

September 6, 2019

Joshua M. Vaccaro  
New York State Department of  
Environmental Conservation, Region 9  
Division of Environmental Remediation  
270 Michigan Avenue  
Buffalo, New York 14203

RE: Annual Groundwater Monitoring Report, Honeywell Buffalo Research Laboratory

Dear Mr. Vaccaro:

Enclosed please find the 2019 Annual Groundwater Monitoring Report for the Honeywell Buffalo Research Laboratory in Buffalo, New York (see Figure 1). The report is a requirement of the Site Management Plan (SMP) (GHD, June 2019) for the facility. Monitoring wells MW-3 and MW-5 were redeveloped on July 19, 2019 and the annual groundwater monitoring event was conducted on July 29, 2019.

Based on the results of the annual groundwater monitoring over the last several years, including the current year, the monitoring will be continued on an annual schedule as defined in the SMP. The monitoring schedule will be re-evaluated as additional results are collected. The detailed rationale for these recommendations is provided in the Recommendations/Conclusions section of this report.

## **Well Redevelopment**

Monitoring wells MW-3 and MW-5 were redeveloped on July 19, 2019. The wells were redeveloped in an effort to reduce turbidity in groundwater samples collected annually from the wells. Redevelopment was accomplished using Waterra brand inertial pumps with surge blocks. Waterra brand pumps are comprised of a stiff tubing with a foot-valve connected at the end which is raised and lowered either manually or by an electric motor. A surge block is optionally attached to the foot valve to assist in agitation of water in the screened zone of the well, facilitating the removal of fine sediments. New Waterra brand inertial pumps (tubing, foot valve, and surge block) were used at each well.

Redevelopment at MW-5 removed approximately 20 gallons of well water (approximately 13 well volumes) from the well. Turbidity during well development appeared to remain cloudy, above the range of measurement. At MW-3, approximately 7.5 gallons of water was removed from the well prior to it going dry. As with MW-5, turbidity remained over the range of measurement during development. Temperature, pH, specific conductivity, turbidity, and water level were recorded during well development.

## **Well Inspection**

In accordance with the SMP, the depth to groundwater was measured and the condition of each monitoring well (MW-2, MW-3, MW-5, MW-6, MW-7, MW-8, MW-9, and MW-10) was inspected. MW-1 and MW-4 could not be found and may have been covered by asphalt, as noted in previous reports. The results of the well inspections are presented below. The well inspection records are included in Appendix A. Each of the wells that were inspected were in good condition with only minor issues, but none requiring maintenance.

### **MW-2, Stick-up Protective Casing**

- Well was locked.
- Stick-up protective metal casing was in good condition.
- J-plug well cap was secure.
- Concrete pad was in good condition.

### **MW-3, Stick-up Protective Casing**

- Well was locked.
- Stick-up protective metal casing was in good condition.
- J-plug well cap was secure.
- Concrete pad was in good condition.

### **MW-5, Flush-mounted Protective Casing**

- Curb box and cover were in place and in good condition.
- Water-tight well cap was secure.
- Surrounding asphalt was in good condition.
- Curb box is painted green and labeled.

### **MW-6, Flush-mounted Protective Casing**

- Curb box and cover were in place and in good condition.
- Water-tight well cap was secure.
- Surrounding asphalt was in good condition.

### **MW-7, Flush-mounted Protective Casing**

- Curb box and cover were in place but in poor condition.
- Water-tight well cap was secure.
- Surrounding asphalt was in good condition.

### **MW-8, Stick-up Protective Casing**

- Well was locked.
- Stick-up protective metal casing was in good condition.
- J-plug well cap was secure.
- Concrete pad was in good condition.

### **MW-9, Flush-mounted Protective Casing**

- Curb box and cover were in place and in good condition.
- Water-tight well cap was secure.

- Surrounding asphalt was in good condition.

#### **MW-10, Stick-up Protective Casing**

- Well was locked.
- Stick-up protective metal casing was in good condition.
- J-plug well cap was secure.
- Concrete pad was in good condition.

#### **Groundwater Sampling**

Groundwater samples were collected from MW-3 and MW-5 for laboratory analysis, as specified in the SMP. During this sampling event, purging was conducted, and samples were collected using a peristaltic pump and HDPE tubing.

Prior to collecting groundwater samples, each well was purged of a minimum of three well volumes of groundwater and was purged until field parameters (pH, specific conductivity, turbidity, and temperature) were stable. During purging, field parameters, including pH, temperature, specific conductivity, and turbidity, were measured and recorded. Wells were purged at approximately 200 milliliters per min (ml/min).

Samples were submitted for analysis using Method EPA 8260 for volatile organic compounds (VOCs) and EPA 6010C for metals (total arsenic and barium and soluble arsenic and barium). Soluble arsenic and barium are analyzed if turbidity exceeds 50 NTU, which in 2019, neither sample did, and therefore soluble arsenic and barium were not analyzed. Turbidity is measure both in the field and at the laboratory. In addition to the two groundwater samples, the trip blank that accompanied the bottle set from the laboratory, into the field, and back to the laboratory, was submitted for VOC analysis. Field parameters and other monitoring data were recorded on the Well Sampling Records provided in Attachment A.

#### **Summary of Analytical Results**

Table 1 presents a summary of the detected chemical constituents for this sampling event, and Table 2 provides the historical analytical results from 1994 through the current (2019) annual sampling event. A data summary table and the laboratory data report for the current samples are provided in Attachment B. Sample results were compared to the NYSDEC Ambient Water Quality Standards and Guidance Values (AWQS), contained in 6 NYCRR Part 703.

#### **VOCs**

Five VOCs were identified in the groundwater sample from MW-3 (1,1,1-trichloroethane at 4.2 µg/L, trichloroethene [TCE] at 0.90 µg/L, 1,1-dichloroethene [1,1-DCE] at 2.4 µg/L, chloroethane at 3.9 µg/L, and 1,1- dichloroethane [1,1-DCA] at 22 µg/L. Only 1,1-DCA exceeded the NYSDEC AWQS. No VOCs were identified in the groundwater sample from MW-5. The analytical results for the trip blank (VOCs) were all below the analytical detection limits.

## **Metals**

Total arsenic exceeded the AWQS (25 µg/L) in MW-3 (466 µg/L) and was below the AWQS in MW-5 (7 µg/L). Total barium was below the AWQS in both wells. Turbidity of both samples was below 50 NTUs and therefore, soluble arsenic and barium were not analyzed.

## **Discussion of Historical Analytical Results**

### **VOCs**

Table 2 provides a summary of the historical analytical results. Two VOCs were identified in the sample from MW-5 in 2016 that were not found in 2017 through 2019, or prior to 2016. VOCs have not typically been found in MW-5. Chloroform and dibromochloromethane were both identified in 2016 and both were below their respective NYSDEC AWQS. It is suspected that these two VOCs are the result of a water main break in the area of MW-5 in 2016. The water main break was repaired prior to the groundwater sampling in 2016. These two compounds are not expected to be identified in the future.

1,1,1-TCA and 1,1-DCA have typically been identified above the respective AWQS in groundwater from MW-3. The concentrations of 1,1-DCA ranged from below the analytical detection limits to 42 µg/L between 1994 and July 2019. Although 1,1,1-TCA was below the analytical detection limit in July 2014, it was detected each year from 2015 and 2019 between 4.2 µg/L to 9.8 µg/L. The concentrations of 1,1,1-TCA have ranged from below the analytical detection limits to 36 µg/L (1994) in MW-3. Since 1994 1,1,1-TCA has been 20 µg/L or less, and has been less than 10 µg/L for the last seven years. 1,1-DCE has occasionally been identified in MW-3, but is typically below the NYSDEC AWQS. Although 1,1-DCE has been detected for the last 8 years, it has been below the NYSDEC AWQS of 5 µg/L during this time. 1,1-DCE last exceeded the AWQS in 2009. In 2019 TCE was detected for the first time since 2005 and chloroethane was detected for the first time. Both were below their respective NYSDEC AWQS.

In summary, the analytical results from the current sampling event showed one VOC (1,1-DCA) above the AWQS in a single well (MW-3). Additionally, 1,1,1-TCA, TCE, Chloroethane, and 1,1-DCE were observed below the AWQS in MW-3. 1,1-DCA is a common breakdown product of 1,1,1-TCA, when degraded through biotic processes such as reductive dechlorination, while 1,1-DCE is a common breakdown product of 1,1,1-TCA when degraded through abiotic processes. While VOCs have not typically been identified in MW-5, chloroform and dibromochloromethane were detected below their respective NYSDEC AWQS in 2016. It is suspected that these two compounds were associated with a water main break in the area of the well. These compounds were not detected between 2017 and 2019.

## **Metals**

Over the past 20 years, total arsenic and total barium have been analyzed at least annually in the groundwater samples from MW-3 and MW-5. Total arsenic frequently exceeded the AWQS (25 µg/L) in the samples from MW-3 and occasionally in samples from MW-5. Total arsenic was above the AWQS in MW-3 during the current sampling event. Total barium did not exceed the AWQS in either well during this sampling event, nor in the previous sampling events.

As required in the SMP, soluble arsenic and barium are analyzed when the sample turbidity exceeds 50 NTUs. Historically, soluble arsenic and soluble barium have been below the AWQS in both wells when analyzed, except for MW-3 in 2013 and 2016 when soluble arsenic exceeded the AWQS. Soluble arsenic and soluble barium were not analyzed in 2019 due to measured turbidity levels below 50 NTUs. In the previous year, 2018, soluble arsenic was below the analytical detection limits in MW-3 and MW-5 and soluble barium was detected in both wells at levels below the AWQS.

### **Groundwater Flow Direction**

The water level measurements recorded on July 29, 2019 (see Table 3) are consistent with previous measurements. The groundwater elevation contour map (Figure 2) indicates that the groundwater flow direction is generally to the southeast across the Site, which is consistent with previously observed flow directions.

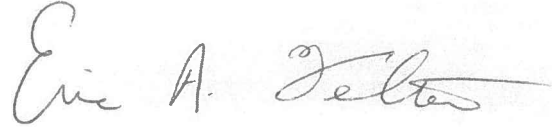
### **Recommendations/Conclusions**

Based on the current sampling results, groundwater flow direction, and the following points, groundwater monitoring should continue on an annual schedule:

- The detected concentrations of one VOC (1,1-DCA) was low, although exceeding the AWQS in MW-3. Four other VOCs were detected (1,1,1-TCA, TCE, 1,1-DCE, and chloroethane) in MW-3, but each was below the AWQS;
- As shown by the lack of VOCs in MW-5, VOCs observed in onsite well (MW-3) will naturally attenuate prior to reaching the facility boundary;
- Total arsenic has been below the AWQS during six out of the last 20 sampling events in MW-3, and below the AWQS during 15 out of the last 20 sampling events in MW-5;
- Soluble arsenic, when analyzed, has typically been below the detection limits or the AWQS. The only two exceptions were in 2013 and 2016 in MW-3; and
- Total barium and soluble barium (when analyzed) have been below the AWQS during the current event and all previous sampling events in MW-3 and MW-5.

If you need additional information or would like to discuss the results of this Annual Groundwater Monitoring Report, please contact me at (716) 525-3425.

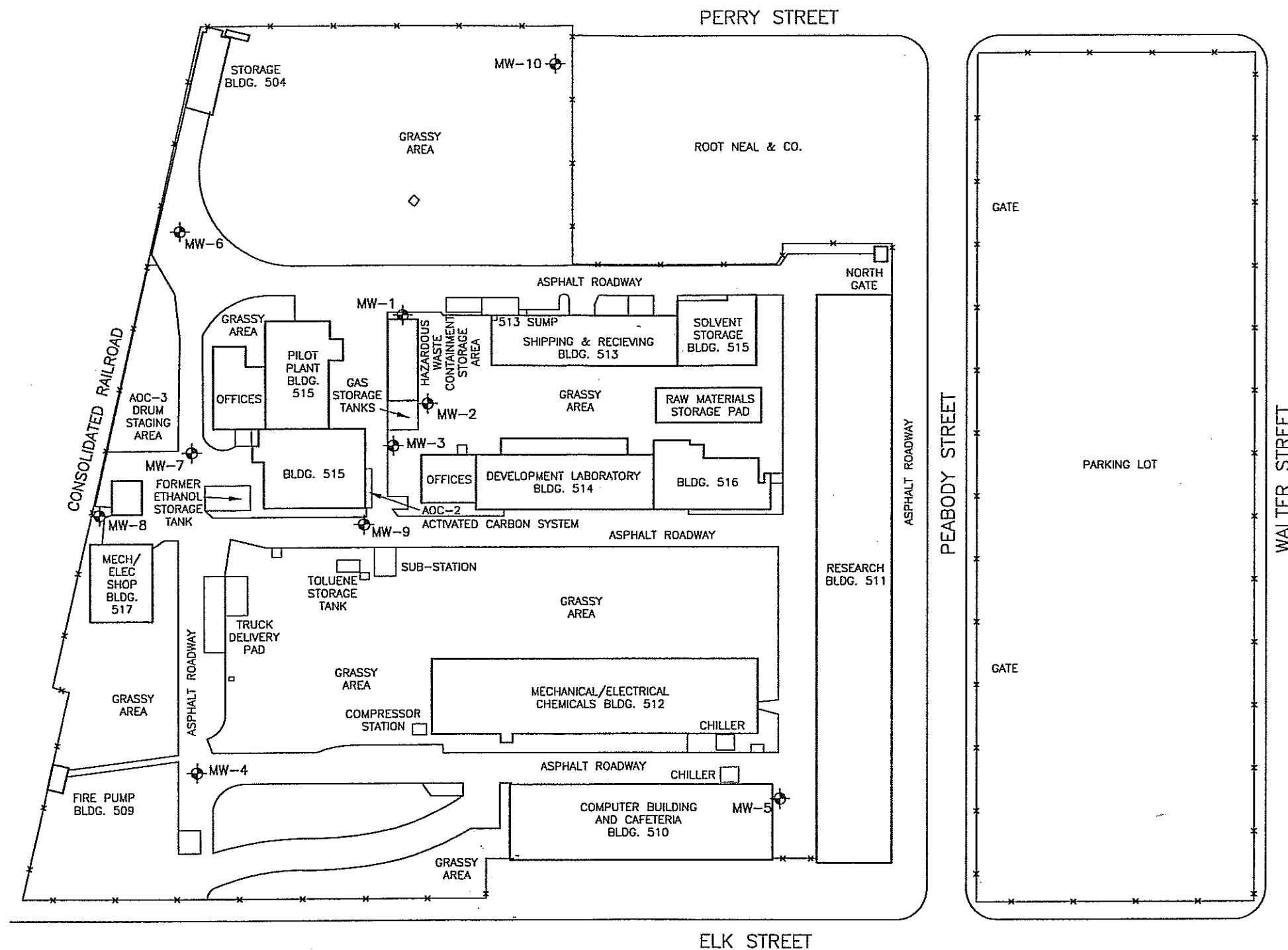
Sincerely,

A handwritten signature in cursive script, reading "Eric A. Felter".

Eric A. Felter  
Project Manager

A handwritten signature in cursive script, reading "Robert Sikorski".

Robert Sikorski  
Site Leader – Honeywell Buffalo Research  
Laboratory



LEGEND

⊕ MW-2 MONITORING WELL LOCATION



SCALE: 1"=100'

FIGURE 1

SITE PLAN  
HONEYWELL SPECIALTY CHEMICALS  
BUFFALO, NEW YORK

**PARSONS**

180 LAWRENCE BELL DRIVE, SUITE 104, WILLIAMSVILLE, N.Y. 14221, PHONE: 716-633-7074

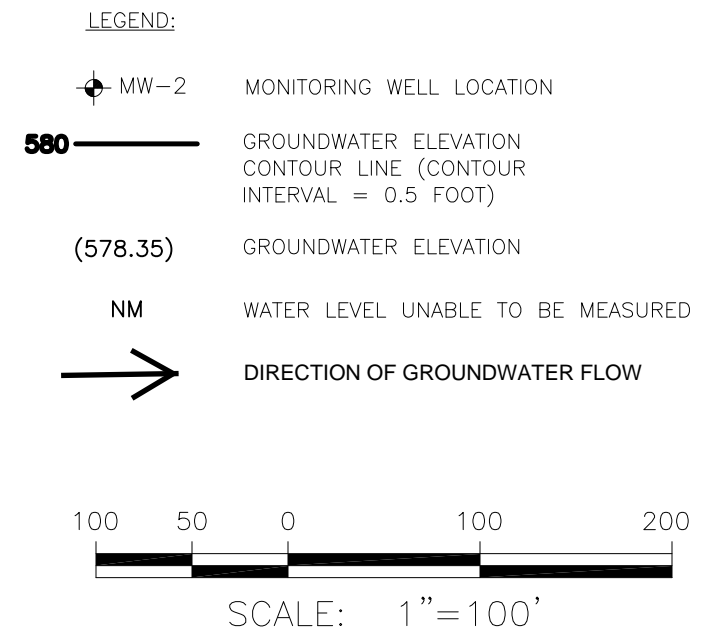
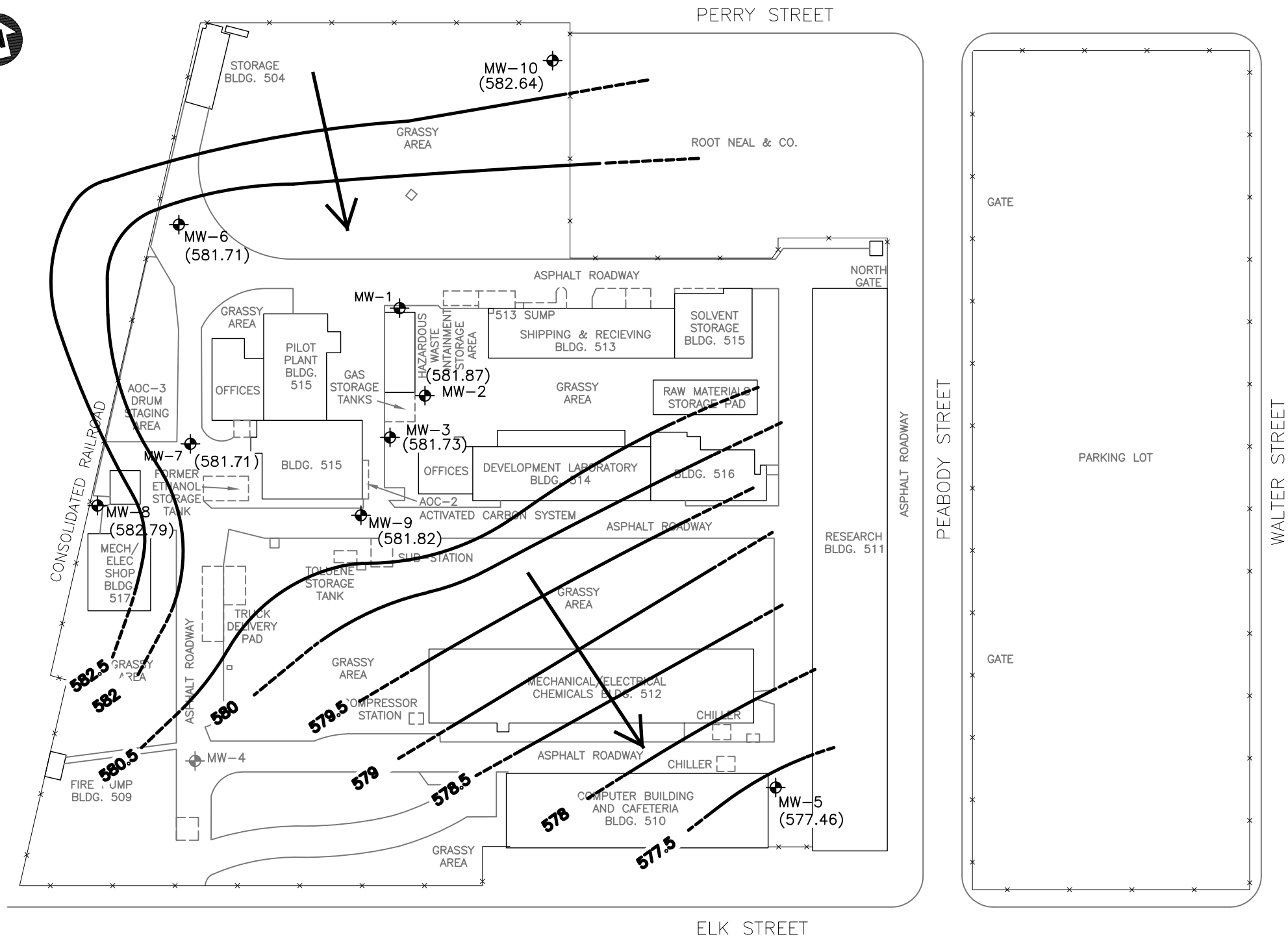


FIGURE 2

**Honeywell** SPECIALTY CHEMICALS  
BUFFALO, NEW YORK

GROUNDWATER ELEVATION CONTOUR  
MAP (JULY 29, 2019)

**PARSONS**

40 LA RIVIERE DRIVE • SUITE 350 • BUFFALO, NY 14202 • 716/541-0730  
OFFICES IN PRINCIPAL CITIES



**TABLE 1**  
**Summary of Groundwater Analytical Results (7/29/19)**

Analytical Parameters	NYSDEC AWQS µg /L	MW-3 µg /L	MW-5 µg /L	Trip Blank µg /L
Total Arsenic	25	<b>466</b>	7	NA
Soluble Arsenic	25	NA	NA	NA
Total Barium	1,000	425	209	NA
Soluble Barium	1,000	NA	NA	NA
Chloroethane	5	3.9	ND	ND
Trichloroethene	5	0.90	ND	ND
1,1-Dichloroethene	5	2.4	ND	ND
1,1-Dichloroethane	5	<b>22</b>	ND	ND
1,1,1-Trichloroethane	5	4.2	ND	ND

Note: Only detected analytes are shown.

Boxed and bold analytical results exceed NYSDEC Ambient Water Quality Standards (AWQS).

ND = Not detected.

NA = Not analyzed.

Table 2

Honeywell Specialty Chemicals  
Historical Analytical Results

Compound	NYSDEC AWQS (ug/L)	MW-1 10/17/94	MW-1 1/18/95	MW-2 10/17/94	MW-2 1/18/95	MW-2 5/27/03	MW-3 10/17/94	MW-3 1/18/95	MW-3 8/23/99	MW-3 10/19/00	MW-3 12/10/01	MW-3 11/19/02	MW-3 5/27/03	MW-3 11/13/03	MW-3 5/25/04	MW-3 4/28/05	MW-3 4/25/06	MW-3 5/1/07
Total Arsenic	25	3 B	-	-	2.9 B	8.80 J	-	3 B	18	34	23 J	63.3	13.2 J	13.4 J	8.38 J	33.0	39.0	39.0
Soluble Arsenic	25	NA	NA	NA	NA	6.41 J	NA	NA	NA	NA	13 J	16 J	9.2 J	13.1 J	NA	NA	24	-
Total Barium	1,000	102 B	67.6	197 B	157 B	130	111 B	129 B	166	135	140	194	197	262	279	357	302	394
Soluble Barium	1,000	NA	NA	NA	NA	129	NA	NA	NA	NA	140	177	191	245	NA	NA	361	324
Acetone	50	12	-	11	6 J	NA	7	59	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Butanone	50	-	-	-	-	NA	-	6 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane	5	-	-	-	-	-	36	10	20	17.1	7.62	16.2	12.3	-	-	-	10	12.3
Tetrachloroethene (PCE)	5	-	-	-	-	-	-	-	-	<10	-	-	-	-	-	2.11 J	-	-
Trichloroethene (TCE)	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.20 J	-	-
1,1-Dichloroethene	5	-	-	-	-	-	4	-	-	<10	-	-	-	-	-	-	-	-
Methylene Chloride	5	11	-	8	-	-	8	-	-	<10	-	-	-	-	-	-	-	-
1,1-Dichloroethane	5	-	-	-	-	-	42	11	20	20.7	7.73	26.0	17.3	-	-	6.42 J	14	17.1
1,2-Dichloroethane	0.6	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	3	-	-	-	-	-	-	-	-	-	2.86	-	-	-	-	-	-	-
1,2-Dichloropropane	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	5	-	-	-	3 J	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroethane	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Bold data exceed NYSDEC Ambient Water  
Quality Standards (AWQS).

- = Compound not detected above analytical  
detection limits.

J = Analytical result is an estimate.

NA = Not analyzed.

B = Compound also identified in blank.

Table 2

Honeywell Specialty Chemicals  
Historical Analytical Results

Compound	NYSDEC AWQS (ug/L)	MW-3 5/6/08	MW-3 4/21/09	MW-3 4/29/10	MW-3 4/19/11	MW-3 4/17/12	MW-3 7/9/13	MW-3 7/9/14	MW-3 9/5/15	MW-3 8/16/16	MW-3 8/1/17	MW-3 6/26/18	MW-3 7/29/19	MW-4 10/17/94	MW-4 1/18/95	MW-5 10/17/94	MW-5 1/18/95	MW-5 8/23/99
Total Arsenic	25	<b>34.0</b>	13	<b>58</b>	20	<b>36</b>	<b>145</b>	<b>44</b>	<b>90</b>	<b>176</b>	<b>54</b>	<b>150</b>	<b>466</b>	-	5.6 B	-	-	<b>113</b>
Soluble Arsenic	25	13	NA	-	-	18	<b>69</b>	-	NA	<b>43.7</b>	15	-	NA	NA	NA	NA	NA	NA
Total Barium	1,000	361	206	147	313	204	289	203	455	446	215	246	425	183 B	243	71 B	74 B	170
Soluble Barium	1,000	360	NA	136	331	128	226	200	NA	508	244	180	NA	NA	NA	NA	NA	NA
Acetone	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	-	NA	NA	6	-	5	-	NA
2-Butanone	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	-	NA	NA	-	-	-	-	NA
Chloroform	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane	5	<b>11.2</b>	<b>17.7</b>	<b>8.22</b>	<b>7.3</b>	<b>11.4</b>	<b>5.9</b>	-	<b>9.2</b>	<b>4.7</b>	<b>9.0</b>	<b>9.8</b>	<b>4.2</b>	-	-	-	-	-
Tetrachloroethene (PCE)	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene (TCE)	5	-	-	-	-	-	-	-	-	-	-	-	0.90	-	-	-	-	-
1,1-Dichloroethene	5	-	<b>23.3</b>	-	-	2.54	2.1	2.3	3.3	1.6	4.4	4.1	2.4	-	-	-	-	-
Methylene Chloride	5	-	-	-	-	-	-	-	-	-	-	-	-	<b>8</b>	-	<b>12</b>	-	-
1,1-Dichloroethane	5	<b>17.1</b>	-	<b>12.1</b>	<b>10.6</b>	<b>21.1</b>	<b>8.5</b>	<b>19.2</b>	<b>29</b>	<b>28</b>	<b>38</b>	<b>40</b>	<b>22</b>	-	-	-	-	-
1,2-Dichloroethane	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	3	-	-	-	-	-	<b>4.2</b>	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroethane	5	-	-	-	-	-	-	-	-	-	-	-	3.9	-	-	-	-	-
Vinyl chloride	2	-	-	-	-	<b>13.7</b>	-	<b>4.4</b>	-	-	<b>2.6</b>	-	-	-	-	-	-	-

Bold data exceed NYSDEC Ambient Water  
Quality Standards (AWQS).

- = Compound not detected above analytical  
detection limits.

J = Analytical result is an estimate.

NA = Not analyzed.

B = Compound also identified in blank.

Table 2

Honeywell Specialty Chemicals  
Historical Analytical Results

Compound	NYSDEC AWQS (ug/L)	MW-5 10/19/00	MW-5 12/10/01	MW-5 11/19/02	MW-5 5/27/03	MW-5 11/13/03	MW-5 5/25/04	MW-5 4/28/05	MW-5 4/25/06	MW-5 5/1/07	MW-5 5/6/08	MW-5 4/21/09	MW-5 4/29/10	MW-5 4/19/11	MW-5 4/17/12	MW-5 7/9/13	MW-5 7/9/14	MW-5 9/8/15
Total Arsenic	25	<b>37</b>	20 J	24.1 J	15.1 J	<b>106</b>	8.17 J	13.3 J	-	-	<b>28.0</b>	20	<b>31</b>	11	<b>34</b>	12	16	-
Soluble Arsenic	25	NA	6 J	14.0 J	8.18 J	9.1 J	NA	8.85	10	-	14	NA	19	-	17	-	-	NA
Total Barium	1,000	100	80	95.1	83.8	214	63.9	94.9	92	58	56	50	61	56	56	70	61	58
Soluble Barium	1,000	NA	80	76	70.2	63.8	NA	86.4	71	21	63	NA	57	71	67	57	51	NA
Acetone	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Butanone	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene (PCE)	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene (TCE)	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methylene Chloride	5	<b>31.1</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroethane	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Bold data exceed NYSDEC Ambient Water  
Quality Standards (AWQS).

- = Compound not detected above analytical  
detection limits.

J = Analytical result is an estimate.

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Table 2

Honeywell Specialty Chemicals  
Historical Analytical Results

Compound	NYSDEC AWQS (ug/L)	MW-5 8/16/16	MW-5 8/1/17	MW-5 6/26/18	MW-5 7/29/19	MW-6 10/17/94	MW-6 1/18/95	MW-6 5/27/03	MW-7 10/17/94	MW-7 1/18/95	MW-8 10/17/94	MW-8 1/18/95	MW-9 10/17/94	MW-9 1/18/95	MW-9 5/25/04	MW-10 10/17/94	MW-10 1/18/95	MW-10 5/27/03
Total Arsenic	25	6	19	<b>122</b>	7	-	-	5.64 J	-	2.7 B	-	-	-	-	<b>28.1</b>	4 B	-	19.7 J
Soluble Arsenic	25	-	-	-	NA	NA	NA	7.34 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Barium	1,000	169	137	254	209	84 B	61.5 B	65.2	176 B	204 B	90 B	77.2 B	149 B	134 B	205	33 B	22.3 B	16.5
Soluble Barium	1,000	108	124	165	NA	NA	NA	69.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	50	NA	-	NA	-	4	-	NA	9	-	6	-	27	18	NA	21	5 J	NA
2-Butanone	50	NA	-	NA	-	-	-	NA	-	-	-	-	-	-	NA	-	-	NA
Chloroform	7	6.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	5	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene (PCE)	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene (TCE)	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methylene Chloride	5	-	-	-	-	5	-	-	<b>8</b>	-	<b>8</b>	-	<b>19</b>	-	-	<b>16</b>	-	-
1,1-Dichloroethane	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	1	-	-	-	-	-	-	-	-	26	-	-	-	-	-	-	-	-
Toluene	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroethane	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Bold data exceed NYSDEC Ambient Water  
Quality Standards (AWQS).

- = Compound not detected above analytical  
detection limits.

J = Analytical result is an estimate.

NA = Not analyzed.

B = Compound also identified in blank.

**Table 3**  
**Honeywell Specialty Chemicals**  
**Groundwater Elevation Data**

<b>Monitoring Well ID</b>	<b>Water Level Measurement Date</b>	<b>Top of Well Casing Elevation (Feet AMSL)</b>	<b>Depth to Water (Feet TOC)</b>	<b>Water Table Elevation (Feet)</b>
MW-1	10/17/1994	585.69	3.26	582.43
MW-1	11/8/1994	585.69	5.04	580.65
MW-1	11/15/1994	585.69	3.59	582.10
MW-1	1/17/1995	585.69	2.55	583.14
MW-2	10/17/1994	587.32	5.09	582.23
MW-2	11/8/1994	587.32	4.38	582.94
MW-2	11/15/1994	587.32	4.73	582.59
MW-2	1/17/1995	587.32	4.43	582.89
MW-2	8/23/1999	587.32	5.95	581.37
MW-2	10/19/2000	587.32	5.05	582.27
MW-2	12/10/2001	587.32	4.88	582.44
MW-2	11/19/2002	587.32	4.45	582.87
MW-2	5/27/2003	587.32	4.56	582.76
MW-2	11/13/2003	587.32	4.56	582.76
MW-2	5/25/2004	587.32	4.21	583.11
MW-2	4/28/2005	587.32	4.10	583.22
MW-2	4/25/2006	587.32	4.80	582.52
MW-2	5/1/2007	587.32	4.58	582.74
MW-2	5/6/2008	587.32	4.80	582.52
MW-2	4/21/2009	587.32	4.56	582.76
MW-2	4/29/2010	587.32	4.63	582.69
MW-2	4/19/2011	587.32	4.28	583.04
MW-2	4/17/2012	587.32	5.10	582.22
MW-2	7/9/2013	587.32	4.47	582.85
MW-2	7/9/2014	587.32	4.55	582.77
MW-2	9/8/2015	587.32	5.34	581.98
MW-2	8/16/2016	587.32	5.51	581.81
MW-2	8/1/2017	587.32	4.80	582.52
MW-2	6/26/2018	587.32	4.91	582.41
MW-2	7/29/2019	587.32	5.45	581.87
MW-3	10/17/1994	587.55	5.41	582.14
MW-3	11/8/1994	587.55	5.13	582.42
MW-3	11/15/1994	587.55	5.30	582.25
MW-3	1/17/1995	587.55	5.20	582.35
MW-3	8/23/1999	587.55	5.90	581.65
MW-3	10/19/2000	587.55	6.20	581.35
MW-3	12/10/2001	587.55	6.18	581.37
MW-3	11/19/2002	587.55	6.11	581.44
MW-3	5/27/2003	587.55	6.09	581.46
MW-3	11/13/2003	587.55	6.43	581.12
MW-3	5/25/2004	587.55	6.57	580.98
MW-3	4/28/2005	587.55	6.40	581.15
MW-3	4/25/2006	587.55	6.10	581.45
MW-3	5/1/2007	587.55	6.08	581.47
MW-3	5/6/2008	587.55	6.12	581.43
MW-3	4/21/2009	587.55	6.00	581.55
MW-3	4/29/2010	587.55	6.20	581.35
MW-3	4/19/2011	587.55	5.94	581.61
MW-3	4/17/2012	587.55	6.00	581.55
MW-3	7/9/2013	587.55	5.89	581.66
MW-3	7/9/2014	587.55	5.62	581.93
MW-3	9/8/2015	587.55	5.81	581.74
MW-3	8/16/2016	587.55	5.81	581.74
MW-3	8/1/2017	587.55	5.52	582.03
MW-3	6/26/2018	587.55	5.60	581.95
MW-3	7/29/2019	587.55	5.82	581.73
MW-4	10/17/1994	583.87	3.18	580.69
MW-4	11/8/1994	583.87	4.30	579.57
MW-4	11/15/1994	583.87	2.96	580.91
MW-4	1/17/1995	583.87	2.86	581.01

**Table 3**  
**Honeywell Specialty Chemicals**  
**Groundwater Elevation Data**

<b>Monitoring Well ID</b>	<b>Water Level Measurement Date</b>	<b>Top of Well Casing Elevation (Feet AMSL)</b>	<b>Depth to Water (Feet TOC)</b>	<b>Water Table Elevation (Feet)</b>
MW-5	10/17/1994	583.47	4.96	578.51
MW-5	11/8/1994	583.47	4.65	578.82
MW-5	11/15/1994	583.47	4.76	578.71
MW-5	1/17/1995	583.47	4.77	578.70
MW-5	8/23/1999	583.47	4.82	578.65
MW-5	10/19/2000	583.47	4.55	578.92
MW-5	12/10/2001	583.47	4.86	578.61
MW-5	11/19/2002	583.47	5.02	578.45
MW-5	5/27/2003	583.47	5.27	578.20
MW-5	11/13/2003	583.47	8.46	575.01
MW-5	5/25/2004	583.47	6.30	577.17
MW-5	4/28/2005	583.47	4.82	578.65
MW-5	4/25/2006	583.47	5.12	578.35
MW-5	5/1/2007	583.47	5.62	577.85
MW-5	5/6/2008	583.47	6.32	577.15
MW-5	4/21/2009	583.47	8.72	574.75
MW-5	4/29/2010	583.47	9.02	574.45
MW-5	4/19/2011	583.47	8.29	575.18
MW-5	4/17/2012	583.47	8.28	575.19
MW-5	7/9/2013	583.47	8.30	575.17
MW-5	7/9/2014	583.47	5.30	578.17
MW-5	9/8/2015	583.47	8.30	575.17
MW-5	8/16/2016	583.47	6.85	576.62
MW-5	8/1/2017	583.47	5.87	577.60
MW-5	6/26/2018	583.47	5.98	577.49
MW-5	7/29/2019	583.47	6.01	577.46
MW-6	10/17/1994	585.22	2.68	582.54
MW-6	11/8/1994	585.22	2.49	582.73
MW-6	11/15/1994	585.22	2.55	582.67
MW-6	1/17/1995	585.22	2.54	582.68
MW-6	5/27/2003	585.22	2.48	582.74
MW-6	10/17/1994	585.22	2.68	582.54
MW-6	11/8/1994	585.22	2.49	582.73
MW-6	11/15/1994	585.22	2.55	582.67
MW-6	1/17/1995	585.22	2.54	582.68
MW-6	5/27/2003	585.22	2.48	582.74
MW-6	7/9/2013	585.22	2.75	582.47
MW-6	7/9/2014	585.22	2.69	582.53
MW-6	9/8/2015	585.22	3.56	581.66
MW-6	8/16/2016	585.22	3.42	581.80
MW-6	8/1/2017	585.22	3.16	582.06
MW-6	6/26/2018	585.22	3.34	581.88
MW-6	7/29/2019	585.22	3.51	581.71
MW-7	10/17/1994	585.42	3.71	581.71
MW-7	11/8/1994	585.42	3.36	582.06
MW-7	11/15/1994	585.42	3.62	581.80
MW-7	1/17/1995	585.42	3.38	582.04
MW-7	7/9/2013	585.42	3.38	582.04
MW-7	7/9/2014	585.42	3.40	582.02
MW-7	9/8/2015	585.42	3.75	581.67
MW-7	8/16/2016	585.42	3.84	581.58
MW-7	8/1/2017	585.42	3.60	581.82
MW-7	6/26/2018	585.42	3.46	581.96
MW-7	7/29/2019	585.42	3.85	581.57
MW-8	10/17/1994	587.94	5.55	582.39
MW-8	11/8/1994	587.94	5.40	582.54
MW-8	11/15/1994	587.94	5.53	582.41
MW-8	1/17/1995	587.94	5.82	582.12
MW-8	8/23/1999	587.94	5.40	582.54
MW-8	10/19/2000	587.94	5.30	582.64
MW-8	12/10/2001	587.94	5.35	582.59

**Table 3**  
**Honeywell Specialty Chemicals**  
**Groundwater Elevation Data**

<b>Monitoring Well ID</b>	<b>Water Level Measurement Date</b>	<b>Top of Well Casing Elevation (Feet AMSL)</b>	<b>Depth to Water (Feet TOC)</b>	<b>Water Table Elevation (Feet)</b>
MW-8	11/19/2002	587.94	5.25	582.69
MW-8	5/27/2003	587.94	5.21	582.73
MW-8	11/13/2003	587.94	5.09	582.85
MW-8	5/25/2004	587.94	4.91	583.03
MW-8	4/28/2005	587.94	4.99	582.95
MW-8	4/25/2006	587.94	5.3	582.64
MW-8	5/1/2007	587.94	5.23	582.71
MW-8	5/6/2008	587.94	5.25	582.69
MW-8	4/21/2009	587.94	4.68	583.26
MW-8	4/29/2010	587.94	5.32	582.62
MW-8	4/19/2011	587.94	5.12	582.82
MW-8	4/17/2012	587.94	5.43	582.51
MW-8	7/9/2013	587.94	4.86	583.08
MW-8	7/9/2014	587.94	4.82	583.12
MW-8	9/8/2015	587.94	5.46	582.48
MW-8	8/16/2016	587.94	5.05	582.89
MW-8	8/1/2017	587.94	5.09	582.85
MW-8	6/26/2018	587.94	5.10	582.84
MW-8	7/29/2019	587.94	5.15	582.79
MW-9	10/17/1994	584.48	2.39	582.09
MW-9	11/8/1994	584.48	1.83	582.65
MW-9	11/15/1994	584.48	2.09	582.39
MW-9	1/17/1995	584.48	2.02	582.46
MW-9	10/19/2000	584.48	0.00	584.48
MW-9	5/27/2003	584.48	1.91	582.57
MW-9	5/25/2004	584.48	2.90	581.58
MW-9	4/19/2011	584.48	2.26	582.22
MW-9	4/17/2012	584.48	1.86	582.62
MW-9	7/9/2013	584.48	2.26	582.22
MW-9	7/9/2014	584.48	2.50	581.98
MW-9	9/8/2015	584.48	2.45	582.03
MW-9	8/16/2016	584.48	2.10	582.38
MW-9	8/1/2017	584.48	1.68	582.80
MW-9	6/26/2018	584.48	2.76	581.72
MW-9	7/29/2019	584.48	2.66	581.82
MW-10	10/17/1994	587.85	5.31	582.54
MW-10	11/8/1994	587.85	3.44	584.41
MW-10	11/15/1994	587.85	3.98	583.87
MW-10	1/17/1995	587.85	3.40	584.45
MW-10	8/23/1999	587.85	7.83	580.02
MW-10	10/19/2000	587.85	5.01	582.84
MW-10	12/10/2001	587.85	4.13	583.72
MW-10	11/19/2002	587.85	4.23	583.62
MW-10	5/27/2003	587.85	3.85	584.00
MW-10	11/13/2003	587.85	3.63	584.22
MW-10	5/25/2004	587.85	3.00	584.85
MW-10	4/28/2005	587.85	3.53	584.32
MW-10	4/25/2006	587.85	4.65	583.20
MW-10	5/1/2007	587.85	6.89	580.96
MW-10	5/6/2008	587.85	4.02	583.83
MW-10	4/21/2009	587.85	6.82	581.03
MW-10	4/29/2010	587.85	4.40	583.45
MW-10	4/19/2011	587.85	3.42	584.43
MW-10	4/17/2012	587.85	5.84	582.01
MW-10	7/9/2013	587.85	3.49	584.36
MW-10	7/9/2014	587.85	3.60	584.25
MW-10	9/8/2015	587.85	5.55	582.3
MW-10	8/16/2016	587.85	5.64	582.21
MW-10	8/1/2017	587.85	5.07	582.78
MW-10	6/26/2018	587.85	4.39	583.46
MW-10	7/29/2019	587.85	5.21	582.64



## **ATTACHMENT A**

### **Well Sampling Records**

# LOW FLOW WELL SAMPLING RECORD

Site Name: Honeywell BRL

Well ID: MW-3

Well Diameter: 2 Inches

Samplers: Dan Chamberland

Monitored Natural Attenuation Sample Set (Y/N)?

## Purging Data

### WATER VOLUME CALCULATION

= (Total Depth of Well - Depth To Water ) x Casing Volume per Foot

Casing Volumes (gal/ft.):

1-inch=0.041	1.5-inch=0.092	2-inch=0.16	3-inch=0.36	
4-inch=0.64	6-inch=1.4	8-inch=2.5	10-inch=4	

Method: Low Flow

Date/Time: 7/29/2019 11:30

Time	DTW	Pump Rate	Vol.	pH	Spec. Cond.	Turbidity	Temp.				Comments
24 hr.	ft.	ml/min.	gal.		mS/cm	NTU	°C				
11:30	5.82	200	0.00	7.77	4.21	334.00	20.11				
11:35	6.82	200	0.20	7.28	3.94	97.10	16.07				
11:40	6.88	200	0.50	7.24	2.90	69.00	16.09				
11:45	6.93	200	0.70	7.10	2.49	14.30	16.14				
11:50	7.00	200	1.00	7.03	2.42	9.91	16.24				
11:55	7.08	200	1.20	6.95	2.41	7.79	16.40				
12:00	7.17	200	1.50	6.89	2.42	6.30	16.53				
12:05	7.21	200	1.70	6.85	2.49	6.40	16.72				
12:10	7.24	200	1.90	6.82	2.66	6.51	16.82				
12:15	7.22	200	2.20	6.80	2.94	4.45	16.86				
12:20	7.23	200	2.40	6.91	3.26	3.74	17.29				
12:25	7.24	200	2.60	7.05	3.73	2.42	17.53				
12:30	7.27	200	2.80	7.05	4.11	1.82	17.64				
12:35	7.28	200	3.10	7.05	4.27	1.58	17.78				

## Sampling Data

Method: Peristaltic Pump

Date/Time: 7/29/2019 13:20:00 PM

Total Volume of Water purged: 5.2

### Field Parameters

<u>HORRIBA</u>	
pH	7.09
Spec. Cond.(mS/cm)	6.01
Turbidity (NTU)	3.63
Temp.(°C)	17.88

<u>SAMPLE SET</u>			
Parameter	Bottle	Pres.	Method
Ar & Ba	250mL	HNO3	
Soluble Ar &Ba	250mL	NA	
Turbidity	250mL	NA	
VOC-TCL	3-40mL vial	HCL	

Comments: Page 1 of 2

## LOW FLOW WELL SAMPLING RECORD

 Site Name: Honeywell BRL

 Well ID: MW-3

 Well Diameter: 2 Inches

 Samplers: Dan Chamberland

 Monitored Natural Attenuation Sample Set (Y/N)?                     

### Purging Data

WATER VOLUME CALCULATION				
= (Total Depth of Well - Depth To Water ) x Casing Volume per Foot				
Casing Volumes (gal/ft.):				
1-inch=0.041	1.5-inch=0.092	2-inch=0.16	3-inch=0.36	
4-inch=0.64	6-inch=1.4	8-inch=2.5	10-inch=4	

 Method: Low Flow

 Date/Time: 7/29/2019 11:30

Time	DTW	Pump Rate	Vol.	pH	Spec. Cond.	Turbidity	Temp.				Comments
24 hr.	ft.	ml/min.	gal.		mS/cm	NTU	°C				
12:40	7.28	200	3.30	7.05	4.62	1.60	17.75				
12:45	7.31	200	3.60	7.07	5.05	1.63	17.76				
12:50	7.31	200	3.80	7.07	5.29	2.04	17.75				
12:55	7.29	200	4.10	7.08	5.58	3.11	17.77				
13:00	7.30	200	4.30	7.08	5.78	3.82	17.79				
13:05	7.30	200	4.50	7.08	5.85	3.71	17.82				
13:10	7.30	200	4.70	7.08	5.93	3.06	17.87				
13:15	7.31	200	5.00	7.08	5.98	3.19	17.85				
13:20	7.32	200	5.20	7.09	6.01	3.63	17.88				

### Sampling Data

 Method: Peristaltic Pump

 Date/Time: 7/29/2019 13:20:00 PM

 Total Volume of Water purged: 5.2

#### Field Parameters

HORRIBA	
pH	7.09
Spec. Cond.(mS/cm)	6.01
Turbidity (NTU)	3.63
Temp.(°C)	17.88

SAMPLE SET			
Parameter	Bottle	Pres.	Method
Ar & Ba	250mL	HNO3	
Soluble Ar & Ba	250mL	NA	
Turbidity	250mL	NA	
VOC-TCL	3-40mL vial	HCL	

 Comments: Page 2 of 2

## WELL SAMPLING RECORD

Site Name Honeywell Speciality Chemicals Well ID MW-3

Samplers Dan Chamberland

Total Well Depth (TOC)	18.66	feet
Initial Static Water Level (TOC)	5.82	feet
Well Diameter	2.0	inches

### Purging Data

Method Peristaltic Pump Date/Time 07/29/19 11:30

Water Volume = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot  
 = 18.66 - 5.82 x 0.16  
2.05 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed 5.2 gallons

### Sampling Data

Method Peristaltic Pump Date/Time 07/29/19 13:20

Parameters	Bottle	Pres.	Method
VOCs - TCL	3- 40mL vials	HCl	8260
Turbidity	1- 250mL Plastic Bottle	none	
Ar & Ba	1- 250mL Plastic Bottle	HNO <sub>3</sub>	206.2/200.7
Ar & Ba (soluble)	1- 250mL Plastic Bottle	none	

### Field Parameters

pH  
 Temp. (C)  
 Spec. Cond. (mS/cm)  
 Turbidity (NTU)  
 Volume (gal)  
 Time

1 Volume	2 Volume	3 Volume	Sample

Comments: Purge water dirty at first but becomes progressively more clear, sample is quite clear. Separate Purge Sheet attached

# LOW FLOW WELL SAMPLING RECORD

Site Name: *Honeywell BRL*

Well ID: MW-5

Well Diameter: 2 Inches

**Samplers:** Dan Chamberland

Monitored Natural Attenuation Sample Set (Y/N)?

## Purging Data

WATER VOLUME CALCULATION				
= (Total Depth of Well - Depth To Water ) x Casing Volume per Foot				
Casing Volumes (gal/ft.):				
1-inch=0.041	1.5-inch=0.092	2-inch=0.16	3-inch=0.36	
4-inch=0.64	6-inch=1.4	8-inch=2.5	10-inch=4	

Method: Low Flow

Date/Time: 7/29/2019 9:45

Time	DTW	Pump Rate	Vol.	pH	Spec. Cond.	Turbidity	Temp.				Comments
24 hr.	ft.	ml/min.	gal.		mS/cm	NTU	°C				
9:45	6.01	200	0.00	6.17	14.10	392.00	19.68				
9:50	6.14	200	0.20	6.73	14.50	40.00	17.30				
9:55	5.99	200	0.50	6.90	14.90	82.30	16.69				
10:00	5.98	200	0.70	6.96	15.20	69.70	16.90				
10:05	6.02	200	0.90	7.02	15.50	70.30	16.90				
10:10	6.01	200	1.10	7.04	15.80	85.90	16.98				
10:15	6.00	200	1.30	7.08	15.90	72.70	17.13				
10:20	6.00	200	1.60	7.09	15.70	25.30	17.70				
10:25	6.00	200	1.80	7.12	15.50	19.70	17.80				
10:30	6.01	200	2.00	7.14	15.40	12.00	17.90				
10:35	5.99	200	2.30	7.17	15.30	9.85	17.95				
10:40	5.99	200	2.50	7.17	15.20	5.68	18.00				
10:45	5.98	200	2.80	7.18	15.20	4.94	18.01				
10:50	5.98	200	3.00	7.20	15.10	5.12	18.03				

### Sampling Data

Method: Peristaltic Pump

Date/Time: 7/29/2019 10:50

Total Volume of Water purged: 3

## Field Parameters

HORRIBA	
pH	7.20
Spec. Cond.(mS/cm)	15.10
Turbidity (NTU)	5.12
Temp.(°C)	18.03

SAMPLE SET			
Parameter	Bottle	Pres.	Method
Ar & Ba	250mL	HNO3	
Soluble Ar &Ba	250mL	NA	
Turbidity	250mL	NA	
VOC-TCL	3-40mL vial	HCL	

Comments: \_\_\_\_\_

## WELL SAMPLING RECORD

Site Name Honeywell Speciality Chemicals Well ID MW-5

Samplers Dan Chamberland

Total Well Depth (TOC)	15.69	feet
Initial Static Water Level (TOC)	6.01	feet
Well Diameter	2.0	inches

### Purging Data

Method Peristaltic Pump Date/Time 07/29/10 09:45

Water Volume = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot  
 = 15.69 - 6.01 x 0.16  
1.55 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed 3.0 gallons

### Sampling Data

Method Peristaltic Pump Date/Time 07/29/19 10:50

Parameters	Bottle	Pres.	Method
VOCs - TCL	3- 40mL vials	HCl	8260
Ar & Ba	1- 250mL Plastic Bottle	HNO <sub>3</sub>	206.2/200.7
Turbidity	1- 250mL Plastic Bottle	none	
Ar & Ba (soluble)	1- 250mL Plastic Bottle	none	

### Field Parameters

	1 Volume	2 Volume	3 Volume	Sample
pH				
Temp. (C)				
Spec. Cond. (mS/cm)				
Turbidity (NTU)				
Volume (gal)				
Time				

Comments: Purge water very turbid, clears up as the well is purged.

## WELL INSPECTION FORM

Site Name Honeywell Specialty Chemicals Well ID MW-2

Personnel Daniel Chamberland

Total Well Depth (TOC) 19.15 feet

Initial Static Water Level (TOC) 5.45 feet

Well Diameter 2.0 inches

Condition of Pro-Cover OK

Well Locked ☒ yes ☐ no

Condition of J-Plug Good

Concrete Pad Condition OK

Asphalt Condition NA

Date of Inspection 07/29/2019

Time of Inspection 14:00

Comments: Stick up well. Fresh paint, hinge has been repaired.

## WELL INSPECTION FORM

Site Name Honeywell Specialty Chemicals Well ID MW-3

Personnel Dan Chamberland

Total Well Depth (TOC) 18.66 feet

Initial Static Water Level (TOC) 5.82 feet

Well Diameter 2.0 inches

Condition of Pro-Cover OK

Well Locked ☒ yes ☐ no

Condition of J-Plug Good

Concrete Pad Condition OK

Asphalt Condition N/A

Date of Inspection 07/29/2019

Time of Inspection 11:30

Comments: Stick-up well. Hard bottom. Fresh paint and labeled



## WELL INSPECTION FORM

Site Name Honeywell Specialty Chemicals Well ID MW-5

Personnel Dan Chamberland

Total Well Depth (TOC) 15.69 feet

Initial Static Water Level (TOC) 6.01 feet

Well Diameter 2.0 inches

Condition of Pro-Cover OK

Well Locked ☐ yes ☒ no

Condition of J-Plug Good

Concrete Pad Condition None

Asphalt Condition OK

Date of Inspection 07/29/2019

Time of Inspection 09:45

Comments: No concrete, new pavement in area. Curb box painted green. Pavement does not hold curb box in ground.

## WELL INSPECTION FORM

Site Name Honeywell Specialty Chemicals Well ID MW-6

Personnel Dan Chamberland

Total Well Depth (TOC) 16.75 feet

Initial Static Water Level (TOC) 3.51 feet

Well Diameter 2.0 inches

Condition of Pro-Cover OK

Well Locked ☐ yes ☒ no

Condition of J-Plug Good

Concrete Pad Condition OK

Asphalt Condition OK

Date of Inspection 07/29/2019

Time of Inspection 14:15

Comments: Flush-mount well. Soft bottom.

## WELL INSPECTION FORM

Site Name Honeywell Specialty Chemicals Well ID MW-7

Personnel Dan Chamberland  
\_\_\_\_\_

Total Well Depth (TOC) 13.16 feet

Initial Static Water Level (TOC) 3.85 feet

Well Diameter 2.0 inches

Condition of Pro-Cover Poor

Well Locked ☐ yes ☒ no

Condition of J-Plug Good

Concrete Pad Condition Poor

Asphalt Condition OK

Date of Inspection 07/29/2019

Time of Inspection 14:20

Comments: Flush-mount well. Soft bottom.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## WELL INSPECTION FORM

Site Name Honeywell Specialty Chemicals Well ID MW-8

Personnel Dan Chamberland

Total Well Depth (TOC) 19.30 feet

Initial Static Water Level (TOC) 5.15 feet

Well Diameter 2.0 inches

Condition of Pro-Cover OK

Well Locked ☒ yes ☐ no

Condition of J-Plug Good

Concrete Pad Condition OK

Asphalt Condition OK

Date of Inspection 07/29/2019

Time of Inspection 14:30

Comments: Stick-up well. Soft bottom. Fresh paint and label.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## WELL INSPECTION FORM

Site Name Honeywell Specialty Chemicals Well ID MW-9

Personnel Dan Chamberland

Total Well Depth (TOC) 16.45 feet

Initial Static Water Level (TOC) 2.66 feet

Well Diameter 2.0 inches

Condition of Pro-Cover OK

Well Locked ☐ yes ☒ no

Condition of J-Plug OK

Concrete Pad Condition OK

Asphalt Condition OK

Date of Inspection 07/29/2019

Time of Inspection 14:35

Comments: Flush mount well. Soft bottom. Curb box and concrete pad are new.

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## WELL INSPECTION FORM

Site Name Honeywell Specialty Chemicals Well ID MW-10

Personnel Daniel Chamberland

Total Well Depth (TOC) 18.11 feet

Initial Static Water Level (TOC) 5.21 feet

Well Diameter 2.0 inches

Condition of Pro-Cover OK

Well Locked ☒ yes ☐ no

Condition of J-Plug Good

Concrete Pad Condition OK

Asphalt Condition OK

Date of Inspection 07/29/2019

Time of Inspection 14:45

Comments: Stick-up well. Hard bottom. Hinge repaired, fresh paint.

## **ATTACHMENT B**

### **Groundwater Analytical Results**

**Sample ID: Monitoring Well 3****Sample Date: 07/29/19**

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limits	Method
Total Arsenic	0.466	mg/L	0.025	EPA 6010
Soluble Arsenic	NA	mg/L	0.025	EPA 6010
Total Barium	0.425	mg/L	0.010	EPA 6010
Soluble Barium	NA	mg/L	0.010	EPA 6010
Chloromethane	ND	µg/L	10	SW 846 8260
Vinyl chloride	ND	µg/L	10	SW 846 8260
Bromomethane	ND	µg/L	10	SW 846 8260
Chloroethane	3.9	µg/L	10	SW 846 8260
Trichlorofluoromethane	ND	µg/L	10	SW 846 8260
1,1-Dichloroethene	2.4	µg/L	10	SW 846 8260
Methylene chloride	ND	µg/L	10	SW 846 8260
Trans-1,2-Dichloroethene	ND	µg/L	10	SW 846 8260
1,1-Dichloroethane	22	µg/L	10	SW 846 8260
Bromochloromethane	ND	µg/L	10	SW 846 8260
Chloroform	ND	µg/L	10	SW 846 8260
1,2-Dichloroethane	ND	µg/L	10	SW 846 8260
1,1,1-Trichloroethane	4.2	µg/L	10	SW 846 8260
Carbon tetrachloride	ND	µg/L	10	SW 846 8260
Benzene	ND	µg/L	10	SW 846 8260
1,2-Dichloropropane	ND	µg/L	10	SW 846 8260
Trichloroethene	0.90	µg/L	10	SW 846 8260
2-Chloroethylvinyl ether	ND	µg/L	10	SW 846 8260
Cis-1,3-Dichloropropene	ND	µg/L	10	SW 846 8260
Trans-1,3-Dichloropropene	ND	µg/L	10	SW 846 8260
1,1,2-Trichloroethane	ND	µg/L	10	SW 846 8260
Toluene	ND	µg/L	10	SW 846 8260
Dibromochloromethane	ND	µg/L	10	SW 846 8260
Tetrachloroethene	ND	µg/L	10	SW 846 8260
Chlorobenzene	ND	µg/L	10	SW 846 8260
Ethylbenzene	ND	µg/L	10	SW 846 8260
Bromoform	ND	µg/L	10	SW 846 8260
1,1,2,2-Tetrachloroethane	ND	µg/L	10	SW 846 8260
1,3-Dichlorobenzene	ND	µg/L	10	SW 846 8260
1,4-Dichlorobenzene	ND	µg/L	10	SW 846 8260
1,2-Dichlorobenzene	ND	µg/L	10	SW 846 8260



**Sample ID: Monitoring Well 5****Sample Date: 07/29/19**

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limits	Method
Total Arsenic	0.007	mg/L	0.025	EPA 6010
Soluble Arsenic	NA	mg/L	0.025	EPA 6010
Total Barium	0.209	mg/L	0.010	EPA 6010
Soluble Barium	NA	mg/L	0.010	EPA 6010
Chloromethane	ND	µg/L	10	SW 846 8260
Vinyl chloride	ND	µg/L	10	SW 846 8260
Bromomethane	ND	µg/L	10	SW 846 8260
Chloroethane	ND	µg/L	10	SW 846 8260
Trichlorofluoromethane	ND	µg/L	10	SW 846 8260
1,1-Dichloroethene	ND	µg/L	10	SW 846 8260
Methylene chloride	ND	µg/L	10	SW 846 8260
Trans-1,2-Dichloroethene	ND	µg/L	10	SW 846 8260
1,1-Dichloroethane	ND	µg/L	10	SW 846 8260
Chloroform	ND	µg/L	10	SW 846 8260
1,2-Dichloroethane	ND	µg/L	10	SW 846 8260
1,1,1-Trichloroethane	ND	µg/L	10	SW 846 8260
Carbon tetrachloride	ND	µg/L	10	SW 846 8260
Benzene	ND	µg/L	10	SW 846 8260
1,2-Dichloropropane	ND	µg/L	10	SW 846 8260
Trichloroethene	ND	µg/L	10	SW 846 8260
2-Chloroethylvinyl ether	ND	µg/L	10	SW 846 8260
Cis-1,3-Dichloropropene	ND	µg/L	10	SW 846 8260
Trans-1,3-Dichloropropene	ND	µg/L	10	SW 846 8260
1,1,2-Trichloroethane	ND	µg/L	10	SW 846 8260
Toluene	ND	µg/L	10	SW 846 8260
Dibromochloromethane	ND	µg/L	10	SW 846 8260
Tetrachloroethene	ND	µg/L	10	SW 846 8260
Chlorobenzene	ND	µg/L	10	SW 846 8260
Ethylbenzene	ND	µg/L	10	SW 846 8260
Bromoform	ND	µg/L	10	SW 846 8260
1,1,2,2-Tetrachloroethane	ND	µg/L	10	SW 846 8260
1,3-Dichlorobenzene	ND	µg/L	10	SW 846 8260
Acetone	ND	µg/L	10	SW 846 8260
2-Butanone	ND	µg/L	10	SW 846 8260
1,4-Dichlorobenzene	ND	µg/L	10	SW 846 8260
1,2-Dichlorobenzene	ND	µg/L	10	SW 846 8260

**Sample ID: Trip Blank**

**Sample Date: 07/29/19**

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limits	Method
Chloromethane	ND	µg/L	10	SW 846 8260
Vinyl chloride	ND	µg/L	10	SW 846 8260
Bromomethane	ND	µg/L	10	SW 846 8260
Chloroethane	ND	µg/L	10	SW 846 8260
Trichlorofluoromethane	ND	µg/L	10	SW 846 8260
1,1-Dichloroethene	ND	µg/L	10	SW 846 8260
Methylene chloride	ND	µg/L	10	SW 846 8260
Trans-1,2-Dichloroethene	ND	µg/L	10	SW 846 8260
1,1-Dichloroethane	ND	µg/L	10	SW 846 8260
Bromochloromethane	ND	µg/L	10	SW 846 8260
Chloroform	ND	µg/L	10	SW 846 8260
1,2-Dichloroethane	ND	µg/L	10	SW 846 8260
1,1,1-Trichloroethane	ND	µg/L	10	SW 846 8260
Carbon tetrachloride	ND	µg/L	10	SW 846 8260
Benzene	ND	µg/L	10	SW 846 8260
1,2-Dichloropropane	ND	µg/L	10	SW 846 8260
Trichloroethene	ND	µg/L	10	SW 846 8260
2-Chloroethylvinyl ether	ND	µg/L	10	SW 846 8260
Cis-1,3-Dichloropropene	ND	µg/L	10	SW 846 8260
Trans-1,3-Dichloropropene	ND	µg/L	10	SW 846 8260
1,1,2-Trichloroethane	ND	µg/L	10	SW 846 8260
Toluene	ND	µg/L	10	SW 846 8260
Dibromochloromethane	ND	µg/L	10	SW 846 8260
Tetrachloroethene	ND	µg/L	10	SW 846 8260
Chlorobenzene	ND	µg/L	10	SW 846 8260
Ethylbenzene	ND	µg/L	10	SW 846 8260
Bromoform	ND	µg/L	10	SW 846 8260
1,1,2,2-Tetrachloroethane	ND	µg/L	10	SW 846 8260
1,3-Dichlorobenzene	ND	µg/L	10	SW 846 8260
Acetone	ND	µg/L	10	SW 846 8260
2-Butanone	ND	µg/L	10	SW 846 8260
1,4-Dichlorobenzene	ND	µg/L	10	SW 846 8260
1,2-Dichlorobenzene	ND	µg/L	10	SW 846 8260



## ANALYTICAL REPORT

Lab Number:	L1933556
Client:	Honeywell 20 Peobody Street Buffalo, NY 14120
ATTN:	Frank Collis
Phone:	(716) 827-6318
Project Name:	GROUNDWATER MONITORING
Project Number:	Not Specified
Report Date:	08/08/19

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

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Eight Walkup Drive, Westborough, MA 01581-1019  
508-898-9220 (Fax) 508-898-9193 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** GROUNDWATER MONITORING  
**Project Number:** Not Specified

**Lab Number:** L1933556  
**Report Date:** 08/08/19

<b>Alpha Sample ID</b>	<b>Client ID</b>	<b>Matrix</b>	<b>Sample Location</b>	<b>Collection Date/Time</b>	<b>Receive Date</b>
L1933556-01	MW-3	WATER	BUFFALO, NY	07/29/19 13:20	07/29/19
L1933556-02	MW-5	WATER	BUFFALO, NY	07/29/19 10:50	07/29/19
L1933556-03	TRIP BLANK	WATER	BUFFALO, NY	07/29/19 00:00	07/29/19

**Project Name:** GROUNDWATER MONITORING  
**Project Number:** Not Specified

**Lab Number:** L1933556  
**Report Date:** 08/08/19

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

**HOLD POLICY** - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

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**Project Name:** GROUNDWATER MONITORING  
**Project Number:** Not Specified

**Lab Number:** L1933556  
**Report Date:** 08/08/19

### Case Narrative (continued)

#### Report Submission

Please note that this report format does not contain typical QC parameters that were performed with these samples. As such, any QC outliers or non-conformances can only be reviewed by accessing your Alpha Customer Center account at [www.alphalab.com](http://www.alphalab.com) and building a Data Usability table (format 11) in our Data Merger tool.

#### Volatile Organics

L1933556-01, -02 and -03: The pH of the sample was less than two. It should be noted that 2-chloroethylvinyl ether breaks down under acidic conditions.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Amita Naik

Title: Technical Director/Representative

Date: 08/08/19

# **VOLATILES**

**Project Name:** GROUNDWATER MONITORING**Lab Number:** L1933556**Project Number:** Not Specified**Report Date:** 08/08/19**SAMPLE RESULTS**

Lab ID: L1933556-01  
 Client ID: MW-3  
 Sample Location: BUFFALO, NY

Date Collected: 07/29/19 13:20  
 Date Received: 07/29/19  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8260C  
 Analytical Date: 08/07/19 11:59  
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	--	1
1,1-Dichloroethane	22		ug/l	2.5	--	1
Chloroform	ND		ug/l	2.5	--	1
2-Chloroethylvinyl ether	ND		ug/l	10	--	1
Carbon tetrachloride	ND		ug/l	0.50	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	0.50	--	1
1,1,2-Trichloroethane	ND		ug/l	1.5	--	1
Tetrachloroethene	ND		ug/l	0.50	--	1
Chlorobenzene	ND		ug/l	2.5	--	1
Trichlorofluoromethane	ND		ug/l	2.5	--	1
1,2-Dichloroethane	ND		ug/l	0.50	--	1
1,1,1-Trichloroethane	4.2		ug/l	2.5	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	2.5	--	1
Ethylbenzene	ND		ug/l	2.5	--	1
Chloromethane	ND		ug/l	2.5	--	1
Bromomethane	ND		ug/l	2.5	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	3.9		ug/l	2.5	--	1
1,1-Dichloroethene	2.4		ug/l	0.50	--	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	--	1
Trichloroethene	0.90		ug/l	0.50	--	1
1,2-Dichlorobenzene	ND		ug/l	2.5	--	1



**Project Name:** GROUNDWATER MONITORING**Lab Number:** L1933556**Project Number:** Not Specified**Report Date:** 08/08/19**SAMPLE RESULTS**

Lab ID: L1933556-01

Date Collected: 07/29/19 13:20

Client ID: MW-3

Date Received: 07/29/19

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	2.5	--	1
1,4-Dichlorobenzene	ND		ug/l	2.5	--	1
Bromochloromethane	ND		ug/l	2.5	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	99		70-130

**Project Name:** GROUNDWATER MONITORING**Lab Number:** L1933556**Project Number:** Not Specified**Report Date:** 08/08/19**SAMPLE RESULTS**

Lab ID: L1933556-02  
 Client ID: MW-5  
 Sample Location: BUFFALO, NY

Date Collected: 07/29/19 10:50  
 Date Received: 07/29/19  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8260C  
 Analytical Date: 08/07/19 11:31  
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	--	1
1,1-Dichloroethane	ND		ug/l	2.5	--	1
Chloroform	ND		ug/l	2.5	--	1
2-Chloroethylvinyl ether	ND		ug/l	10	--	1
Carbon tetrachloride	ND		ug/l	0.50	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	0.50	--	1
1,1,2-Trichloroethane	ND		ug/l	1.5	--	1
Tetrachloroethene	ND		ug/l	0.50	--	1
Chlorobenzene	ND		ug/l	2.5	--	1
Trichlorofluoromethane	ND		ug/l	2.5	--	1
1,2-Dichloroethane	ND		ug/l	0.50	--	1
1,1,1-Trichloroethane	ND		ug/l	2.5	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	2.5	--	1
Ethylbenzene	ND		ug/l	2.5	--	1
Chloromethane	ND		ug/l	2.5	--	1
Bromomethane	ND		ug/l	2.5	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.5	--	1
1,1-Dichloroethene	ND		ug/l	0.50	--	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	--	1
Trichloroethene	ND		ug/l	0.50	--	1
1,2-Dichlorobenzene	ND		ug/l	2.5	--	1

**Project Name:** GROUNDWATER MONITORING**Lab Number:** L1933556**Project Number:** Not Specified**Report Date:** 08/08/19**SAMPLE RESULTS**

Lab ID: L1933556-02

Date Collected: 07/29/19 10:50

Client ID: MW-5

Date Received: 07/29/19

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	2.5	--	1
1,4-Dichlorobenzene	ND		ug/l	2.5	--	1
Bromochloromethane	ND		ug/l	2.5	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	99		70-130

**Project Name:** GROUNDWATER MONITORING**Lab Number:** L1933556**Project Number:** Not Specified**Report Date:** 08/08/19**SAMPLE RESULTS**

Lab ID: L1933556-03  
 Client ID: TRIP BLANK  
 Sample Location: BUFFALO, NY

Date Collected: 07/29/19 00:00  
 Date Received: 07/29/19  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8260C  
 Analytical Date: 08/07/19 11:03  
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	--	1
1,1-Dichloroethane	ND		ug/l	2.5	--	1
Chloroform	ND		ug/l	2.5	--	1
2-Chloroethylvinyl ether	ND		ug/l	10	--	1
Carbon tetrachloride	ND		ug/l	0.50	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	0.50	--	1
1,1,2-Trichloroethane	ND		ug/l	1.5	--	1
Tetrachloroethene	ND		ug/l	0.50	--	1
Chlorobenzene	ND		ug/l	2.5	--	1
Trichlorofluoromethane	ND		ug/l	2.5	--	1
1,2-Dichloroethane	ND		ug/l	0.50	--	1
1,1,1-Trichloroethane	ND		ug/l	2.5	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	2.5	--	1
Ethylbenzene	ND		ug/l	2.5	--	1
Chloromethane	ND		ug/l	2.5	--	1
Bromomethane	ND		ug/l	2.5	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.5	--	1
1,1-Dichloroethene	ND		ug/l	0.50	--	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	--	1
Trichloroethene	ND		ug/l	0.50	--	1
1,2-Dichlorobenzene	ND		ug/l	2.5	--	1

**Project Name:** GROUNDWATER MONITORING**Lab Number:** L1933556**Project Number:** Not Specified**Report Date:** 08/08/19**SAMPLE RESULTS**

Lab ID: L1933556-03

Date Collected: 07/29/19 00:00

Client ID: TRIP BLANK

Date Received: 07/29/19

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	2.5	--	1
1,4-Dichlorobenzene	ND		ug/l	2.5	--	1
Bromochloromethane	ND		ug/l	2.5	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	97		70-130

## METALS

**Project Name:** GROUNDWATER MONITORING**Lab Number:** L1933556**Project Number:** Not Specified**Report Date:** 08/08/19**SAMPLE RESULTS**

Lab ID: L1933556-01

Date Collected: 07/29/19 13:20

Client ID: MW-3

Date Received: 07/29/19

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.466		mg/l	0.005	--	1	08/04/19 18:00	08/05/19 18:44	EPA 3005A	1,6010D	AB
Barium, Total	0.425		mg/l	0.010	--	1	08/04/19 18:00	08/05/19 18:44	EPA 3005A	1,6010D	AB



**Project Name:** GROUNDWATER MONITORING**Lab Number:** L1933556**Project Number:** Not Specified**Report Date:** 08/08/19**SAMPLE RESULTS**

Lab ID: L1933556-02

Date Collected: 07/29/19 10:50

Client ID: MW-5

Date Received: 07/29/19

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.007		mg/l	0.005	--	1	08/04/19 18:00	08/05/19 19:32	EPA 3005A	1,6010D	AB
Barium, Total	0.209		mg/l	0.010	--	1	08/04/19 18:00	08/05/19 19:32	EPA 3005A	1,6010D	AB





# **INORGANICS & MISCELLANEOUS**

**Project Name:** GROUNDWATER MONITORING**Project Number:** Not Specified**Lab Number:** L1933556**Report Date:** 08/08/19**SAMPLE RESULTS****Lab ID:** L1933556-01**Client ID:** MW-3**Sample Location:** BUFFALO, NY**Date Collected:** 07/29/19 13:20**Date Received:** 07/29/19**Field Prep:** Not Specified**Sample Depth:****Matrix:** Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Turbidity	13		NTU	0.20	--	1	-	07/30/19 21:35	121,2130B	AS



**Project Name:** GROUNDWATER MONITORING**Project Number:** Not Specified**Lab Number:** L1933556**Report Date:** 08/08/19**SAMPLE RESULTS****Lab ID:** L1933556-02**Client ID:** MW-5**Sample Location:** BUFFALO, NY**Date Collected:** 07/29/19 10:50**Date Received:** 07/29/19**Field Prep:** Not Specified**Sample Depth:****Matrix:** Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Turbidity	2.1		NTU	0.20	--	1	-	07/30/19 21:35	121,2130B	AS



**Project Name:** GROUNDWATER MONITORING**Lab Number:** L1933556**Project Number:** Not Specified**Report Date:** 08/08/19**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information**

<b>Cooler</b>	<b>Custody Seal</b>
A	Absent

**Container Information**

<b>Container ID</b>	<b>Container Type</b>	<b>Cooler</b>	<b>Initial pH</b>	<b>Final pH</b>	<b>Temp deg C</b>	<b>Pres</b>	<b>Seal</b>	<b>Frozen Date/Time</b>	<b>Analysis(*)</b>
L1933556-01A	Vial HCl preserved	A	NA		3.8	Y	Absent		NYTCL-8260(14)
L1933556-01B	Vial HCl preserved	A	NA		3.8	Y	Absent		NYTCL-8260(14)
L1933556-01C	Vial HCl preserved	A	NA		3.8	Y	Absent		NYTCL-8260(14)
L1933556-01D	Plastic 250ml unpreserved	A	7	7	3.8	Y	Absent		TURB-2130(2)
L1933556-01E	Plastic 250ml unpreserved	A	7	7	3.8	Y	Absent		-
L1933556-01F	Plastic 250ml HNO3 preserved	A	<2	<2	3.8	Y	Absent		AS-TI(180),BA-TI(180)
L1933556-01X	Plastic 250ml HNO3 preserved Filtrates	A	NA		3.8	Y	Absent		HOLD-METAL-DISSOLVED(180)
L1933556-02A	Vial HCl preserved	A	NA		3.8	Y	Absent		NYTCL-8260(14)
L1933556-02B	Vial HCl preserved	A	NA		3.8	Y	Absent		NYTCL-8260(14)
L1933556-02C	Vial HCl preserved	A	NA		3.8	Y	Absent		NYTCL-8260(14)
L1933556-02D	Plastic 250ml unpreserved	A	7	7	3.8	Y	Absent		TURB-2130(2)
L1933556-02E	Plastic 250ml unpreserved	A	7	7	3.8	Y	Absent		-
L1933556-02F	Plastic 250ml HNO3 preserved	A	<2	<2	3.8	Y	Absent		AS-TI(180),BA-TI(180)
L1933556-02X	Plastic 250ml HNO3 preserved Filtrates	A	NA		3.8	Y	Absent		HOLD-METAL-DISSOLVED(180)
L1933556-03A	Vial HCl preserved	A	NA		3.8	Y	Absent		NYTCL-8260(14)
L1933556-03B	Vial HCl preserved	A	NA		3.8	Y	Absent		NYTCL-8260(14)

**Project Name:** GROUNDWATER MONITORING**Lab Number:** L1933556**Project Number:** Not Specified**Report Date:** 08/08/19

## GLOSSARY

### Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
	Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

### Footnotes

*Report Format: DU Report - No QC*

**Project Name:** GROUNDWATER MONITORING**Lab Number:** L1933556**Project Number:** Not Specified**Report Date:** 08/08/19

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

**Terms**

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

**Data Qualifiers**

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the reporting limit (RL) for the sample.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.

Report Format: DU Report - No QC



**Project Name:** GROUNDWATER MONITORING  
**Project Number:** Not Specified

**Lab Number:** L1933556  
**Report Date:** 08/08/19

## REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.
- 121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



**Alpha Analytical, Inc.**Facility: **Company-wide**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**

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**Certification Information**

The following analytes are not included in our Primary NELAP Scope of Accreditation:

**Westborough Facility****EPA 624/624.1:** m/p-xylene, o-xylene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.**Mansfield Facility****SM 2540D:** TSS**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

**Westborough Facility:****Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B, SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.**EPA 522.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1** Hg.**SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.



[illegible]