



Glenn Springs Holdings, Inc.

A subsidiary of Occidental Petroleum

Joe Branch
Project Manager
Direct Dial (231) 670-6809

7601 Old Channel Trail
Montague, MI 49437
Fax (231) 894-4033

January 31, 2022

Reference No. 11225008

Mr. Benjamin J. McPherson
New York State Department of Environmental Conservation
270 Michigan Avenue
Buffalo, NY 14203-2999

Re: Quarterly Progress Report – Fourth Quarter 2021
Occidental Chemical Corporation, Buffalo Avenue Plant
NY Permit Number 9-2911-00112/00167-0
Module II – Corrective Action Requirements

In accordance with Module II of the Niagara Plant's Resource Conservation and Recovery Act (RCRA)/Part 373 Permit, the following is the quarterly data report for the period of October 1, 2021 to December 31, 2021. Table 1 is a summary of the monitoring tasks by quarter that are performed each year along with completion dates where applicable. Table 2 presents a summary of maintenance activities performed during the quarter.

Bedrock Groundwater

The groundwater system was operational 94.7 percent of the time this quarter. The treatment system downtime was due to leak detection in the BEW704D chamber, scrubber flow issues, problematic effluent pH probe, decanter sump high level, knockout pot high level, and compressor fault. Downtime for the treatment system greater than 72 hours consecutively and/or greater than 120 hours in a month did not occur.

Downtime for all extraction system wells (or most wells at once) occurred due to some of the issues associated with the treatment system, as well as replacement of the sand filter valve. Downtime for individual extraction wells occurred due to some of the issues associated with the treatment system, and power issues and pump replacement at BEW700B. Downtime for greater than 72 hours consecutively and/or greater than 120 hours in a month only occurred for BEW700B. NYSDEC was notified on November 5, 2021 that BEW700B would be down for greater than 72 consecutive hours.

Performance monitoring data for the bedrock groundwater system are presented as follows:

Hydraulic Monitoring Locations.....	Figure 1
Chemical Monitoring Locations.....	Figure 2
Recovery Volumes by Zone.....	Tables 3, 4, and 5
Average Monthly Flow Rate Summary	Table 6
Groundwater Elevations	Table 7
Groundwater Contours (regional containment) by Zone	Figures 3, 4, and 5

Overburden Groundwater

The Flow Zone 1 remedial system was operational 96 percent of the time for WW1 and 96.7 percent of the time for WW2 this quarter. The Flow Zone 3 remedial system (WWB of the Energy Boulevard Drain Tile System) was operational 95.7 percent of the time this quarter. Downtime occurred due to some of the issues associated with the treatment system. Downtime for greater than 72 hours consecutively and/or greater than 120 hours in a month did not occur.

Occidental Chemical Corporation (OxyChem) voluntarily operates two additional overburden groundwater collection systems at the Plant. These systems include the abandoned Outfall 005 and adjacent abandoned sanitary sewer in the F- and K-Areas of the Plant (MH159L) and the abandoned D-Area sanitary sewer (MH301).

Performance monitoring data for the overburden groundwater system are presented as follows:

Hydraulic Monitoring Locations.....Figure 6
 Chemical Monitoring Locations.....Figure 7
 Weekly Flow Rates Table 8
 Average Monthly Flow Rate Summary Table 9
 Groundwater Elevations Table 10
 Groundwater Contours, Flow Zone 1 Figure 8
 Groundwater Contours, Flow Zone 3 Figure 9

Non-aqueous Phase Liquid (NAPL) Monitoring

In accordance with the letter to the NYSDEC dated February 26, 2009, OxyChem incorporated quarterly NAPL monitoring and collection from six bedrock monitoring wells installed and monitored under the S-Area Remedial Requisite Technology Program into the Niagara Plant Corrective Action Program. Three other wells were added in accordance with the recommendations of the 2009 Annual Performance Evaluation. An additional well was added during the first quarter of 2012 in accordance with the recommendations of the 2011 Annual Performance Evaluation. These bedrock monitoring wells, designated OW229, OW243, OW618, OW619, OW620, OW621, OW634, OW635, OW638, and OW643, are located within, or immediately adjacent to, the N-Area of the Niagara Plant and contain N-Area NAPL. Quarterly NAPL checks and recovery have continued in 2021.

NAPL monitoring and collection data are presented as follows:

Bedrock NAPL Monitoring Locations.....Figure 10
 Overburden NAPL Monitoring Locations Figure 11
 Bedrock NAPL Monitoring and Collection Table 11
 Overburden NAPL Monitoring and Collection..... Table 12

Should you have any questions on the above, please do not hesitate to contact Joseph Branch at 231-670-6809 or email at joseph_branch@oxy.com or Tim Bathory at 716-278-7679 or email at timothy_bathory@oxy.com.

Verv trulv yours.

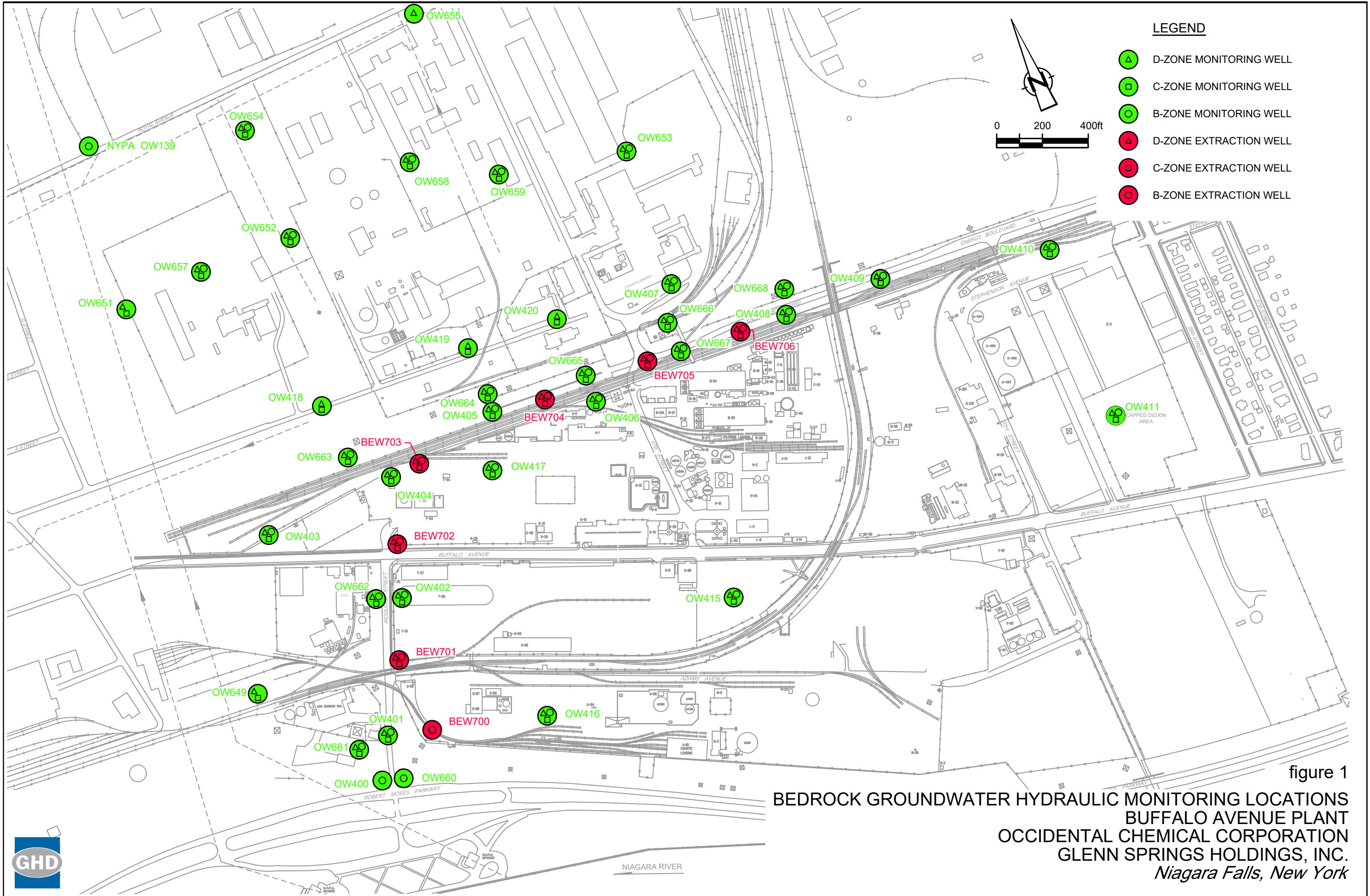
Tim Bathory
Environmental Engineer
Glenn Springs Holdings, Inc.

Joseph Branch
Project Manager
Glenn Springs Holdings, Inc.

JP/kf/2/11225008

Encl.

cc: C. Staniszewski, NYSDEC
A. Everett, USEPA
N. Ackerman, OCC
J. Pentilchuk, GHD



- LEGEND**
- ▲ D-ZONE MONITORING WELL
 - ◻ C-ZONE MONITORING WELL
 - B-ZONE MONITORING WELL
 - ▲ D-ZONE EXTRACTION WELL
 - ◻ C-ZONE EXTRACTION WELL
 - B-ZONE EXTRACTION WELL

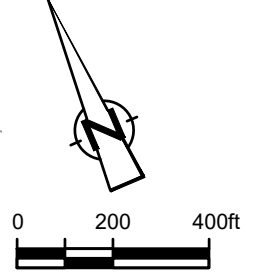
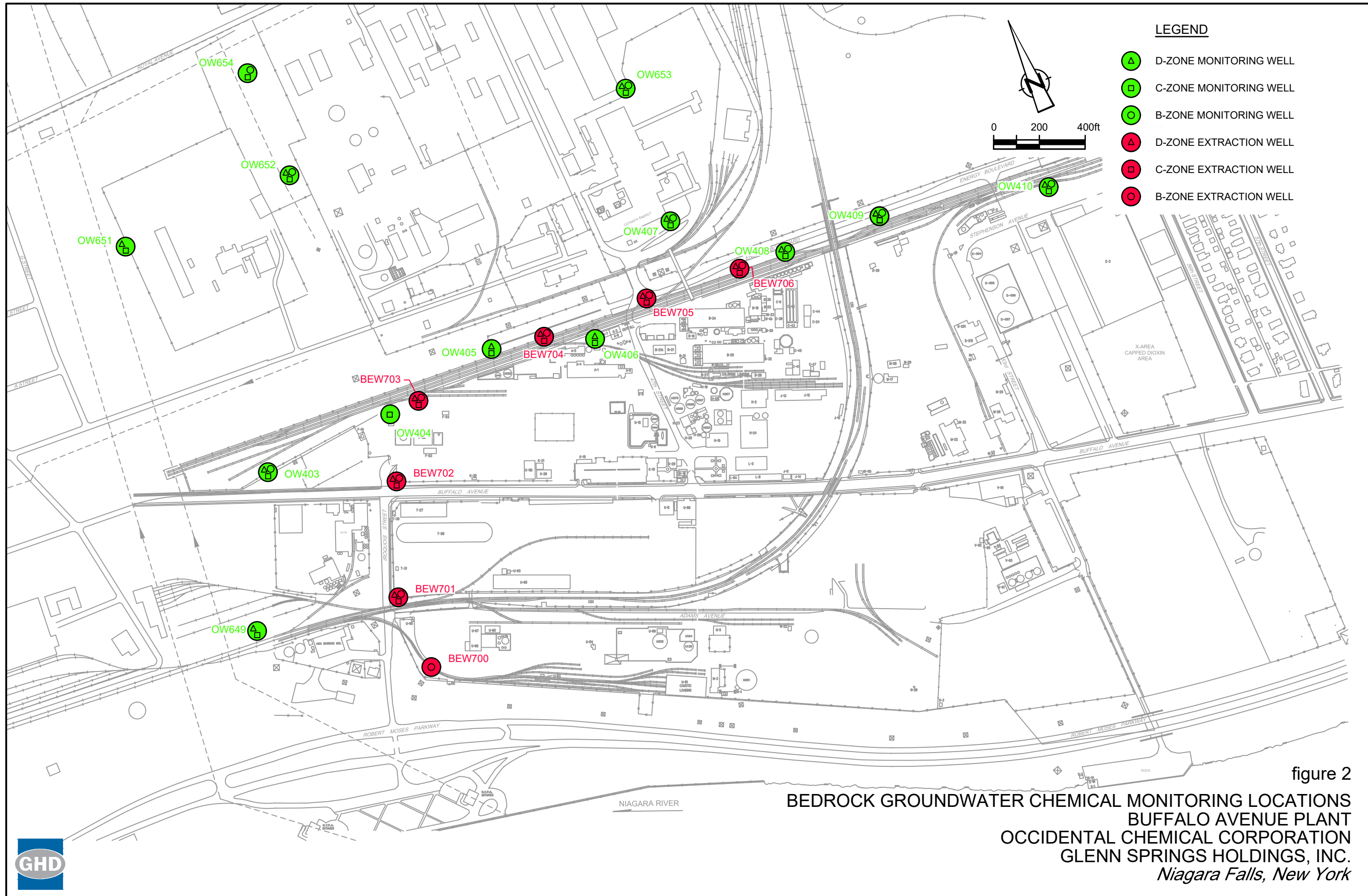


figure 1
BEDROCK GROUNDWATER HYDRAULIC MONITORING LOCATIONS
BUFFALO AVENUE PLANT
OCCIDENTAL CHEMICAL CORPORATION
GLENN SPRINGS HOLDINGS, INC.
Niagara Falls, New York





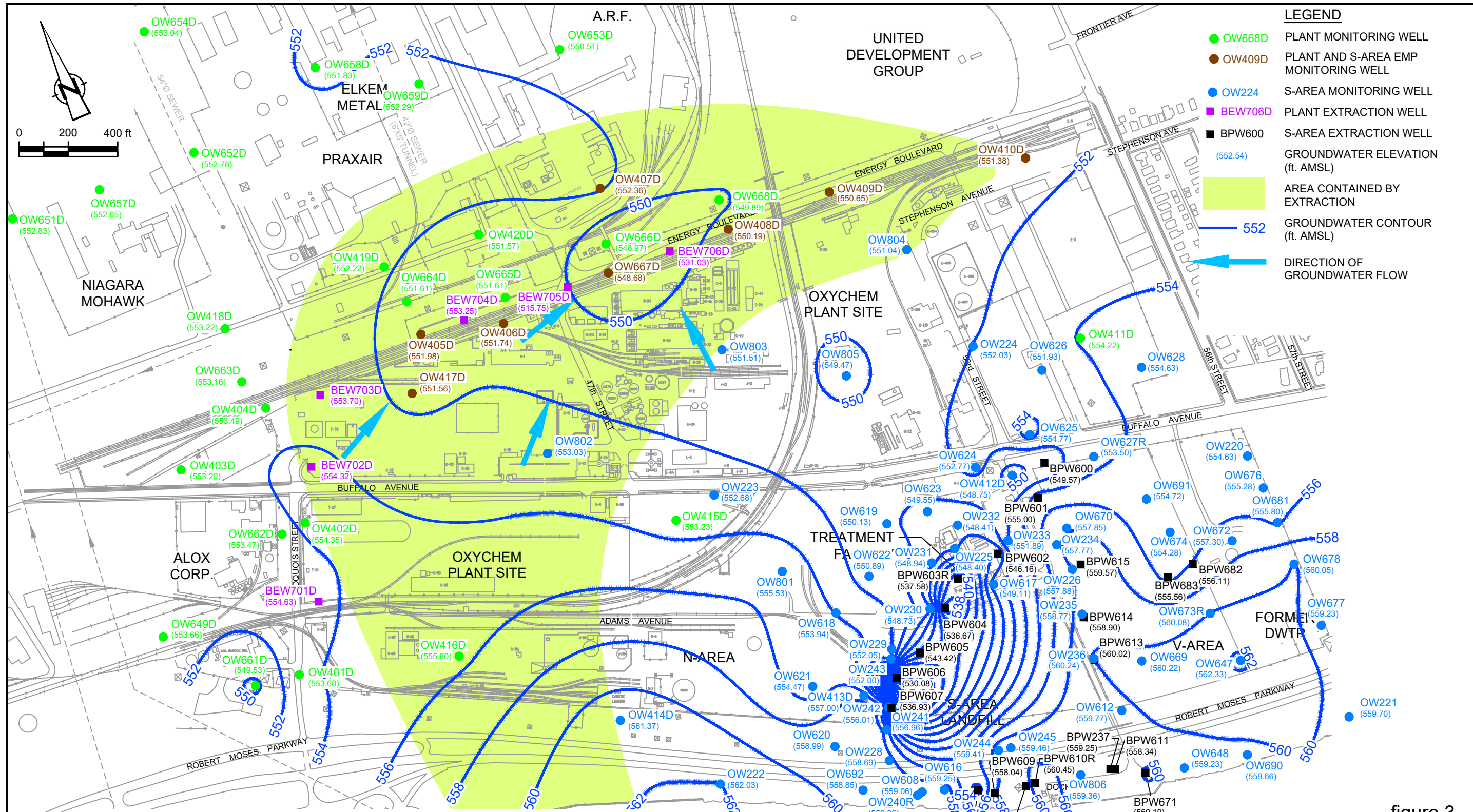
LEGEND

- ▲ D-ZONE MONITORING WELL
- ◻ C-ZONE MONITORING WELL
- B-ZONE MONITORING WELL
- ▲ D-ZONE EXTRACTION WELL
- ◻ C-ZONE EXTRACTION WELL
- B-ZONE EXTRACTION WELL

figure 2

**BEDROCK GROUNDWATER CHEMICAL MONITORING LOCATIONS
 BUFFALO AVENUE PLANT
 OCCIDENTAL CHEMICAL CORPORATION
 GLENN SPRINGS HOLDINGS, INC.
 Niagara Falls, New York**





LEGEND

- OW668D PLANT MONITORING WELL
- OW409D PLANT AND S-AREA EMP MONITORING WELL
- OW224 S-AREA MONITORING WELL
- BEW706D PLANT EXTRACTION WELL
- BPW600 S-AREA EXTRACTION WELL
- (552.54) GROUNDWATER ELEVATION (ft. AMSL)
- AREA CONTAINED BY EXTRACTION
- 552 GROUNDWATER CONTOUR (ft. AMSL)
- DIRECTION OF GROUNDWATER FLOW

- NOTES:**
- CONTOURS REFLECT AN AVERAGE CONDITION OVER THE DATA COLLECTION PERIOD, APPROXIMATELY 4 HOURS. UNLESS OTHERWISE NOTED, CONTOURS RESPECT ALL WATER LEVEL MEASUREMENTS TO THE LEVEL OF UNCERTAINTY ASSOCIATED WITH COLLECTING LEVELS OVER A PERIOD OF SEVERAL HOURS. THAT UNCERTAINTY IS APPROXIMATELY +/-0.5 FEET FOR NYPA WINTER OPERATING CONDITIONS.
 - MEASURED ELEVATIONS FOR PLANT EXTRACTION WELLS BEW701D-BEW706D WERE NOT USED FOR CONTOURING.

figure 3
D-ZONE BEDROCK GROUNDWATER CONTOURS
 DECEMBER 14, 2021
 BUFFALO AVENUE PLANT
 OCCIDENTAL CHEMICAL CORPORATION
 GLENN SPRINGS HOLDINGS, INC.
Niagara Falls, New York



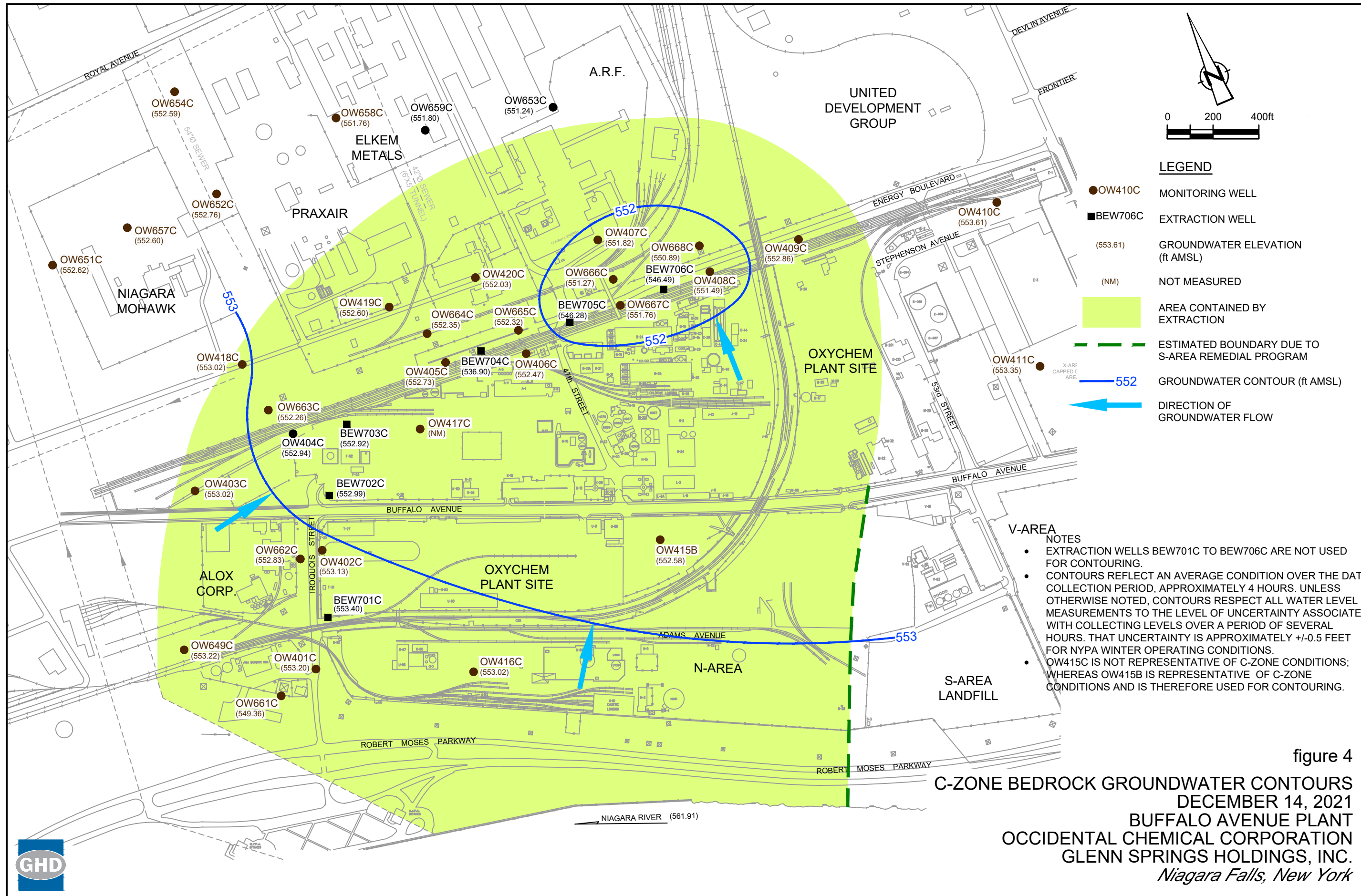


figure 4
C-ZONE BEDROCK GROUNDWATER CONTOURS
 DECEMBER 14, 2021
 BUFFALO AVENUE PLANT
 OCCIDENTAL CHEMICAL CORPORATION
 GLENN SPRINGS HOLDINGS, INC.
Niagara Falls, New York



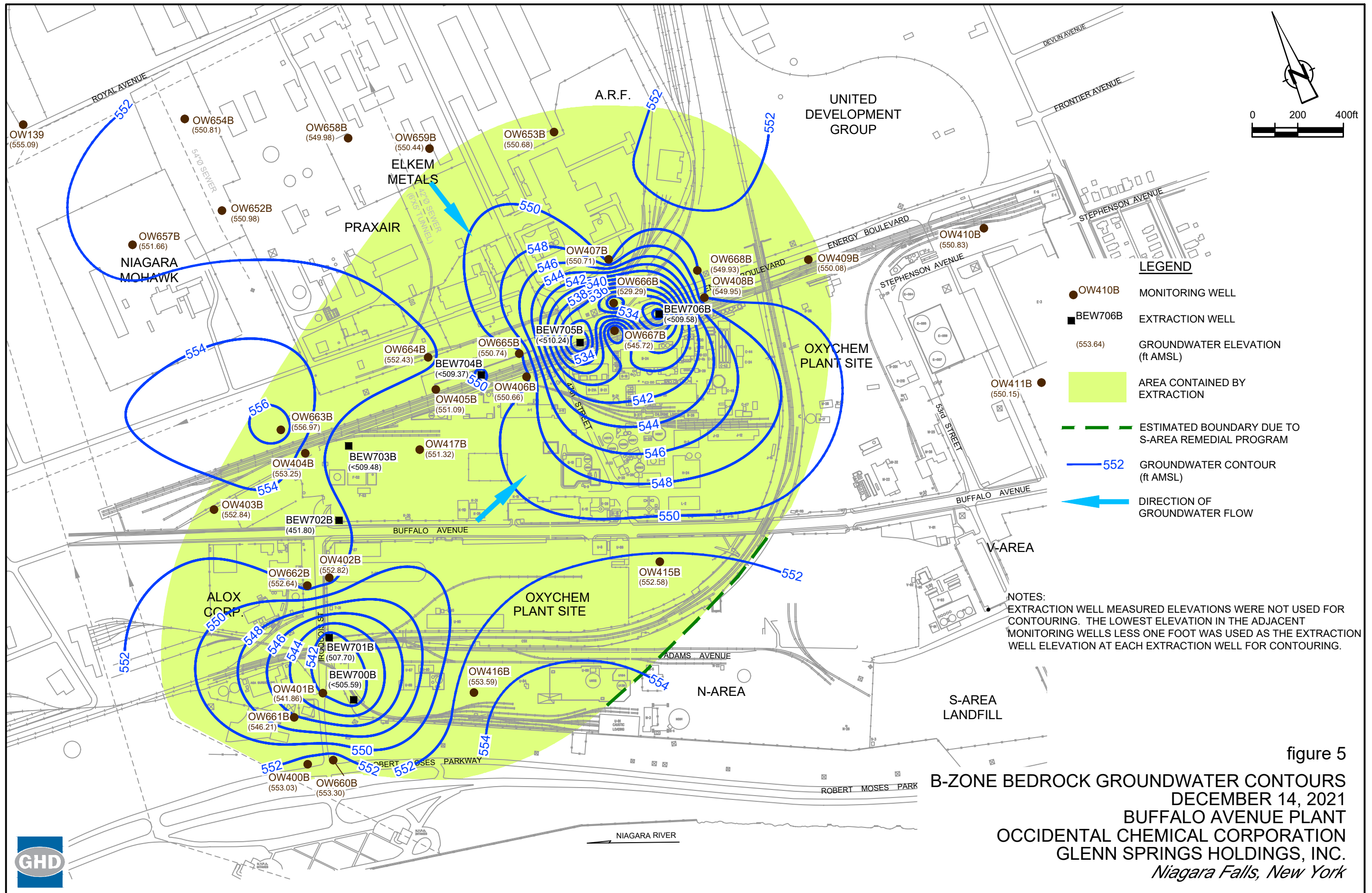
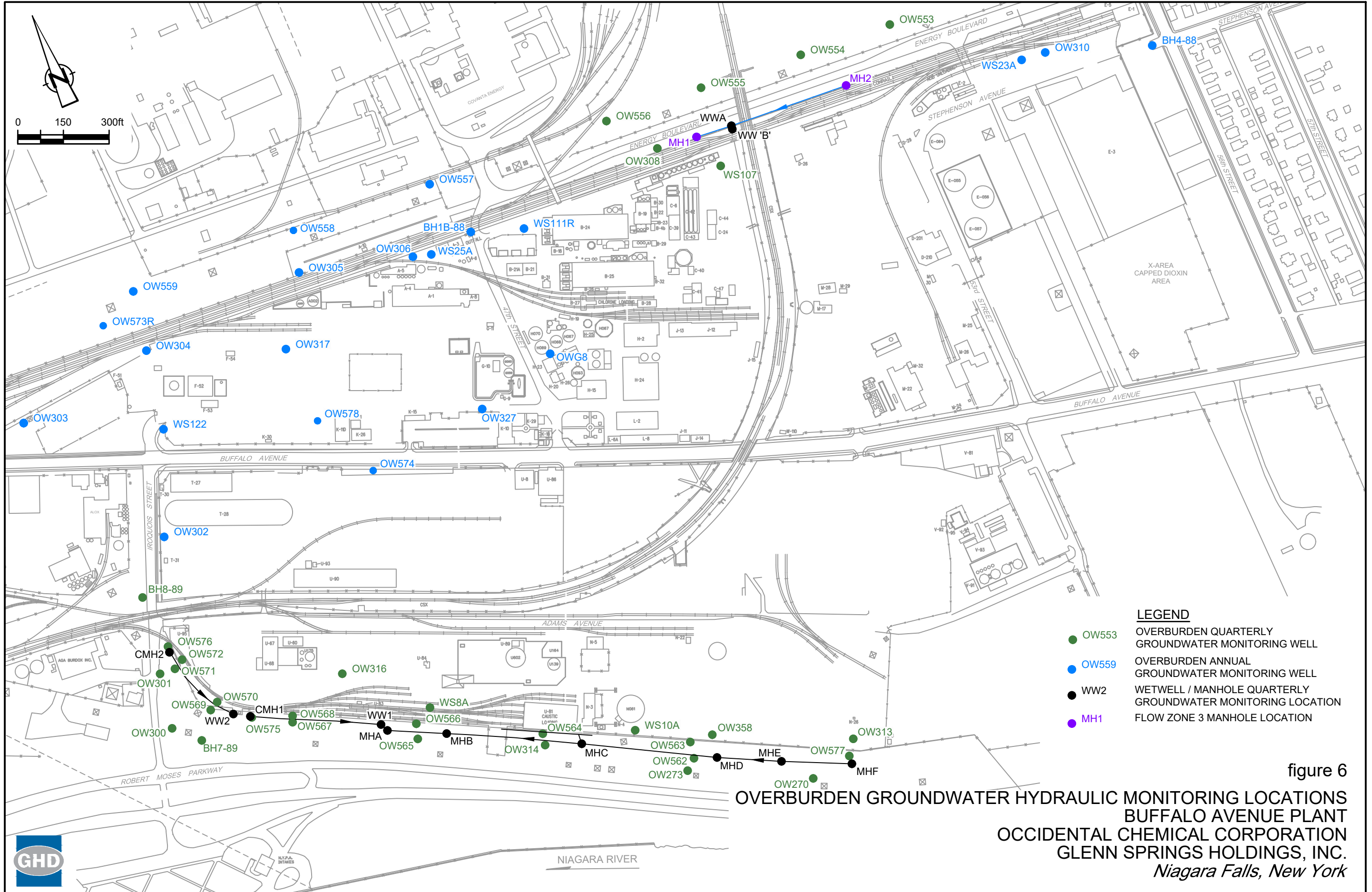


figure 5
 B-ZONE BEDROCK GROUNDWATER CONTOURS
 DECEMBER 14, 2021
 BUFFALO AVENUE PLANT
 OCCIDENTAL CHEMICAL CORPORATION
 GLENN SPRINGS HOLDINGS, INC.
 Niagara Falls, New York





LEGEND

- OW553 OVERBURDEN QUARTERLY GROUNDWATER MONITORING WELL
- OW559 OVERBURDEN ANNUAL GROUNDWATER MONITORING WELL
- WW2 WETWELL / MANHOLE QUARTERLY GROUNDWATER MONITORING LOCATION
- MH1 FLOW ZONE 3 MANHOLE LOCATION

figure 6

**OVERBURDEN GROUNDWATER HYDRAULIC MONITORING LOCATIONS
BUFFALO AVENUE PLANT
OCCIDENTAL CHEMICAL CORPORATION
GLENN SPRINGS HOLDINGS, INC.
Niagara Falls, New York**



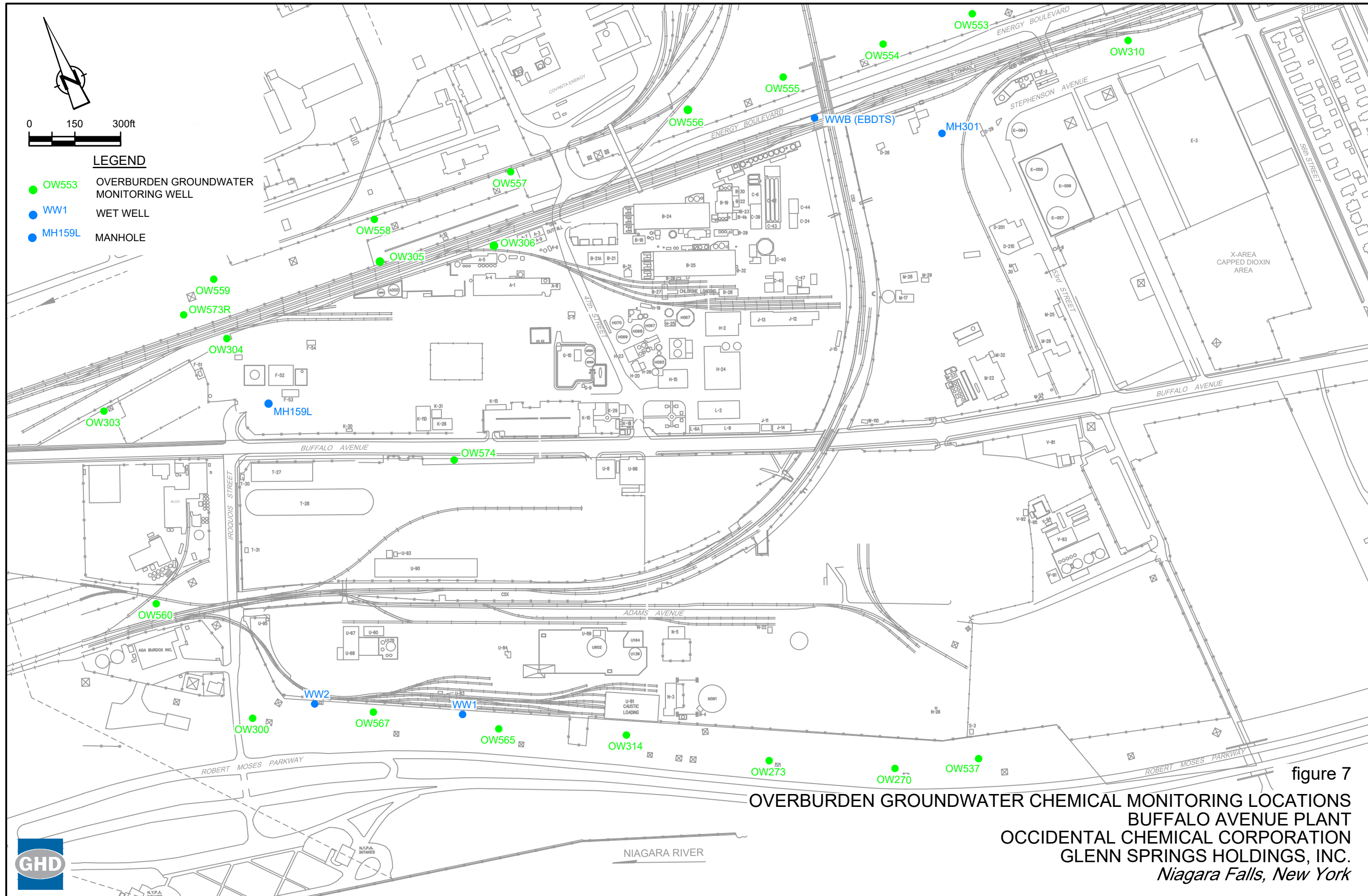
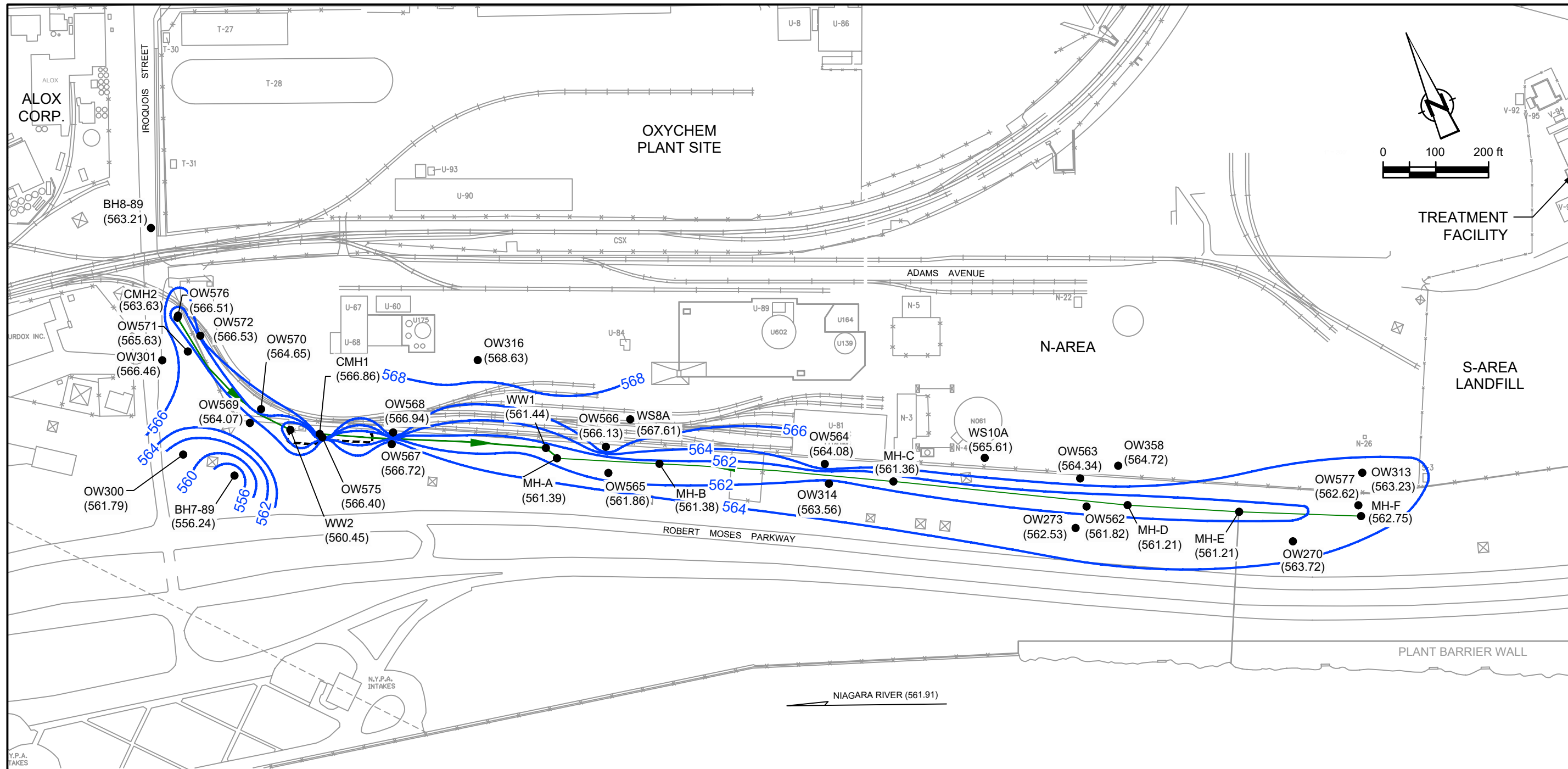


figure 7

**OVERBURDEN GROUNDWATER CHEMICAL MONITORING LOCATIONS
BUFFALO AVENUE PLANT
OCCIDENTAL CHEMICAL CORPORATION
GLENN SPRINGS HOLDINGS, INC.
Niagara Falls, New York**





LEGEND

- FLOW ZONE 1 COLLECTION SYSTEM
- OW316
(568.63) EXISTING OVERBURDEN MONITORING WELLS
GROUNDWATER ELEVATION
- 566 OVERBURDEN GROUNDWATER CONTOUR
(ft AMSL) DASHED WHERE INFERRED



figure 8
FLOW ZONE 1 OVERBURDEN GROUNDWATER CONTOURS
 NOVEMBER 29, 2021
 BUFFALO AVENUE PLANT
 OCCIDENTAL CHEMICAL CORPORATION
 GLENN SPRINGS HOLDINGS, INC.
 Niagara Falls, New York

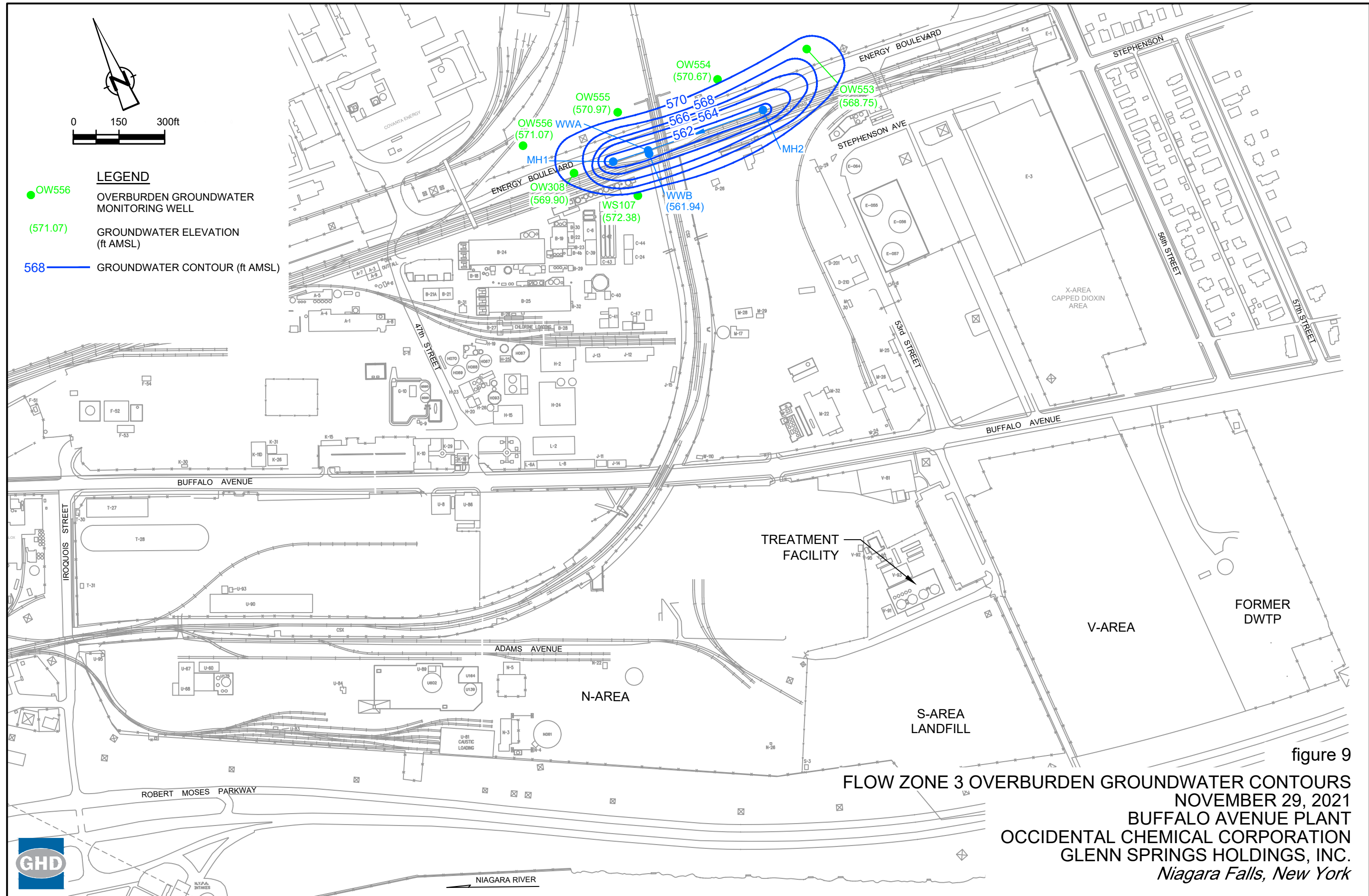
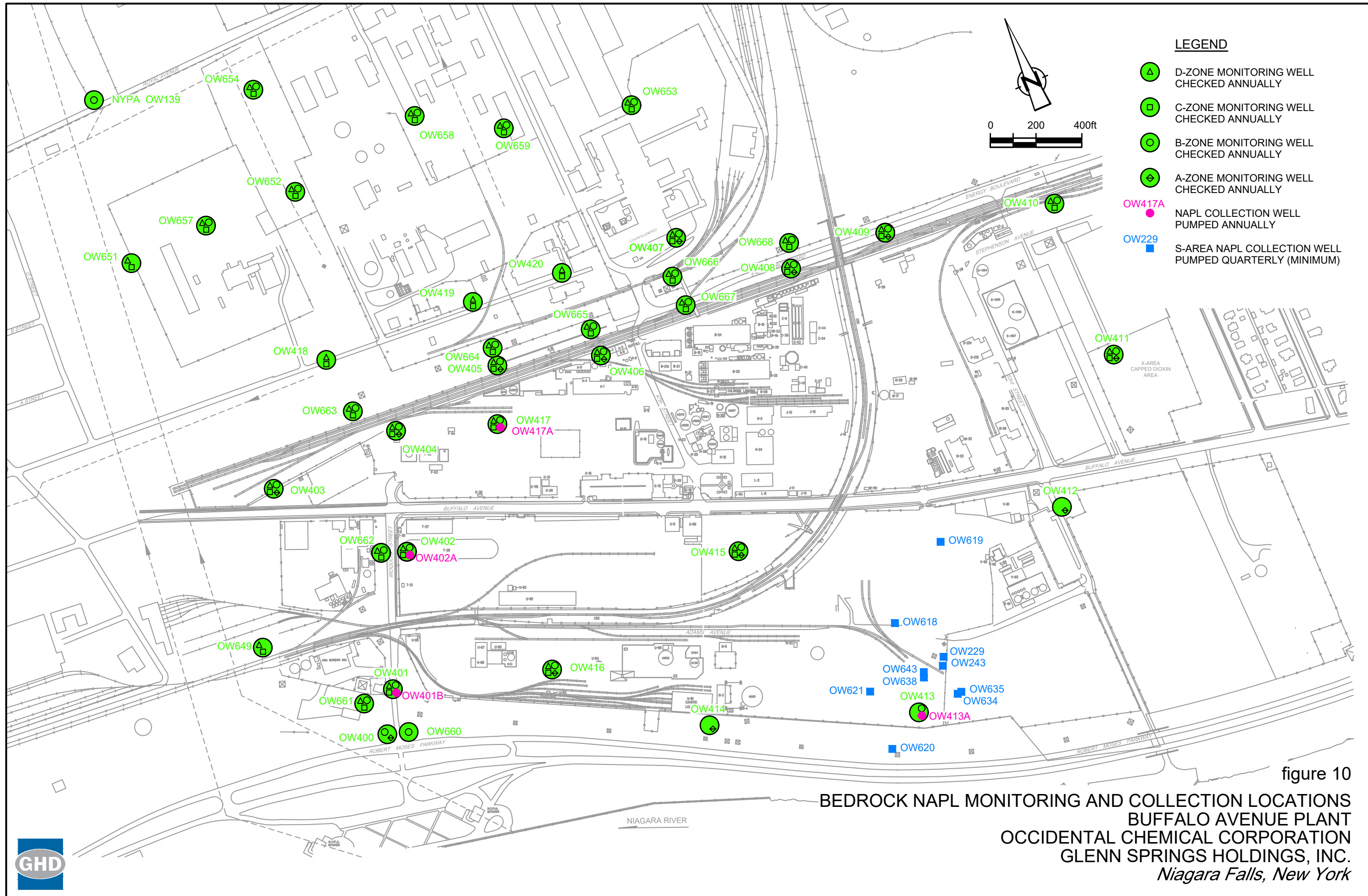


figure 9
 FLOW ZONE 3 OVERBURDEN GROUNDWATER CONTOURS
 NOVEMBER 29, 2021
 BUFFALO AVENUE PLANT
 OCCIDENTAL CHEMICAL CORPORATION
 GLENN SPRINGS HOLDINGS, INC.
 Niagara Falls, New York





- LEGEND**
- ⬆ D-ZONE MONITORING WELL CHECKED ANNUALLY
 - ⬆ C-ZONE MONITORING WELL CHECKED ANNUALLY
 - ⬆ B-ZONE MONITORING WELL CHECKED ANNUALLY
 - ⬆ A-ZONE MONITORING WELL CHECKED ANNUALLY
 - OW417A NAPL COLLECTION WELL PUMPED ANNUALLY
 - OW229 S-AREA NAPL COLLECTION WELL PUMPED QUARTERLY (MINIMUM)

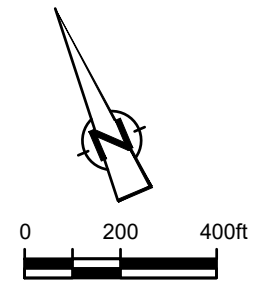


figure 10

**BEDROCK NAPL MONITORING AND COLLECTION LOCATIONS
 BUFFALO AVENUE PLANT
 OCCIDENTAL CHEMICAL CORPORATION
 GLENN SPRINGS HOLDINGS, INC.
 Niagara Falls, New York**



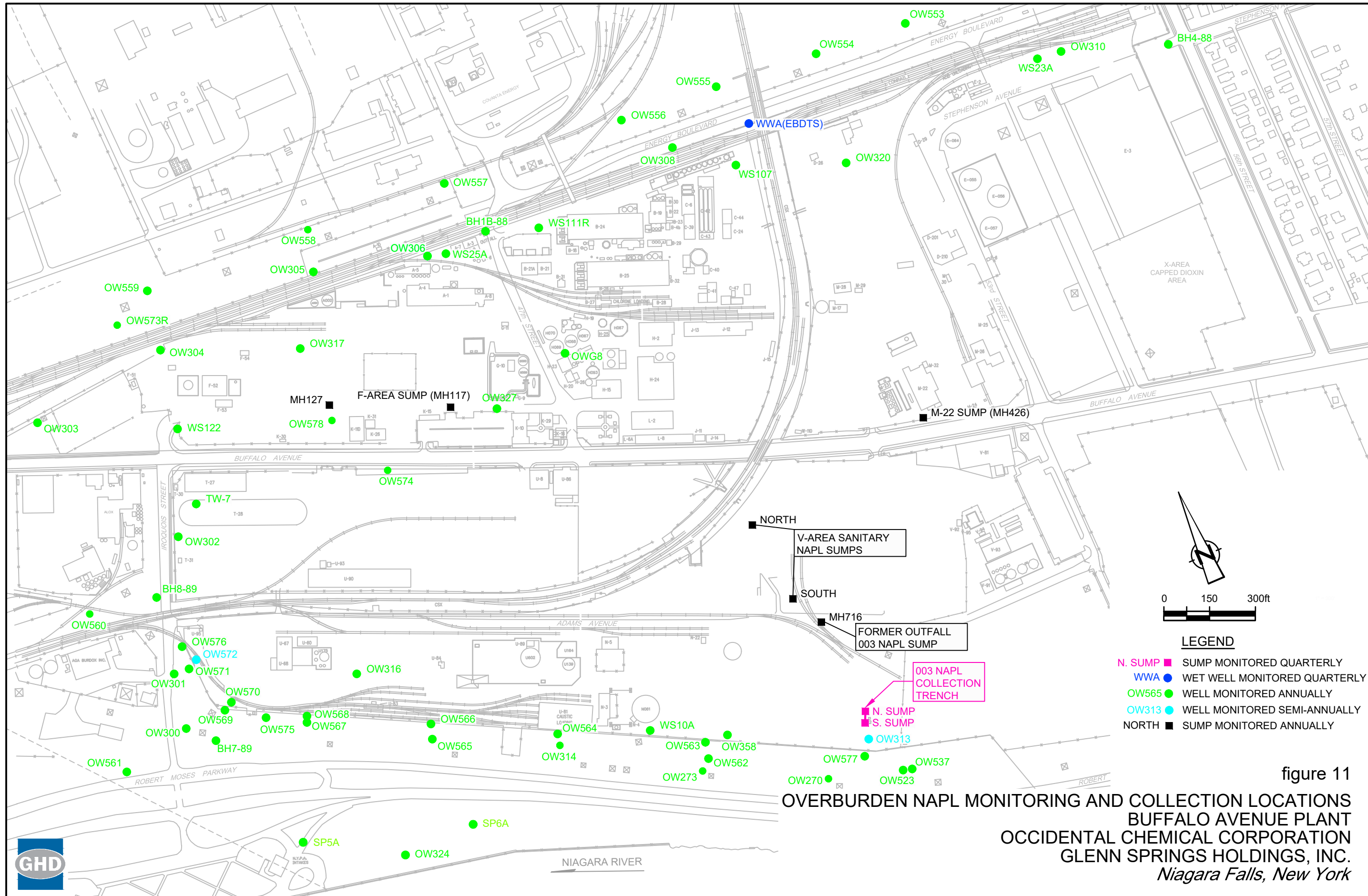


figure 11

Table 1

**Summary of Monitoring Tasks and Associated Completion Dates
Fourth Quarter 2021
Buffalo Avenue Plant**

Quarter	Program	Task	Date(s) Task was Completed (2021)
First	Bedrock Groundwater	Weekly Flow Measurements	1/4, 1/11, 1/18, 1/25, 2/1, 2/8, 2/15, 2/22, 3/1, 3/8, 3/15, 3/22, 3/29
		Quarterly Hydraulic Monitoring	3/17
		Annual Chemical Monitoring	3/5 - 4/4
	Overburden Groundwater	Weekly Flow Measurements	1/4, 1/11, 1/18, 1/25, 2/1, 2/8, 2/15, 2/22, 3/1, 3/8, 3/15, 3/22, 3/29
		Quarterly Hydraulic Monitoring - Flow Zones 1 and 3	3/19
	NAPL Monitoring	Quarterly NAPL Monitoring/Collection in 003 Collection Trench	2/1
		Quarterly NAPL Monitoring/Collection - N-Area Bedrock Wells	2/25
		Quarterly NAPL Monitoring/Collection of EBDTS	3/19
		Annual NAPL Monitoring/Collection of Overburden Monitoring Wells	(1)
	Second	Bedrock Groundwater	Weekly Flow Measurements
Quarterly Hydraulic Monitoring			6/2
Overburden Groundwater		Weekly Flow Measurements	4/5, 4/12, 4/19, 4/26, 5/3, 5/10, 5/17, 5/24, 5/31, 6/7, 6/14, 6/21, 6/28
		Quarterly Hydraulic Monitoring - Flow Zones 1 and 3	6/4
		Annual Chemical Monitoring - Mercury Cell Area (OW304, OW305, OW306, and OW574)	5/18 - 5/24
NAPL Monitoring		Annual Chemical Monitoring - Plant Wells	5/11 - 5/24
		Quarterly NAPL Monitoring/Collection in 003 Collection Trench	4/16
		Quarterly NAPL Monitoring/Collection - N-Area Bedrock Wells	5/13
		Quarterly NAPL Monitoring/Collection of EBDTS	6/4
Third		Bedrock Groundwater	Weekly Flow Measurements
	Quarterly Hydraulic Monitoring		9/1
	Overburden Groundwater	Weekly Flow Measurements	7/5, 7/12, 7/19, 7/26, 8/2, 8/9, 8/16, 8/23, 8/30, 9/6, 9/13, 9/20, 9/27
		Quarterly Hydraulic Monitoring - Flow Zones 1 and 3	9/7
		Annual Hydraulic Monitoring - Other Areas	9/7
	NAPL Monitoring	Quarterly NAPL Monitoring/Collection in 003 Collection Trench	8/26
		Quarterly NAPL Monitoring/Collection of EBDTS	9/8
		Quarterly NAPL Monitoring/Collection - N-Area Bedrock Wells	9/3
		Semiannual NAPL Monitoring/Collection of Overburden Monitoring Wells	8/24
		Annual NAPL Check - OW401B, OW402A, OW413A, and OW417A	8/24
Annual Sump/Manhole NAPL Checks	7/27 - 8/18		
Fourth	Bedrock Groundwater	Weekly Flow Measurements	10/4, 10/11, 10/18, 10/25, 11/1, 11/8, 11/15, 11/22, 11/29, 12/6, 12/13, 12/20, 12/27
		Quarterly Hydraulic Monitoring	12/14
		Annual Well Inspections	7/27 - 8/18
	Overburden Groundwater	Weekly Flow Measurements	10/4, 10/11, 10/18, 10/25, 11/1, 11/8, 11/15, 11/22, 11/29, 12/6, 12/13, 12/20, 12/27
		Quarterly Hydraulic Monitoring - Flow Zones 1 and 3	11/29
		Semiannual Chemical Monitoring - Mercury Cell Area (OW574)	11/4
		Annual Well Inspections	7/27 - 8/18
	NAPL Monitoring	Quarterly NAPL Monitoring/Collection in 003 Collection Trench	10/15
		Quarterly NAPL Monitoring/Collection of EBDTS	11/29
		Quarterly NAPL Monitoring/Collection - N-Area Bedrock Wells	11/8

Notes:

(1) - To be completed in the next quarter

Table 2
Summary of Maintenance Activities
Fourth Quarter 2021
Buffalo Avenue Plant

Date	Maintenance Activity
10/4	Addressed leak detected in BEW-704D
10/5	Addressed leak detected in BEW-706D
10/6	Cleaned out line between MH-A and WW-1
10/7	Repaired city water line to the scrubber
10/8	Repaired city water line to the scrubber
10/13	Pumped out BEW-702B vault
10/14	Pumped out BEW-706B vault
10/17	Troubleshoot power alarm on BEW-700B
10/18	Repaired power alarm on BEW-700B
10/18	Performed compressor maintenance.
10/19	Pumped out BEW-703D vault
10/27	Cleaned out line between MH-A and WW-1
10/28	Repaired city water pipe to sand filters
10/29	Repaired city water pipe to sand filters
11/8	Pulled BEW-700B pump for repairs
11/9	Repaired BEW-700B
11/10	Changed out carbon in bed #22
11/11	Changed out carbon in bed #21
11/12	Cleaned/Recalibrated effluent pH meter
11/13	Cleaned/Recalibrated effluent pH meter
11/14	Cleaned/Recalibrated effluent pH meter
11/15	Cleaned/Recalibrated effluent pH meter
11/15	Troubleshoot and repair problems with decanter sump pump
11/16	Change out carbon in bed #11
11/17	Pumped out BEW-703D vault
11/17	Cleaned/Recalibrated effluent pH meter
11/18	Cleaned/Recalibrated effluent pH meter
11/19	Effluent flow meter changed, pH probe re-calibrated
11/20	Troubleshoot decanter high-high level. Cleaned/Recalibrated effluent pH meter

Table 2

**Summary of Maintenance Activities
Fourth Quarter 2021
Buffalo Avenue Plant**

Date	Maintenance Activity
11/21	Troubleshoot decanter high-high level. Cleaned/Recalibrated effluent pH meter
11/22	Troubleshoot decanter dike sump high-high level
11/22	Cleaned/Recalibrated effluent pH meter
11/23	Cleaned/Recalibrated effluent pH meter
11/29	Manually drained knock out pot
11/30	Cleaned/Recalibrated effluent pH meter
11/30	Troubleshoot sand filter backwash cycle.
12/1	Troubleshoot level controls for the knockout pump.
12/6	Replaced valve on sand filter unit
12/10	Repaired tubing leaks on the CO2 injection system
12/15	Cleaned out connection between MH-A and WW-1
12/15	Performed routine compressor maintenance
12/30	Cleaned out debris from quench strainer
12/30	Cleaned/Recalibrated effluent pH meter

Table 3

D-Zone Extraction Well Flow Rates
 Fourth Quarter 2021
 Buffalo Avenue Plant

Date	BEW701D		BEW702D		BEW703D		BEW704D		BEW705D		BEW706D	
	Total Flow (gallons)	Average Flow Rate (gpm)	Total Flow (gallons)	Average Flow Rate (gpm)	Total Flow (gallons)	Average Flow Rate (gpm)	Total Flow (gallons)	Average Flow Rate (gpm)	Total Flow (gallons)	Average Flow Rate (gpm)	Total Flow (gallons)	Average Flow Rate (gpm)
10/4/2021							417000	41.37	272000	26.98	295000	29.27
10/11/2021							397000	41.10	258000	26.87	273000	28.26
10/18/2021							416000	41.27	266000	26.39	271000	26.88
10/25/2021							416000	41.27	270000	26.79	252000	25.00
11/1/2021							413000	40.97	269000	26.69	280000	27.78
11/8/2021							416000	41.03	260000	25.64	199000	19.63
11/15/2021							385000	40.87	237000	25.16	169000	17.94
11/22/2021							320000	40.71	199000	25.32	192000	24.43
11/29/2021							374000	41.56	224000	24.89	172000	19.11
12/6/2021							375000	37.20	224000	22.22	209000	20.73
12/13/2021							411000	40.77	244000	24.21	236000	23.41
12/20/2021							410000	40.67	238000	23.61	221000	21.92
12/27/2021							408000	40.48	242000	24.01	276000	27.38

Notes:

GPM - gallons per minute
 BEW701D, 702D, and 703D were shut down on October 9, 2008 following NYSDEC approval.
 Target rates for BEW704D, 705D, and 706D are 40 GPM each.

Table 4
C-Zone Extraction Well Flow Rates
Fourth Quarter 2021
Buffalo Avenue Plant

Date	BEW701C		BEW702C		BEW703C		BEW704C		BEW705C		BEW706C	
	Total Flow (gallons)	Average Flow Rate (gpm)	Total Flow (gallons)	Average Flow Rate (gpm)	Total Flow (gallons)	Average Flow Rate (gpm)	Total Flow (gallons)	Average Flow Rate (gpm)	Total Flow (gallons)	Average Flow Rate (gpm)	Total Flow (gallons)	Average Flow Rate (gpm)
10/4/2021							1079000	107.04	1079000	107.04	1039000	103.08
10/11/2021							1018000	106.04	1017000	105.94	980000	102.73
10/18/2021							1071000	106.25	1071000	106.25	1038000	102.98
10/25/2021							1066000	105.75	1068000	105.95	1030000	102.18
11/1/2021							1059000	105.06	1061000	105.26	999000	99.11
11/8/2021							1066000	105.13	1074000	105.92	1017000	100.30
11/15/2021							990000	105.10	997000	105.84	953000	101.17
11/22/2021							815000	105.30	814000	105.17	787000	101.68
11/29/2021							955000	106.11	952000	105.78	926000	102.89
12/6/2021							956000	94.84	951000	94.35	905000	89.78
12/13/2021							1063000	105.46	1058000	104.96	976000	96.83
12/20/2021							1066000	105.75	1065000	105.65	972000	96.43
12/27/2021							1066000	105.75	1066000	105.75	936000	92.86

Notes:

GPM - gallons per minute.

BEW701C, 702C, and 703C were shut down on May 22, 2007 following NYSDEC approval.

Target rates for BEW704C, 705C, and 706C are 100 GPM each.

(1) The totalizer for BEW706C malfunctioned the week of January 27, 2020. The average flow of the weeks before and after was used.

Table 5
B-Zone Extraction Well Flow Rates
Fourth Quarter 2021
Buffalo Avenue Plant

Date	BEW700B		BEW701B		BEW702B		BEW703B		BEW704B		BEW705B		BEW706B	
	Total Flow (gallons)	Average Flow Rate (gpm)	Total Flow (gallons)	Average Flow Rate (gpm)	Total Flow (gallons)	Average Flow Rate (gpm)	Total Flow (gallons)	Average Flow Rate (gpm)	Total Flow (gallons)	Average Flow Rate (gpm)	Total Flow (gallons)	Average Flow Rate (gpm)	Total Flow (gallons)	Average Flow Rate (gpm)
10/4/2021	33000	3.27	18000	1.79	18	0.002	39	0.004	97000	9.62	37000	3.67	39000	3.87
10/11/2021	32000	3.19	18000	1.79	20	0.002	40	0.004	93000	9.63	36000	3.73	38000	3.93
10/18/2021	28000	2.78	18000	1.79	16	0.002	40	0.004	97000	9.62	37000	3.67	40000	3.97
10/25/2021	52000	5.42	18000	1.79	18	0.002	37	0.004	95000	9.42	37000	3.67	41000	4.07
11/1/2021	52000	5.25	17000	1.69	17	0.002	39	0.004	94000	9.33	36000	3.57	40000	3.97
11/8/2021	15000	3.47	17000	1.68	20	0.002	55	0.005	94000	9.27	37000	3.65	40000	3.94
11/15/2021	30000	4.03	14000	1.51	98	0.010	36	0.004	87000	9.24	34000	3.59	37000	3.93
11/22/2021	32000	4.07	11000	1.40	22	0.002	38	0.004	70000	6.94	28000	3.56	31000	3.94
11/29/2021	36000	3.57	9000	1.01	16	0.002	35	0.003	84000	9.33	33000	3.69	36000	4.00
12/6/2021	35000	3.47	11000	1.09	19	0.002	39	0.004	83000	8.23	33000	3.27	34000	3.37
12/13/2021	38000	3.77	12000	1.19	21	0.002	35	0.003	90000	8.93	35000	3.47	36000	3.57
12/20/2021	38000	3.77	13000	1.29	19	0.002	37	0.004	88000	8.73	35000	3.47	35000	3.47
12/27/2021	36000	3.57	15000	1.49	20	0.002	41	0.004	88000	8.73	34000	3.39	36000	3.57

Notes:

GPM - gallons per minute.

(1) Totalizer malfunction occurred for BEW706B. The average flow of the weeks before and after was used.

Table 6

**Bedrock Extraction System Monthly Flow Rate Summary
Fourth Quarter 2021
Buffalo Avenue Plant**

<u>System Component</u>	Target Flow Rates (gpm)	Month			Quarterly Average (gpm)
		Oct-21 (gpm)	Nov-21 (gpm)	Dec-21 (gpm)	
B-Zone	40	23	21	18	21
C-Zone	300	314	313	300	309
D-Zone	120	95	88	87	90
Operational Average	460	432	422	405	420
<u>Treatment Plant</u>					
Operational Average		475	474	460	470
Operating Time		98.8%	87.2%	98.1%	94.7%
Quarterly Average Operating Time =		94.7%			
Total Volume Treated in Quarter =		58,942,080		gallons	

Notes:

GPM - gallons per minute.

Flow rates shown are the average flow rate while the pump/treatment system is operational.

Table 7

**Bedrock Groundwater Elevation Summary
Fourth Quarter 2021
Buffalo Avenue Plant**

Well	Top of Riser Elevation	Ground Surface Elevation	Date of Installation	Riser Diameter (inches)	Monitored Interval				Well Bottom		Water Level Data	
					Top (AMSL)	Bottom (AMSL)	Top (BGS)	Bottom (BGS)	Elev. of (AMSL)	Depth to (BGS)	12/14/2021 (ft BTOC)	(ft AMSL)
BEW700B	565.59	568.69	12/2/1994	8	457.1	- 414.0	111.6	- 154.7	414.0	154.7	>60.00	<505.59
BEW701B	566.18	569.15	12/9/1994	8	458.8	- 413.8	110.4	- 155.4	413.8	155.4	58.48	507.70
BEW701C	566.33	569.60	11/17/1994	8	498.4	- 460.9	71.2	- 108.7	460.9	108.7	12.93	553.40
BEW701D	565.86	569.03	12/7/1994	8	545.9	- 500.9	23.1	- 68.1	500.9	68.1	11.23	554.63
BEW702B	568.83	572.24	8/15/1994	8	452.9	- 415.9	119.3	- 156.3	415.9	156.3	117.03	451.80
BEW702C	568.86	571.95	8/8/1994	8	496.4	- 455.9	75.6	- 116.1	455.9	116.1	15.87	552.99
BEW702D	569.20	572.17	7/6/1994	8	548.6	- 499.4	23.6	- 72.8	499.4	72.8	15.50	553.70
BEW703B	569.48	572.57	9/8/1994	8	450.8	- 410.8	121.8	- 161.8	410.8	161.8	>60.00	<509.48
BEW703C	569.00	572.10	9/15/1994	8	501.8	- 453.7	70.3	- 118.4	453.7	118.4	16.08	552.92
BEW703D	569.87	572.77	9/16/1994	8	550.0	- 504.2	22.8	- 68.6	504.2	68.6	16.62	553.25
BEW704B	569.37	573.41	10/14/1994	8	452.3	- 417.3	121.1	- 156.1	417.3	156.1	>60.00	<509.37
BEW704C	569.24	573.31	10/14/1994	8	498.3	- 454.3	75.0	- 119.0	454.3	119.0	32.34	536.90
BEW704D	570.24	573.10	9/30/1994	8	546.3	- 501.3	26.8	- 71.8	501.3	71.8	22.53	547.71
BEW705B	570.24	573.26	10/11/1994	8	453.7	- 416.0	119.6	- 157.3	416.0	157.3	>60.00	<510.24
BEW705C	570.06	573.15	9/30/1994	8	502.0	- 456.5	71.2	- 116.7	456.5	116.7	23.78	546.28
BEW705D	570.66	573.65	10/10/1994	8	550.2	- 505.2	23.4	- 68.4	505.2	68.4	54.91	515.75
BEW706B	569.58	572.69	9/19/1994	8	452.9	- 416.4	119.8	- 156.3	416.4	156.3	>60.00	<509.58
BEW706C	568.97	571.9	10/11/1994	8	504.1	- 455.6	67.8	- 116.3	455.6	116.3	22.48	546.49
BEW706D	569.46	572.49	9/26/1994	8	550.7	- 504.2	21.8	- 68.3	504.2	68.3	38.43	531.03
OW139	570.63	569.08	1958	12	559.2	435.2	9.9	- 133.9	435.2	133.9	15.54	555.09
OW400B	579.25	579.61	5/10/1989	4	454.6	- 424.5	125.0	- 155.1	424.5	155.1	26.22	553.03
OW401B	568.54	568.95	5/24/1989	4	462.9	- 413.9	106.1	- 155.1	413.9	155.1	26.68	541.86
OW401C	568.55	568.94	5/25/1989	4	492.3	- 462.8	76.6	- 106.1	462.8	106.1	15.35	553.20
OW401D	568.42	568.87	5/26/1989	6.25	545.9	- 507.9	23.0	- 61.0	507.9	61.0	14.82	553.60
OW402B	569.46	570.33	6/28/1989	4	473.8	- 409.9	96.5	- 160.4	409.9	160.4	16.64	552.82
OW402C	569.48	570.3	6/26/1989	4	488.5	- 473.8	81.8	- 96.5	473.8	96.5	16.35	553.13
OW402D	569.22	570.01	6/29/1989	6.25	544.7	- 518.8	25.3	- 51.2	518.8	51.2	14.87	554.35
OW403B	570.04	570.48	5/16/1989	4	457.8	- 427.8	112.7	- 142.7	427.8	142.7	17.20	552.84
OW403C	570.02	570.26	5/22/1989	4	487.3	- 457.7	83.0	- 112.6	457.7	112.6	17.00	553.02
OW403D	570.08	570.31	5/23/1989	6.25	546.8	- 502.8	23.5	- 67.5	502.8	67.5	16.88	553.20
OW404B	571.03	571.53	6/9/1989	4	438.3	- 404.8	133.2	- 166.7	404.8	166.7	17.78	553.25
OW404C	570.82	571.38	6/7/1989	4	498.5	- 468.2	72.9	- 103.2	468.2	103.2	17.88	552.94

Table 7

**Bedrock Groundwater Elevation Summary
Fourth Quarter 2021
Buffalo Avenue Plant**

Well	Top of Riser Elevation	Ground Surface Elevation	Date of Installation	Riser Diameter (inches)	Monitored Interval				Well Bottom		Water Level Data			
					Top (AMSL)	Bottom (AMSL)	Top (BGS)	Bottom (BGS)	Elev. of (AMSL)	Depth to (BGS)	12/14/2021 (ft BTOC)	(ft AMSL)		
OW404D	570.45	571.85	6/23/1989	6.25	549.3	-	498.0	22.6	-	73.9	498.0	73.9	16.96	553.49
OW405B	572.78	573.14	3/27/1989	4	453.3	-	408.3	119.8	-	164.8	408.3	164.8	21.69	551.09
OW405C	572.7	573.07	5/31/1989	4	501.2	-	453.2	71.9	-	119.9	453.2	119.9	19.97	552.73
OW405D	572.6	573.11	6/9/1989	6.25	545.6	-	501.2	27.5	-	71.9	501.2	71.9	20.62	551.98
OW406B	571.52	571.77	6/8/1989	4	467.9	-	404.4	103.9	-	167.4	404.4	167.4	20.86	550.66
OW406C	571.44	571.73	6/14/1989	4	497.6	-	467.8	74.1	-	103.9	467.8	103.9	18.97	552.47
OW406D	571.81	572.1	6/16/1989	6.25	548.6	-	497.2	23.5	-	74.9	497.2	74.9	20.07	551.74
OW407B	572.05	572.46	5/2/1989	4	465.4	-	450.4	107.1	-	122.1	450.4	122.1	21.34	550.71
OW407C	571.27	572.12	5/1/1989	4	479.8	-	465.2	92.3	-	106.9	465.2	106.9	19.45	551.82
OW407D	571.32	571.72	5/4/1989	6.25	552.9	-	510.4	18.8	-	61.3	510.4	61.3	18.96	552.36
OW408B	575.04	571.98	7/20/1989	4	445.2	-	403.6	126.8	-	168.4	403.6	168.4	25.09	549.95
OW408C	575.68	572.71	7/11/1989	4	494.5	-	445.9	78.2	-	126.8	445.9	126.8	24.19	551.49
OW408D	576.2	573.12	7/6/1989	6.25	552.1	-	525.0	21.0	-	48.1	525.0	48.1	26.01	550.19
OW409B	575.7	572.79	6/20/1989	3	461.8	-	415.9	111.0	-	156.9	415.9	156.9	25.62	550.08
OW409C	575.57	572.95	6/26/1989	4	510.1	-	462.0	62.9	-	111.0	462.0	111.0	22.71	552.86
OW409D	575.46	575.76	6/28/1989	6.25	552.0	-	509.8	23.8	-	66.0	509.8	66.0	24.81	550.65
OW410B	572.32	572.62	6/26/1989	4	441.4	-	407.7	131.2	-	164.9	407.7	164.9	21.49	550.83
OW410C	572.57	572.72	7/17/1989	4	486.5	-	471.5	86.2	-	101.2	471.5	101.2	18.96	553.61
OW410D	571.96	572.64	6/27/1989	6.25	547.1	-	516.3	25.5	-	56.3	516.3	56.3	20.58	551.38
OW411B	574.08	574.82	4/4/1989	4	454.9	-	406.6	119.9	-	168.2	406.6	168.2	23.93	550.15
OW411C	574.39	574.78	4/11/1989	4	500.0	-	470.0	74.8	-	104.8	470.0	104.8	21.04	553.35
OW411D	574.51	574.84	4/14/1989	6.25	546.7	-	515.2	28.1	-	59.6	515.2	59.6	20.29	554.22
OW415B	571.38	571.73	5/31/1989	4	482.1	-	467.1	89.6	-	104.6	467.1	104.6	18.80	552.58
OW415C	571.26	571.56	5/30/1989	4	511.9	-	497.1	59.7	-	74.5	497.1	74.5	18.26	553.00
OW415D	571.3	571.6	5/31/1989	6.25	548.7	-	511.8	22.9	-	59.8	511.8	59.8	18.07	553.23
OW416B	570	570.69	5/22/1989	6.25	470.8	-	455.8	99.9	-	114.9	455.8	114.9	16.41	553.59
OW416C	569.9	570.57	~5/22/1989	6.25	500.7	-	470.7	69.9	-	99.9	470.7	99.9	16.88	553.02
OW416D	569.68	570.32	~5/22/1989	6.25	539.6	-	500.5	30.7	-	69.8	500.5	69.8	14.08	555.60
OW417B	572.93	572.7	~5/19/1989	6.25	461.1	-	412.6	111.6	-	160.1	412.6	160.1	21.61	551.32
OW417C	572.23	572.9	~5/19/1989	6.25	490.1	-	460.8	82.8	-	112.1	460.8	112.1	(1)	(1)
OW417D	572.26	572.5	~5/19/1989	6.25	545.5	-	505.9	27.0	-	66.6	505.9	66.6	20.70	551.56
OW418C	569.62	570.08	5/29/2003	4	501.0	-	458.7	69.1	-	111.4	458.7	111.4	16.60	553.02

Table 7

**Bedrock Groundwater Elevation Summary
Fourth Quarter 2021
Buffalo Avenue Plant**

Well	Top of Riser Elevation	Ground Surface Elevation	Date of Installation	Riser Diameter (inches)	Monitored Interval				Well Bottom		Water Level Data	
					Top (AMSL)	Bottom (AMSL)	Top (BGS)	Bottom (BGS)	Elev. of (AMSL)	Depth to (BGS)	12/14/2021 (ft BTOC)	(ft AMSL)
OW418D	569.72	570.14	1/11/2002	6	547.0	- 504.3	23.1	- 65.8	504.3	65.8	16.50	553.22
OW419C	570.4	570.7	6/4/2003	4	502.7	- 455.7	68.0	- 115.0	455.7	115.0	17.80	552.60
OW419D	570.22	570.75	1/10/2002	6	550.3	- 505.6	20.5	- 65.2	505.6	65.2	18.00	552.22
OW420C	571.03	571.28	6/2/2003	4	500.3	- 452.5	71.0	- 118.8	452.5	118.8	19.00	552.03
OW420D	570.67	571.24	1/4/2002	6	548.7	- 503.1	22.5	- 68.1	503.1	68.1	19.10	551.57
OW649C	567.52	568.04	~10/31/1991	4	488.5	- 458.1	79.6	- 110.0	458.1	110.0	14.30	553.22
OW649D	568.29	568.35	10/31/1991	4	549.2	- 510.4	19.1	- 57.9	510.4	57.9	14.63	553.66
OW651C	568.62	568.91	10/10/1991	4	507.9	- 477.6	61.1	- 91.3	477.6	91.3	16.00	552.62
OW651D	568.53	568.72	~9/16/1991	6	553.2	- 507.7	15.5	- 61.0	507.7	61.0	15.70	552.83
OW652B	570.48	570.83	~9/16/1991	4	473.8	- 443.8	97.1	- 127.1	443.8	127.1	19.50	550.98
OW652C	570.18	570.64	2/5/1993	4	509.4	- 477.4	61.3	- 93.3	477.4	93.3	17.42	552.76
OW652D	569.98	570.25	9/16/1991	4	552.7	- 509.7	17.6	- 60.6	509.7	60.6	17.20	552.78
OW653B	572.19	572.55	~2/12/1993	4	475.4	- 451.4	97.2	- 121.2	451.4	121.2	21.51	550.68
OW653C	572.12	572.49	2/12/1993	4	503.1	- 478.1	69.4	- 94.4	478.1	94.4	20.88	551.24
OW653D	572	572.38	9/10/1991	6	552.1	- 503.7	20.3	- 68.7	503.7	68.7	21.49	550.51
OW654B	569.53	569.91	~8/27/1991	4	478.8	- 444.3	91.1	- 125.6	444.3	125.6	18.72	550.81
OW654C	570.14	570.39	~8/27/1991	4	509.7	- 481.8	60.7	- 88.6	481.8	88.6	17.20	552.59
OW654D	570.16	570.41	8/27/1991	6	556.0	- 510.7	14.4	- 59.7	510.7	59.7	17.12	553.04
OW655D	571.23	571.46	8/22/1991	6	552.7	- 507.4	18.8	- 64.1	507.4	64.1	19.43	551.80
OW657B	570.22	570.59	~4/9/1993	4	472.9	- 439.5	97.7	- 131.1	439.5	131.1	18.56	551.66
OW657C	570.42	570.83	~4/9/1993	4	503.7	- 475.7	67.2	- 95.2	475.7	95.2	17.82	552.60
OW657D	571.65	570.21	~4/9/1993	4	553.6	- 507.6	16.6	- 62.6	507.6	62.6	19.00	552.65
OW658B	570.48	570.93	~4/6/1993	4	473.4	- 439.9	97.6	- 131.1	439.9	131.1	20.50	549.98
OW658C	570.66	570.94	~4/6/1993	4	502.9	- 475.8	68.0	- 95.1	475.8	95.1	18.90	551.76
OW658D	570.75	571.1	~4/6/1993	4	552.6	- 506.1	18.6	- 65.1	506.1	65.1	18.92	551.83
OW659B	570.02	570.49	~3/30/1993	4	474.0	- 440.4	96.5	- 130.1	440.4	130.1	19.58	550.44
OW659C	570	570.41	~3/30/1993	4	503.9	- 475.8	66.5	- 94.6	475.8	94.6	18.20	551.80
OW659D	570.01	570.29	~3/30/1993	4	549.7	- 505.8	20.6	- 64.5	505.8	64.5	17.72	552.29
OW660B	579.42	579.85	10/19/1994	4	454.8	- 409.5	125.0	- 170.3	409.5	170.3	26.12	553.30
OW661B	568.63	569.05	12/15/1994	4	451.0	- 419.0	118.1	- 150.1	419.0	150.1	22.42	546.21
OW661C	568.87	569.22	10/24/1994	4	502.2	- 454.2	67.0	- 115.0	454.2	115.0	19.51	549.36
OW661D	568.88	569.25	11/1/1994	4	546.9	- 505.1	22.3	- 64.1	505.1	64.1	19.35	549.53

Table 7

**Bedrock Groundwater Elevation Summary
Fourth Quarter 2021
Buffalo Avenue Plant**

Well	Top of Riser Elevation	Ground Surface Elevation	Date of Installation	Riser Diameter (inches)	Monitored Interval				Well Bottom		Water Level Data 12/14/2021			
					Top (AMSL)	Bottom (AMSL)	Top (BGS)	Bottom (BGS)	Elev. of (AMSL)	Depth to (BGS)	(ft BTOC)	(ft AMSL)		
OW662B	569.79	570.08	7/6/1994	4	456.1	-	415.1	114.0	-	155.0	415.1	155.0	17.15	552.64
OW662C	569.75	570.02	7/5/1994	4	501.0	-	459.0	69.0	-	111.0	459.0	111.0	16.92	552.83
OW662D	569.92	570.24	7/1/1994	4	546.1	-	503.2	24.1	-	67.0	503.2	67.0	16.45	553.47
OW663B	571.79	572.15	8/9/1994	4	452.7	-	413.6	119.5	-	158.6	413.6	158.6	14.82	556.97
OW663C	572.08	572.37	8/10/1994	4	501.4	-	455.9	71.0	-	116.5	455.9	116.5	19.82	552.26
OW663D	572.21	572.33	8/9/1994	4	549.5	-	504.5	22.8	-	67.8	504.5	67.8	19.05	553.16
OW664B	571.53	571.85	12/14/1994	4	449.9	-	418.9	122.0	-	153.0	418.9	153.0	19.10	552.43
OW664C	571.5	571.84	12/5/1994	4	499.8	-	452.8	72.0	-	119.0	452.8	119.0	19.15	552.35
OW664D	571.56	571.9	12/12/1994	4	548.1	-	502.9	23.8	-	69.0	502.9	69.0	19.95	551.61
OW665B	573.06	573.37	7/22/1994	4	450.0	-	415.0	123.4	-	158.4	415.0	158.4	22.32	550.74
OW665C	573.04	573.33	7/25/1994	4	498.9	-	453.4	74.4	-	119.9	453.4	119.9	20.72	552.32
OW665D	573.13	573.42	7/22/1994	4	547.0	-	502.3	26.4	-	71.2	502.3	71.2	21.52	551.61
OW666B	571.37	571.59	1/12/1995	4	453.2	-	410.2	118.4	-	161.4	410.2	161.4	42.08	529.29
OW666C	571.29	571.69	1/10/1995	4	504.7	-	456.2	67.0	-	115.5	456.2	115.5	20.02	551.27
OW666D	571.2	571.57	1/10/1995	4	552.5	-	507.1	19.1	-	64.5	507.1	64.5	22.23	548.97
OW667B	576.28	573.48	10/6/1994	4	453.4	-	413.4	120.1	-	160.1	413.4	160.1	30.56	545.72
OW667C	575.78	572.97	10/5/1994	4	503.8	-	456.2	69.2	-	116.8	456.2	116.8	24.02	551.76
OW667D	576.31	573.48	10/6/1994	4	552.2	-	506.2	21.3	-	67.3	506.2	67.3	27.63	548.68
OW668B	570.86	571.29	1/4/1995	4	454.3	-	420.8	117.0	-	150.5	420.8	150.5	20.93	549.93
OW668C	570.95	571.2	1/4/1995	4	502.9	-	457.7	68.3	-	113.5	457.7	113.5	20.06	550.89
OW668D	571.1	571.25	12/23/1994	4	551.0	-	506.0	20.3	-	65.3	506.0	65.3	21.21	549.89
River	568.91	N/A	N/A	N/A	N/A	-	N/A	N/A	-	N/A	N/A	N/A	7.00	561.91

Notes:

ft BTOC – feet below top of casing

ft AMSL – feet above mean sea level

NM - Not measured

NC - Not calculated

N/A - Not applicable

(1) - Well buried under stone

(2) - Water level measured on June 15, 2020

(3) - Water level measured on September 21, 2020

Table 8
Overburden Weekly Flow Rates
Fourth Quarter 2021
Buffalo Avenue Plant

Date	Flow Zone 1						Flow Zone 3		Abandoned Outfall 005		Abandoned D-Area Sanitary Sewer	
	System Total		Wet Well 2		Wet Well 1		WWB		MH159L		MH301	
	Total Flow (gallons)	Average Flow Rate (gpm)	Total Flow (gallons)	Average Flow Rate (gpm)	Total Flow (gallons)	Average Flow Rate (gpm)	Total Flow (gallons)	Average Flow Rate (gpm)	Total Flow (gallons)	Average Flow Rate (gpm)	Total Flow (gallons)	Average Flow Rate (gpm)
10/4/2021	394000	39.09	0	0.00	394000	39.09	50000	4.96	38000	3.77	34000	3.37
10/11/2021	466000	51.10	0	0.00	466000	51.10	82000	8.49	34000	3.37	50000	5.18
10/18/2021	477000	47.32	0	0.00	477000	47.32	60000	5.95	39000	3.87	37000	3.67
10/25/2021	434000	43.06	0	0.00	434000	43.06	44000	4.37	39000	3.87	27000	2.68
11/1/2021	381000	37.80	23000	2.28	358000	35.52	152000	15.08	39000	3.87	99000	9.82
11/8/2021	597000	58.88	20000	1.97	577000	56.90	56000	5.52	38000	3.77	34000	3.35
11/15/2021	424000	45.54	14000	1.45	410000	44.09	53000	5.42	36000	3.57	33000	3.37
11/22/2021	449000	45.12	20000	2.56	429000	42.56	69000	8.71	28000	2.78	42000	5.34
11/29/2021	486000	56.95	9000	3.95	477000	53.00	60000	6.33	30000	2.98	35000	3.67
12/6/2021	479000	47.52	18000	1.79	461000	45.73	72000	7.14	30000	2.98	43000	4.27
12/13/2021	530000	52.58	19000	1.88	511000	50.69	81000	8.50	30000	2.98	46000	4.56
12/20/2021	460000	45.63	13000	1.29	447000	44.35	47000	4.66	28000	2.78	26000	2.58
12/27/2021	541000	53.67	14000	1.39	527000	52.28	57000	5.65	28000	2.78	32000	3.17

Notes:

GPM - gallons per minute.

Flow rates shown are the average flow rate while the pump is operational.

(1) Totalizer malfunction occurred for MH301. The average flow of the weeks before and after was used.

Table 9

**Overburden Performance Summary
Fourth Quarter 2021
Buffalo Avenue Plant**

Flow Rate Summary

System Component	Average Flow				Quarterly Total (gallons)
	Oct-21	Nov-21	Dec-21	Quarterly	
<u>Flow Zone 1</u>					
Wet Well 1	43.2	49.1	48.3	46.9	5,968,000
Wet Well 2	0.5	1.6	1.6	1.20	150,000
TOTAL	50.4	50.7	49.9	48.1	6,118,000
<u>Flow Zone 3</u>					
WWB	7.8	6.5	6.5	6.9	883,000
<u>Abandoned Outfall 005</u>					
MH159L	3.8	3.3	2.9	3.3	437,000
<u>Abandoned D-Area Sanitary Sewer</u>					
MH301	4.9	3.9	3.6	4.2	538,000

Operating Time Summary

System Component	Average Percent Operational			
	Oct-21	Nov-21	Dec-21	Quarterly
<u>Flow Zone 1</u>				
Wet Well 1	99.9%	89.7%	98.5%	96.0%
Wet Well 2	100.0%	91.4%	98.6%	96.7%
<u>Flow Zone 3</u>				
WWB	97.6%	91.0%	98.6%	95.7%
<u>Abandoned Outfall 005</u>				
MH159L	97.4%	91.0%	98.5%	95.6%
<u>Abandoned D-Area Sanitary Sewer</u>				
MH301	97.6%	91.0%	98.6%	95.7%

Notes:

GPM - gallons per minute.

Table 10

**Overburden Groundwater Elevation Summary
Fourth Quarter 2021
Buffalo Avenue Plant**

Well	Top of Riser Elevation	Ground Surface Elevation	Date of Installation	Riser Diameter (inches)	Screened Interval				Well Bottom		Water Level Data	
					Top (ft AMSL)	Bottom (ft AMSL)	Top (ft BGS)	Bottom (ft BGS)	Elev. of (ft AMSL)	Depth to (ft BGS)	11/29/2021 (ft BTOC)	(ft AMSL)
BH1B-88 ⁽¹⁾	572.53	572.70	12/20/1988	2	568.8	- 557.8	3.9	- 14.9	557.8	14.9	(1)	(1)
BH4-88 ⁽¹⁾	572.12	572.45	12/9/1988	2	568.2	- 565.2	4.3	- 7.3	565.2	7.3	(1)	(1)
BH7-89	572.32	572.67	5/24/1989	2	560.6	- 553.2	12.1	- 19.5	553.2	19.5	16.08	556.24
BH8-89	568.00	568.23	1/6/1989	2	563.4	- 549.4	4.8	- 18.8	549.4	18.8	4.79	563.21
CMH1	569.50	568.53	1997	NA	NA	- 558.0	NA	- 10.5	558.0	10.5	2.64	566.86
CMH2	569.42	568.49	1997	NA	NA	- 562.5	NA	- 6.0	562.5	6.0	5.79	563.63
MH-A	568.89	569.85	Unknown	NA	NA	- 556.5	NA	- 13.4	556.5	13.4	7.50	561.39
MH-B	568.87	568.72	Unknown	NA	NA	- 556.5	NA	- 12.2	556.5	12.2	7.49	561.38
MH-C	568.88	568.59	Unknown	NA	NA	- 557.0	NA	- 11.6	557.0	11.6	7.52	561.36
MH-D	569.89	568.50	Unknown	NA	NA	- 556.3	NA	- 12.2	556.3	12.2	8.68	561.21
MH-E	568.81	567.48	Unknown	NA	NA	- 555.8	NA	- 11.7	555.8	11.7	7.60	561.21
MH-F	568.90	567.83	1998	NA	NA	- 553.5	NA	- 14.4	553.5	14.4	6.15	562.75
OW270	571.55	570.88	10/16/1987	2	564.5	- 545.5	6.4	- 25.4	545.5	25.4	7.83	563.72
OW273	570.00	570.28	10/20/1987	2	563.5	- 551.5	6.8	- 18.8	551.5	18.8	7.47	562.53
OW300	567.07	567.56	5/25/1989	2	560.5	- 545.0	7.1	- 22.6	545.0	22.6	5.28	561.79
OW301	568.38	568.95	7/24/1989	2	564.8	- 557.8	4.2	- 11.2	557.8	11.2	1.92	566.46
OW302 ⁽¹⁾	569.98	570.10	10/26/1988	2	565.6	- 563.6	4.5	- 6.5	563.6	6.5	(1)	(1)
OW303 ⁽¹⁾	570.81	570.10	11/2/1988	2	566.3	- 562.3	3.8	- 7.8	562.3	7.8	(1)	(1)
OW304 ⁽¹⁾	571.50	571.40	10/20/1988	2	565.3	- 560.3	6.1	- 11.1	560.3	11.1	(1)	(1)
OW305 ⁽¹⁾	572.75	573.20	10/31/1988	2	569.4	- 564.4	3.8	- 8.8	564.4	8.8	(1)	(1)
OW306 ⁽¹⁾	571.85	571.90	11/15/1988	2	567.9	- 564.9	4.0	- 7.0	564.9	7.0	(1)	(1)
OW308	574.24	571.40	11/17/1988	2	567.6	- 564.6	3.8	- 6.8	564.6	6.8	4.34	569.90
OW310 ⁽¹⁾	572.28	572.80	11/22/1988	2	569.3	- 564.3	3.5	- 8.5	564.3	8.5	(1)	(1)
OW313	569.26	568.70	10/13/1988	2	550.8	- 545.8	17.9	- 22.9	545.8	22.9	6.03	563.23
OW314	569.04	568.90	6/12/1989	2	565.4	- 553.4	3.5	- 15.5	553.4	15.5	5.48	563.56
OW316	569.77	570.10	11/9/1988	2	566.1	- 559.1	4.0	- 11.0	559.1	11.0	1.14	568.63
OW317 ⁽¹⁾	572.60	572.50	9/26/1988	2	568.8	- 563.8	3.7	- 8.7	563.8	8.7	(1)	(1)
OW327 ⁽¹⁾	570.75	571.40	2/9/1990	2	567.4	- 565.4	4.0	- 6.0	565.4	6.0	(1)	(1)
OW358	571.49	569.02	9/26/1989	2	563.9	- 550.9	5.1	- 18.1	550.9	18.1	6.77	564.72
OW553	573.51	573.77	8/27/1991	2	570.1	- 565.1	3.7	- 8.7	565.1	8.7	4.76	568.75
OW554	573.83	572.35	9/3/1991	2	568.4	- 563.4	4.0	- 9.0	563.4	9.0	3.16	570.67
OW555	571.51	571.65	9/3/1991	2	568.5	- 563.5	3.2	- 8.2	563.5	8.2	.54	570.97
OW556	571.73	571.93	8/30/1991	2	567.8	- 562.8	4.1	- 9.1	562.8	9.1	.66	571.07
OW557 ⁽¹⁾	571.69	572.16	5/16/1991	2	567.5	- 562.5	4.7	- 9.7	562.5	9.7	(1)	(1)
OW558 ⁽¹⁾	571.28	571.21	5/16/1991	2	567.4	- 562.4	3.8	- 8.8	562.4	8.8	(1)	(1)
OW559 ⁽¹⁾	569.73	570.35	9/10/1991	2	566.7	- 561.7	3.7	- 8.7	561.7	8.7	(1)	(1)
OW562	568.49	568.48	12/9/1996	2	555.2	- 550.2	13.3	- 18.3	550.2	18.3	6.67	561.82
OW563	567.67	568.02	12/5/1996	2	560.6	- 555.6	7.4	- 12.4	555.6	12.4	3.33	564.34

Table 10

**Overburden Groundwater Elevation Summary
Fourth Quarter 2021
Buffalo Avenue Plant**

Well	Top of Riser Elevation	Ground Surface Elevation	Date of Installation	Riser Diameter (inches)	Screened Interval				Well Bottom		Water Level Data	
					Top (ft AMSL)	Bottom (ft AMSL)	Top (ft BGS)	Bottom (ft BGS)	Elev. of (ft AMSL)	Depth to (ft BGS)	11/29/2021 (ft BTOC)	(ft AMSL)
OW564	569.05	569.58	12/11/1996	2	560.4	- 555.4	9.2	- 14.2	555.4	14.2	4.97	564.08
OW565	568.89	569.53	12/10/1996	2	557.0	- 552.0	12.5	- 17.5	552.0	17.5	7.03	561.86
OW566	568.55	568.83	12/5/1996	2	559.4	- 554.4	9.4	- 14.4	554.4	14.4	2.42	566.13
OW567	569.12	569.15	4/23/1998	2	560.1	- 555.1	9.0	- 14.0	555.1	14.0	2.40	566.72
OW568	568.26	568.95	4/23/1998	2	560.3	- 555.3	8.7	- 13.7	555.3	13.7	1.32	566.94
OW569	567.20	567.74	4/23/1998	2	562.7	- 559.7	5.0	- 8.0	559.7	8.0	3.13	564.07
OW570	568.46	568.70	4/23/1998	2	563.6	- 560.6	5.1	- 8.1	560.6	8.1	3.81	564.65
OW571	567.80	568.52	4/24/1998	2	566.2	- 561.2	2.3	- 7.3	561.2	7.3	2.17	565.63
OW572	567.95	568.30	4/24/1998	2	565.9	- 560.9	2.4	- 7.4	560.9	7.4	1.42	566.53
OW573R ⁽¹⁾	573.02	573.48	6/29/2004	2	569.0	- 564.0	4.5	- 9.5	564.0	9.5	(1)	(1)
OW574 ⁽¹⁾	571.16	571.24	11/15/1999	2	560.8	- 555.8	10.4	- 15.4	555.8	15.4	(1)	(1)
OW575	568.40	568.45	1/15/2002	1	564.6	- 559.8	3.9	- 8.7	559.8	8.7	2.00	566.40
OW576	568.32	568.52	1/15/2002	1	565.6	- 560.9	2.9	- 7.6	560.9	7.6	1.81	566.51
OW577	567.53	567.59	1/15/2002	1	563.3	- 558.0	4.3	- 9.6	558.0	9.6	4.91	562.62
OW578 ⁽¹⁾	572.21	572.48	6/6/2002	1	568.6	- 564.6	3.9	- 7.9	564.6	7.9	(1)	(1)
OWG8 ⁽¹⁾	570.66	571.10	6/3/1986	2	566.2	- 564.2	4.9	- 6.9	564.2	6.9	(1)	(1)
WS107	573.18	573.73	7/30/1980	1.5	565.6	- 563.6	8.1	- 10.1	563.6	10.1	.80	572.38
WS10A	572.58	569.78	1/16/1979	1.5	567.9	- 552.9	1.9	- 16.9	552.9	16.9	6.97	565.61
WS111R ⁽¹⁾⁽²⁾	572.35	572.70	6/6/2002	1	568.2	- 565.2	4.5	- 7.5	565.2	7.5	(1)	(1)
WS122 ⁽¹⁾	571.57	572.25	7/7/1980	1.5	564.6	- 562.6	7.7	- 9.7	562.6	9.7	(1)	(1)
WS23A ⁽¹⁾	572.30	572.74	1/29/1979	1.5	570.5	- 565.5	2.2	- 7.2	565.5	7.2	(1)	(1)
WS25A ⁽¹⁾	571.10	571.67	1/26/1979	1.5	569.3	- 564.3	2.4	- 7.4	564.3	7.4	(1)	(1)
WS8A	570.10	570.20	3/19/1979	1.5	566.3	- 551.3	3.9	- 18.9	551.3	18.9	2.49	567.61
WW1	570.30	569.26	1997	NA	NA	- 545.3	NA	- 24.0	545.3	24.0	8.86	561.44
WW2	569.27	568.82	1997	NA	NA	- 553.8	NA	- 15.0	553.8	15.0	8.82	560.45
WWB	573.74	572.68	1980	NA	NA	- 556.7	NA	- 16.0	556.7	16.0	11.80	561.94

Notes:

ft BGS - Feet below ground surface
ft BTOC - Feet below top of casing
ft AMSL - Feet above mean sea level

MH - Manhole chamber

NA - Not applicable

NM - Not measured

"-" Not measured per monitoring schedule

(1) - Annual measurements only

(2) - Well destroyed

Table 11

**Summary of Bedrock NAPL Monitoring and Collection
Fourth Quarter 2021
Buffalo Avenue Plant**

Date	Bedrock A-Wells				S-Area Bedrock Wells in the N-Area									
	OW402A (Gallons)	OW413A (Gallons)	OW417A (Gallons)	OW401B (Gallons)	Shallow				Intermediate		Deep			
					OW229 (Gallons)	OW243 (Gallons)	OW618 (Gallons)	OW619 (Gallons)	OW620 (Gallons)	OW621 (Gallons)	OW634 (Gallons)	OW638 (Gallons)	OW635 (Gallons)	OW643 (Gallons)
November 8, 2021	--	--	--	--	0.2	0.3	0.5	ND	ND	0.25	ND	0.25	ND	ND
Cumulative Volume (as of September 30, 2021)	6160.05	579.75	<40.80	6.00	11.20	56.00	20.95	0.00	0.00	33.50	5.50	144.05	8.75	242.70
Cumulative Volume (as of December 31, 2021)	6160.05	579.75	<40.80	6.00	11.40	56.30	21.45	0.00	0.00	33.75	5.50	144.05	8.75	242.70
Monitoring Frequency ⁽¹⁾	Annual	Annual	Annual	Annual	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly

Notes:

-- Not checked per schedule.

ND None detected.

NR Not recoverable

⁽¹⁾ Frequency revised in second quarter 2010 to reflect NYSDEC's May 4, 2010 letter.

Table 12

**Summary of Overburden NAPL Monitoring and Collection
Fourth Quarter 2021
Buffalo Avenue Plant**

Date	003 NAPL Collection Trench (Gallons)	OW313 (Gallons)	OW572 (Gallons)	OW317 (Gallons)	OW320 (Gallons)	OW358 (Gallons)	OW523 (Gallons)	OW562 (Gallons)	OW563 (Gallons)	TW-7 (Gallons)	OW306 (Gallons)	BH8-89 (Gallons)	OW564 (Gallons)	OW537 (Gallons)	OW577 (Gallons)	Energy Boulevard Drain Tile System (Gallons)
October 15, 2021	ND															
November 29, 2021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND
Subtotal (Fourth Quarter)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cumulative volume (as of September 30, 2021)	959.75	46.40	39.03	0.21	1.50	0.50	0.30	0.00	9.00	0.56	0.00	0.00	0.00	0.00	0.25	6011.25
Cumulative volume (as of December 31, 2021)	959.75	46.40	39.03	0.21	1.50	0.50	0.30	0.00	9.00	0.56	0.00	0.00	0.00	0.00	0.25	6011.25
Monitoring Frequency ⁽¹⁾	Quarterly	Semiannual	Semiannual	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Quarterly

Notes:

-- Not checked per schedule.

ND - None detected.

NR - Not recoverable.

⁽¹⁾ Frequency revised in second quarter 2010 to reflect NYSDEC's May 4, 2010 letter.