dia. (in.) 8 Temporary Casing Installed? (y/n) N Depth temporary casing installed Casing type/dia. (in.) Method of installing CASING PULLING Method employed Casing retrieved (feet) Casing type/dia. (in.) 2-inch PVC CASING PERFORATING Equipment used Number of perforations/foot Size of perforations Interval perforated GROUTING Interval grouted (FBLs) 5-60 # of batches prepared 1 For each batch record: Quantity of water used (gal.) 10 Quantity of cement used (lbs.) 117.4 Cement type Portland Quantity of bentonite used (lbs.) 30 Quantity of calcium chloride used (lbs.) 0 Volume of grout prepared (gal.) 12.5 Volume of grout used (gal.) 12.5	WELL SCHEMATIC* Depth (feet) 0 10 20 30 40 50 60 Overdrill - 0-5' Tremie Grout
COMMENTS: Grout to 5' below ground surface. Removed PVC from 0-5' and backfilled with soil.	* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

FIGURE 3

WELL DECOMMISSIONING RECORD

Site Name:	Well I.D.: MW-30
Site Location: 2 Industrial Park Drive, Binghamton, NY	Driller: Ian Grassie
Drilling Co.: Parratt-Wolff, Inc.	Inspector:
	Date: April 22, 2019

DECOMMISSIONING DATA (Fill in all that apply)		WELL SCHEMATIC*
<u>OVERDRILLING</u> Interval Drilled: 0-5 Drilling Method(s): Auger Borehole Dia. (in.): 8 Temporary Casing Installed? (y/n): N Depth temporary casing installed: Casing type/dia. (in.): Method of installing:		
<u>CASING PULLING</u> Method employed: Casing retrieved (feet): Casing type/dia. (in.): 2-inch PVC		
<u>CASING PERFORATING</u> Equipment used: Number of perforations/foot: Size of perforations: Interval perforated:		
<u>GROUTING</u> Interval grouted (FBLs): 5-25 # of batches prepared: 1 For each batch record: Quantity of water used (gal.): 8 Quantity of cement used (lbs.): 94 Cement type: Portland Quantity of bentonite used (lbs.): 5 Quantity of calcium chloride used (lbs.): 0 Volume of grout prepared (gal.): 10 Volume of grout used (gal.): 10		

COMMENTS: Grout to 5' below ground surface. Removed PVC from 0-5' and backfilled with soil.

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Danylo Kulczycky
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 email=dkulczyck@pwinc.com, c=US
 Date: 2019.05.28 09:32:02 -0400

Drilling Contractor

Department Representative

FIGURE 3 WELL DECOMMISSIONING RECORD

Site Name:	Well I.D.: MW-37
Site Location: 2 Industrial Park Drive, Binghamton, NY	Driller: Ian Grassie
Drilling Co.: Parratt-Wolff, Inc.	Inspector:
	Date: April 22, 2019

DECOMMISSIONING DATA (Fill in all that apply)		WELL SCHEMATIC*
OVERDRILLING Interval Drilled: 0-5 Drilling Method(s): Auger Borehole Dia. (in.): 8 Temporary Casing Installed? (y/n): N Depth temporary casing installed: Casing type/dia. (in.): Method of installing: CASING PULLING Method employed: Casing retrieved (feet): Casing type/dia. (in.): 2-inch PVC CASING PERFORATING Equipment used: Number of perforations/foot: Size of perforations: Interval perforated: GROUTING Interval grouted (FBLs): 5-36 # of batches prepared: 1 For each batch record: Quantity of water used (gal.): 8 Quantity of cement used (lbs.): 94 Cement type: Portland Quantity of bentonite used (lbs.): 5 Quantity of calcium chloride used (lbs.): 0 Volume of grout prepared (gal.): 10 Volume of grout used (gal.): 10		
COMMENTS: Grout to 5' below ground surface. Removed PVC from 0-5' and backfilled with soil.		* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Danylo Kulczycky

Digitally signed by Danylo Kulczycky
DN: cn=Danylo Kulczycky, o=Parratt-Wolff, Inc., ou,
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Date: 2019.05.28 09:30:45 -0400

Drilling Contractor

Department Representative