



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

May 1, 2022

Reference No. 11230216

Ms. Jaclyn Kondrk
USEPA
Region II, Site Investigation & Compliance Branch
290 Broadway, 20th Floor
New York, NY 10007-1866

Mr. Andrew Zwack
NYSDEC
270 Michigan Avenue
Buffalo, NY 14203-2999

Dear Ms. Kondrk and Mr. Zwack:

**Re: Quarterly Operations Report - First Quarter 2022
Hyde Park Remedial Program
Bedrock and Overburden Monitoring Programs
NYSDEC Site No. 932021**

In accordance with the July 2006 "Performance Monitoring Plan" (PMP), the following is the Quarterly Operations Report for the Hyde Park Remedial Program for the period January 1, 2022 through March 31, 2022. As indicated in the Fourth Quarter 2021 Quarterly Operations Report, the treatment system at the Site became operational again on December 15, 2021 following completion of a piping replacement project and aqueous phase liquid (APL) storage tank cleaning, with the pumping wells to be brought back online in phases into the first quarter of 2022. As of March 31, 2022, all pumping wells were back online except for PW-2L, PW-2M, PW-3M, PW-5UR, PW-8U, PW-10U, and APW-1. The treatment and pumping system was shut down on January 21, 2022 due to frozen leachate line and effluent line piping and resumed operations on February 2, 2022. The system was shut down again on February 17, 2022 to replace an effluent discharge line and resumed operations on February 22, 2022.

A total of 5.15 million gallons of APL were collected, treated, and discharged in compliance with the Site's City of Niagara Falls Publicly Owned Treatment Works (POTW) Significant Industrial User (SIU) Wastewater Discharge Permit #49. One drum (approximately 500 pounds) of non-aqueous phase liquid (NAPL) and fourteen drums (approximately 8,400 pounds) of personal protective equipment (PPE) and debris were shipped for disposal this quarter. The potentiometric contours are consistent with previous interpretations. Flow Zones 6, 7, and 9 have dewatered areas between the landfill and the gorge face. The current data continue to support the interpretation of effective hydraulic containment and inward gradients.

The performance monitoring data are presented as follows:

- Figures 1-9: Showing the potentiometric surface for the bedrock flow zones and overburden
- Table 1: Groundwater elevation summary
- Tables 2, 3, and 4: Daily, weekly, and quarterly treatment system effluent monitoring data
- Attachment A: Purge well performance graphs indicating daily level and flow information

The transducer for the flow zone 9 piezometer PMW-1M-09 was replaced in March 2022. Based on a review of the continuously recorded groundwater elevations following transducer replacement, it is suspected that there was an error in the new transducer setup. The quarterly groundwater elevation in this piezometer measured manually on March 2, 2022 was 530.41 feet above mean sea level (AMSL). This groundwater elevation slightly exceeded 526 feet AMSL. The transducer will be reset during the second quarter 2022.

The pumping wells were operational and functioning as designed during the first quarter 2022, with the exception of the downtime periods discussed above. The pumps are operated to maintain a water level between a typical range of 2.5 feet above (pump on) and 2.5 feet below (pump off) a specific setpoint in accordance with the setpoint range defined in the Operation & Maintenance Manual.

Delivery lead times for equipment (such as pumps, motors, drives, etc.) has recently increased from several weeks to several months (3 to 5 months). Although some spares have always been kept on hand, replacement of the spares is taking significantly longer than anticipated which is affecting repair of the wells as described below. To address this recent change, additional spares have been ordered to address this issue moving forward.

Wells APW-1, PW-2L, and PW-5UR were down during the entire quarter awaiting replacement of pumps and motors. Well PW-2M was down during the entire quarter awaiting replacement of the pump, motor, and variable frequency drive (VFD). Well PW-10U was down during the entire quarter due to a VFD fault. These wells will be brought back online in the second quarter of 2022 assuming equipment is received.

The water level in APW-2 exceeded setpoint range from February 5 through the end of the quarter, although the well is currently pumping. It is anticipated that the water level will continue to decrease with continued pumping. The well pump will be replaced in the second quarter if necessary.

The water level in PW-6MR exceeded setpoint range during the entire quarter, although the well is currently pumping. The pump will be replaced in the this well in the second quarter.

The water levels in wells PW-1L, PW-1U, PW-2UR, PW-3L, PW-3M, PW-4U, PW-6UR, and PW-7U exceeded setpoint range from February 5 through February 28/March 1 due to the January 21 – February 2 downtime period. The water levels in these wells collectively returned to within setpoint range on February 28, March 1, and March 2.

The water levels in wells PW-1L, PW-1U, PW-2UR, PW-3L, PW-6UR, PW-7U, PW-8M, PW-8U, and PW-9U exceeded setpoint range from March 18/March 19 through March 28/March 29/March 30 due to intermittent phasing in of the wells after the downtime periods. The water levels in these wells collectively returned to within setpoint range on March 29, March 30, and March 31. The water level in PW-3M exceeded setpoint range from March 18 through the end of the quarter due to a faulty level transmitter.

The following minor operational and setpoint issues were investigated and resolved during the first quarter of 2022:

- PW-4U: The water level in PW-4U exceeded setpoint range during several additional time periods within the quarter due to a software communication issue. The issue was resolved and the water level had returned to within setpoint range by the end of the quarter.

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- PW-8U: The water level in PW-8U exceeded setpoint range from January 6 through January 14, from January 18 through January 23, and from January 25 through March 3 due to level transmitter issues. The issues were resolved and the water level returned to within setpoint range on January 15, January 24, and March 4, respectively.
- PW-9U: The water level in PW-9U exceeded setpoint range from January 1 through January 14 due to a motor issue and from January 28 through March 1 due to a faulty gear box, which was subsequently repaired. The water level returned to within setpoint range on January 15 and March 2, respectively.

If you have any questions, please feel free to contact me at (231) 670-6809 or by email at joseph_branch@oxy.com.

Very truly yours,

GLENN SPRINGS HOLDINGS, INC.

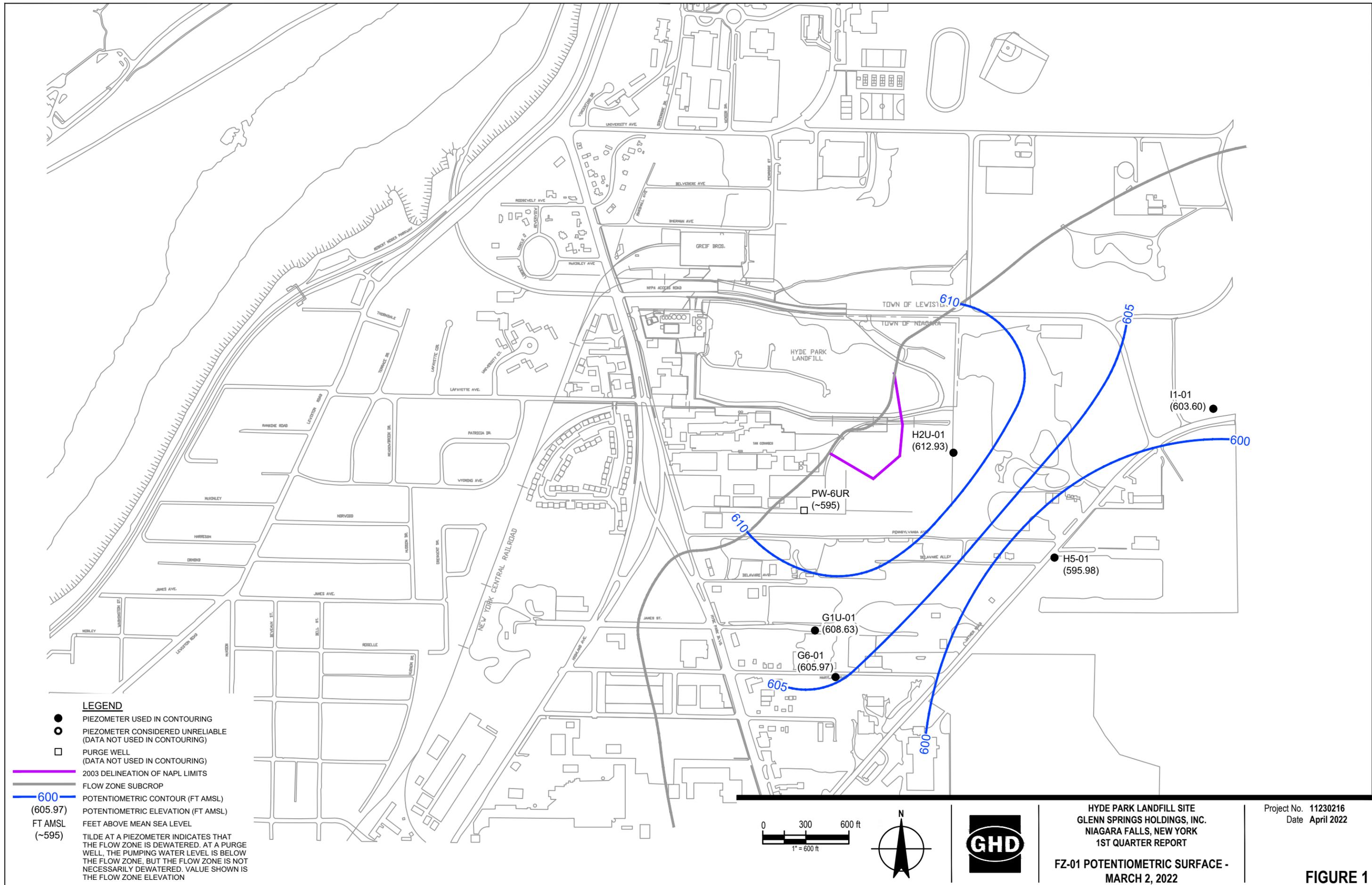


Joe Branch
Project Manager
231-670-6809 Cell

JB/3
Encl.

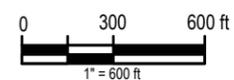
cc: G. May, NYSDEC
J. Robinson, NYSDOH

J. Pentilchuk, GHD
M. Popek, GHD



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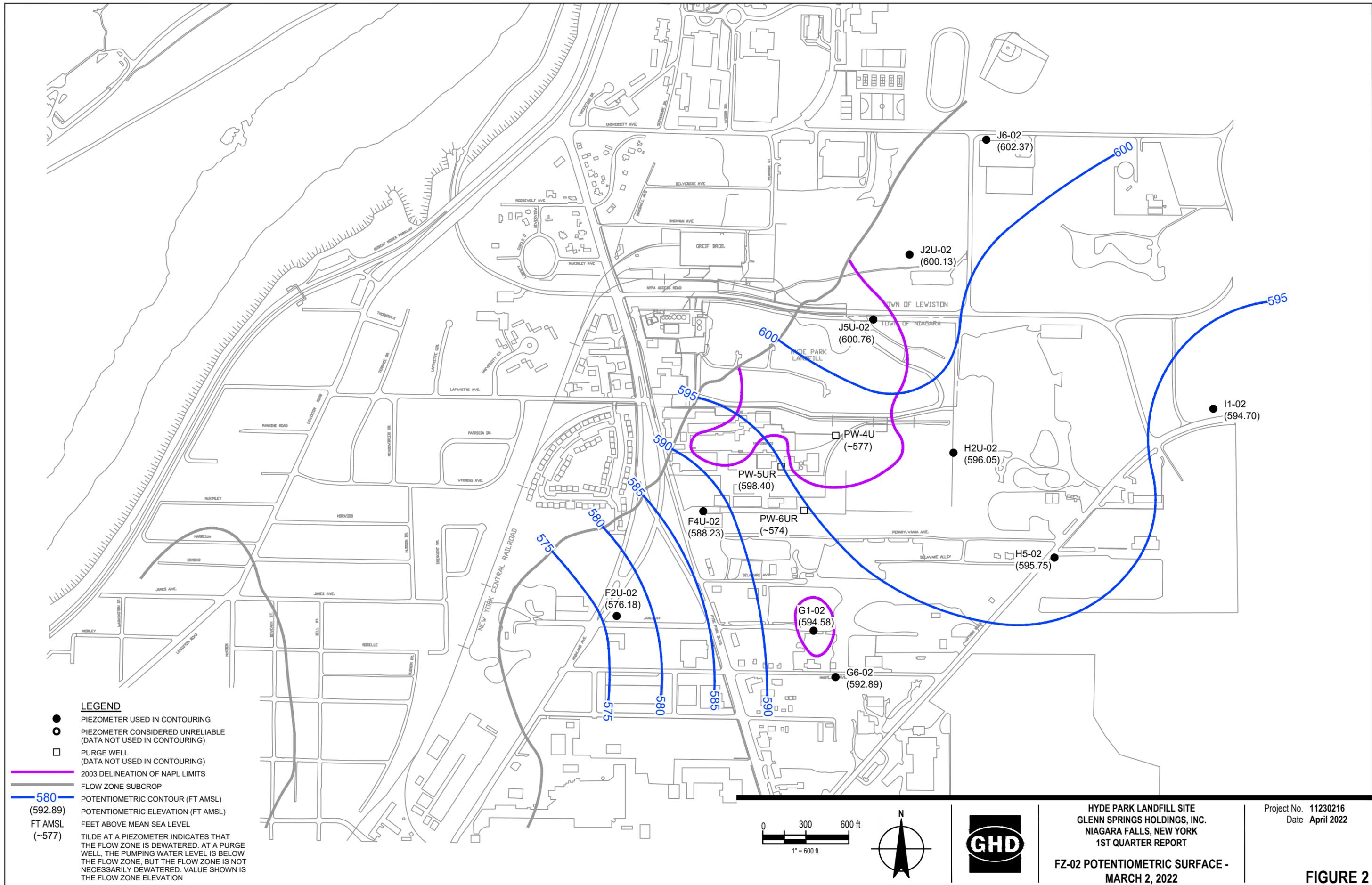
- PIEZOMETER USED IN CONTOURING
- PIEZOMETER CONSIDERED UNRELIABLE (DATA NOT USED IN CONTOURING)
- PURGE WELL (DATA NOT USED IN CONTOURING)
- 2003 DELINEATION OF NAPL LIMITS
- FLOW ZONE SUBCROP
- 600 (605.97) FT AMSL POTENTIOMETRIC CONTOUR (FT AMSL)
- 605 (605.97) FT AMSL POTENTIOMETRIC ELEVATION (FT AMSL)
- 610 (605.97) FT AMSL POTENTIOMETRIC ELEVATION (FT AMSL)
- ~ TILDE AT A PIEZOMETER INDICATES THAT THE FLOW ZONE IS DEWATERED. AT A PURGE WELL, THE PUMPING WATER LEVEL IS BELOW THE FLOW ZONE, BUT THE FLOW ZONE IS NOT NECESSARILY DEWATERED. VALUE SHOWN IS THE FLOW ZONE ELEVATION



HYDE PARK LANDFILL SITE
 GLENN SPRINGS HOLDINGS, INC.
 NIAGARA FALLS, NEW YORK
 1ST QUARTER REPORT
**FZ-01 POTENTIOMETRIC SURFACE -
 MARCH 2, 2022**

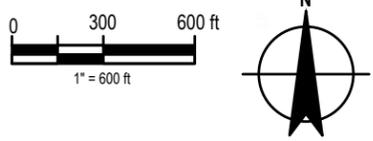
Project No. 11230216
 Date April 2022

FIGURE 1



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- PIEZOMETER USED IN CONTOURING
- PIEZOMETER CONSIDERED UNRELIABLE (DATA NOT USED IN CONTOURING)
- PURGE WELL (DATA NOT USED IN CONTOURING)
- 2003 DELINEATION OF NAPL LIMITS
- FLOW ZONE SUBCROP
- 580 POTENTIOMETRIC CONTOUR (FT AMSL) (592.89)
- POTENTIOMETRIC ELEVATION (FT AMSL)
- FT AMSL FEET ABOVE MEAN SEA LEVEL
- ~ TILDE AT A PIEZOMETER INDICATES THAT THE FLOW ZONE IS DEWATERED. AT A PURGE WELL, THE PUMPING WATER LEVEL IS BELOW THE FLOW ZONE, BUT THE FLOW ZONE IS NOT NECESSARILY DEWATERED. VALUE SHOWN IS THE FLOW ZONE ELEVATION



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**FZ-02 POTENTIOMETRIC SURFACE -
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FIGURE 2

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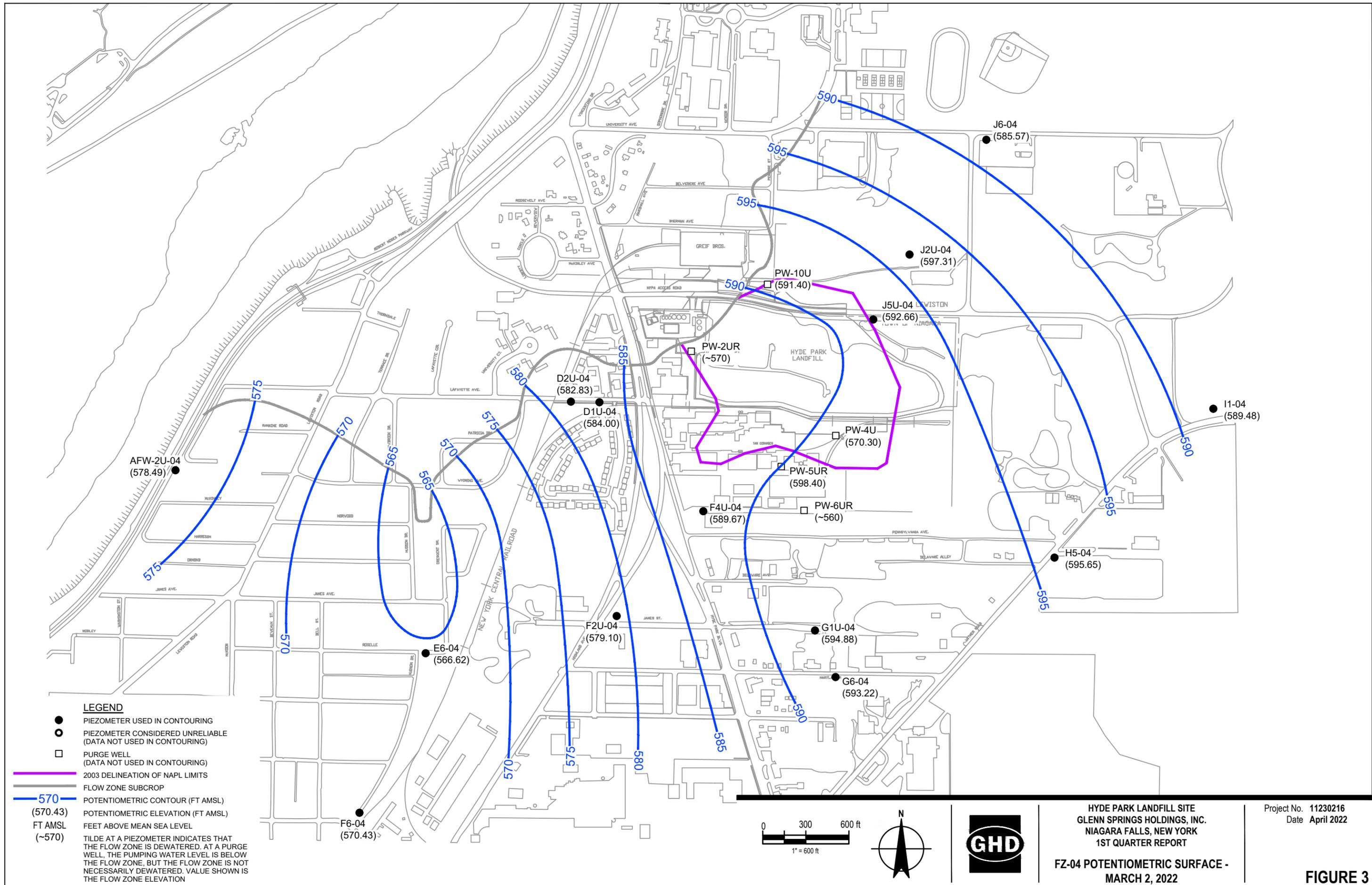
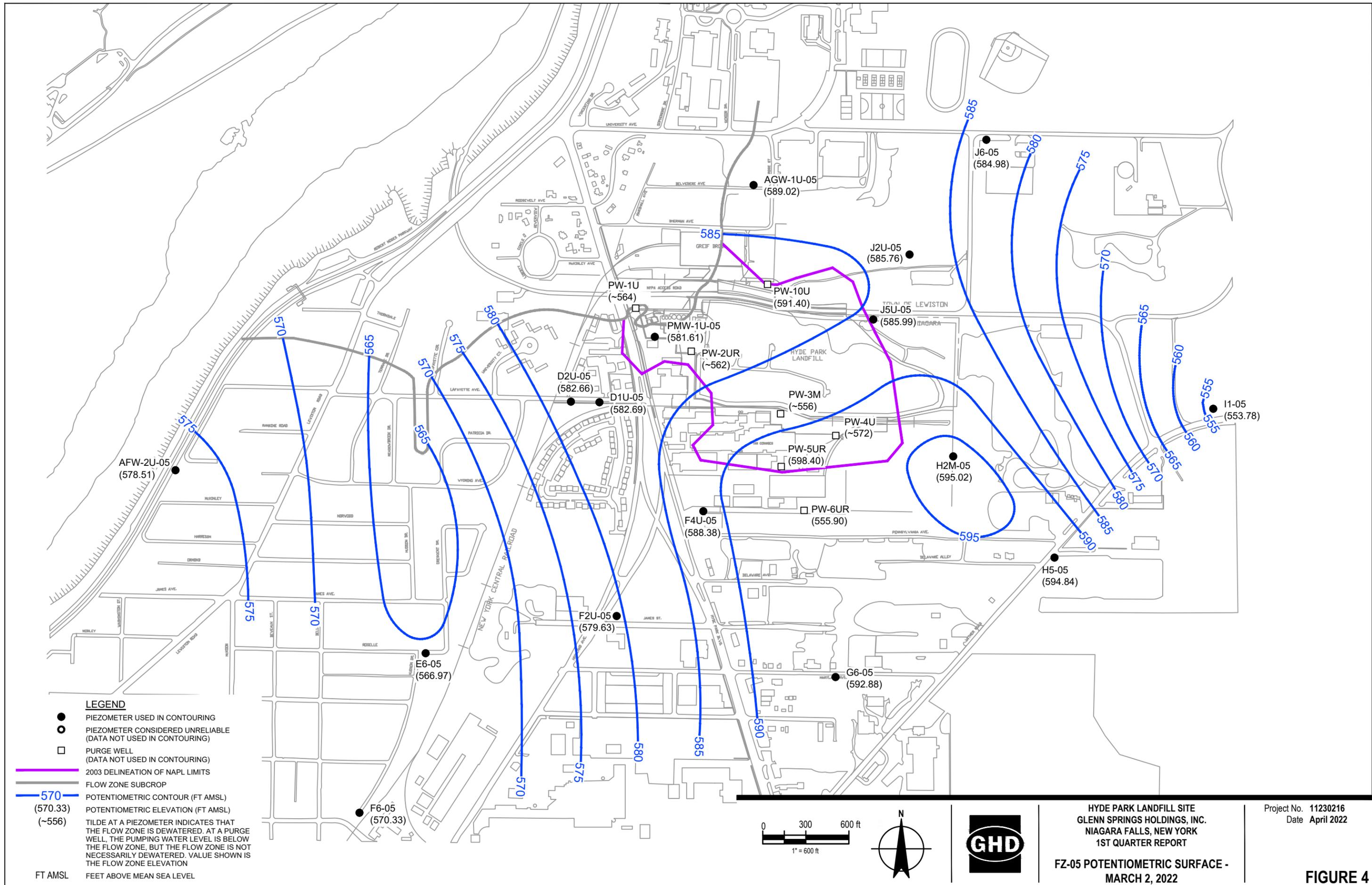
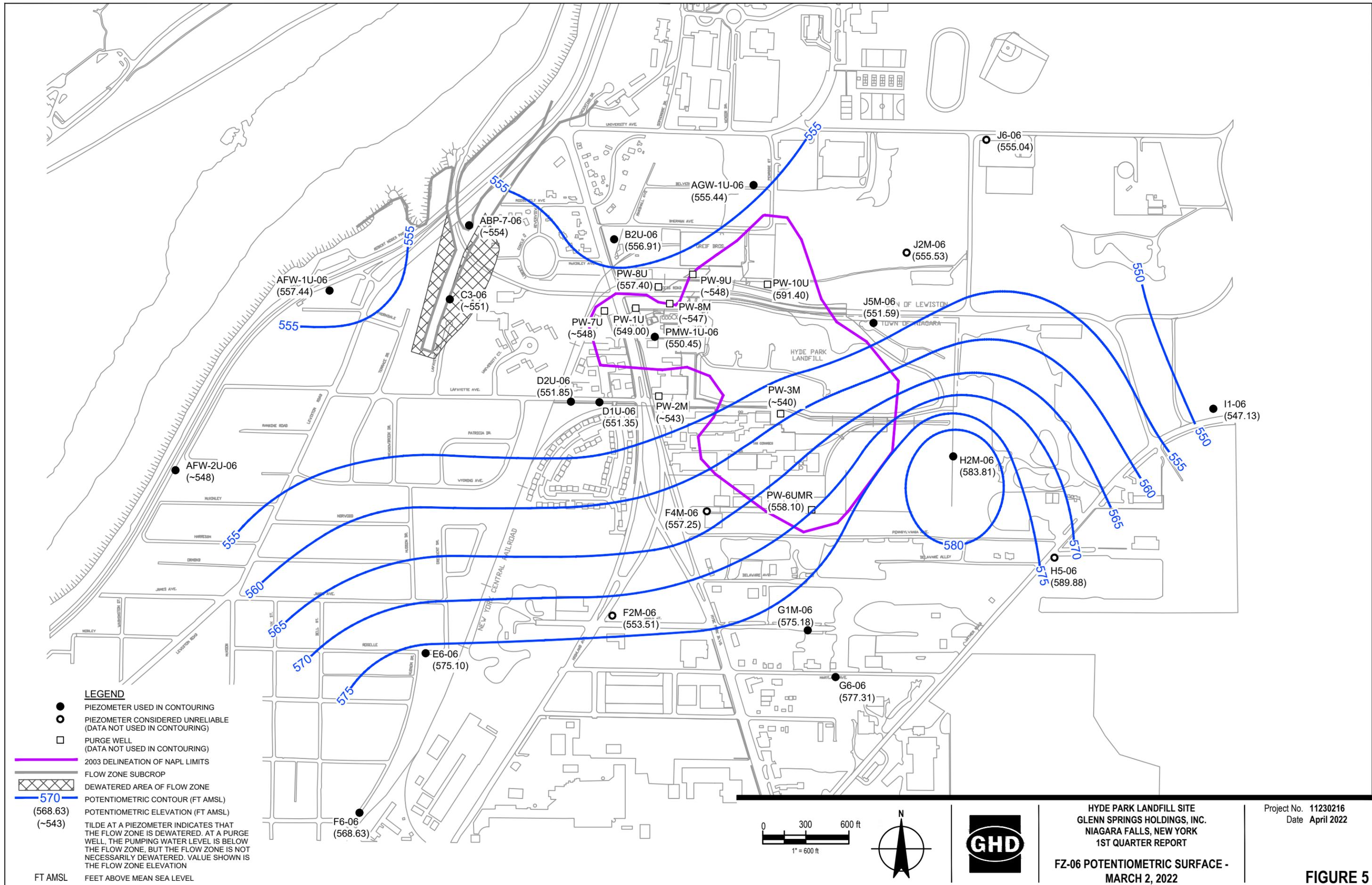


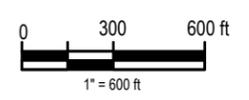
FIGURE 3





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- PIEZOMETER USED IN CONTOURING
- PIEZOMETER CONSIDERED UNRELIABLE (DATA NOT USED IN CONTOURING)
- PURGE WELL (DATA NOT USED IN CONTOURING)
- 2003 DELINEATION OF NAPL LIMITS
- ▨ FLOW ZONE SUBCROP
- ▨ DEWATERED AREA OF FLOW ZONE
- 570 POTENTIOMETRIC CONTOUR (FT AMSL)
- (568.63) POTENTIOMETRIC ELEVATION (FT AMSL)
- (~543) TILDE AT A PIEZOMETER INDICATES THAT THE FLOW ZONE IS DEWATERED. AT A PURGE WELL, THE PUMPING WATER LEVEL IS BELOW THE FLOW ZONE, BUT THE FLOW ZONE IS NOT NECESSARILY DEWATERED. VALUE SHOWN IS THE FLOW ZONE ELEVATION
- FT AMSL FEET ABOVE MEAN SEA LEVEL

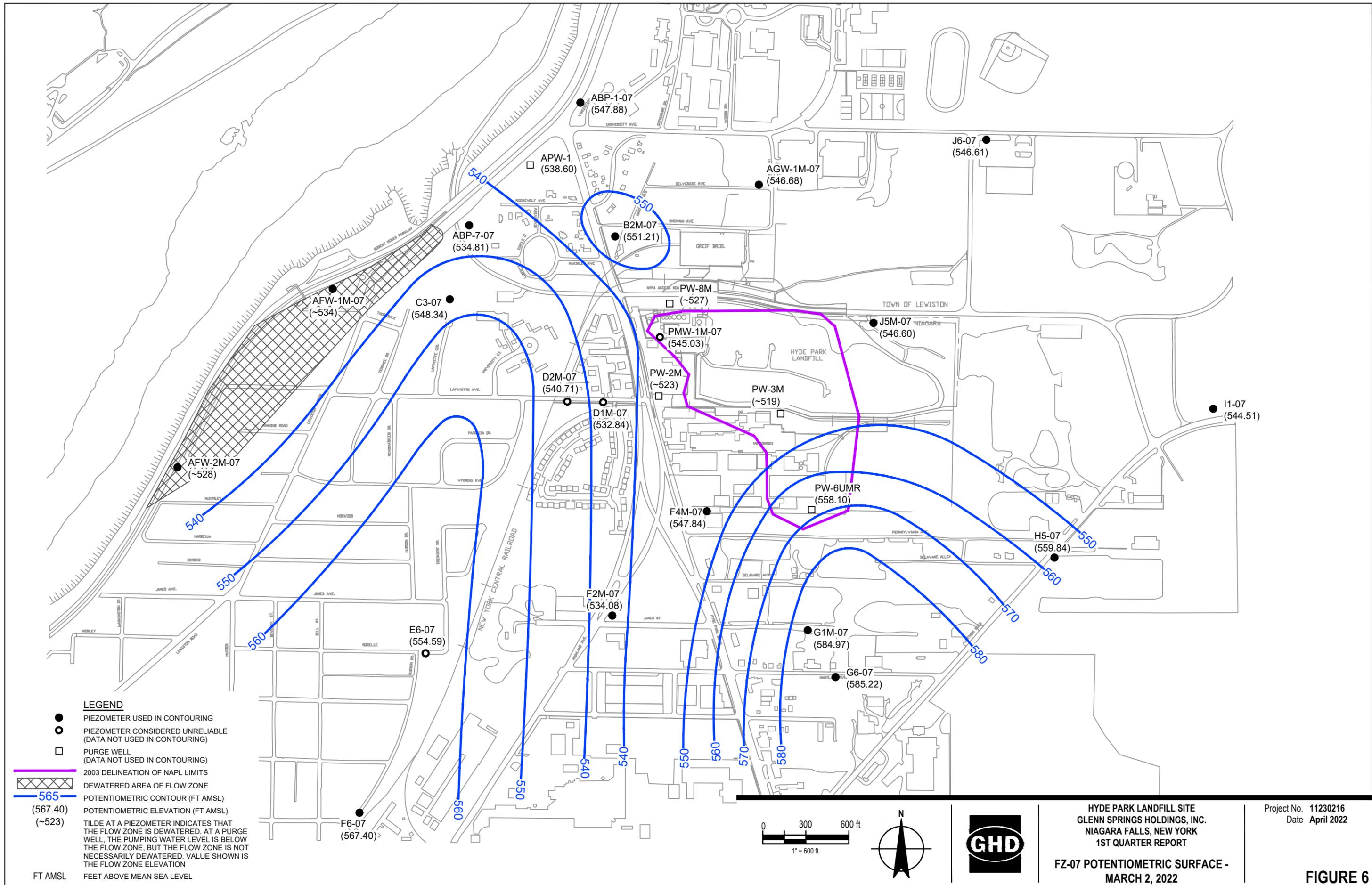


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 FZ-06 POTENTIOMETRIC SURFACE -
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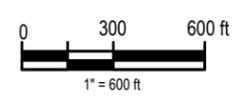
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- PIEZOMETER USED IN CONTOURING
- PIEZOMETER CONSIDERED UNRELIABLE (DATA NOT USED IN CONTOURING)
- PURGE WELL (DATA NOT USED IN CONTOURING)
- ▭ 2003 DELINEATION OF NAPL LIMITS
- ▨ DEWATERED AREA OF FLOW ZONE
- 565 POTENTIOMETRIC CONTOUR (FT AMSL)
- (567.40) POTENTIOMETRIC ELEVATION (FT AMSL)
- (~523) TILDE AT A PIEZOMETER INDICATES THAT THE FLOW ZONE IS DEWATERED. AT A PURGE WELL, THE PUMPING WATER LEVEL IS BELOW THE FLOW ZONE, BUT THE FLOW ZONE IS NOT NECESSARILY DEWATERED. VALUE SHOWN IS THE FLOW ZONE ELEVATION
- FT AMSL FEET ABOVE MEAN SEA LEVEL

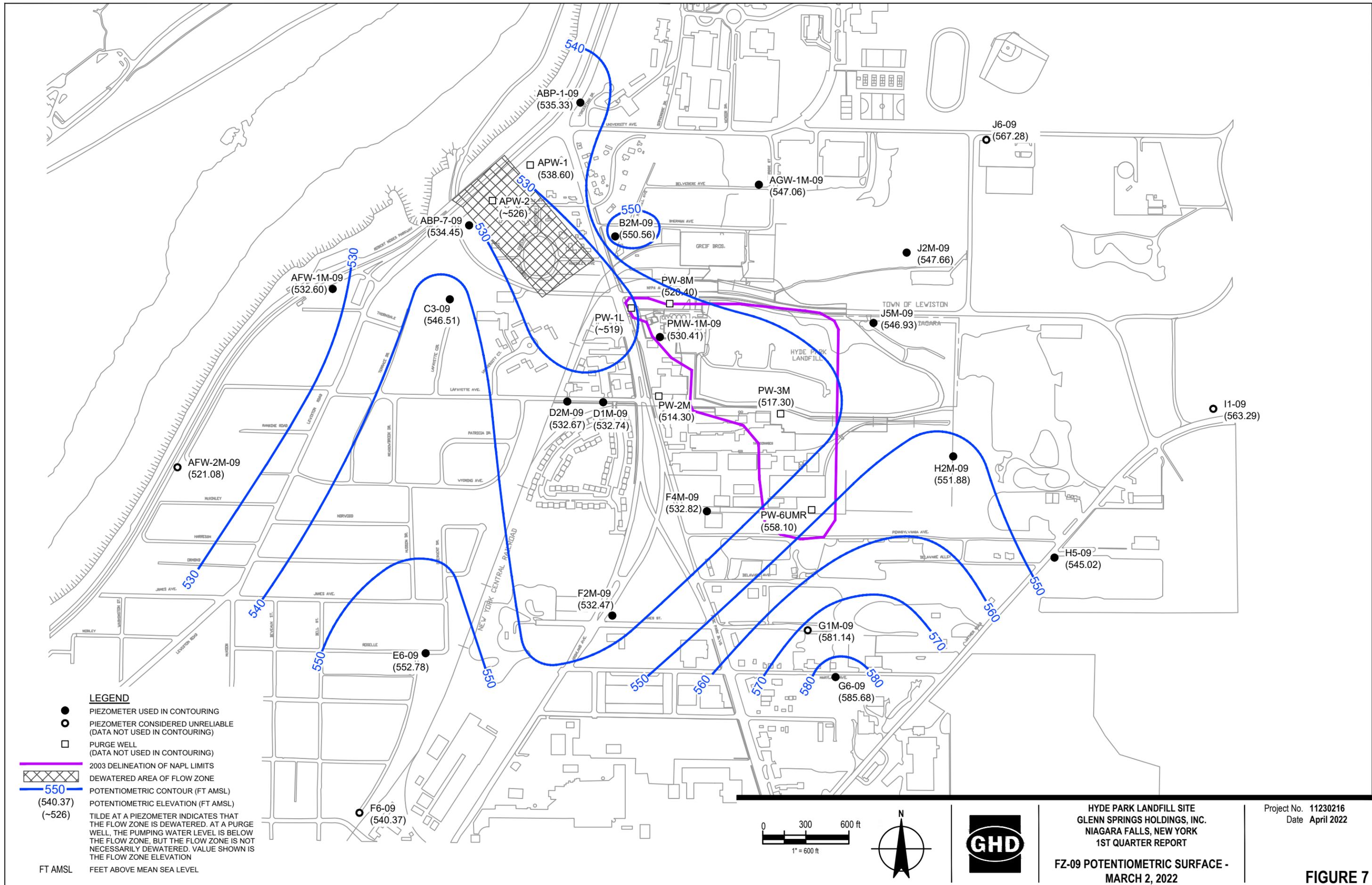


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**FZ-07 POTENTIOMETRIC SURFACE -
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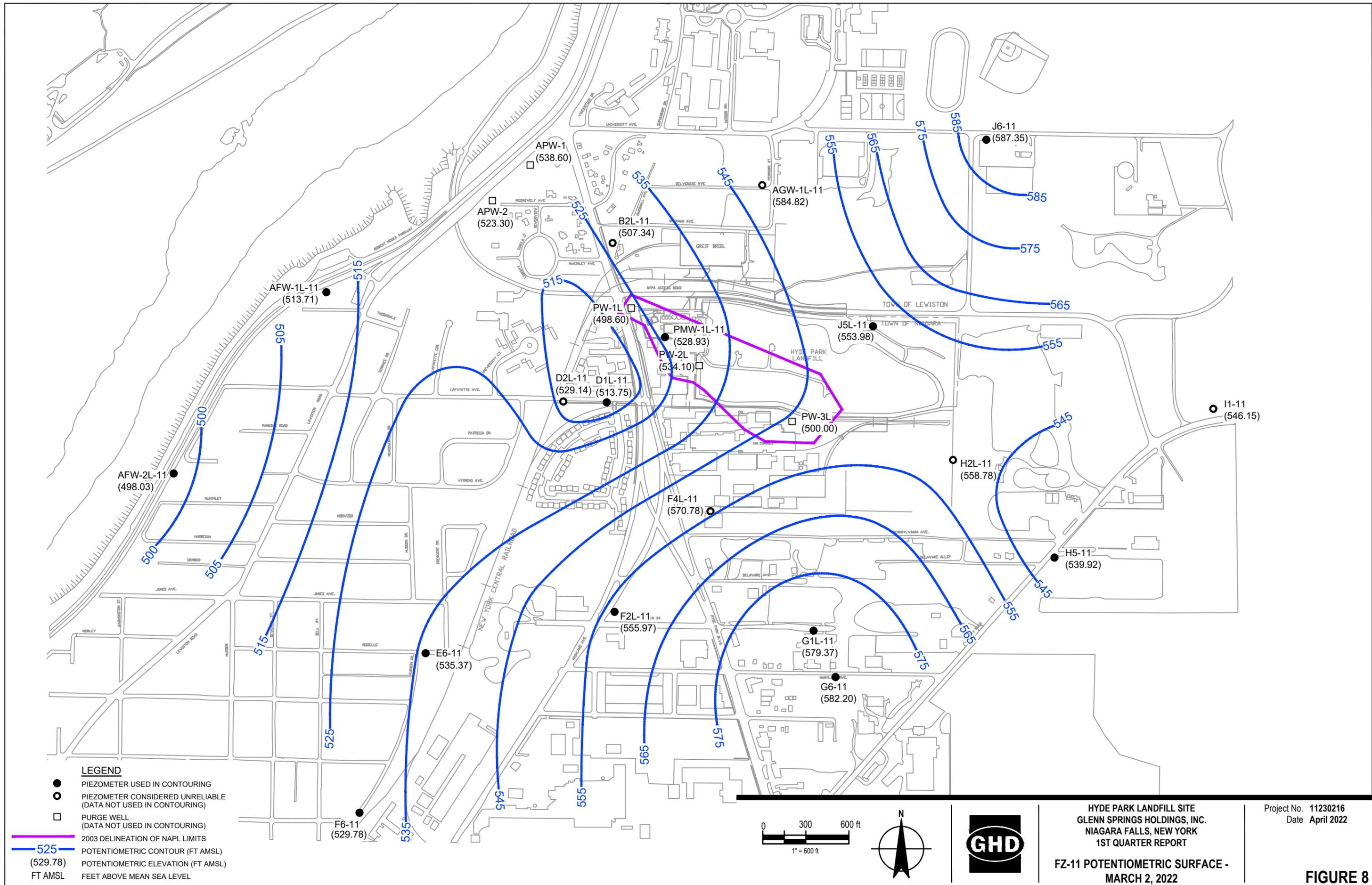
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FIGURE 6

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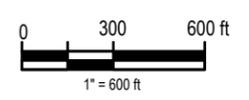


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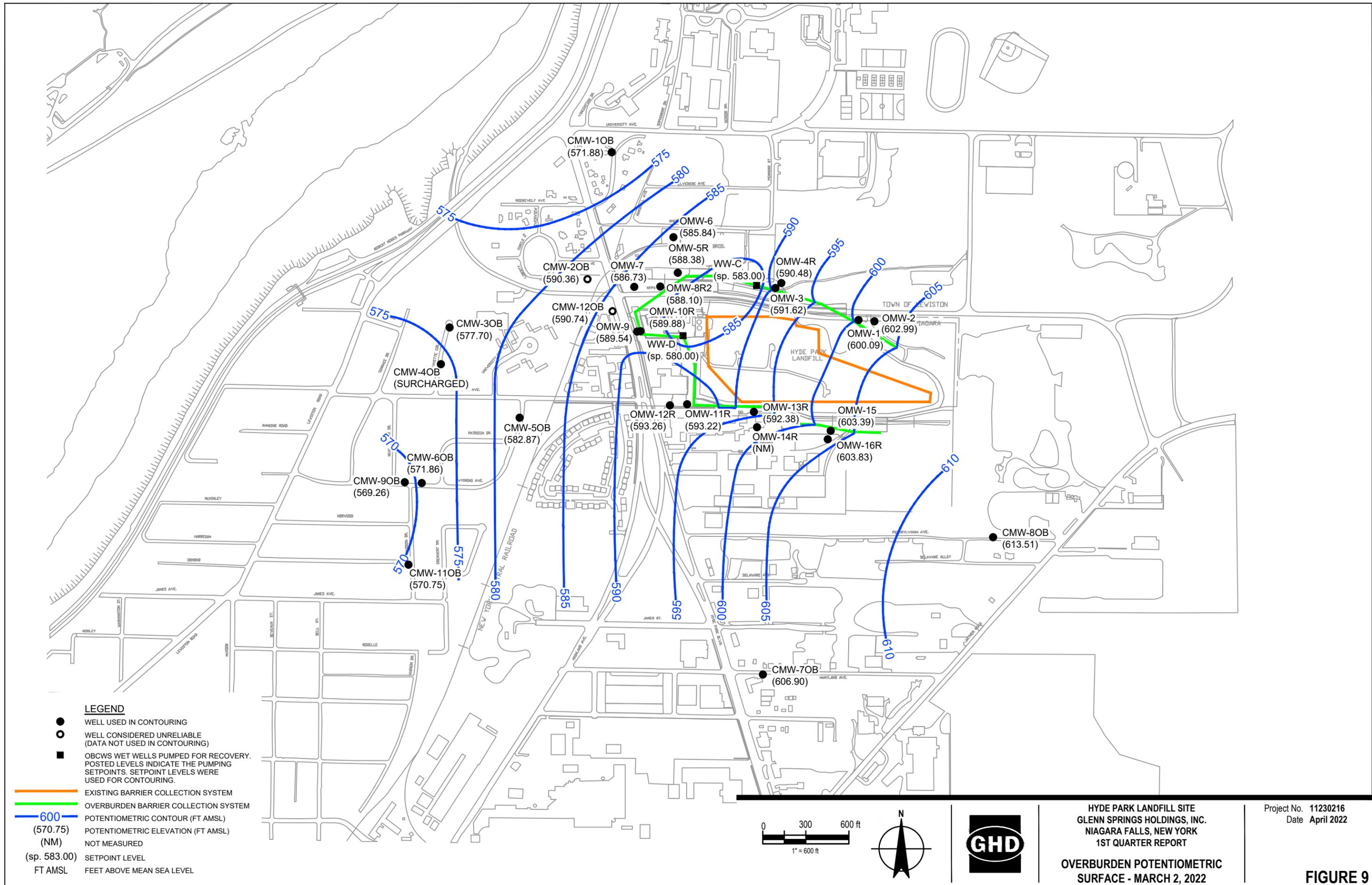
- PIEZOMETER USED IN CONTOURING
- PIEZOMETER CONSIDERED UNRELIABLE (DATA NOT USED IN CONTOURING)
- PURGE WELL (DATA NOT USED IN CONTOURING)
- 2003 DELINEATION OF NAPL LIMITS
- 525 POTENTIOMETRIC CONTOUR (FT AMSL)
- (529.78) POTENTIOMETRIC ELEVATION (FT AMSL)
- FT AMSL FEET ABOVE MEAN SEA LEVEL



HYDE PARK LANDFILL SITE
 GLENN SPRINGS HOLDINGS, INC.
 NIAGARA FALLS, NEW YORK
 1ST QUARTER REPORT
 FZ-11 POTENTIOMETRIC SURFACE -
 MARCH 2, 2022

Project No. 11230216
 Date April 2022

FIGURE 8



**Groundwater Elevation Summary
First Quarter - 2022
Hyde Park RRT Program**

Well	Reference Elevation (ft AMSL)	Depth to Water (ft)	Groundwater Elevation (ft AMSL)
Overburden			
CMW-2OB	590.79	0.43	590.36
CMW-3OB	582.13	4.43	577.70
CMW-4OB	574.28	Surcharged	-
CMW-5OB	583.43	0.56	582.87
CMW-6OB	571.89	0.03	571.86
CMW-7OB	611.00	4.10	606.90
CMW-8OB	616.11	2.60	613.51
CMW-9OB	571.76	2.50	569.26
CMW-1OB	576.80	4.92	571.88
CMW-11OB	572.85	2.10	570.75
CMW-12OB	594.74	4.00	590.74
MH20	605.87	4.65	601.22
MH21	599.77	6.09	593.68
MH22	593.37	6.78	586.59
MH23	587.05	8.43	578.62
MH24	582.57	1.82	580.75
MH25	583.82	1.42	582.40
MH26	584.48	2.98	581.50
MH27	586.12	6.12	580.00
MH28	585.23	6.09	579.14
MH29	604.58	8.14	596.44
MH30	599.49	8.00	591.49
MH31	590.10	Dry	-
MH32	592.01	9.62	582.39
MH33	592.51	8.69	583.82
MH34	598.34	7.14	591.20
MH35	605.69	6.53	599.16
MH35A	605.69	7.16	598.53
OMW-1	605.28	5.19	600.09
OMW-2	605.99	3.00	602.99
OMW-3	598.63	7.01	591.62
OMW-4R	601.17	10.69	590.48
OMW-5R	591.31	2.93	588.38
OMW-6	587.62	1.78	585.84
OMW-7	592.74	6.01	586.73
OMW-8R2	594.67	6.57	588.10
OMW-9	595.27	5.73	589.54
OMW-10R	595.13	5.25	589.88
OMW-11R	597.52	4.30	593.22
OMW-12R	596.71	3.45	593.26
OMW-13R	601.50	9.12	592.38
OMW-14R	599.64	NM ⁽¹⁾	-
OMW-15	607.48	4.09	603.39
OMW-16R	607.62	3.79	603.83
SC-2	625.61	22.68	602.93
SC-3	638.72	40.02	598.70
SC-4	639.35	39.33	600.02
SC-5	634.07	31.57	602.50
SC-6	631.15	19.17	611.98

**Groundwater Elevation Summary
First Quarter - 2022
Hyde Park RRT Program**

Well	Reference Elevation (ft AMSL)	Depth to Water (ft)	Groundwater Elevation (ft AMSL)
Shallow Bedrock			
CMW-1SH	576.11	10.90	565.21
CMW-2SH	590.51	16.65	573.86
CMW-3SH	581.91	26.55	555.36
CMW-4SH	574.16	6.45	567.71
CMW-5SH	583.36	5.21	578.15
CMW-6SH	572.05	9.99	562.06
CMW-7SH	610.58	8.82	601.76
CMW-8SH	615.95	3.51	612.44
CMW-9SH	571.96	11.63	560.33
CMW-11SH	573.21	7.89	565.32
CMW-12SH	597.02	22.31	574.71
Flow Zone 1			
G1U-01	617.08	8.45	608.63
G6-01	609.24	3.27	605.97
H2U-01	620.92	7.99	612.93
H5-01	617.61	21.63	595.98
I1-01	625.58	21.98	603.60
Flow Zone 2			
F2U-02	599.89	23.71	576.18
F4U-02	602.32	14.09	588.23
G1-02	616.86	22.28	594.58
G6-02	608.65	15.76	592.89
H2U-02	620.88	24.83	596.05
H5-02	617.47	21.72	595.75
I1-02	625.47	30.77	594.70
J2U-02	609.66	9.53	600.13
J5U-02	606.21	5.45	600.76
J6-02	609.23	6.86	602.37
Flow Zone 4			
AFW-2U-04	593.48	14.99	578.49
D1U-04	593.77	9.77	584.00
D2U-04	590.65	7.82	582.83
E6-04	578.23	11.61	566.62
F2U-04	599.76	20.66	579.10
F4U-04	602.19	12.52	589.67
F6-04	588.06	17.63	570.43
G1U-04	616.96	22.08	594.88
G6-04	609.15	15.93	593.22
H5-04	617.40	21.75	595.65
I1-04	625.30	35.82	589.48
J2U-04	609.42	12.11	597.31
J5U-04	606.05	13.39	592.66
J6-04	609.12	23.55	585.57

**Groundwater Elevation Summary
First Quarter - 2022
Hyde Park RRT Program**

Well	Reference Elevation (ft AMSL)	Depth to Water (ft)	Groundwater Elevation (ft AMSL)
Flow Zone 5			
AFW-2U-05	593.33	14.82	578.51
AGW-1U-05	591.80	2.78	589.02
D1U-05	593.51	10.82	582.69
D2U-05	590.56	7.90	582.66
E6-05	578.04	11.07	566.97
F2U-05	599.64	20.01	579.63
F4U-05	602.06	13.68	588.38
F6-05	587.85	17.52	570.33
G6-05	609.13	16.25	592.88
H2M-05	621.59	26.57	595.02
H5-05	617.31	22.47	594.84
I1-05	625.25	71.47	553.78
J2U-05	609.30	23.54	585.76
J5U-05	605.87	19.88	585.99
J6-05	609.02	24.04	584.98
PMW-1U-05	598.00	16.39	581.61
Flow Zone 6			
ABP-7-06	575.78	Dry	-
AFW-1U-06	571.83	14.39	557.44
AFW-2U-06	593.22	47.91	545.31
AGW-1U-06	591.66	36.22	555.44
B2U-06	589.29	32.38	556.91
C3-06	585.78	36.18	549.60
D1U-06	593.25	41.90	551.35
D2U-06	590.38	38.53	551.85
E6-06	577.99	2.89	575.10
F2M-06	599.06	45.55	553.51
F4M-06	602.05	44.80	557.25
F6-06	587.84	19.21	568.63
G1M-06	616.75	41.57	575.18
G6-06	609.09	31.78	577.31
H2M-06	621.42	37.61	583.81
H5-06	617.17	27.29	589.88
I1-06	625.15	78.02	547.13
J2M-06	608.94	53.41	555.53
J5M-06	606.22	54.63	551.59
J6-06	608.93	53.89	555.04
PMW-1U-06	597.92	47.47	550.45

**Groundwater Elevation Summary
First Quarter - 2022
Hyde Park RRT Program**

Well	Reference Elevation (ft AMSL)	Depth to Water (ft)	Groundwater Elevation (ft AMSL)
Flow Zone 7			
ABP-1-07	575.20	27.32	547.88
ABP-7-07	575.73	40.92	534.81
AFW-1M-07	571.41	Dry	-
AFW-2M-07	593.44	66.74	526.70
AGW-1M-07	592.91	46.23	546.68
B2M-07	589.52	38.31	551.21
C3-07	585.62	37.28	548.34
D1M-07	594.15	61.31	532.84
D2M-07	590.77	50.06	540.71
E6-07	577.91	23.32	554.59
F2M-07	598.91	64.83	534.08
F4M-07	601.91	54.07	547.84
F6-07	587.68	20.28	567.40
G1M-07	616.68	31.71	584.97
G6-07	609.06	23.84	585.22
H5-07	617.05	57.21	559.84
I1-07	625.14	80.63	544.51
J5M-07	606.07	59.47	546.60
J6-07	608.85	62.24	546.61
PMW-1M-07	598.50	53.47	545.03
Flow Zone 9			
ABP-1-09	575.19	39.86	535.33
ABP-7-09	575.67	41.22	534.45
AFW-1M-09	571.12	38.52	532.60
AFW-2M-09	593.32	72.24	521.08
AGW-1M-09	592.75	45.69	547.06
B2M-09	589.34	38.78	550.56
C3-09	585.00	38.49	546.51
D1M-09	594.02	61.28	532.74
D2M-09	590.66	57.99	532.67
E6-09	577.82	25.04	552.78
F2M-09	598.71	66.24	532.47
F4M-09	601.79	68.97	532.82
F6-09	587.53	47.16	540.37
G1M-09	616.58	35.44	581.14
G6-09	608.98	23.30	585.68
H2M-09	621.32	69.44	551.88
H5-09	616.93	71.91	545.02
I1-09	624.91	61.62	563.29
J2M-09	608.77	61.11	547.66
J5M-09	605.82	58.89	546.93
J6-09	608.76	41.48	567.28
PMW-1M-09	598.34	67.93	530.41

**Groundwater Elevation Summary
First Quarter - 2022
Hyde Park RRT Program**

Well	Reference Elevation (ft AMSL)	Depth to Water (ft)	Groundwater Elevation (ft AMSL)
Flow Zone 11			
AFW-1L-11	572.10	58.39	513.71
AFW-2L-11	593.43	95.40	498.03
AGW-1L-11	592.71	7.89	584.82
B2L-11	589.65	82.31	507.34
D1L-11	593.80	80.05	513.75
D2L-11	590.21	61.07	529.14
E6-11	577.72	42.35	535.37
F2L-11	598.94	42.97	555.97
F4L-11	602.22	31.44	570.78
F6-11	587.40	57.62	529.78
G1L-11	616.84	37.47	579.37
G6-11	608.89	26.69	582.20
H2L-11	620.73	61.95	558.78
H5-11	616.81	76.89	539.92
I1-11	624.75	78.60	546.15
J5L-11	607.20	53.22	553.98
J6-11	608.68	21.33	587.35
PMW-1L-11	598.84	69.91	528.93
Purge Wells			
APW-1	564.98	26.38	538.60
APW-2	569.89	46.59	523.30
PW-1L	593.16	94.56	498.60
PW-1U	593.50	44.50	549.00
PW-2L	597.29	63.19	534.10
PW-2M	596.61	82.31	514.30
PW-2UR	594.75	35.95	558.80
PW-3L	599.05	99.05	500.00
PW-3M	597.79	80.49	517.30
PW-4M	606.93	82.63	524.30
PW-4U	604.85	34.55	570.30
PW-5UR	601.31	2.91	598.40
PW-6UMR	609.31	51.21	558.10
PW-6UR	608.47	52.57	555.90
PW-7U	592.47	52.57	539.90
PW-8M	592.67	72.27	520.40
PW-8U	589.27	31.87	557.40
PW-9U	587.47	43.27	544.20
PW-10U	593.54	2.14	591.40

Notes:

- - Not applicable
- NM⁽¹⁾ - Not measured due to ice and snow accumulation on top of well
- ft AMSL - Feet above mean sea level
- Dry - No water present at the time of measurement
- Surcharged - Well surcharged

**Leachate Treatment System Daily Effluent Monitoring Data
First Quarter - 2022
Hyde Park RRT Program**

Date	Effluent	
	pH (su)	Flow (gal)
01/01/22		
01/02/22		
01/03/22	7.1	165,000
01/04/22	7.0	183,000
01/05/22	7.0	183,000
01/06/22	7.0	171,000
01/07/22	7.1	155,000
01/08/22		
01/09/22		
01/10/22	7.1	155,000
01/11/22	7.1	138,000
01/12/22	7.2	40,000
01/13/22		
01/14/22	7.0	173,000
01/15/22	7.1	175,000
01/16/22		
01/17/22		
01/18/22		
01/19/22	7.6	150,000
01/20/22	7.6	117,000
01/21/22		
01/22/22		
01/23/22		
01/24/22		
01/25/22		
01/26/22		
01/27/22		
01/28/22		
01/29/22		
01/30/22		
01/31/22		
02/01/22		
02/02/22	7.3	133,000
02/03/22	7.0	165,000
02/04/22	6.9	66,000
02/05/22		
02/06/22		

**Leachate Treatment System Daily Effluent Monitoring Data
First Quarter - 2022
Hyde Park RRT Program**

Date	Effluent	
	pH (su)	Flow (gal)
02/07/22		
02/08/22		
02/09/22		
02/10/22		
02/11/22		
02/12/22		
02/13/22		
02/14/22		
02/15/22		
02/16/22		
02/17/22		
02/18/22		
02/19/22		
02/20/22		
02/21/22		
02/22/22	6.9	99,000
02/23/22	7.3	129,000
02/24/22	7.3	168,000
02/25/22		
02/26/22		
02/27/22		
02/28/22	7.3	154,000
03/01/22	7.3	164,000
03/02/22	7.1	139,000
03/03/22	7.3	14,000
03/04/22	7.1	43,000
03/05/22		
03/06/22		
03/07/22	7.1	154,000
03/08/22	7.2	166,000
03/09/22	7.1	163,000
03/10/22	7.3	153,000
03/11/22	7.2	56,000
03/12/22		
03/13/22		
03/14/22	7.1	164,000
03/15/22	7.0	178,000

**Leachate Treatment System Daily Effluent Monitoring Data
First Quarter - 2022
Hyde Park RRT Program**

Date	Effluent	
	pH (su)	Flow (gal)
03/16/22	7.2	169,000
03/17/22		
03/18/22		
03/19/22		
03/20/22		
03/21/22		
03/22/22		
03/23/22		
03/24/22	6.9	143,000
03/25/22	7.3	80,000
03/26/22		
03/27/22		
03/28/22	7.1	175,000
03/29/22	7.3	162,000
03/30/22	7.2	155,000
03/31/22	7.3	156,000
	Total	5,153,000

Notes:

su - Standard Unit
gal - Gallons

Analytical Results Summary
Weekly Sampling - Leachate Treatment System
First Quarter - 2022
Hyde Park RRT Program

Effluent	Parameter	Units	01/05/2022	01/12/2022	01/19/2022
Volatiles					
	1,1,1-Trichloroethane	µg/L	1.0 U	1.0 U	1.0 U
	1,1,2,2-Tetrachloroethane	µg/L	0.47 J	0.50 J	0.53 J
	1,1,2-Trichloroethane	µg/L	1.0 U	1.0 U	1.0 U
	1,1-Dichloroethane	µg/L	1.9	1.8	1.9
	1,1-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U
	1,2,4-Trichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U
	1,2-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U
	1,2-Dichloroethane	µg/L	4.3	4.2	4.2
	1,2-Dichloropropane	µg/L	0.39 J	0.35 J	0.38 J
	1,3-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U
	1,4-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U
	2-Chlorotoluene	µg/L	1.0 U	1.0 U	1.0 U
	3-Chlorotoluene	µg/L	1.0 U	1.0 U	1.0 U
	4-Chlorotoluene	µg/L	1.0 U	1.0 U	1.0 U
	Benzene	µg/L	5.2	5.7	3.9
	Bromodichloromethane	µg/L	1.0 U	1.0 U	1.0 U
	Bromoform	µg/L	1.0 U	1.0 U	1.0 U
	Bromomethane (Methyl bromide)	µg/L	1.0 U	1.0 U	1.0 U
	Carbon disulfide	µg/L	2.8	7.3	8.9
	Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U
	Chlorobenzene	µg/L	1.0 U	1.0 U	1.0 U
	Chloroethane	µg/L	1.0 U	1.0 U	1.0 U
	Chloroform (Trichloromethane)	µg/L	2.0	1.6	1.8
	Chloromethane (Methyl chloride)	µg/L	1.0 U	1.0 U	1.0 U
	cis-1,2-Dichloroethene	µg/L	1.2	1.3	1.2
	cis-1,3-Dichloropropene	µg/L	1.0 U	1.0 U	1.0 U
	Dichlorodifluoromethane (CFC-12)	µg/L	1.0 U	1.0 U	1.0 U
	Ethylbenzene	µg/L	1.0 U	1.0 U	1.0 U
	m&p-Xylenes	µg/L	2.0 U	2.0 U	2.0 U
	m-Monochlorobenzotrifluoride	µg/L	1.0 U	1.0 U	1.0 U
	Methylene chloride	µg/L	1.0 U	1.0 U	1.0 U
	o-Monochlorobenzotrifluoride	µg/L	1.0 U	1.0 U	1.0 U
	o-Xylene	µg/L	1.0 U	1.0 U	1.0 U
	p-Monochlorobenzotrifluoride	µg/L	1.0 U	1.0 U	1.0 U
	Styrene	µg/L	1.0 U	1.0 U	1.0 U
	Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U
	Toluene	µg/L	1.0 U	1.0 U	1.0 U
	trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U
	trans-1,3-Dichloropropene	µg/L	1.0 U	1.0 U	1.0 U
	Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U
	Trichlorofluoromethane (CFC-11)	µg/L	1.0 U	1.0 U	1.0 U
	Vinyl acetate	µg/L	2.0 U	2.0 U	2.0 U
	Vinyl chloride	µg/L	63	64	72
	Xylenes (total)	µg/L	3.0 U	3.0 U	3.0 U
General Chemistry					
	Phenolics (total)	mg/L	0.0038 J	0.0053	0.0065

Notes:

J - Estimated concentration
U - Not detected at the associated reporting limit
mg/L - Milligrams per liter
µg/L - Micrograms per liter

Table 4
Analytical Results Summary
Quarterly Sampling - Leachate Treatment System
First Quarter - 2022
Hyde Park RRT Program

Sample Location:	EFFLUENT	EFFLUENT
Sample ID:	HP 33122 EFF	HP 33122 EFF
Sample Date:	3/31/2022	3/31/2022

Parameters	Units		
Volatile Organic Compounds			
Vinyl chloride	µg/L	53.6	-
General Chemistry			
Phosphorus	mg/L	-	0.120

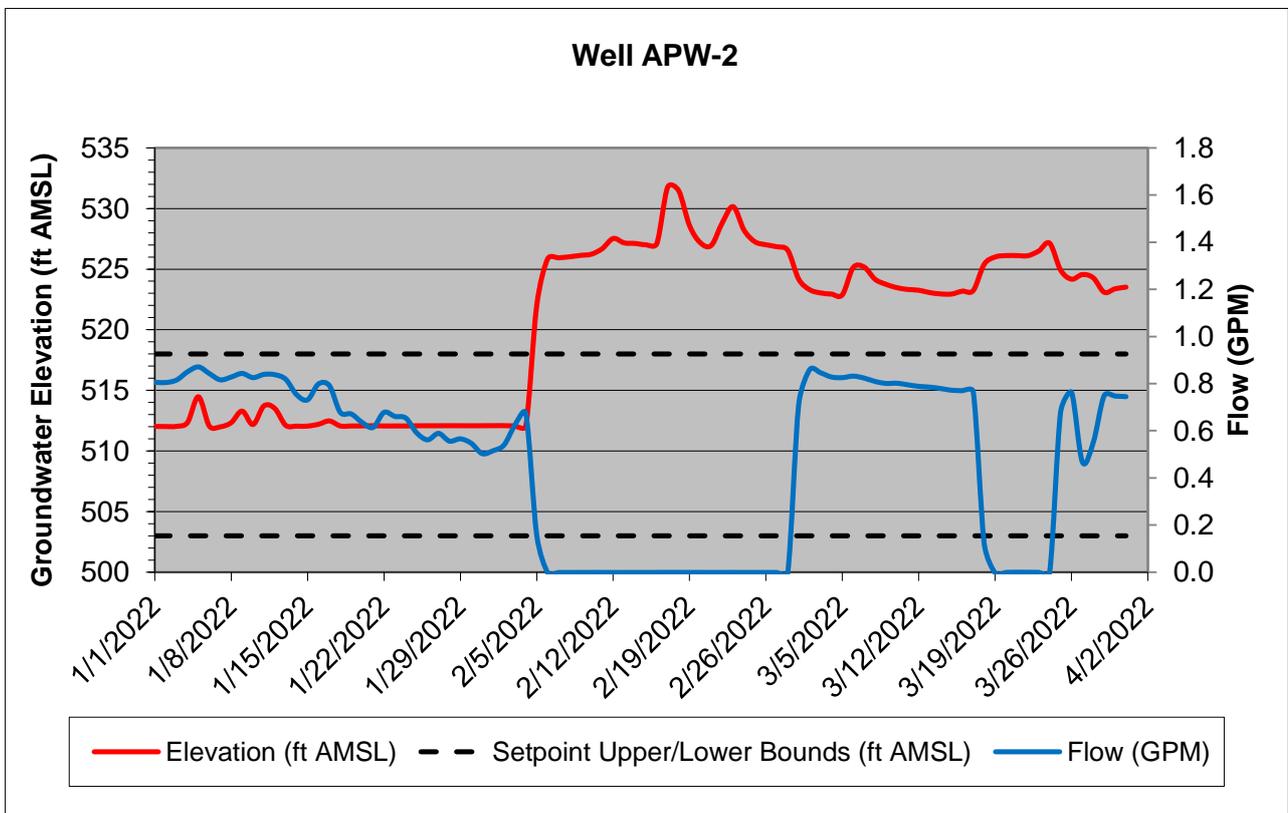
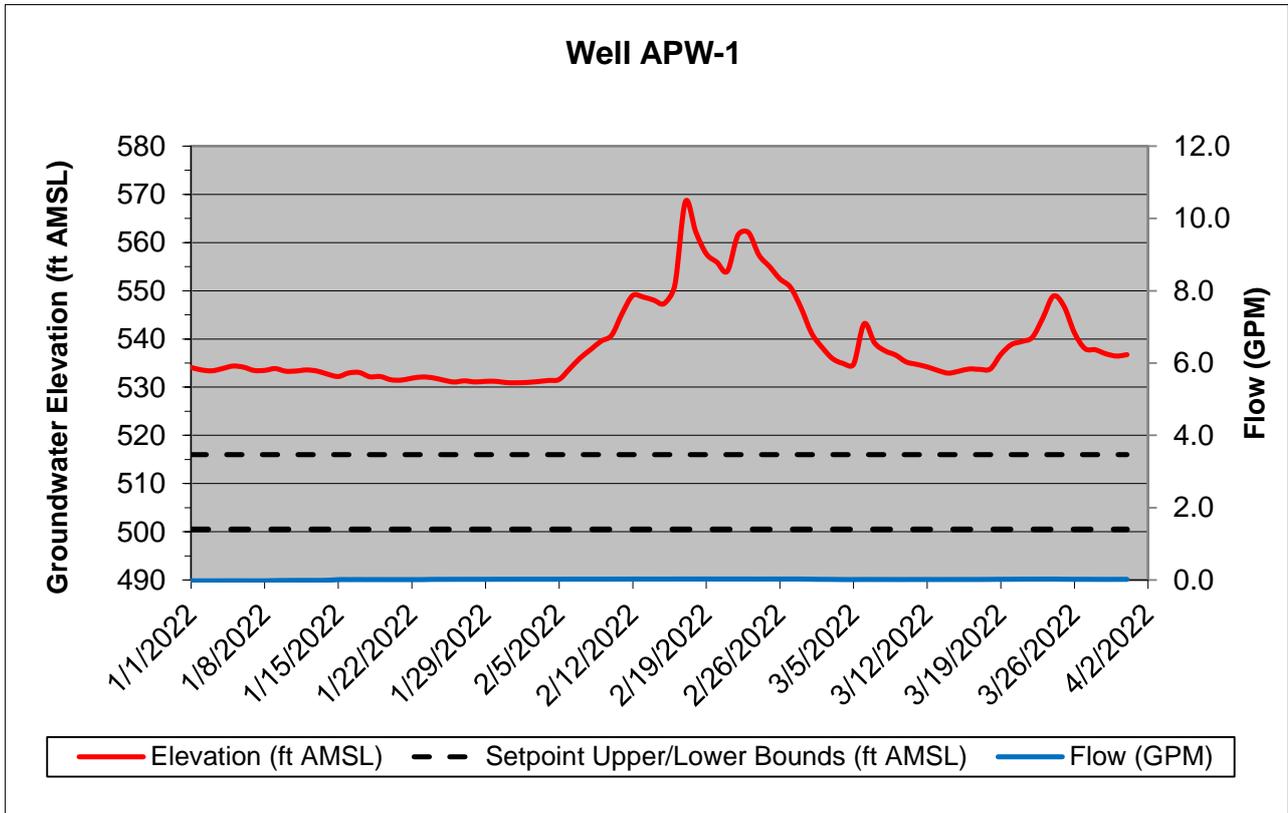
Notes:

"-" - Not applicable

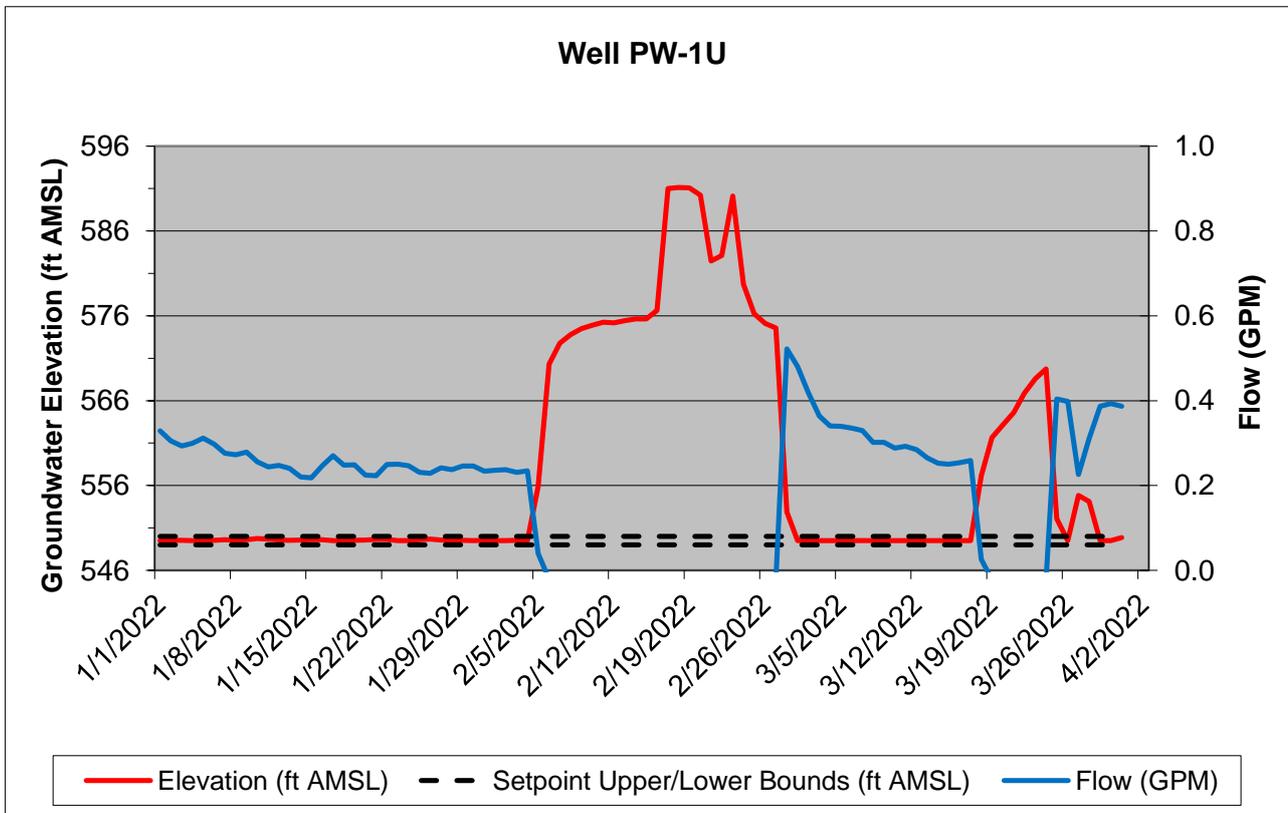
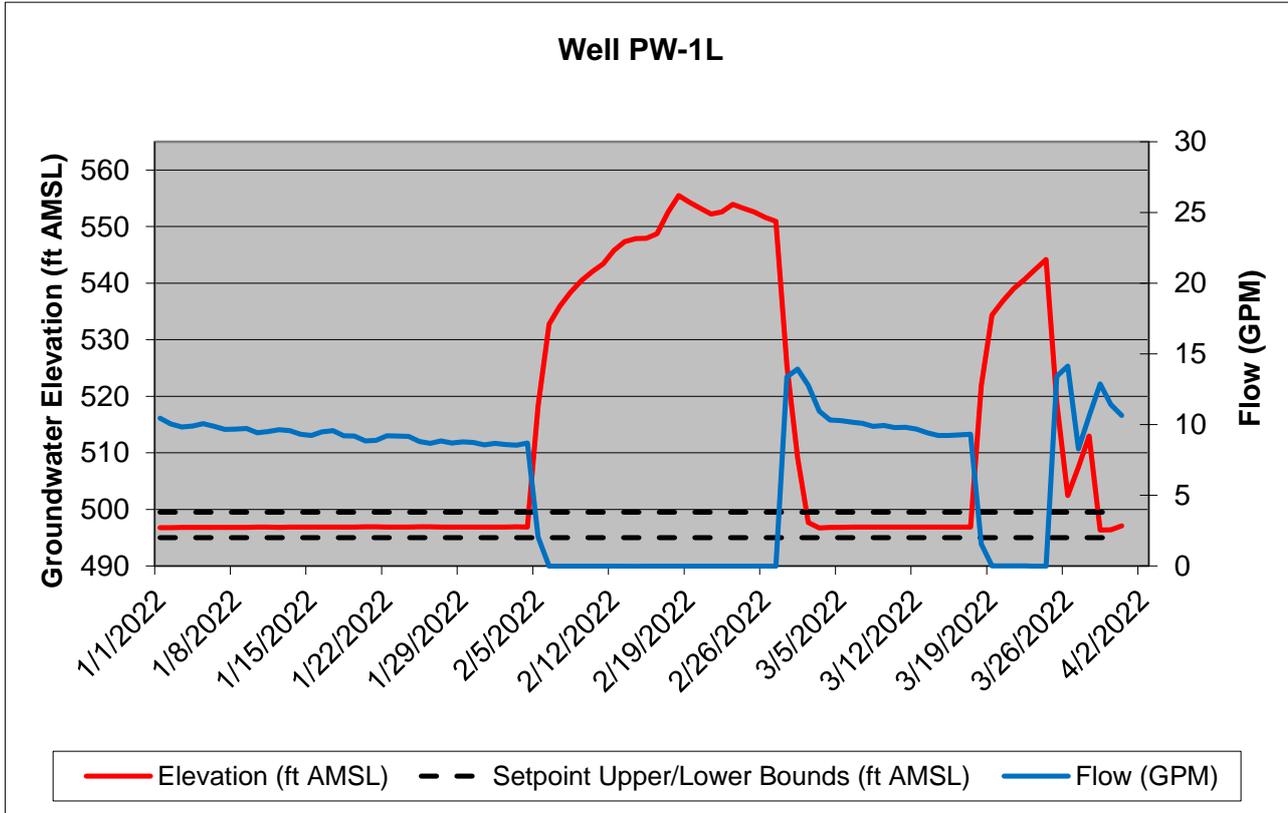
mg/L - Milligrams per liter

µg/L - Micrograms per liter

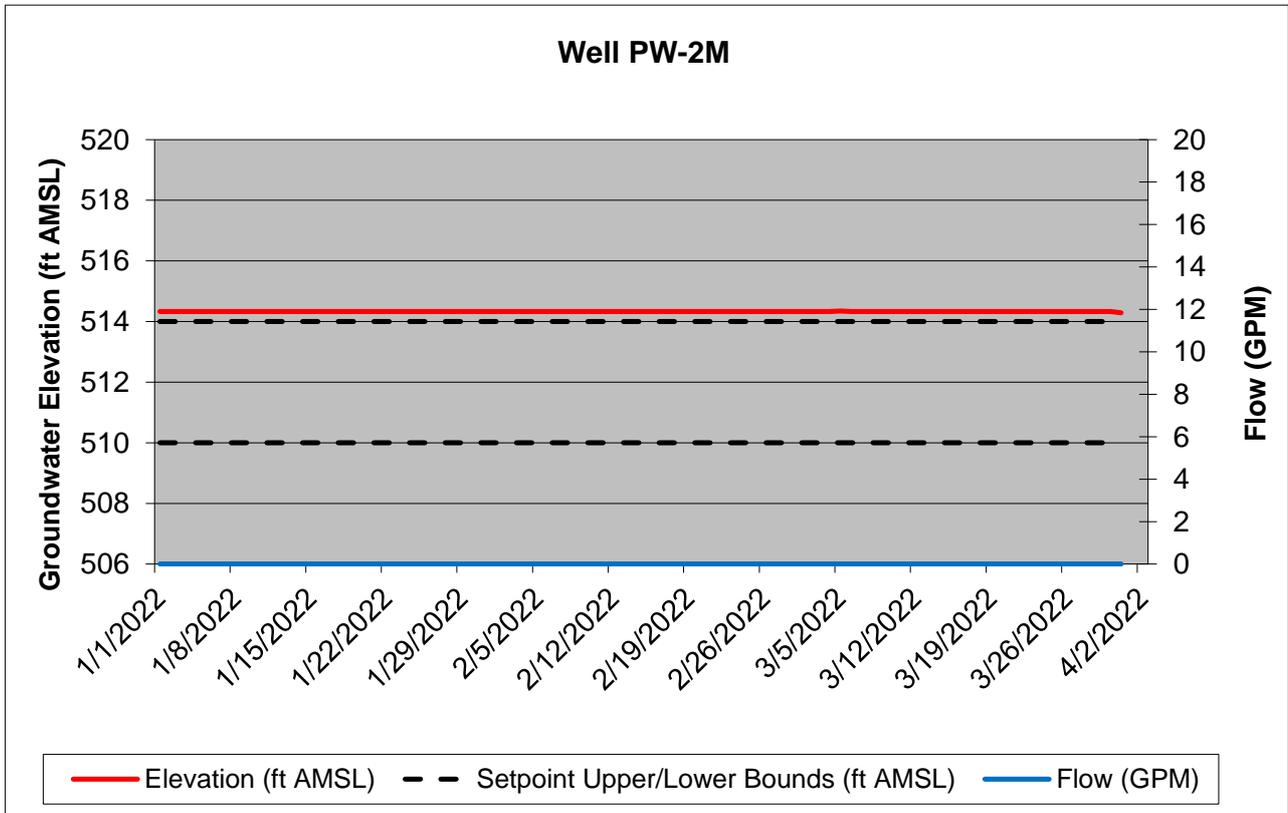
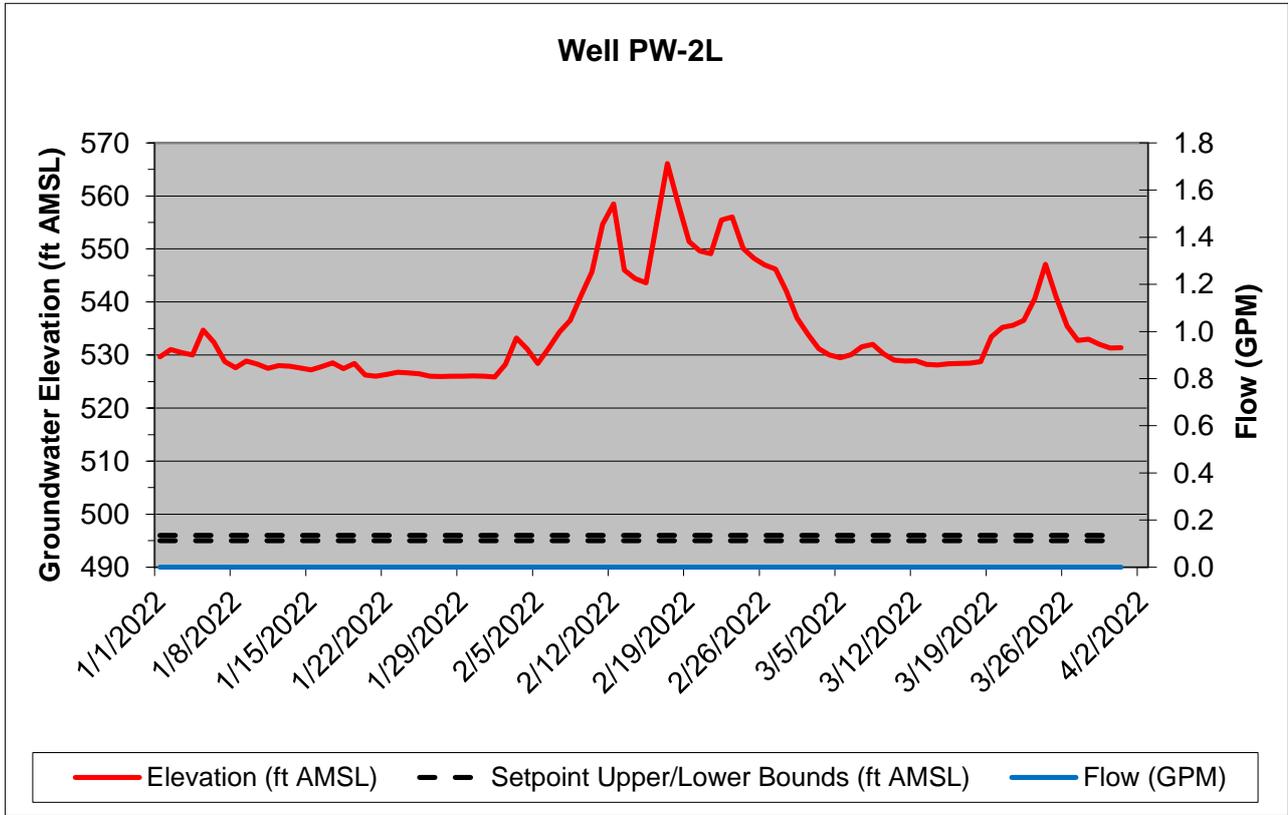
FIRST QUARTER 2022 - PUMPING WELL PERFORMANCE GRAPHS
HYDE PARK



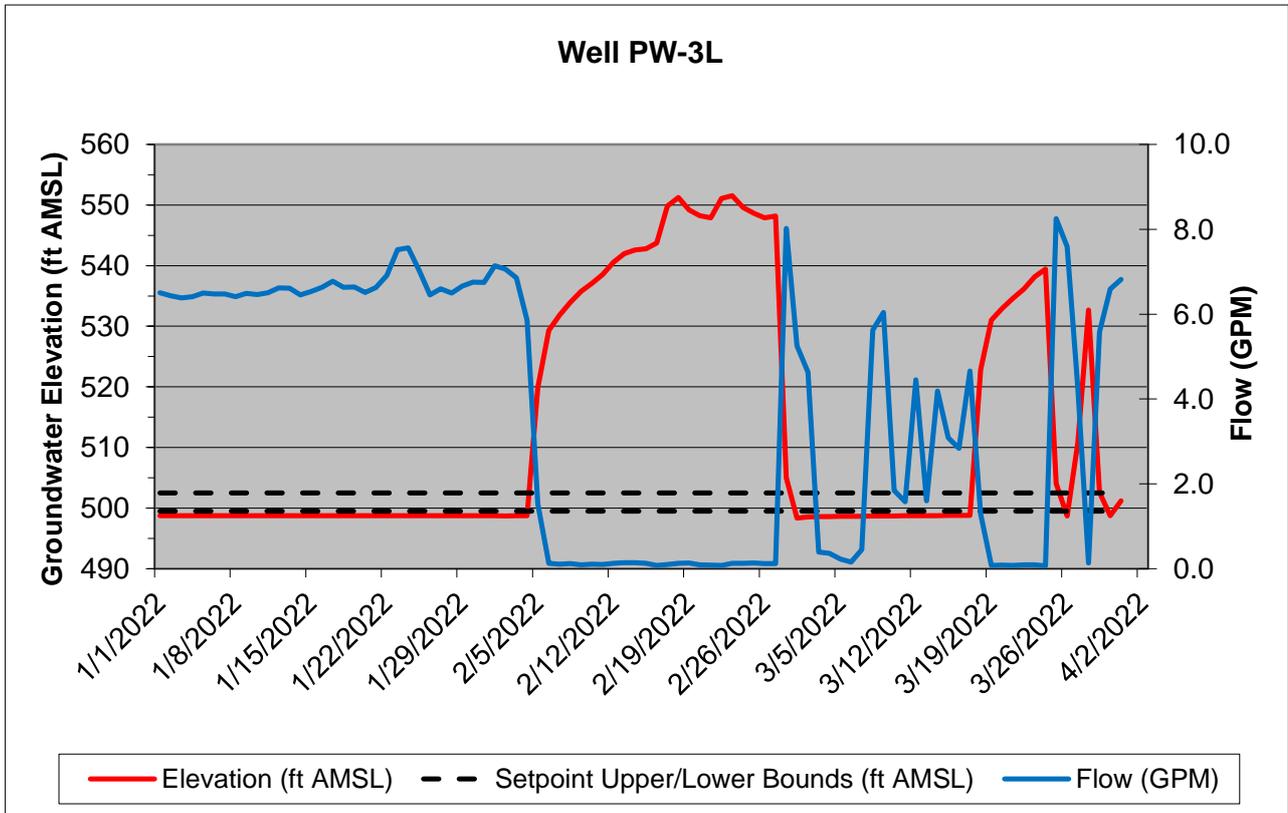
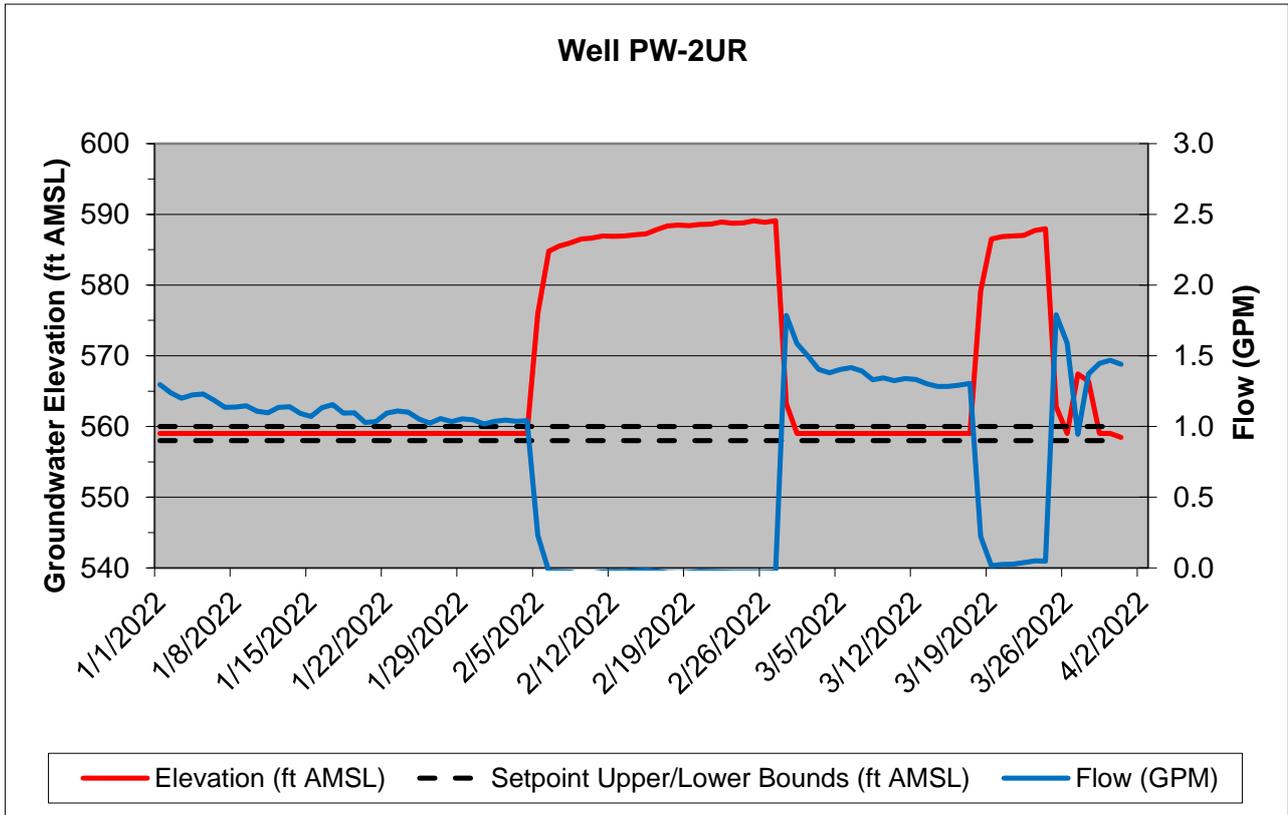
FIRST QUARTER 2022 - PUMPING WELL PERFORMANCE GRAPHS
HYDE PARK



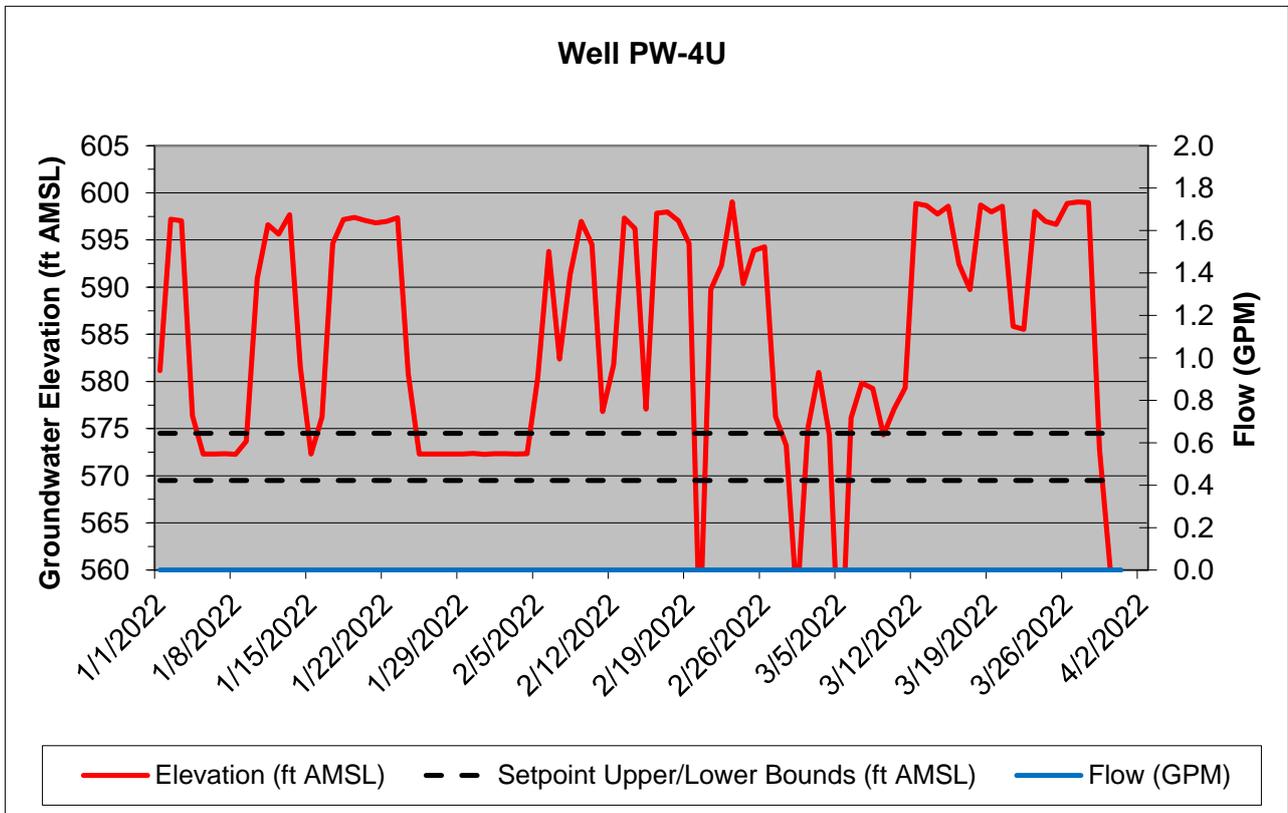
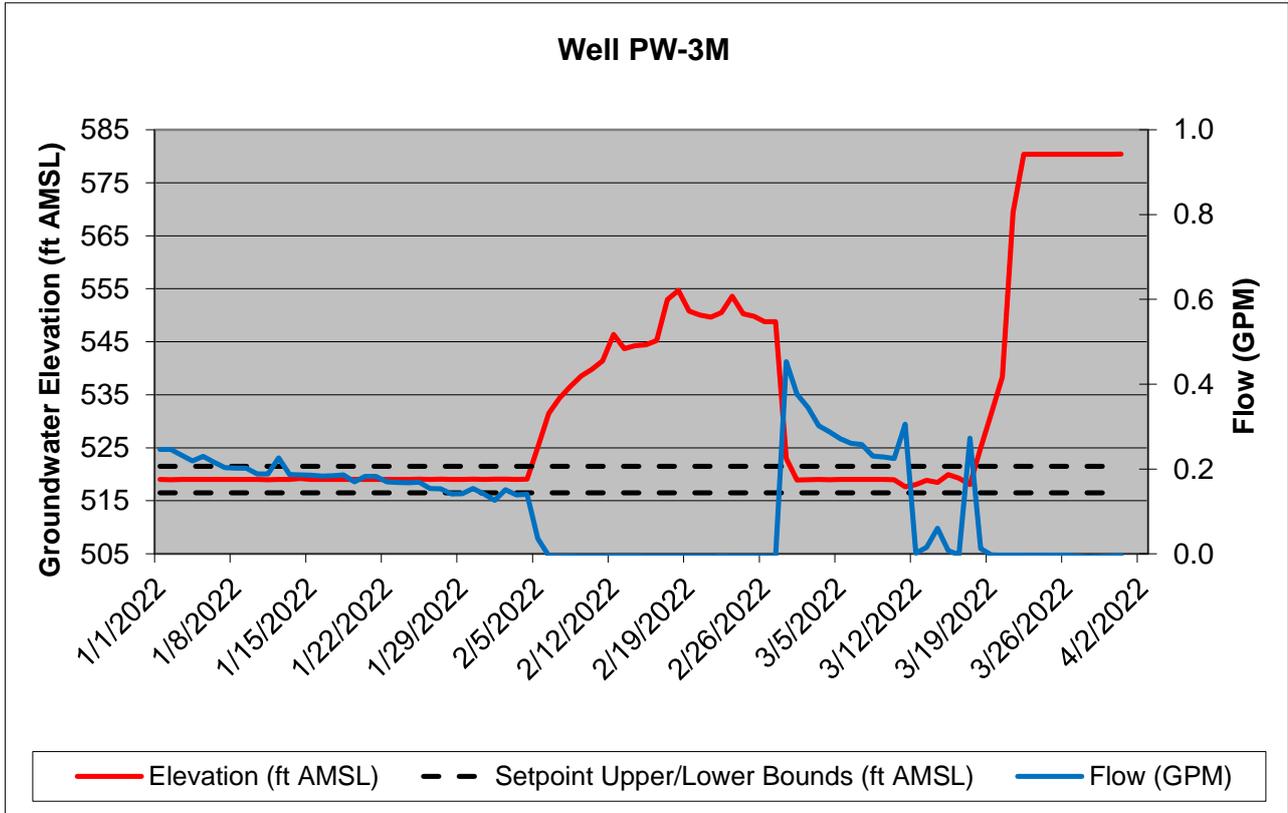
FIRST QUARTER 2022 - PUMPING WELL PERFORMANCE GRAPHS
HYDE PARK



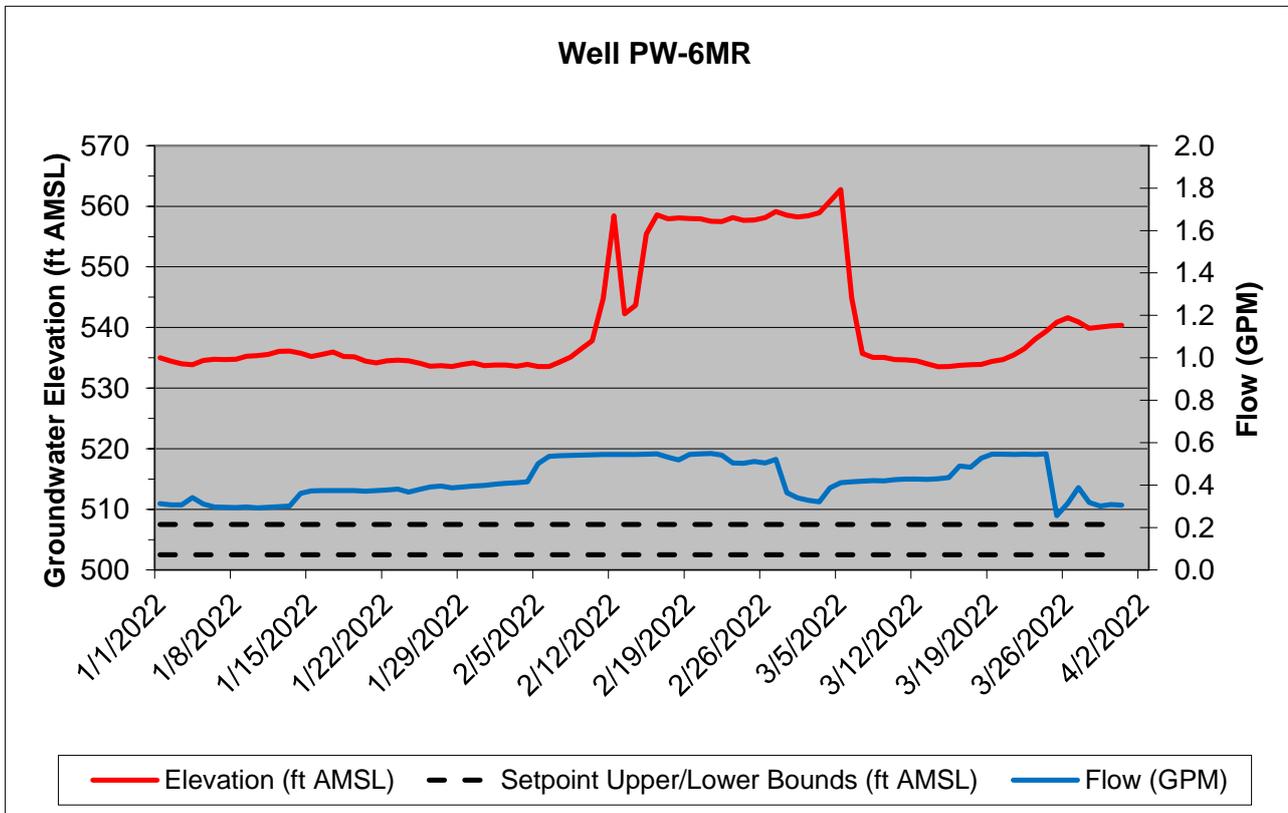
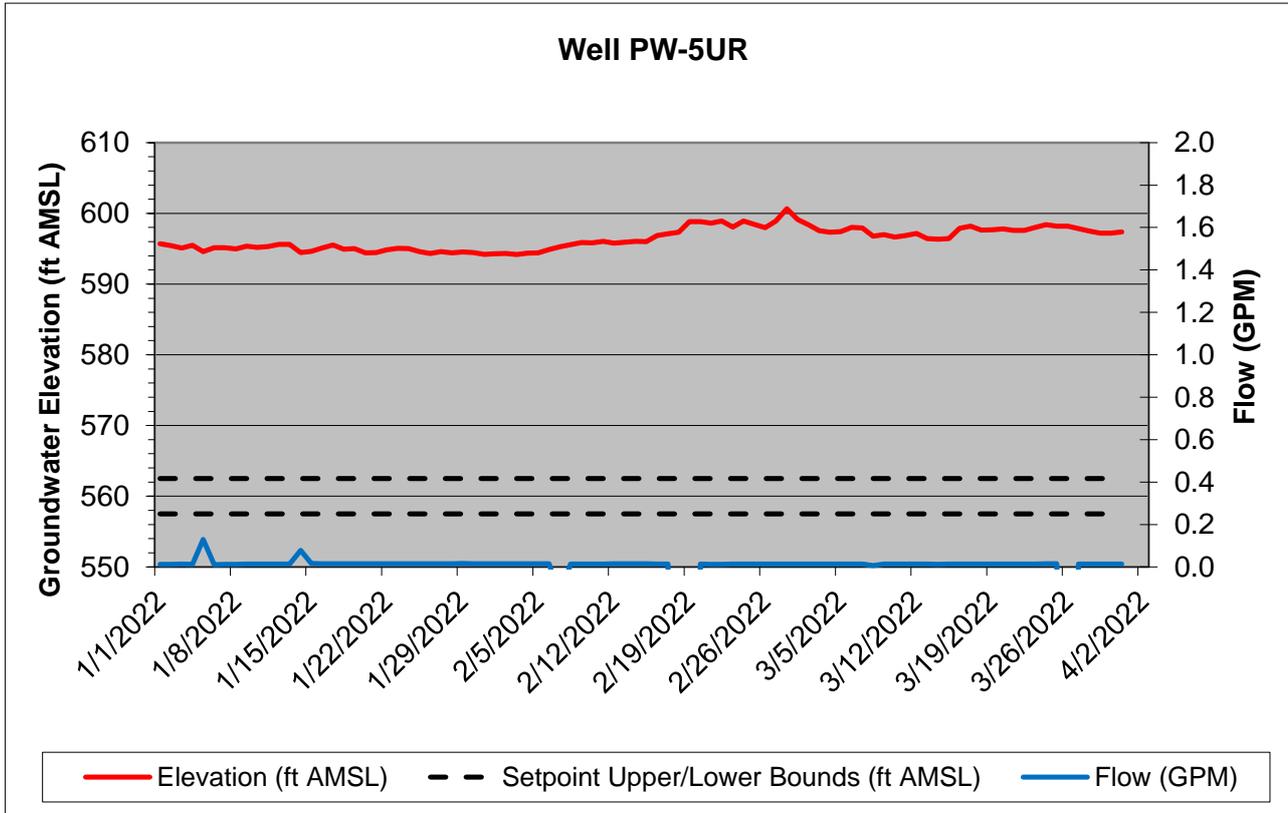
FIRST QUARTER 2022 - PUMPING WELL PERFORMANCE GRAPHS
HYDE PARK



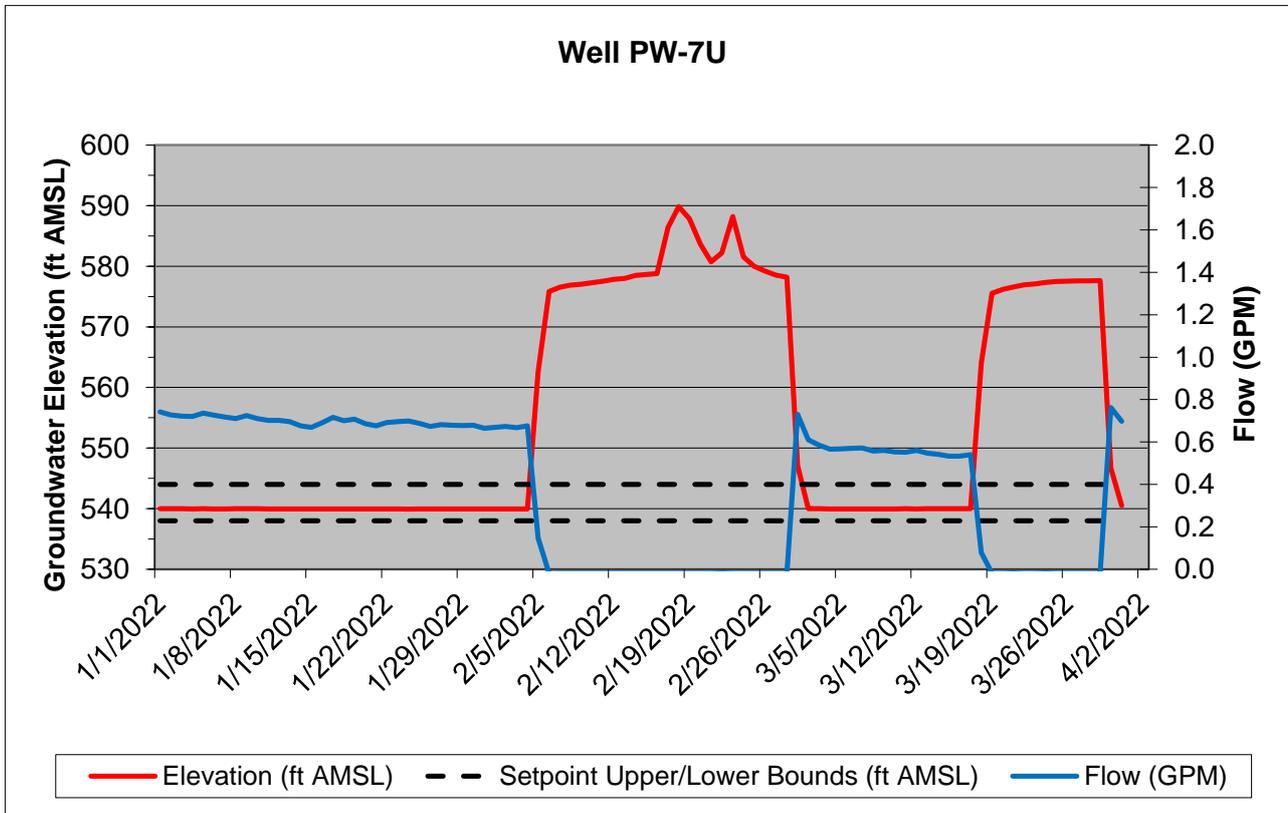
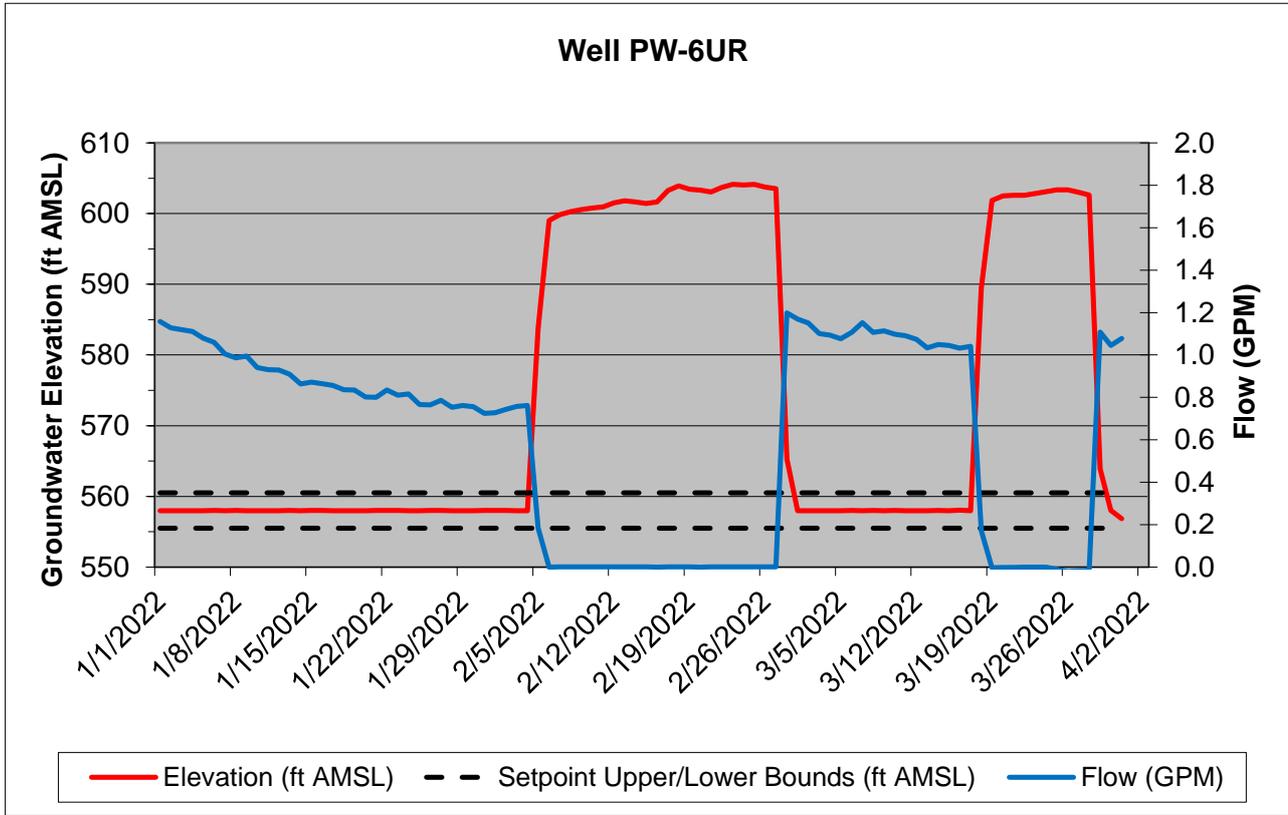
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HYDE PARK



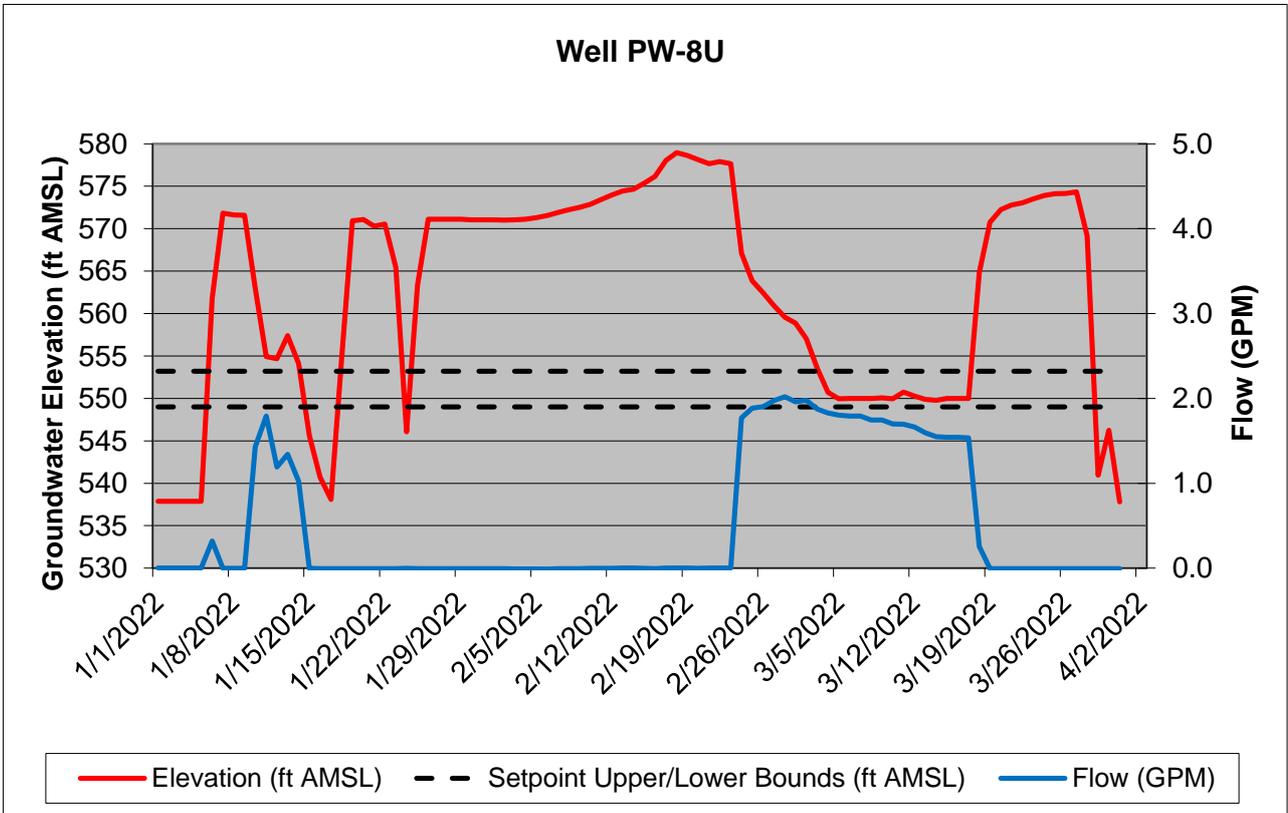
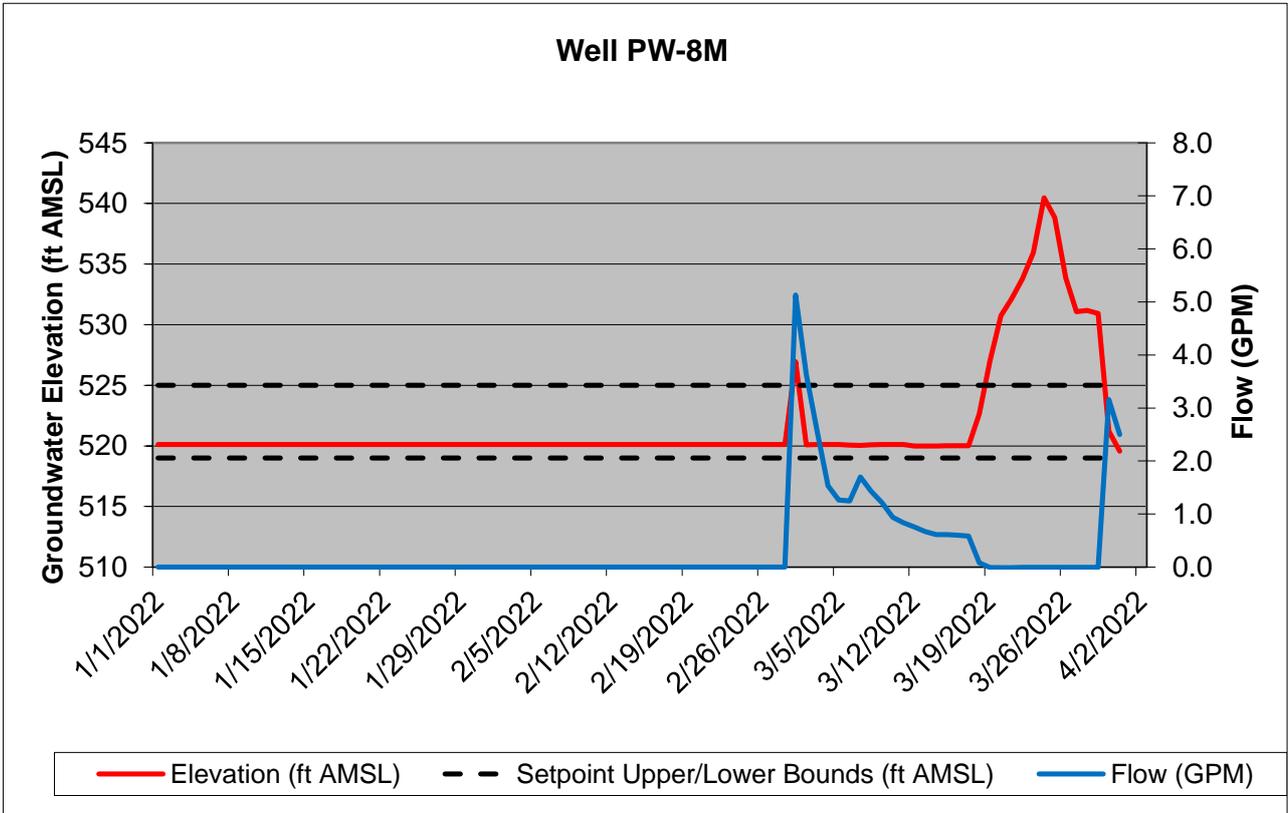
FIRST QUARTER 2022 - PUMPING WELL PERFORMANCE GRAPHS
HYDE PARK



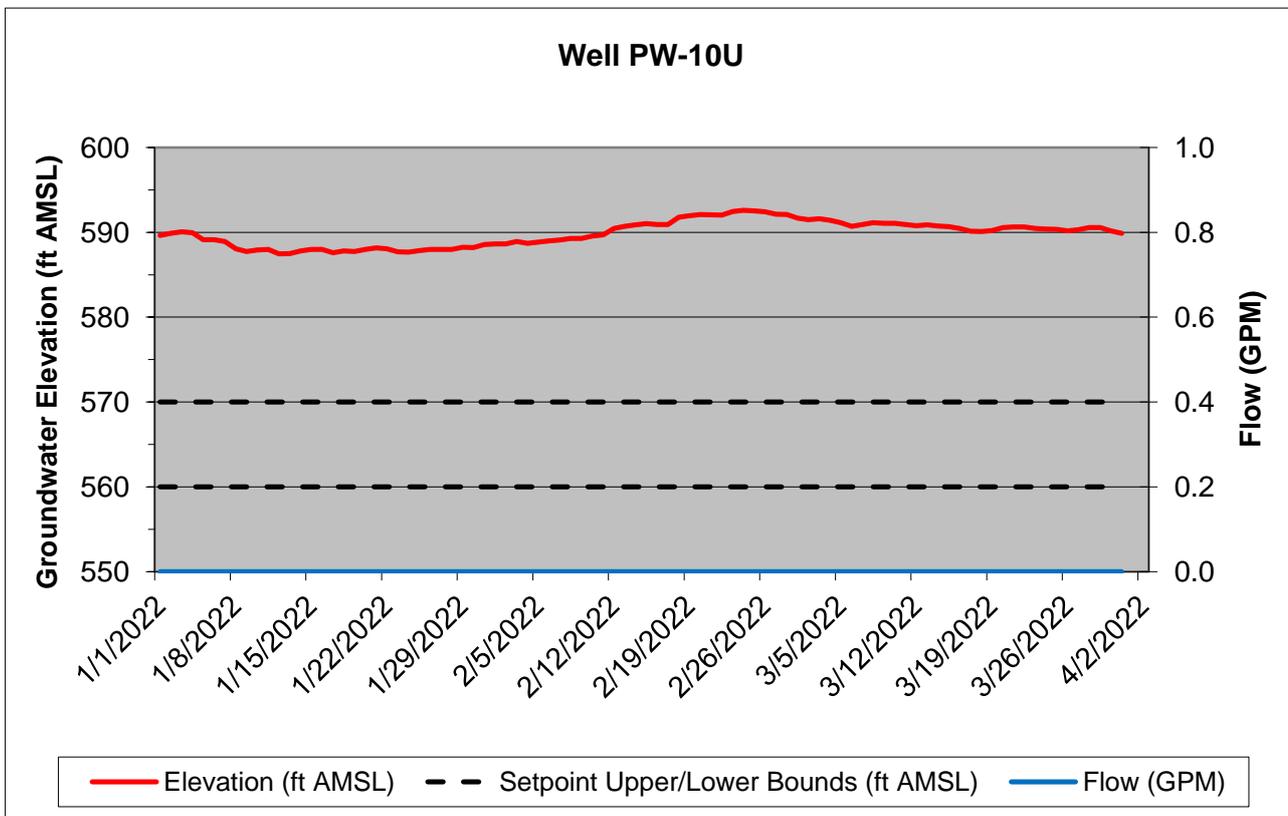
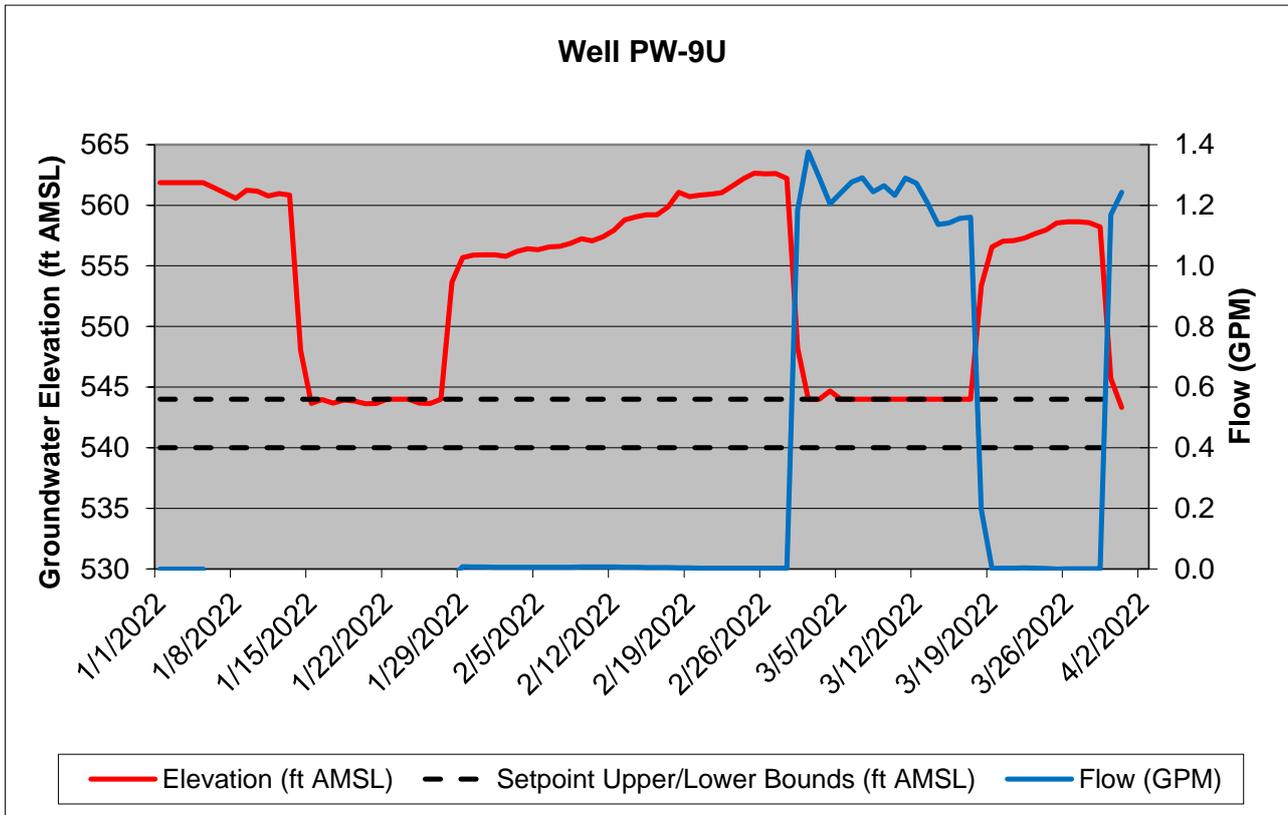
FIRST QUARTER 2022 - PUMPING WELL PERFORMANCE GRAPHS
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FIRST QUARTER 2022 - PUMPING WELL PERFORMANCE GRAPHS
HYDE PARK





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

August 1, 2022

Reference No. 11230216

Ms. Jaclyn Kondrk
USEPA
Region II, Site Investigation & Compliance Branch
290 Broadway, 20th Floor
New York, NY 10007-1866

Mr. Andrew Zwack
NYSDEC
270 Michigan Avenue
Buffalo, NY 14203-2999

Dear Ms. Kondrk and Mr. Zwack:

**Re: Quarterly Operations Report - Second Quarter 2022
Hyde Park Remedial Program
Bedrock and Overburden Monitoring Programs
NYSDEC Site No. 932021**

In accordance with the July 2006 "Performance Monitoring Plan" (PMP), the following is the Quarterly Operations Report for the Hyde Park Remedial Program for the period April 1, 2022 through June 30, 2022. A total of 6.63 million gallons of APL were collected, treated, and discharged in compliance with the Site's City of Niagara Falls Publicly Owned Treatment Works (POTW) Significant Industrial User (SIU) Wastewater Discharge Permit #49. One drum (approximately 600 pounds) of non-aqueous phase liquid (NAPL) and nineteen drums (approximately 10,000 pounds) of personal protective equipment (PPE) and debris were shipped for disposal this quarter. The potentiometric contours are consistent with previous interpretations. Flow Zones 6, 7, and 9 have dewatered areas between the landfill and the gorge face. The current data continue to support the interpretation of effective hydraulic containment and inward gradients.

The performance monitoring data are presented as follows:

- Figures 1-9: Showing the potentiometric surface for the bedrock flow zones and overburden
- Figure 10: Showing continuously recorded water levels at flow zone 9 piezometer PMW-1M-09
- Table 1: Groundwater elevation summary
- Tables 2, 3, and 4: Daily, weekly, and quarterly treatment system effluent monitoring data
- Attachment A: Purge well performance graphs indicating daily level and flow information

The transducer for the flow zone 9 piezometer PMW-1M-09 was replaced in March 2022. Due to a suspected error in the new transducer setup, which was described in the First Quarter 2022 Quarterly Operations Report, the transducer was reset on April 4, 2022. The calibration on the transducer was then fine-tuned on June 17, 2022. The continuously recorded groundwater elevations for the flow zone 9 piezometer PMW-1M-09 for the second quarter 2022 are presented on Figure 10. These water levels were primarily less than 526 feet above mean sea level (AMSL) throughout the quarter following the transducer reset, indicating that the FZ-09 outcrop along the New York Power Authority (NYPA) access road was unsaturated throughout the quarter.

- 2 -

The pumping wells were operational and functioning as designed during the second quarter 2022, with the exception of the downtime periods discussed below. The pumps are operated to maintain a water level between a typical range of 2.5 feet above (pump on) and 2.5 feet below (pump off) a specific setpoint in accordance with the setpoint range defined in the Operation & Maintenance Manual.

Delivery lead times for equipment (such as pumps, motors, drives, etc.) has recently increased from several weeks to several months (3 to 5 months). Although some spares have always been kept on hand, replacement of the spares is taking significantly longer than anticipated which is affecting repair of the wells as described below. To address this recent change, additional spares have been ordered to address this issue moving forward.

Wells PW-5UR and APW-1 were down from the beginning of the quarter until May 2 and June 17, respectively, awaiting replacement of pumps and motors. Well PW-2M was down from the beginning of the quarter until June 17 awaiting replacement of the pump, motor, and variable frequency drive (VFD). Well PW-10U was down from the beginning of the quarter until May 21 due to a VFD fault. Well PW-9U was down from the beginning of the quarter until June 10 awaiting replacement of its gear box. Well PW-4U was down from the beginning of the quarter until May 2 due a level control issue. The respective pumps, motors, and gear box were replaced and VFD faults and level control issue resolved/repared, and water levels in all six wells were within setpoint range within one day of being returned online.

Well PW-2L was down during the entire quarter awaiting replacement of its pump and motor. The water levels in APW-2, PW-3M, and PW-6MR exceeded setpoint range throughout the entire quarter, and the water level in PW-8U exceeded setpoint range from May 8 through the end of the quarter, due to faulty pumps. The pumps will be replaced or repaired in the third quarter of 2022 assuming equipment is received.

The following minor operational and setpoint issues were investigated and resolved during the second quarter of 2022:

- PW-2M: The water level in PW-2M exceeded setpoint range on June 21 and June 22 due to a pump fault. The pump was reset and the water level returned to within setpoint range on June 23.
- PW-3L: The water level in PW-3L exceeded setpoint range from May 6 through May 11 due to intermittent electrical issues. These issues were resolved on May 11 and the water level returned to within setpoint range on May 12.
- PW-7U: The water level in PW-7U exceeded setpoint range from May 23 through June 14 and from June 17 through June 29 due to issues with the pump and motor. The pump and motor were repaired on June 29 and the water level returned to within setpoint range on June 30.
- PW-8U: The water level in PW-8U exceeded setpoint range on April 1 and April 4 due to intermittent level transmitter issues. The issues were resolved and the water level returned to within setpoint range on April 2 and April 5, respectively. The water level exceeded setpoint range on April 27 due to a level transmitter issue. The level transmitter was repaired and the water level returned to within setpoint range on April 28.

If you have any questions, please feel free to contact me at (231) 670-6809 or by email at joseph_branch@oxy.com.

August 1, 2022

Reference No. 11230216

- 3 -

Very truly yours,

GLENN SPRINGS HOLDINGS, INC.

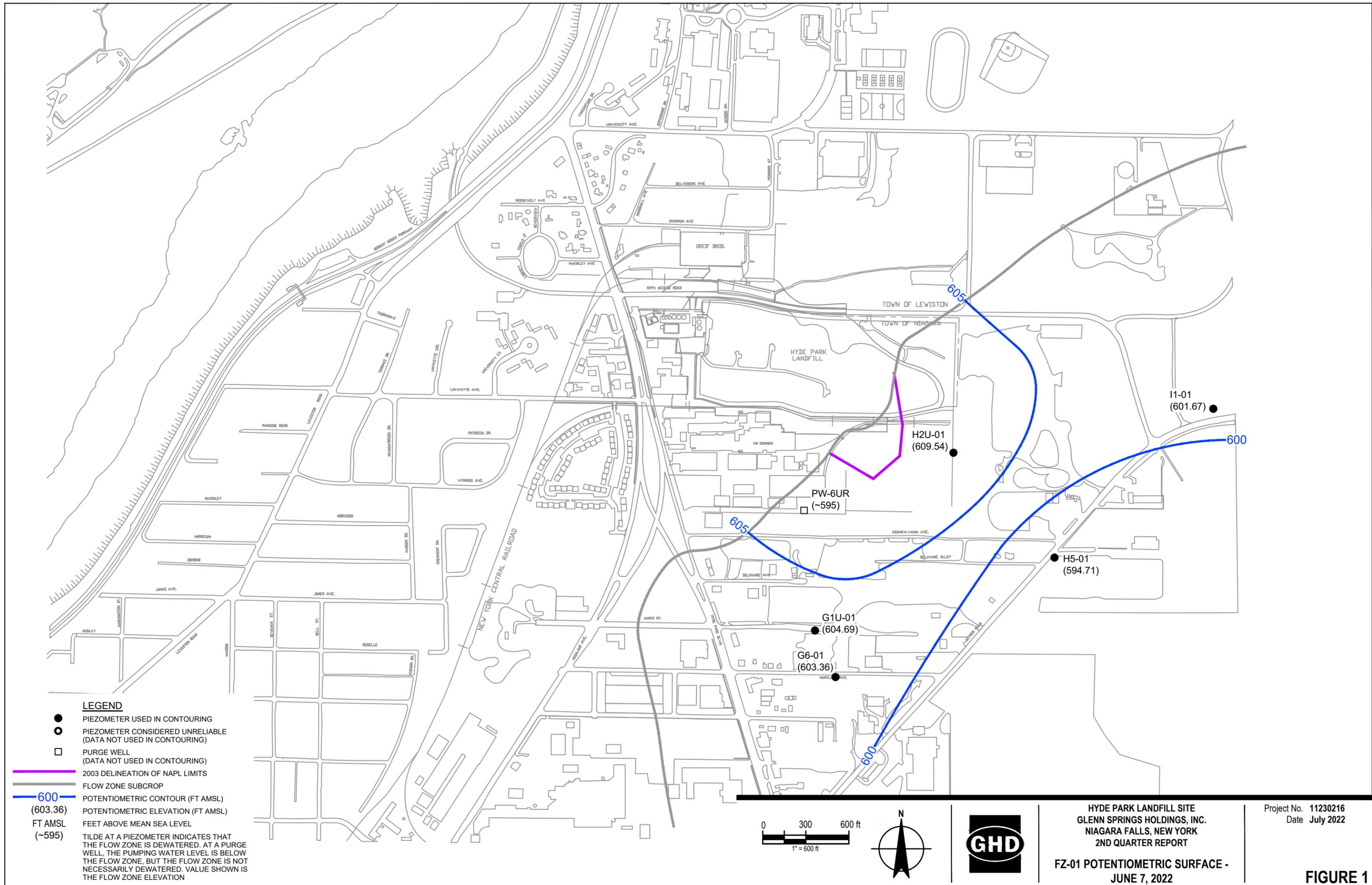
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Joe Branch
Project Manager
231-670-6809 Cell

JB/4
Encl.

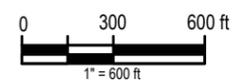
cc: B. McPherson NYSDEC
J. Robinson, NYSDOH

J. Pentilchuk, GHD
M. Popek, GHD



LEGEND

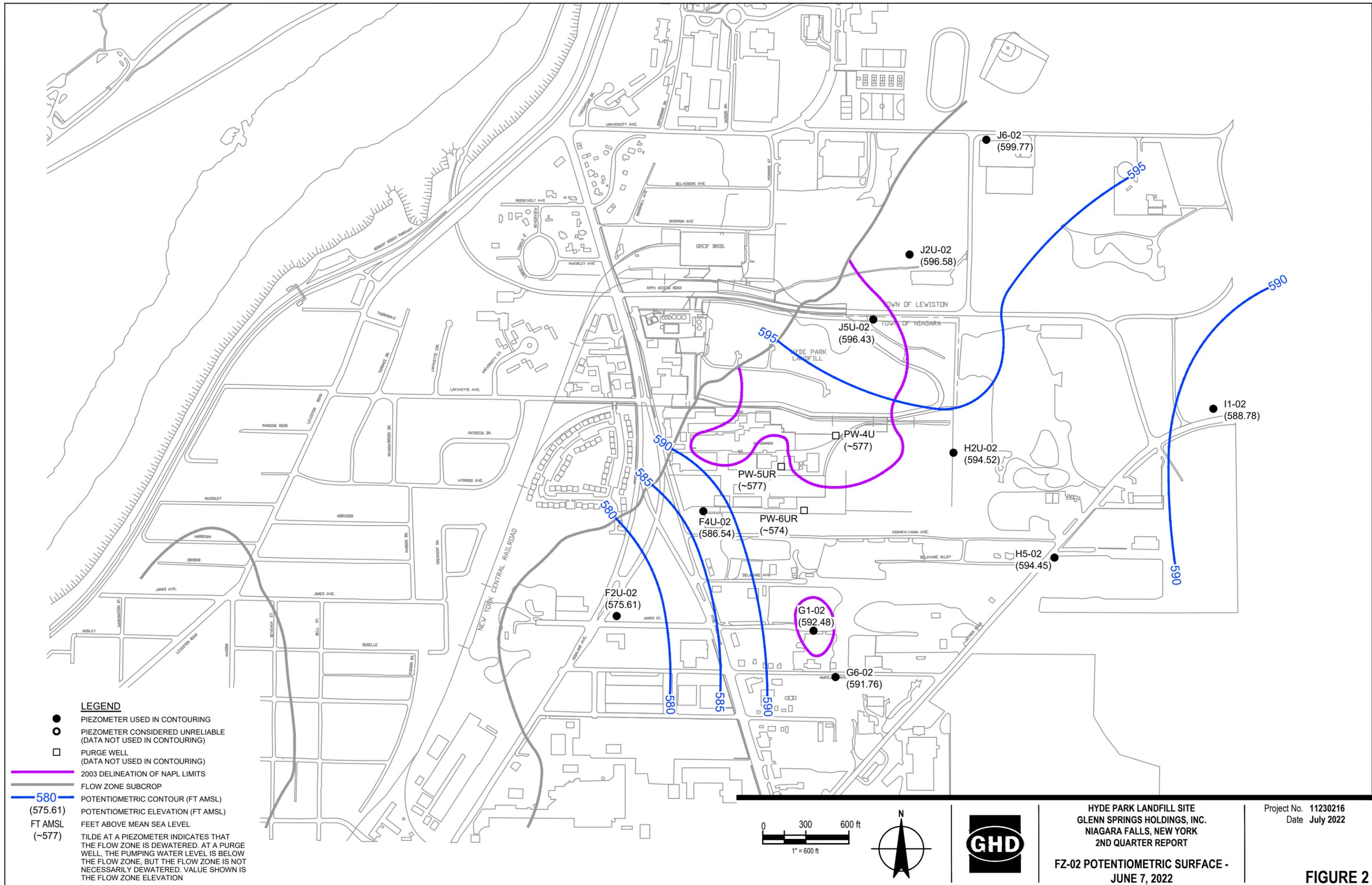
- PIEZOMETER USED IN CONTOURING
- PIEZOMETER CONSIDERED UNRELIABLE (DATA NOT USED IN CONTOURING)
- PURGE WELL (DATA NOT USED IN CONTOURING)
- 2003 DELINEATION OF NAPL LIMITS
- FLOW ZONE SUBCROP
- 600 (603.36) POTENTIOMETRIC CONTOUR (FT AMSL)
- POTENTIOMETRIC ELEVATION (FT AMSL)
- FT AMSL FEET ABOVE MEAN SEA LEVEL
- TILDE AT A PIEZOMETER INDICATES THAT THE FLOW ZONE IS DEWATERED. AT A PURGE WELL, THE PUMPING WATER LEVEL IS BELOW THE FLOW ZONE, BUT THE FLOW ZONE IS NOT NECESSARILY DEWATERED. VALUE SHOWN IS THE FLOW ZONE ELEVATION



HYDE PARK LANDFILL SITE
 GLENN SPRINGS HOLDINGS, INC.
 NIAGARA FALLS, NEW YORK
 2ND QUARTER REPORT
 FZ-01 POTENTIOMETRIC SURFACE -
 JUNE 7, 2022

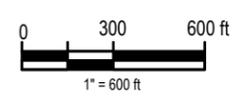
Project No. 11230216
 Date July 2022

FIGURE 1



LEGEND

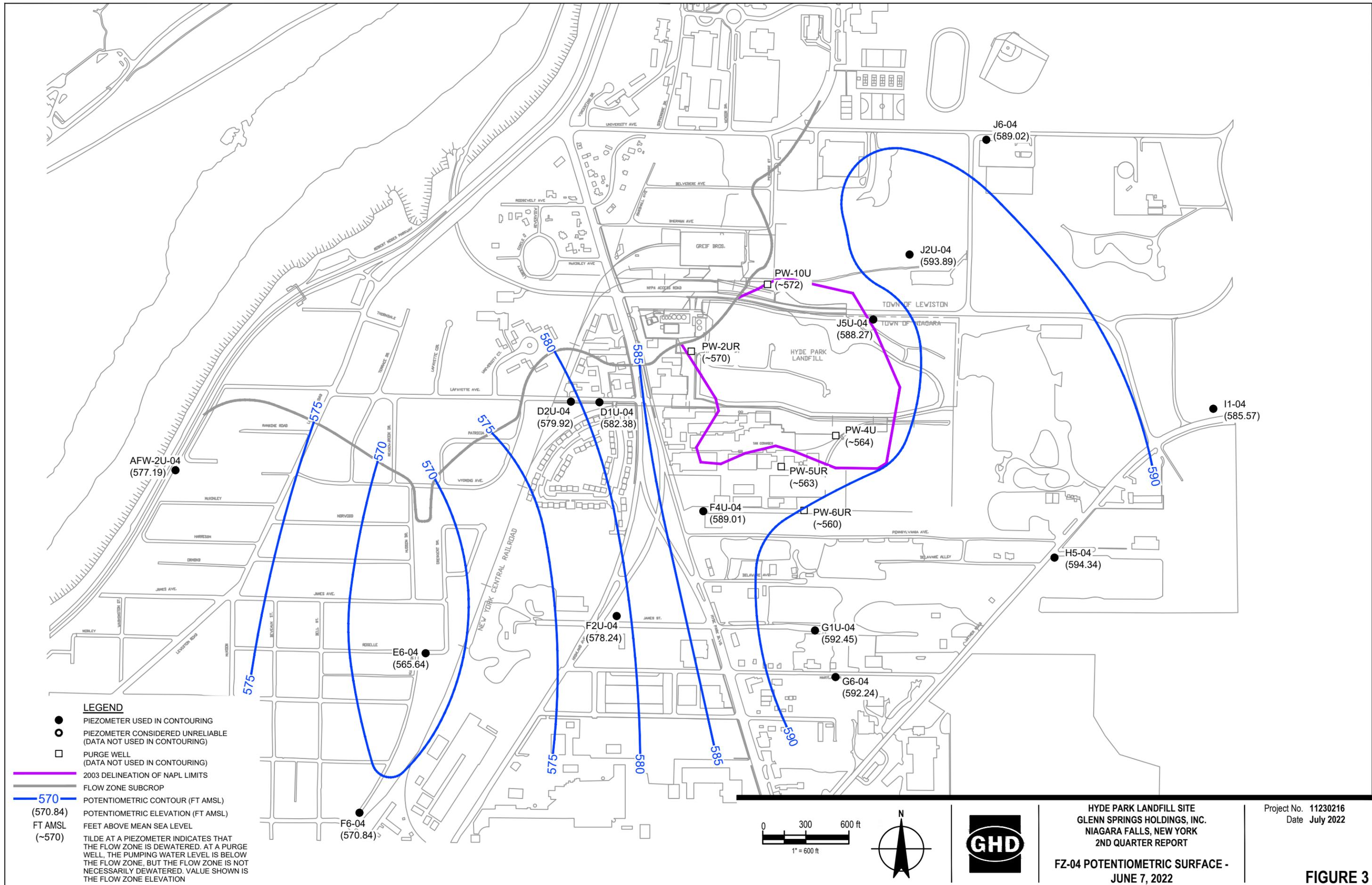
- PIEZOMETER USED IN CONTOURING
- PIEZOMETER CONSIDERED UNRELIABLE (DATA NOT USED IN CONTOURING)
- PURGE WELL (DATA NOT USED IN CONTOURING)
- 2003 DELINEATION OF NAPL LIMITS
- FLOW ZONE SUBCROP
- 580 POTENTIOMETRIC CONTOUR (FT AMSL)
- (575.61) POTENTIOMETRIC ELEVATION (FT AMSL)
- FT AMSL FEET ABOVE MEAN SEA LEVEL
- ~ TILDE AT A PIEZOMETER INDICATES THAT THE FLOW ZONE IS DEWATERED. AT A PURGE WELL, THE PUMPING WATER LEVEL IS BELOW THE FLOW ZONE, BUT THE FLOW ZONE IS NOT NECESSARILY DEWATERED. VALUE SHOWN IS THE FLOW ZONE ELEVATION

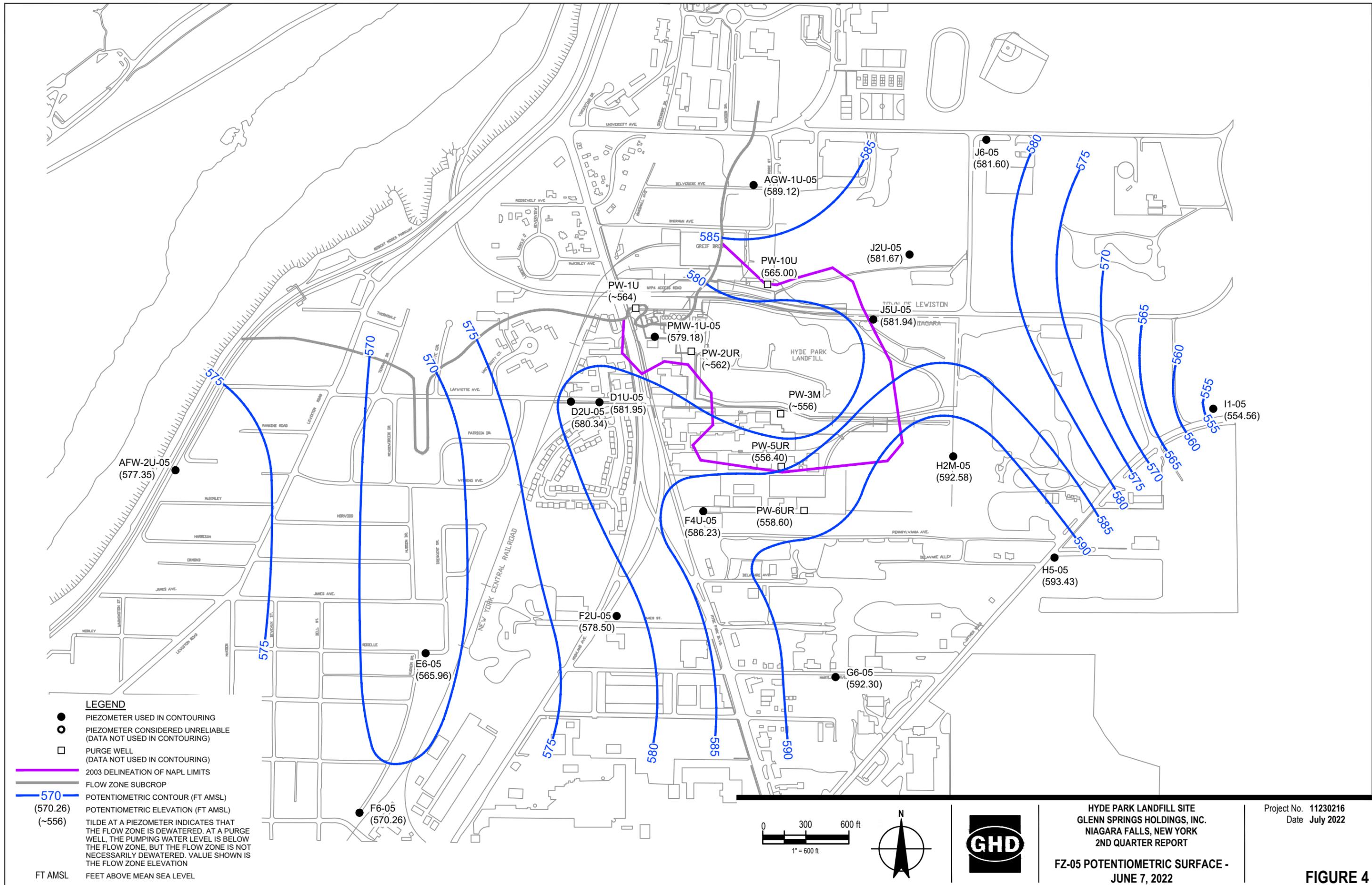


HYDE PARK LANDFILL SITE
 GLENN SPRINGS HOLDINGS, INC.
 NIAGARA FALLS, NEW YORK
 2ND QUARTER REPORT
FZ-02 POTENTIOMETRIC SURFACE -
JUNE 7, 2022

Project No. 11230216
 Date July 2022

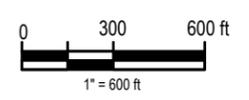
FIGURE 2





LEGEND

- PIEZOMETER USED IN CONTOURING
- PIEZOMETER CONSIDERED UNRELIABLE (DATA NOT USED IN CONTOURING)
- PURGE WELL (DATA NOT USED IN CONTOURING)
- 2003 DELINEATION OF NAP LIMITS
- FLOW ZONE SUBCROP
- 570 POTENTIOMETRIC CONTOUR (FT AMSL)
- (570.26) POTENTIOMETRIC ELEVATION (FT AMSL)
- (~556) TILDE AT A PIEZOMETER INDICATES THAT THE FLOW ZONE IS DEWATERED. AT A PURGE WELL, THE PUMPING WATER LEVEL IS BELOW THE FLOW ZONE, BUT THE FLOW ZONE IS NOT NECESSARILY DEWATERED. VALUE SHOWN IS THE FLOW ZONE ELEVATION
- FT AMSL FEET ABOVE MEAN SEA LEVEL

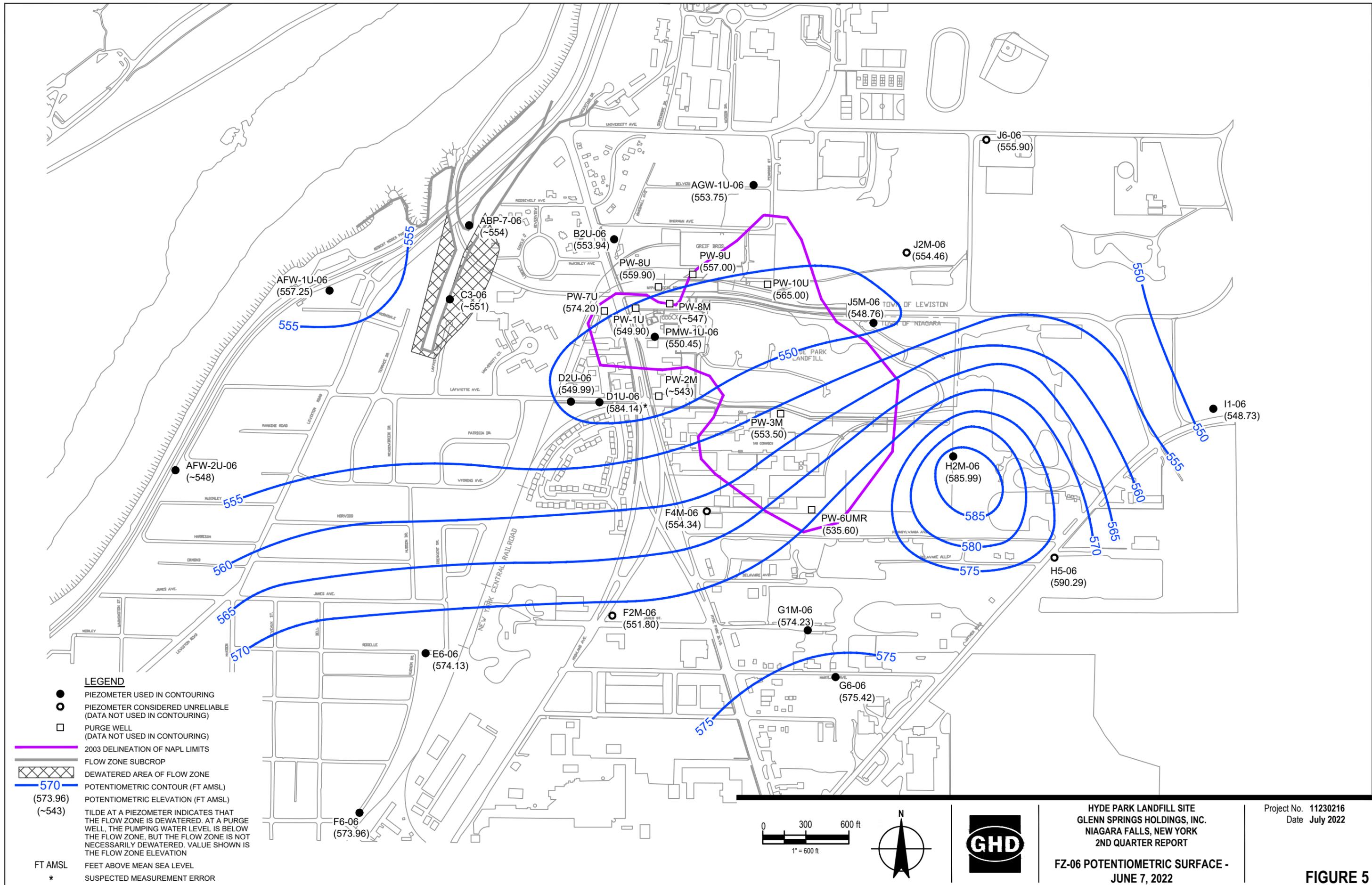


HYDE PARK LANDFILL SITE
 GLENN SPRINGS HOLDINGS, INC.
 NIAGARA FALLS, NEW YORK
 2ND QUARTER REPORT
 FZ-05 POTENTIOMETRIC SURFACE -
 JUNE 7, 2022

Project No. 11230216
 Date July 2022

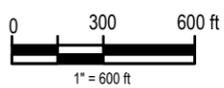
FIGURE 4

Filename: \\ghdnet\ghd\US\Niagara Falls\Projects\56411230216\Digital_Design\ACAD\Figures\LTR-Kondrk-Zwack00411230216-GHD-00-00-LTR-EN-D104_WA-Kondrk-Zwack004.dwg
 Plot Date: 27 July 2022 2:33 PM



LEGEND

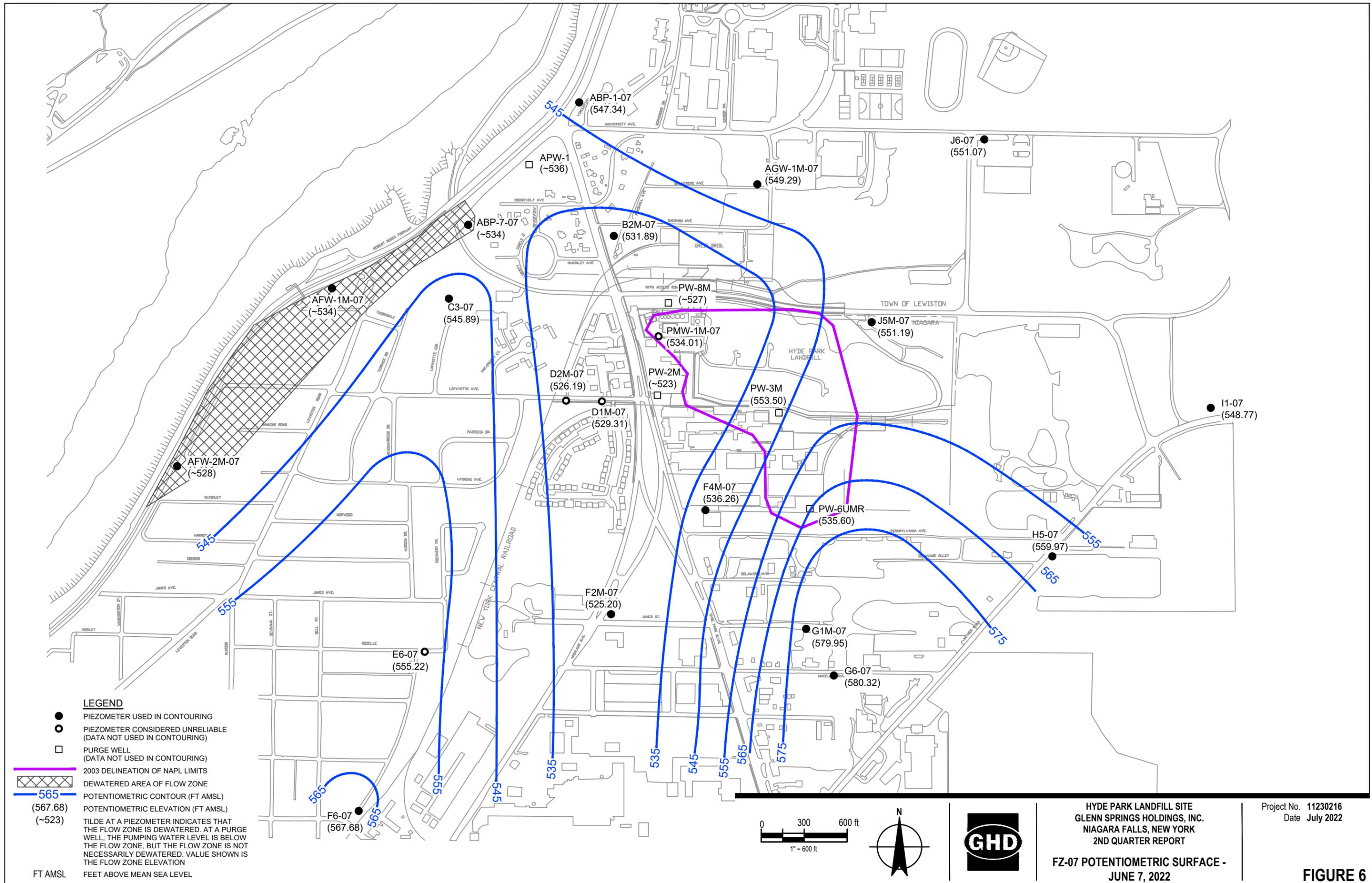
- PIEZOMETER USED IN CONTOURING
- PIEZOMETER CONSIDERED UNRELIABLE (DATA NOT USED IN CONTOURING)
- PURGE WELL (DATA NOT USED IN CONTOURING)
- 2003 DELINEATION OF NAPL LIMITS
- ▨ FLOW ZONE SUBCROP
- ▨ DEWATERED AREA OF FLOW ZONE
- 570 POTENTIOMETRIC CONTOUR (FT AMSL) (573.96)
- (~543) POTENTIOMETRIC ELEVATION (FT AMSL)
- TILDE AT A PIEZOMETER INDICATES THAT THE FLOW ZONE IS DEWATERED. AT A PURGE WELL, THE PUMPING WATER LEVEL IS BELOW THE FLOW ZONE, BUT THE FLOW ZONE IS NOT NECESSARILY DEWATERED. VALUE SHOWN IS THE FLOW ZONE ELEVATION
- FT AMSL FEET ABOVE MEAN SEA LEVEL
- * SUSPECTED MEASUREMENT ERROR



HYDE PARK LANDFILL SITE
 GLENN SPRINGS HOLDINGS, INC.
 NIAGARA FALLS, NEW YORK
 2ND QUARTER REPORT
 FZ-06 POTENTIOMETRIC SURFACE -
 JUNE 7, 2022

Project No. 11230216
 Date July 2022

FIGURE 5



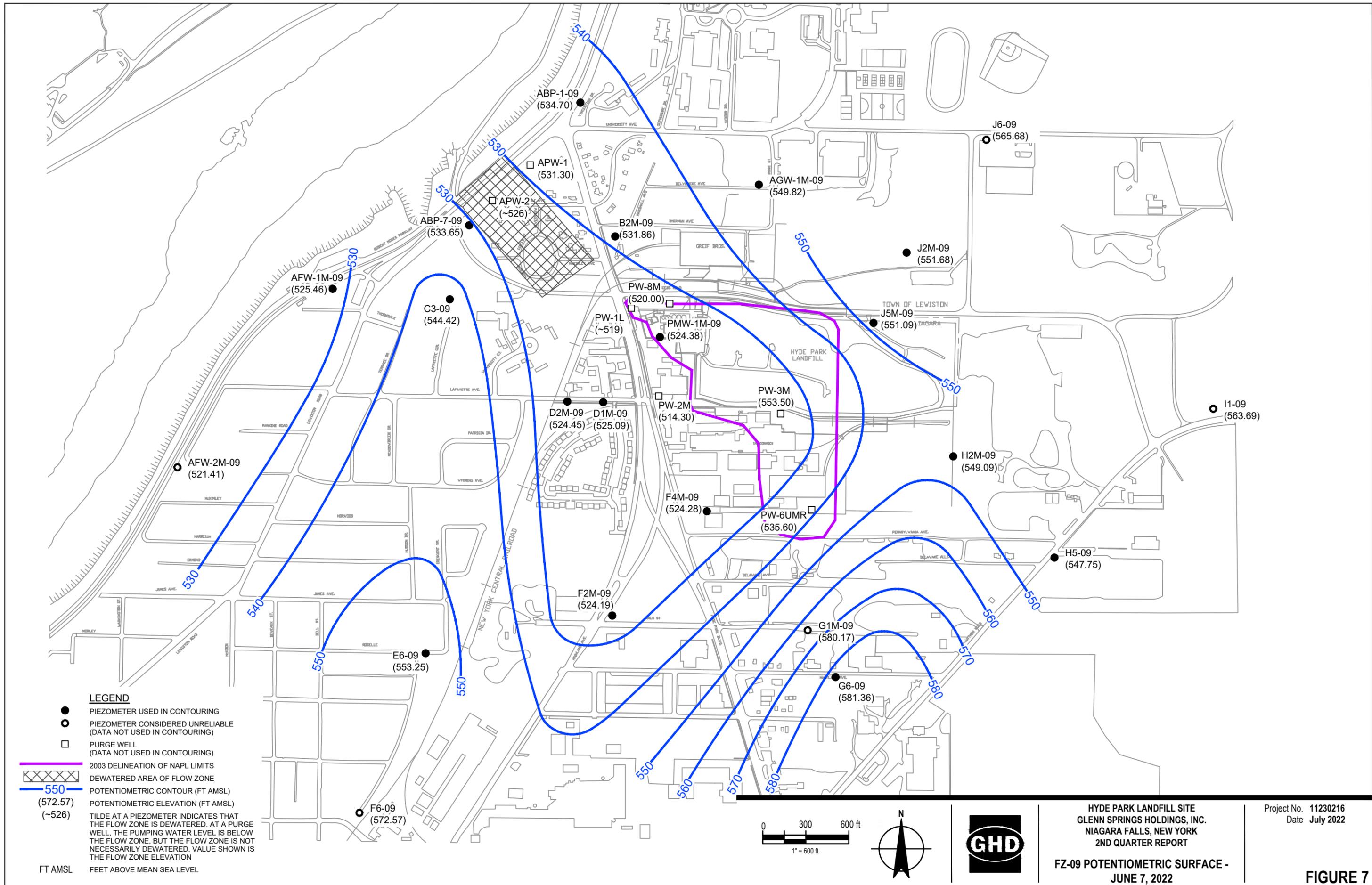
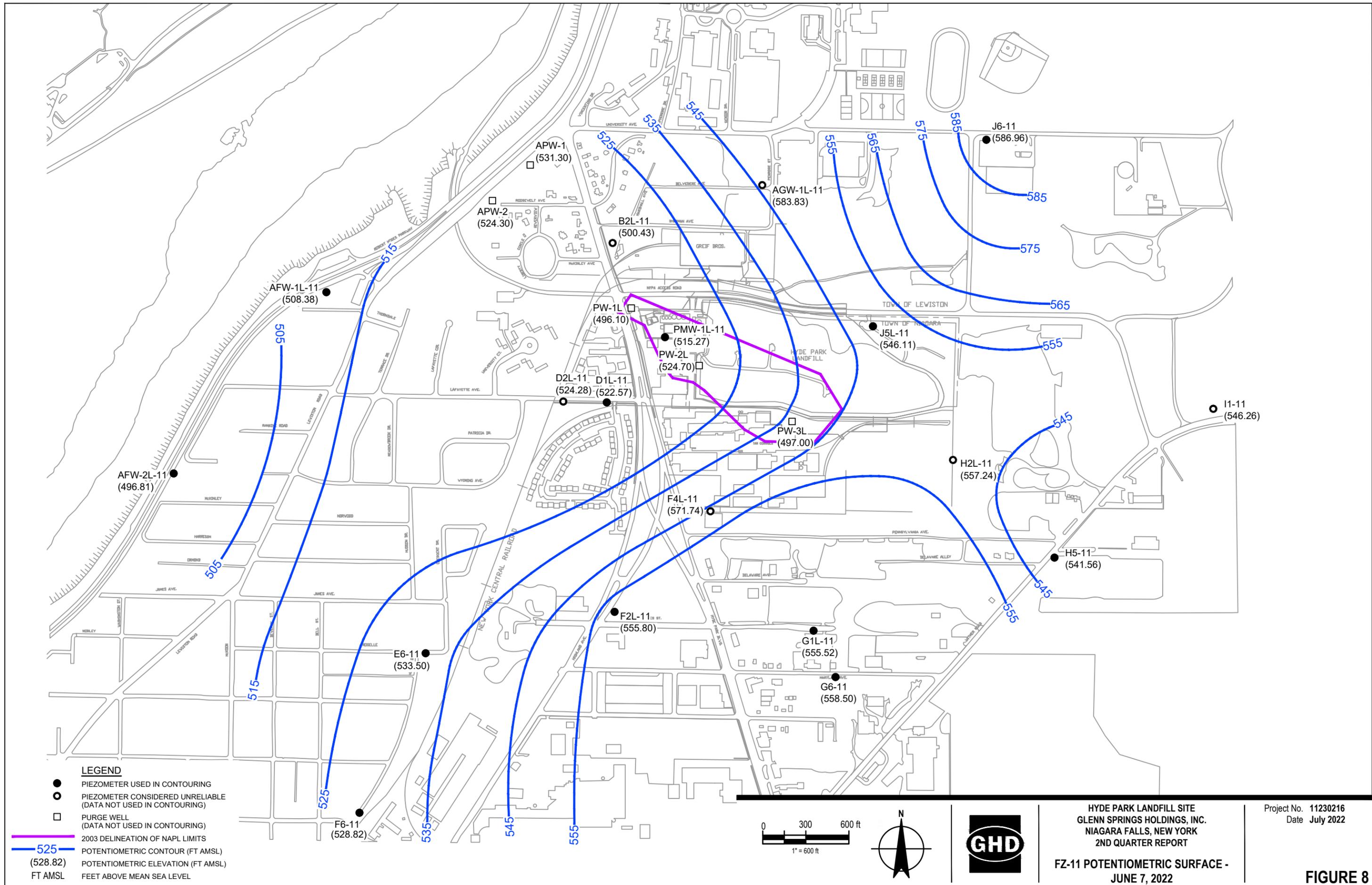
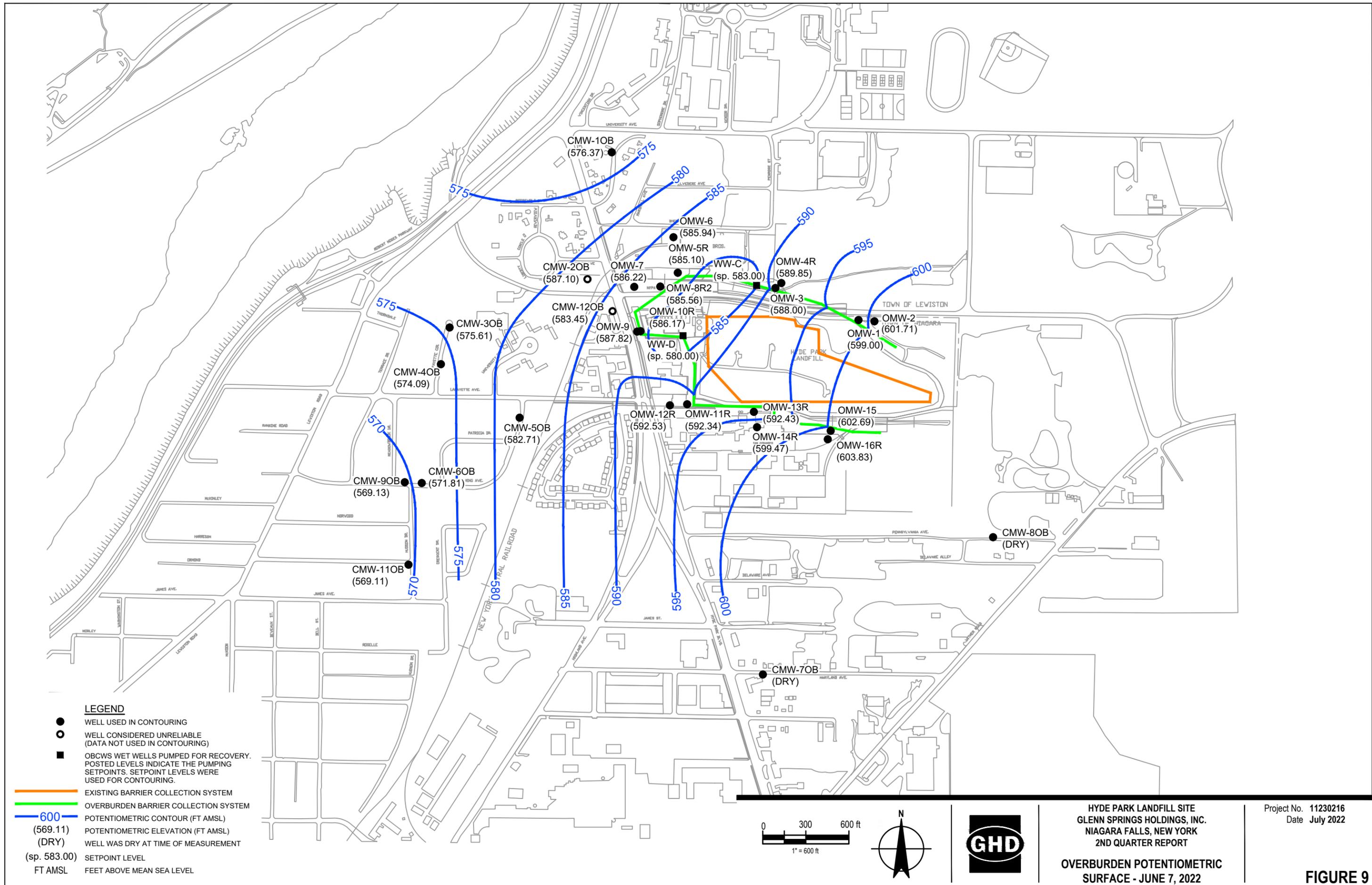


FIGURE 7





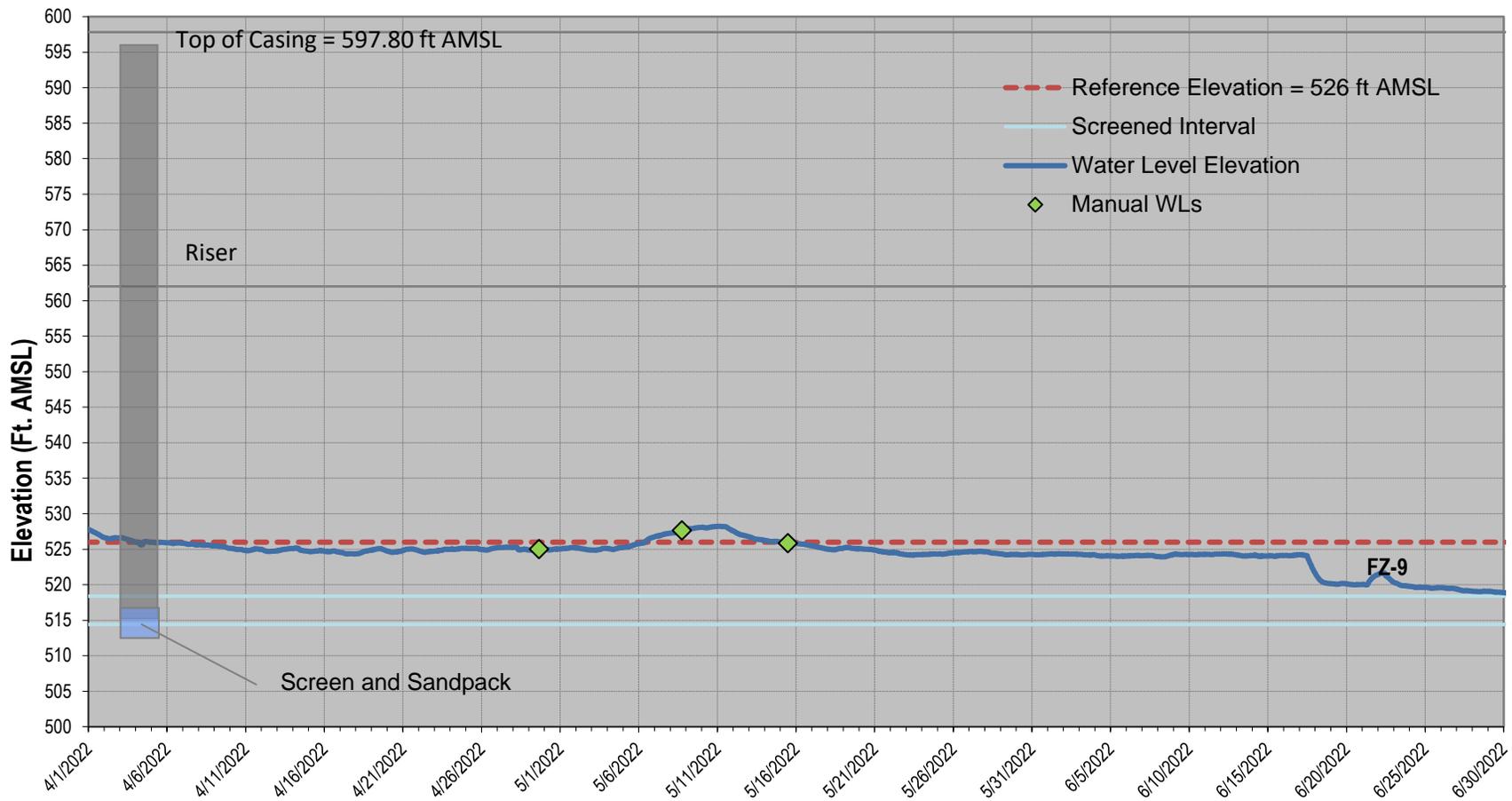


figure 10

PMW-1M-09 2nd Quarter 2022 - Hourly Water Level Elevation
 2nd Quarter Report
 Hyde Park Landfill Site
 Glenn Springs Holdings, Inc.

**Groundwater Elevation Summary
Second Quarter - 2022
Hyde Park RRT Program**

Well	Reference Elevation (ft AMSL)	Depth to Water (ft)	Groundwater Elevation (ft AMSL)
Overburden			
CMW-2OB	590.79	3.69	587.10
CMW-3OB	582.13	6.52	575.61
CMW-4OB	574.28	0.19	574.09
CMW-5OB	583.43	0.72	582.71
CMW-6OB	571.89	0.08	571.81
CMW-7OB	611.00	Dry	-
CMW-8OB	616.11	Dry	-
CMW-9OB	571.76	2.63	569.13
CMW-1OB	576.80	0.43	576.37
CMW-11OB	572.85	3.74	569.11
CMW-12OB	594.74	11.29	583.45
MH20	605.87	4.66	601.21
MH21	599.77	6.07	593.70
MH22	593.37	6.78	586.59
MH23	587.05	12.29	574.76
MH24	582.57	8.07	574.50
MH25	583.82	7.68	576.14
MH26	584.48	8.92	575.56
MH27	586.12	10.59	575.53
MH28	585.23	16.83	568.40
MH29	604.58	14.76	589.82
MH30	599.49	10.00	589.49
MH31	590.10	9.52	580.58
MH32	592.01	9.72	582.29
MH33	592.51	8.75	583.76
MH34	598.34	7.19	591.15
MH35	605.69	6.58	599.11
MH35A	605.69	7.27	598.42
OMW-1	605.28	6.28	599.00
OMW-2	605.99	4.28	601.71
OMW-3	598.63	10.63	588.00
OMW-4R	601.17	11.32	589.85
OMW-5R	591.31	6.21	585.10
OMW-6	587.62	1.68	585.94
OMW-7	592.74	6.52	586.22
OMW-8R2	594.67	9.11	585.56
OMW-9	595.27	7.45	587.82
OMW-10R	595.13	8.96	586.17
OMW-11R	597.52	5.18	592.34
OMW-12R	596.71	4.18	592.53
OMW-13R	601.50	9.07	592.43
OMW-14R	599.64	0.17	599.47
OMW-15	607.48	4.79	602.69
OMW-16R	607.62	3.79	603.83
SC-2	625.61	22.52	603.09
SC-3	638.72	39.43	599.29
SC-4	639.35	39.23	600.12
SC-5	634.07	23.77	610.30
SC-6	631.15	19.11	612.04

**Groundwater Elevation Summary
Second Quarter - 2022
Hyde Park RRT Program**

Well	Reference Elevation (ft AMSL)	Depth to Water (ft)	Groundwater Elevation (ft AMSL)
Shallow Bedrock			
CMW-1SH	576.11	12.48	563.63
CMW-2SH	590.51	17.91	572.60
CMW-3SH	581.91	27.47	554.44
CMW-4SH	574.16	6.69	567.47
CMW-5SH	583.36	7.36	576.00
CMW-6SH	572.05	9.79	562.26
CMW-7SH	610.58	11.92	598.66
CMW-8SH	615.95	6.78	609.17
CMW-9SH	571.96	11.43	560.53
CMW-11SH	573.21	7.98	565.23
CMW-12SH	597.02	33.03	563.99
Flow Zone 1			
G1U-01	617.08	12.39	604.69
G6-01	609.24	5.88	603.36
H2U-01	620.92	11.38	609.54
H5-01	617.61	22.90	594.71
I1-01	625.58	23.91	601.67
Flow Zone 2			
F2U-02	599.89	24.28	575.61
F4U-02	602.32	15.78	586.54
G1-02	616.86	24.38	592.48
G6-02	608.65	16.89	591.76
H2U-02	620.88	26.36	594.52
H5-02	617.47	23.02	594.45
I1-02	625.47	36.69	588.78
J2U-02	609.66	13.08	596.58
J5U-02	606.21	9.78	596.43
J6-02	609.23	9.46	599.77
Flow Zone 4			
AFW-2U-04	593.48	16.29	577.19
D1U-04	593.77	11.39	582.38
D2U-04	590.65	10.73	579.92
E6-04	578.23	12.59	565.64
F2U-04	599.76	21.52	578.24
F4U-04	602.19	13.18	589.01
F6-04	588.06	17.22	570.84
G1U-04	616.96	24.51	592.45
G6-04	609.15	16.91	592.24
H5-04	617.40	23.06	594.34
I1-04	625.30	39.73	585.57
J2U-04	609.42	15.53	593.89
J5U-04	606.05	17.78	588.27
J6-04	609.12	20.10	589.02

**Groundwater Elevation Summary
Second Quarter - 2022
Hyde Park RRT Program**

Well	Reference Elevation (ft AMSL)	Depth to Water (ft)	Groundwater Elevation (ft AMSL)
Flow Zone 5			
AFW-2U-05	593.33	15.98	577.35
AGW-1U-05	591.80	2.68	589.12
D1U-05	593.51	11.56	581.95
D2U-05	590.56	10.22	580.34
E6-05	578.04	12.08	565.96
F2U-05	599.64	21.14	578.50
F4U-05	602.06	15.83	586.23
F6-05	587.85	17.59	570.26
G6-05	609.13	16.83	592.30
H2M-05	621.59	29.01	592.58
H5-05	617.31	23.88	593.43
I1-05	625.25	70.69	554.56
J2U-05	609.30	27.63	581.67
J5U-05	605.87	23.93	581.94
J6-05	609.02	27.42	581.60
PMW-1U-05	598.00	18.82	579.18
Flow Zone 6			
ABP-7-06	575.78	Dry	-
AFW-1U-06	571.83	14.58	557.25
AFW-2U-06	593.22	47.94	545.28
AGW-1U-06	591.66	37.91	553.75
B2U-06	589.29	35.35	553.94
C3-06	585.78	37.34	548.44
D1U-06	593.25	9.11*	584.14*
D2U-06	590.38	40.39	549.99
E6-06	577.99	3.86	574.13
F2M-06	599.06	47.26	551.80
F4M-06	602.05	47.71	554.34
F6-06	587.84	13.88	573.96
G1M-06	616.75	42.52	574.23
G6-06	609.09	33.67	575.42
H2M-06	621.42	35.43	585.99
H5-06	617.17	26.88	590.29
I1-06	625.15	76.42	548.73
J2M-06	608.94	54.48	554.46
J5M-06	606.22	57.46	548.76
J6-06	608.93	53.03	555.90
PMW-1U-06	597.92	47.47	550.45

**Groundwater Elevation Summary
Second Quarter - 2022
Hyde Park RRT Program**

Well	Reference Elevation (ft AMSL)	Depth to Water (ft)	Groundwater Elevation (ft AMSL)
Flow Zone 7			
ABP-1-07	575.20	27.86	547.34
ABP-7-07	575.73	41.64	534.09
AFW-1M-07	571.41	Dry	-
AFW-2M-07	593.44	66.73	526.71
AGW-1M-07	592.91	43.62	549.29
B2M-07	589.52	57.63	531.89
C3-07	585.62	39.73	545.89
D1M-07	594.15	64.84	529.31
D2M-07	590.77	64.58	526.19
E6-07	577.91	22.69	555.22
F2M-07	598.91	73.71	525.20
F4M-07	601.91	65.65	536.26
F6-07	587.68	20.00	567.68
G1M-07	616.68	36.73	579.95
G6-07	609.06	28.74	580.32
H5-07	617.05	57.08	559.97
I1-07	625.14	76.37	548.77
J5M-07	606.07	54.88	551.19
J6-07	608.85	57.78	551.07
PMW-1M-07	598.50	64.49	534.01
Flow Zone 9			
ABP-1-09	575.19	40.49	534.70
ABP-7-09	575.67	42.02	533.65
AFW-1M-09	571.12	45.66	525.46
AFW-2M-09	593.32	71.91	521.41
AGW-1M-09	592.75	42.93	549.82
B2M-09	589.34	57.48	531.86
C3-09	585.00	40.58	544.42
D1M-09	594.02	68.93	525.09
D2M-09	590.66	66.21	524.45
E6-09	577.82	24.57	553.25
F2M-09	598.71	74.52	524.19
F4M-09	601.79	77.51	524.28
F6-09	587.53	14.96	572.57
G1M-09	616.58	36.41	580.17
G6-09	608.98	27.62	581.36
H2M-09	621.32	72.23	549.09
H5-09	616.93	69.18	547.75
I1-09	624.91	61.22	563.69
J2M-09	608.77	57.09	551.68
J5M-09	605.82	54.73	551.09
J6-09	608.76	43.08	565.68
PMW-1M-09	598.34	73.96	524.38

**Groundwater Elevation Summary
Second Quarter - 2022
Hyde Park RRT Program**

Well	Reference Elevation (ft AMSL)	Depth to Water (ft)	Groundwater Elevation (ft AMSL)
Flow Zone 11			
AFW-1L-11	572.10	63.72	508.38
AFW-2L-11	593.43	96.62	496.81
AGW-1L-11	592.71	8.88	583.83
B2L-11	589.65	89.22	500.43
D1L-11	593.80	71.23	522.57
D2L-11	590.21	65.93	524.28
E6-11	577.72	44.22	533.50
F2L-11	598.94	43.14	555.80
F4L-11	602.22	30.48	571.74
F6-11	587.40	58.58	528.82
G1L-11	616.84	61.32	555.52
G6-11	608.89	50.39	558.50
H2L-11	620.73	63.49	557.24
H5-11	616.81	75.25	541.56
I1-11	624.75	78.49	546.26
J5L-11	607.20	61.09	546.11
J6-11	608.68	21.72	586.96
PMW-1L-11	598.84	83.57	515.27
Purge Wells			
APW-1	564.98	33.68	531.30
APW-2	569.89	45.59	524.30
PW-1L	593.16	97.06	496.10
PW-1U	593.50	43.60	549.90
PW-2L	597.29	72.59	524.70
PW-2M	596.61	82.31	514.30
PW-2UR	594.75	34.95	559.80
PW-3L	599.05	102.05	497.00
PW-3M	597.79	44.29	553.50
PW-4U	604.85	33.75	571.10
PW-5UR	601.31	44.91	556.40
PW-6UMR	609.31	73.71	535.60
PW-6UR	608.47	49.87	558.60
PW-7U	592.47	18.27	574.20
PW-8M	592.67	72.67	520.00
PW-8U	589.27	29.37	559.90
PW-9U	587.47	30.47	557.00
PW-10U	593.54	28.54	565.00

Notes:

- * - Suspected measurement error
- - Not applicable
- ft AMSL - Feet above mean sea level
- Dry - No water present at the time of measurement
- Surcharged - Well surcharged

**Leachate Treatment System Daily Effluent Monitoring Data
Second Quarter - 2022
Hyde Park RRT Program**

Date	Effluent	
	pH (su)	Flow (gal)
04/01/22	7.2	147,000
04/02/22		
04/03/22		
04/04/22		
04/05/22	7.1	162,000
04/06/22	7.2	156,000
04/07/22	7.1	153,000
04/08/22		
04/09/22		
04/10/22		
04/11/22		
04/12/22	7.2	131,000
04/13/22	7.1	150,000
04/14/22	7.3	146,000
04/15/22	7.2	161,000
04/16/22		
04/17/22		
04/18/22		
04/19/22	7.4	134,000
04/20/22	7.4	149,000
04/21/22	7.4	129,000
04/22/22	7.4	160,000
04/23/22		
04/24/22		
04/25/22		
04/26/22	7.4	163,000
04/27/22	7.2	162,000
04/28/22	7.2	157,000
04/29/22	7.2	158,000
04/30/22		
05/01/22		
05/02/22	7.5	135,000
05/03/22	7.5	139,000
05/04/22	7.5	146,000
05/05/22	7.6	140,000
05/06/22	7.5	158,000
05/07/22	7.4	156,000

**Leachate Treatment System Daily Effluent Monitoring Data
Second Quarter - 2022
Hyde Park RRT Program**

Date	Effluent	
	pH (su)	Flow (gal)
05/08/22		
05/09/22		
05/10/22	7.4	132,000
05/11/22	7.2	145,000
05/12/22	7.2	140,000
05/13/22	7.2	122,000
05/14/22		
05/15/22		
05/16/22	7.2	138,000
05/17/22	7.1	147,000
05/18/22	7.2	29,000
05/19/22		
05/20/22	7.4	22,000
05/21/22		
05/22/22		
05/23/22	7.2	128,000
05/24/22		
05/25/22	7.1	145,000
05/26/22	7.1	145,000
05/27/22	7.1	21,000
05/28/22		
05/29/22		
05/30/22		
05/31/22	7.5	119,000
06/01/22	7.2	150,000
06/02/22	7.1	149,000
06/03/22		
06/04/22		
06/05/22		
06/06/22		
06/07/22	7.2	136,000
06/08/22	7.2	150,000
06/09/22	7.1	166,000
06/10/22		
06/11/22		
06/12/22		
06/13/22		

**Leachate Treatment System Daily Effluent Monitoring Data
Second Quarter - 2022
Hyde Park RRT Program**

Date	Effluent	
	pH (su)	Flow (gal)
06/14/22	7.1	134,000
06/15/22	7.2	147,000
06/16/22	7.0	148,000
06/17/22		
06/18/22		
06/19/22		
06/20/22		
06/21/22	7.2	135,000
06/22/22	7.2	146,000
06/23/22	7.2	48,000
06/24/22		
06/25/22		
06/26/22		
06/27/22	7.1	117,000
06/28/22	7.1	138,000
06/29/22		
06/30/22	7.2	142,000
	Total	6,631,000

Notes:

su - Standard Unit
gal - Gallons

Analytical Results Summary
Weekly Sampling - Leachate Treatment System
Second Quarter - 2022
Hyde Park RRT Program

Effluent	Parameter	Units	04/06/2022	04/13/2022	04/20/2022	04/27/2022	05/04/2022	05/11/2022
Volatiles								
	1,1,1-Trichloroethane	µg/L	1.0 U					
	1,1,2,2-Tetrachloroethane	µg/L	0.47 J	0.50 J	0.53 J	1.0 U	0.68 J	0.44 J
	1,1,2-Trichloroethane	µg/L	1.0 U					
	1,1-Dichloroethane	µg/L	1.9	1.8	1.9	1.3	1.3	1.4
	1,1-Dichloroethene	µg/L	1.0 U					
	1,2,4-Trichlorobenzene	µg/L	1.0 U					
	1,2-Dichlorobenzene	µg/L	1.0 U					
	1,2-Dichloroethane	µg/L	4.3	4.2	4.2	3.2	4.4	4.9
	1,2-Dichloropropane	µg/L	0.39 J	0.35 J	0.38 J	1.0 U	0.51 J	0.39 J
	1,3-Dichlorobenzene	µg/L	1.0 U					
	1,4-Dichlorobenzene	µg/L	1.0 U					
	2-Chlorotoluene	µg/L	1.0 U					
	3-Chlorotoluene	µg/L	1.0 U					
	4-Chlorotoluene	µg/L	1.0 U					
	Benzene	µg/L	5.2	5.7	3.9	4.4	8.9	8.7
	Bromodichloromethane	µg/L	1.0 U					
	Bromoform	µg/L	1.0 U					
	Bromomethane (Methyl bromide)	µg/L	1.0 U					
	Carbon disulfide	µg/L	2.8	7.3	8.9	9.6	4.8	5.5
	Carbon tetrachloride	µg/L	1.0 U					
	Chlorobenzene	µg/L	1.0 U					
	Chloroethane	µg/L	1.0 U					
	Chloroform (Trichloromethane)	µg/L	2.0	1.6	1.8	1.7	2.1	2.1
	Chloromethane (Methyl chloride)	µg/L	1.0 U					
	cis-1,2-Dichloroethene	µg/L	1.2	1.3	1.2	1.3	1.6	1.5
	cis-1,3-Dichloropropene	µg/L	1.0 U					
	Dichlorodifluoromethane (CFC-12)	µg/L	1.0 U					
	Ethylbenzene	µg/L	1.0 U					
	m&p-Xylenes	µg/L	2.0 U					
	m-Monochlorobenzotrifluoride	µg/L	1.0 U					
	Methylene chloride	µg/L	1.0 U					
	o-Monochlorobenzotrifluoride	µg/L	1.0 U					
	o-Xylene	µg/L	1.0 U					
	p-Monochlorobenzotrifluoride	µg/L	1.0 U					
	Styrene	µg/L	1.0 U					
	Tetrachloroethene	µg/L	1.0 U					
	Toluene	µg/L	1.0 U					
	trans-1,2-Dichloroethene	µg/L	1.0 U					
	trans-1,3-Dichloropropene	µg/L	1.0 U					
	Trichloroethene	µg/L	1.0 U					
	Trichlorofluoromethane (CFC-11)	µg/L	1.0 U					
	Vinyl acetate	µg/L	2.0 U					
	Vinyl chloride	µg/L	63	64	72	44	54	43
	Xylenes (total)	µg/L	3.0 U					
General Chemistry								
	Phenolics (total)	mg/L	0.0038 J	0.0053	0.0065	0.0081	0.0088	0.0073

Notes:

J - Estimated concentration

U - Not detected at the associated reporting limit

mg/L - Milligrams per liter

µg/L - Micrograms per liter

Analytical Results Summary
Weekly Sampling - Leachate Treatment System
Second Quarter - 2022
Hyde Park RRT Program

Effluent	Parameter	Units	05/18/2022	05/25/2022	06/01/2022	06/08/2022	06/15/2022	06/22/2022
Volatiles								
	1,1,1-Trichloroethane	µg/L	1.0 U					
	1,1,2,2-Tetrachloroethane	µg/L	0.51 J	0.52 J	0.60 J	0.72 J	0.56 J	0.54 J
	1,1,2-Trichloroethane	µg/L	1.0 U					
	1,1-Dichloroethane	µg/L	1.4	1.6	1.9	1.8	1.7	1.7
	1,1-Dichloroethene	µg/L	1.0 U					
	1,2,4-Trichlorobenzene	µg/L	1.0 U					
	1,2-Dichlorobenzene	µg/L	1.0 U					
	1,2-Dichloroethane	µg/L	4.6	5.1	5.2	5.1	5.2	4.9
	1,2-Dichloropropane	µg/L	0.54 J	1.0 U	0.54 J	0.63 J	0.58 J	0.46 J
	1,3-Dichlorobenzene	µg/L	1.0 U					
	1,4-Dichlorobenzene	µg/L	1.0 U					
	2-Chlorotoluene	µg/L	1.0 U					
	3-Chlorotoluene	µg/L	1.0 U					
	4-Chlorotoluene	µg/L	1.0 U					
	Benzene	µg/L	9.3	7.6	9.2	9.2	8.5	8.0
	Bromodichloromethane	µg/L	1.0 U					
	Bromoform	µg/L	1.0 U					
	Bromomethane (Methyl bromide)	µg/L	1.0 U					
	Carbon disulfide	µg/L	16	18	26	27	25	25
	Carbon tetrachloride	µg/L	1.0 U					
	Chlorobenzene	µg/L	1.0 U					
	Chloroethane	µg/L	1.0 U					
	Chloroform (Trichloromethane)	µg/L	2.0	2.0	2.1	2.5	2.1	2.1
	Chloromethane (Methyl chloride)	µg/L	1.0 U					
	cis-1,2-Dichloroethene	µg/L	1.7	1.7	1.9	2.0	1.8	1.7
	cis-1,3-Dichloropropene	µg/L	1.0 U					
	Dichlorodifluoromethane (CFC-12)	µg/L	1.0 U					
	Ethylbenzene	µg/L	1.0 U					
	m&p-Xylenes	µg/L	0.25 J	2.0 U				
	m-Monochlorobenzotrifluoride	µg/L	1.0 U					
	Methylene chloride	µg/L	1.0 U					
	o-Monochlorobenzotrifluoride	µg/L	1.0 U					
	o-Xylene	µg/L	0.22 J	1.0 U				
	p-Monochlorobenzotrifluoride	µg/L	1.0 U					
	Styrene	µg/L	1.0 U					
	Tetrachloroethene	µg/L	1.0 U					
	Toluene	µg/L	1.0 U					
	trans-1,2-Dichloroethene	µg/L	1.0 U					
	trans-1,3-Dichloropropene	µg/L	1.0 U					
	Trichloroethene	µg/L	1.0 U					
	Trichlorofluoromethane (CFC-11)	µg/L	1.0 U					
	Vinyl acetate	µg/L	2.0 U					
	Vinyl chloride	µg/L	49	58	57	56	53	54
	Xylenes (total)	µg/L	0.47 J	3.0 U				
General Chemistry								
	Phenolics (total)	mg/L	0.0114	0.0080	0.0080	0.0149	0.0110	0.0151

Notes:

J - Estimated concentration

U - Not detected at the associated reporting limit

mg/L - Milligrams per liter

µg/L - Micrograms per liter

Analytical Results Summary
Weekly Sampling - Leachate Treatment System
Second Quarter - 2022
Hyde Park RRT Program

Effluent	Parameter	Units	<u>06/29/2022</u>
Volatiles			
	1,1,1-Trichloroethane	µg/L	1.0 U
	1,1,2,2-Tetrachloroethane	µg/L	0.51 J
	1,1,2-Trichloroethane	µg/L	1.0 U
	1,1-Dichloroethane	µg/L	1.8
	1,1-Dichloroethene	µg/L	1.0 U
	1,2,4-Trichlorobenzene	µg/L	1.0 U
	1,2-Dichlorobenzene	µg/L	1.0 U
	1,2-Dichloroethane	µg/L	5.6
	1,2-Dichloropropane	µg/L	0.53 J
	1,3-Dichlorobenzene	µg/L	1.0 U
	1,4-Dichlorobenzene	µg/L	1.0 U
	2-Chlorotoluene	µg/L	1.0 U
	3-Chlorotoluene	µg/L	1.0 U
	4-Chlorotoluene	µg/L	1.0 U
	Benzene	µg/L	9.2
	Bromodichloromethane	µg/L	1.0 U
	Bromoform	µg/L	1.0 U
	Bromomethane (Methyl bromide)	µg/L	1.0 U
	Carbon disulfide	µg/L	25
	Carbon tetrachloride	µg/L	1.0 U
	Chlorobenzene	µg/L	1.0 U
	Chloroethane	µg/L	1.0 U
	Chloroform (Trichloromethane)	µg/L	2.0
	Chloromethane (Methyl chloride)	µg/L	1.0 U
	cis-1,2-Dichloroethene	µg/L	2.0
	cis-1,3-Dichloropropene	µg/L	1.0 U
	Dichlorodifluoromethane (CFC-12)	µg/L	1.0 U
	Ethylbenzene	µg/L	1.0 U
	m&p-Xylenes	µg/L	2.0 U
	m-Monochlorobenzotrifluoride	µg/L	1.0 U
	Methylene chloride	µg/L	1.0 U
	o-Monochlorobenzotrifluoride	µg/L	1.0 U
	o-Xylene	µg/L	1.0 U
	p-Monochlorobenzotrifluoride	µg/L	1.0 U
	Styrene	µg/L	1.0 U
	Tetrachloroethene	µg/L	1.0 U
	Toluene	µg/L	1.0 U
	trans-1,2-Dichloroethene	µg/L	1.0 U
	trans-1,3-Dichloropropene	µg/L	1.0 U
	Trichloroethene	µg/L	1.0 U
	Trichlorofluoromethane (CFC-11)	µg/L	1.0 U
	Vinyl acetate	µg/L	2.0 U
	Vinyl chloride	µg/L	55
	Xylenes (total)	µg/L	3.0 U
General Chemistry			
	Phenolics (total)	mg/L	0.0187

Notes:

J - Estimated concentration

U - Not detected at the associated reporting limit

mg/L - Milligrams per liter

µg/L - Micrograms per liter

Table 4

**Analytical Results Summary
Quarterly Sampling - Leachate Treatment System
Second Quarter - 2022
Hyde Park RRT Program**

Sample Location:	EFFLUENT	EFFLUENT
Sample ID:	HP 62222 EFF	HP 62222 EFF
Sample Date:	6/22/2022	6/22/2022

Parameters	Units		
Volatile Organic Compounds			
Vinyl chloride	µg/L	52.5	-
General Chemistry			
Phosphorus	mg/L	-	0.236

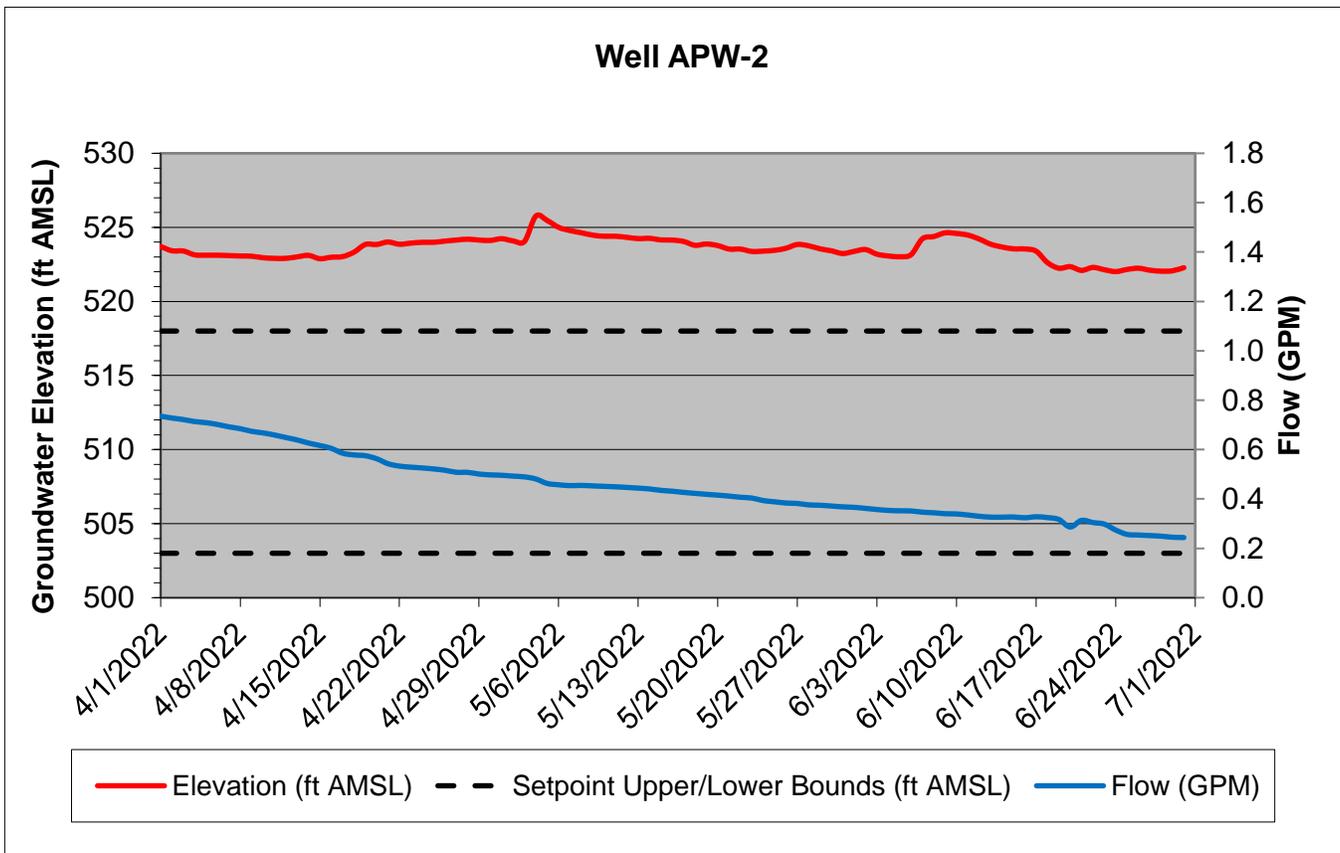
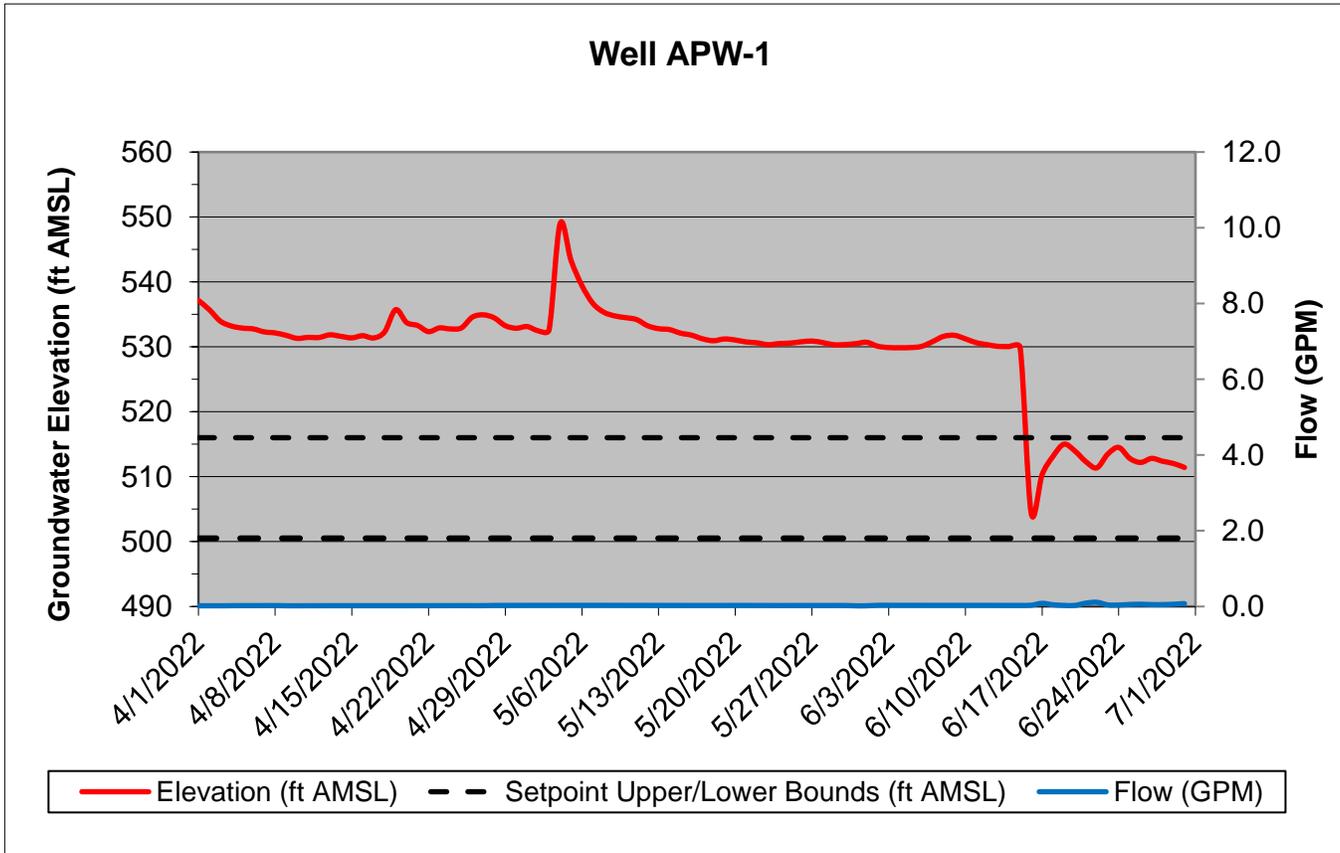
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"-" - Not applicable

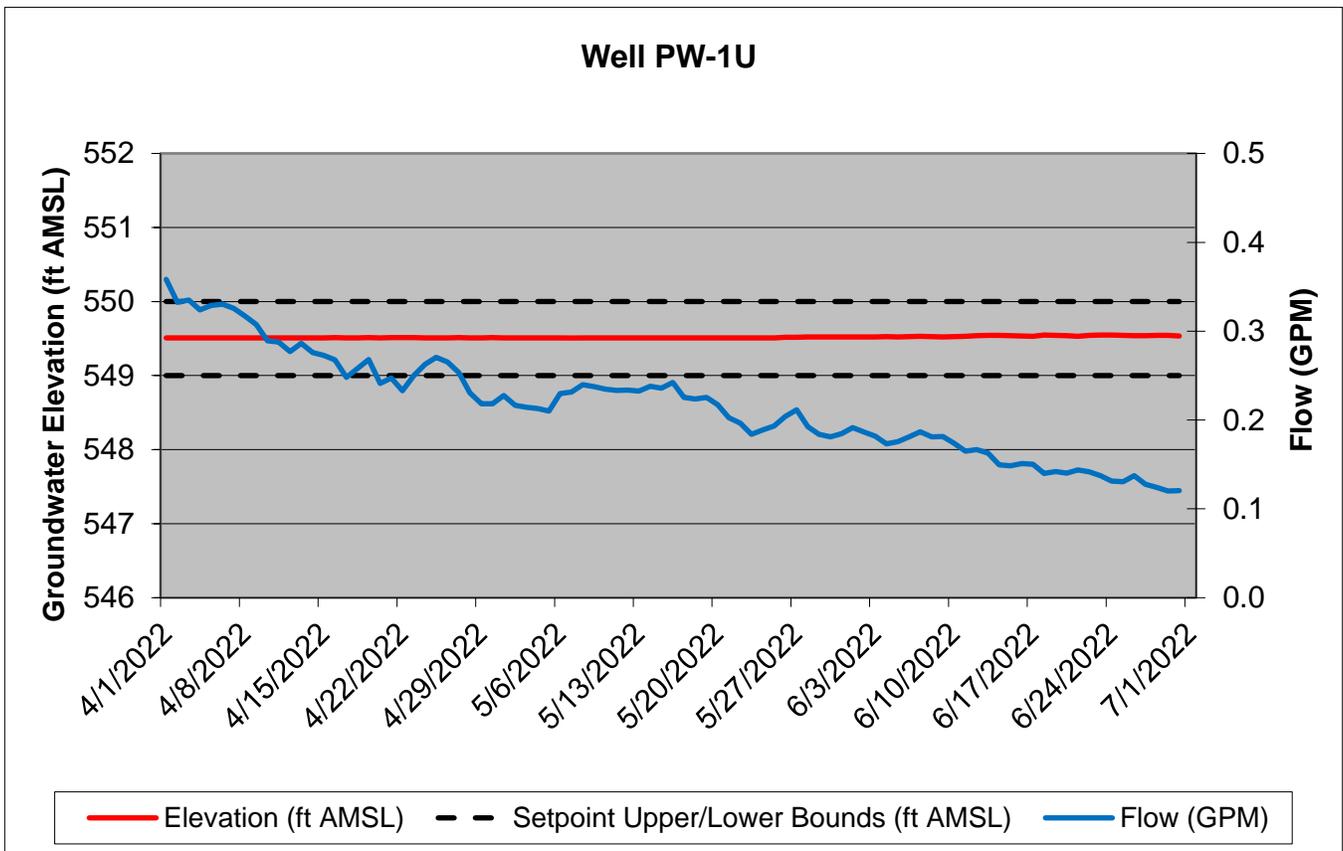
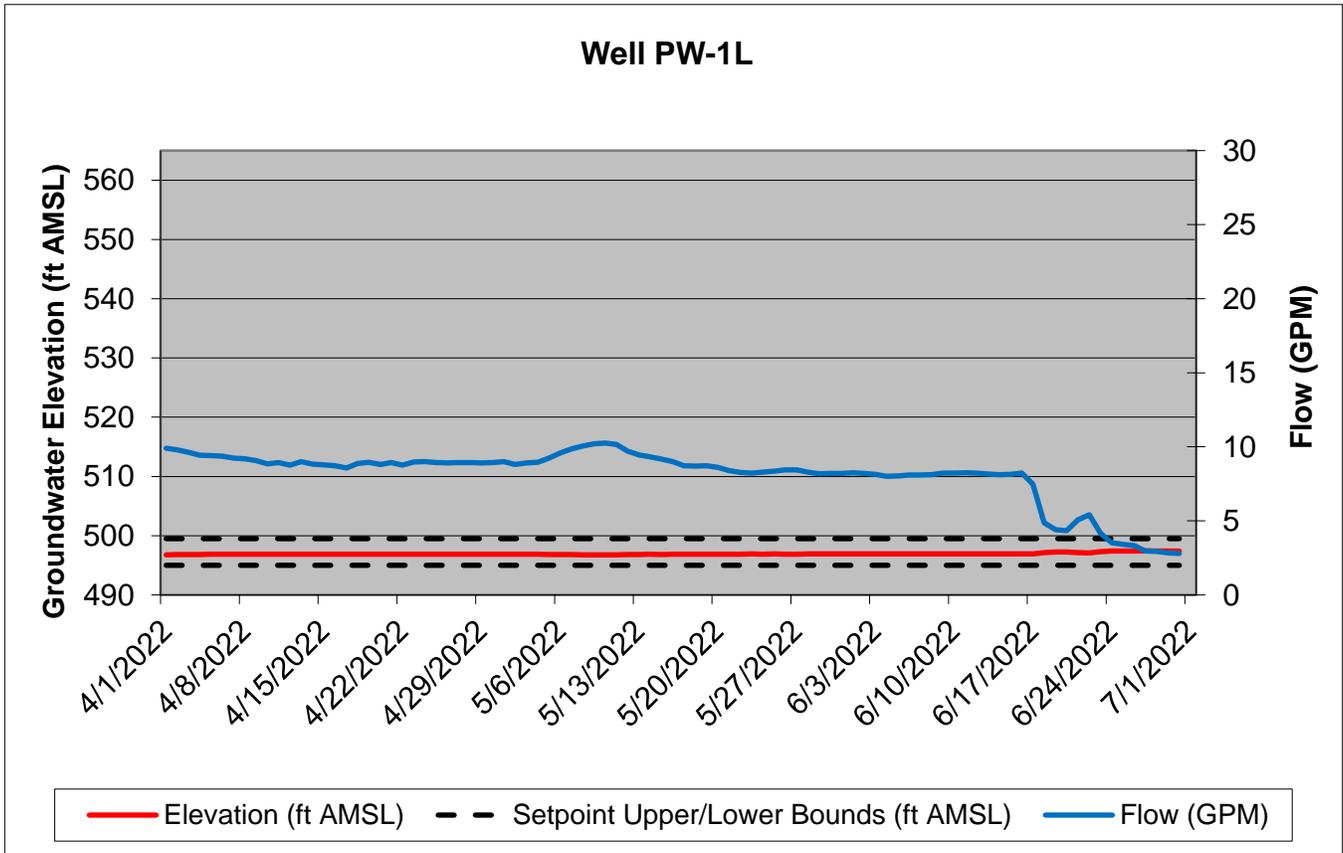
mg/L - Milligrams per liter

µg/L - Micrograms per liter

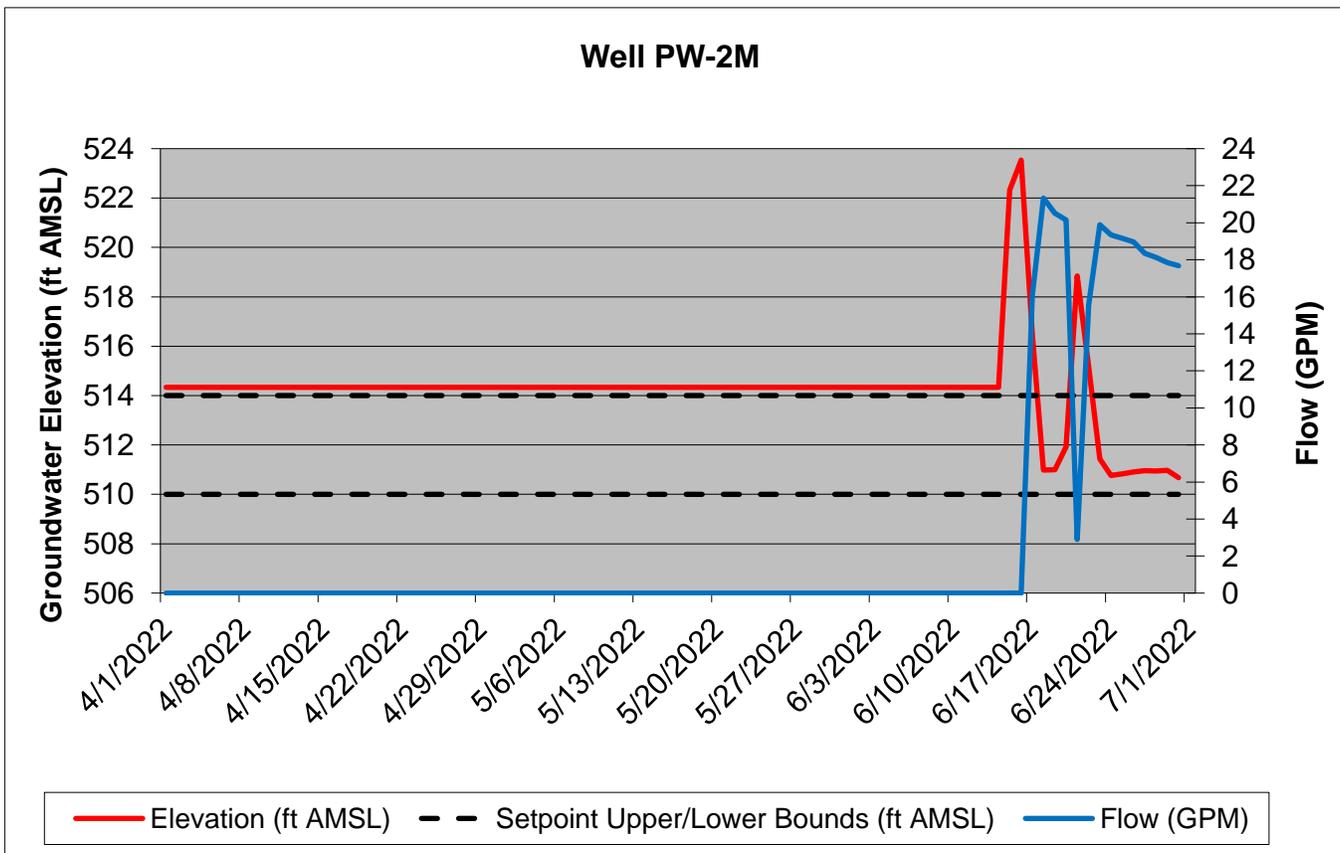
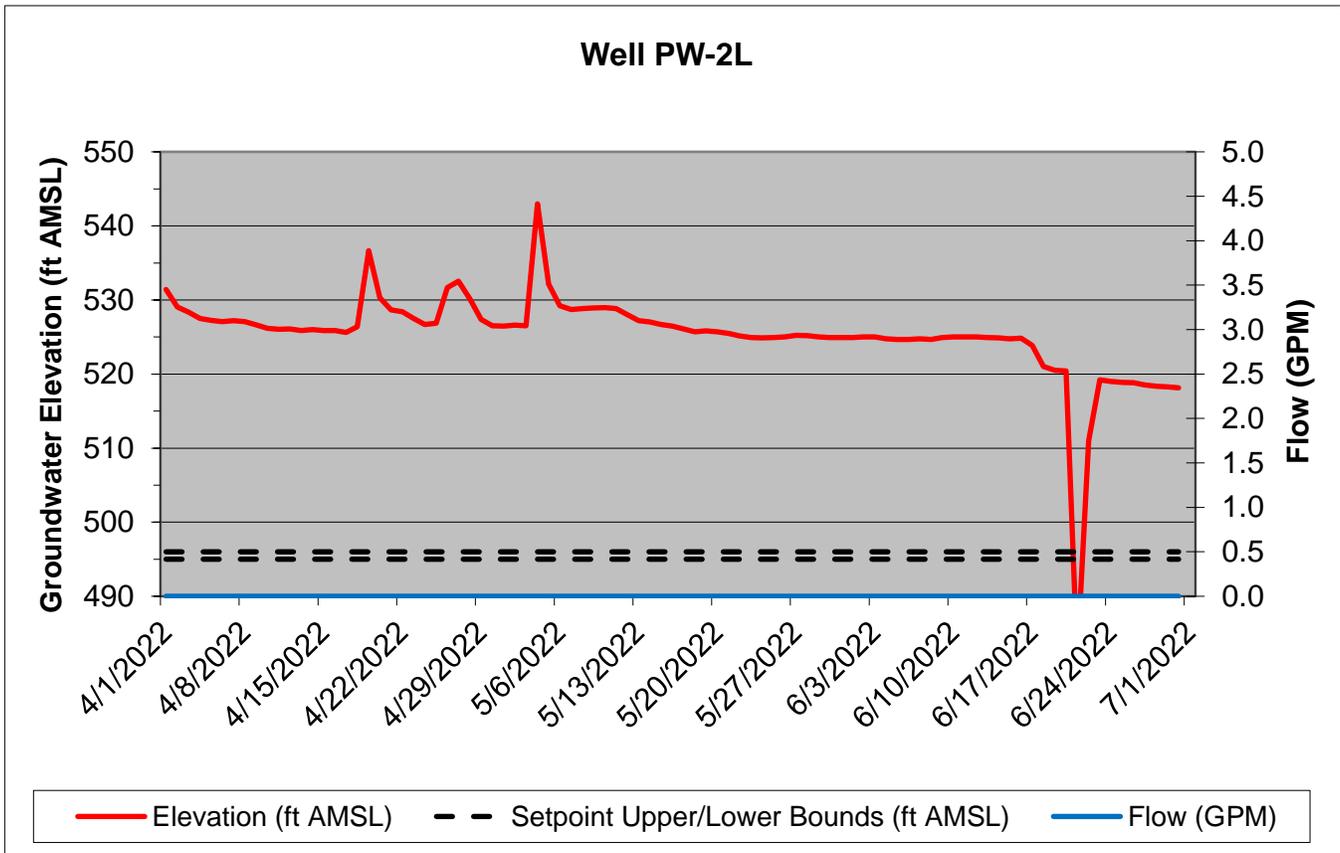
SECOND QUARTER 2022 - PUMPING WELL PERFORMANCE GRAPHS
HYDE PARK



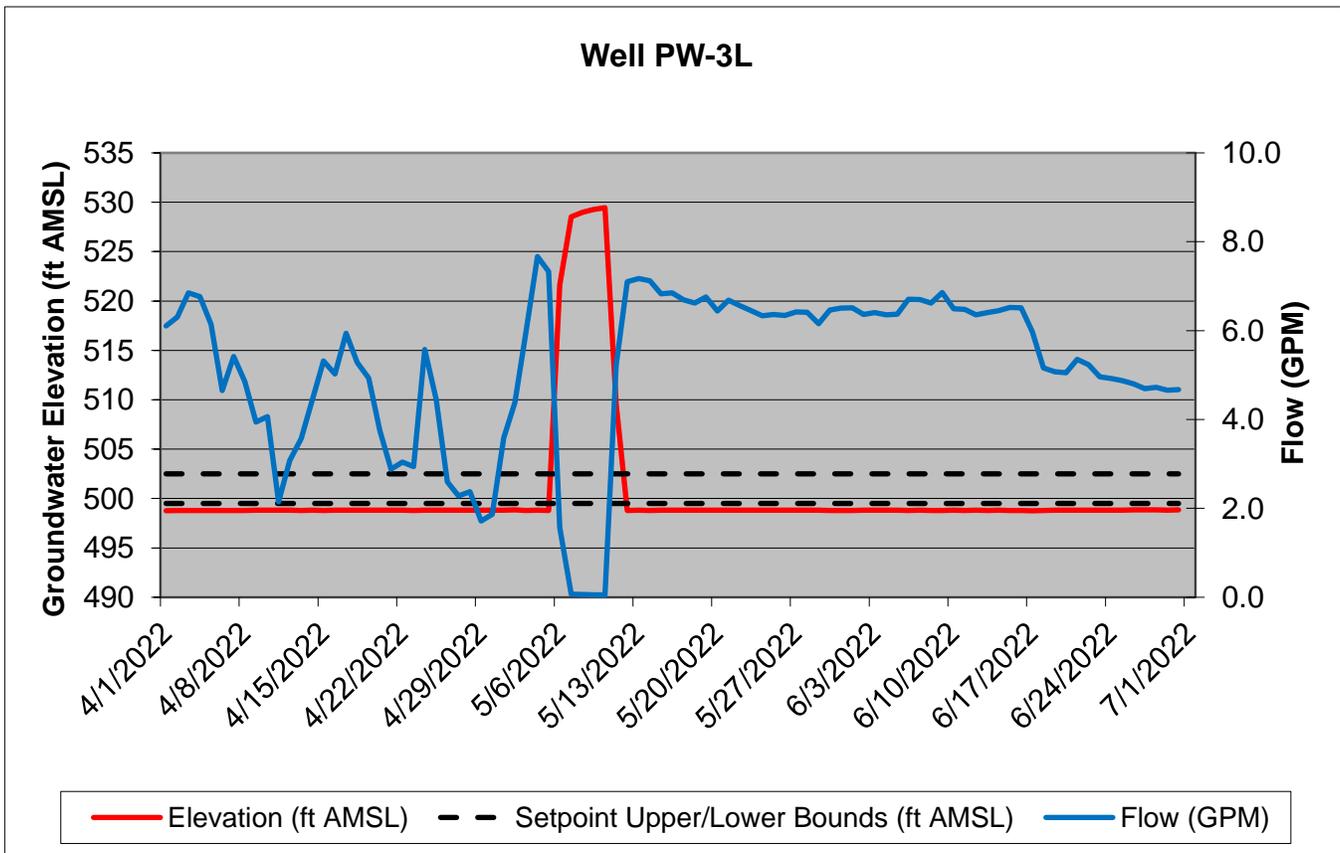
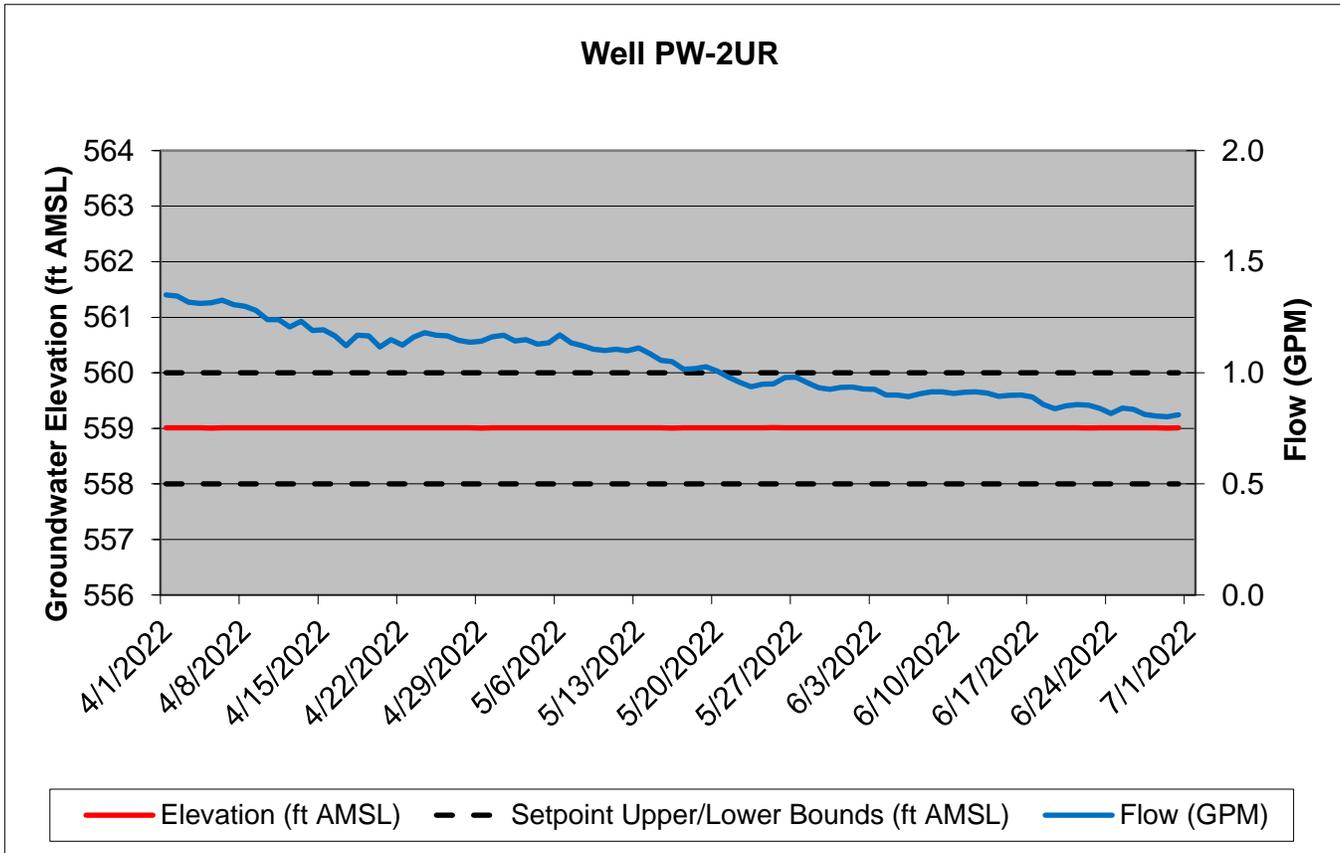
SECOND QUARTER 2022 - PUMPING WELL PERFORMANCE GRAPHS
HYDE PARK



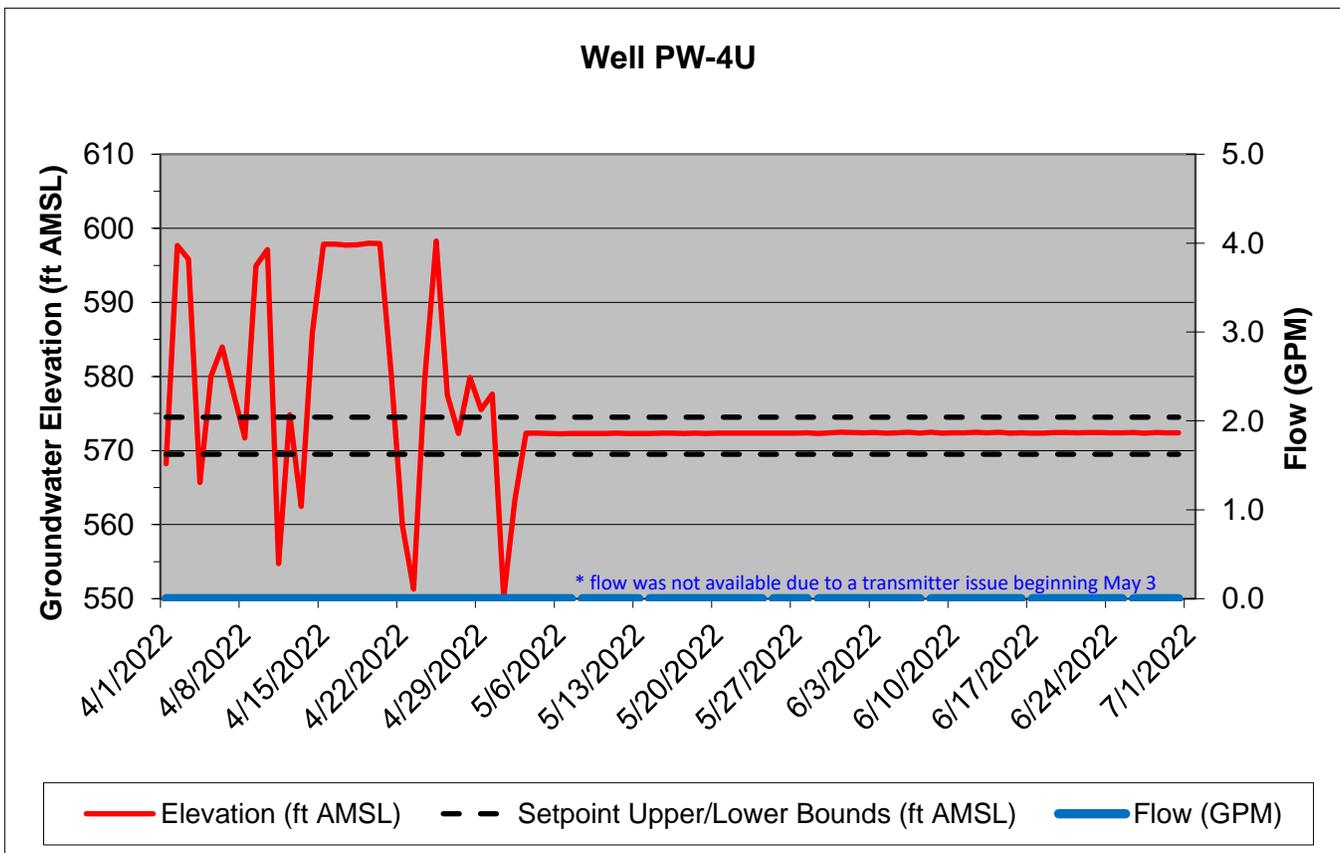
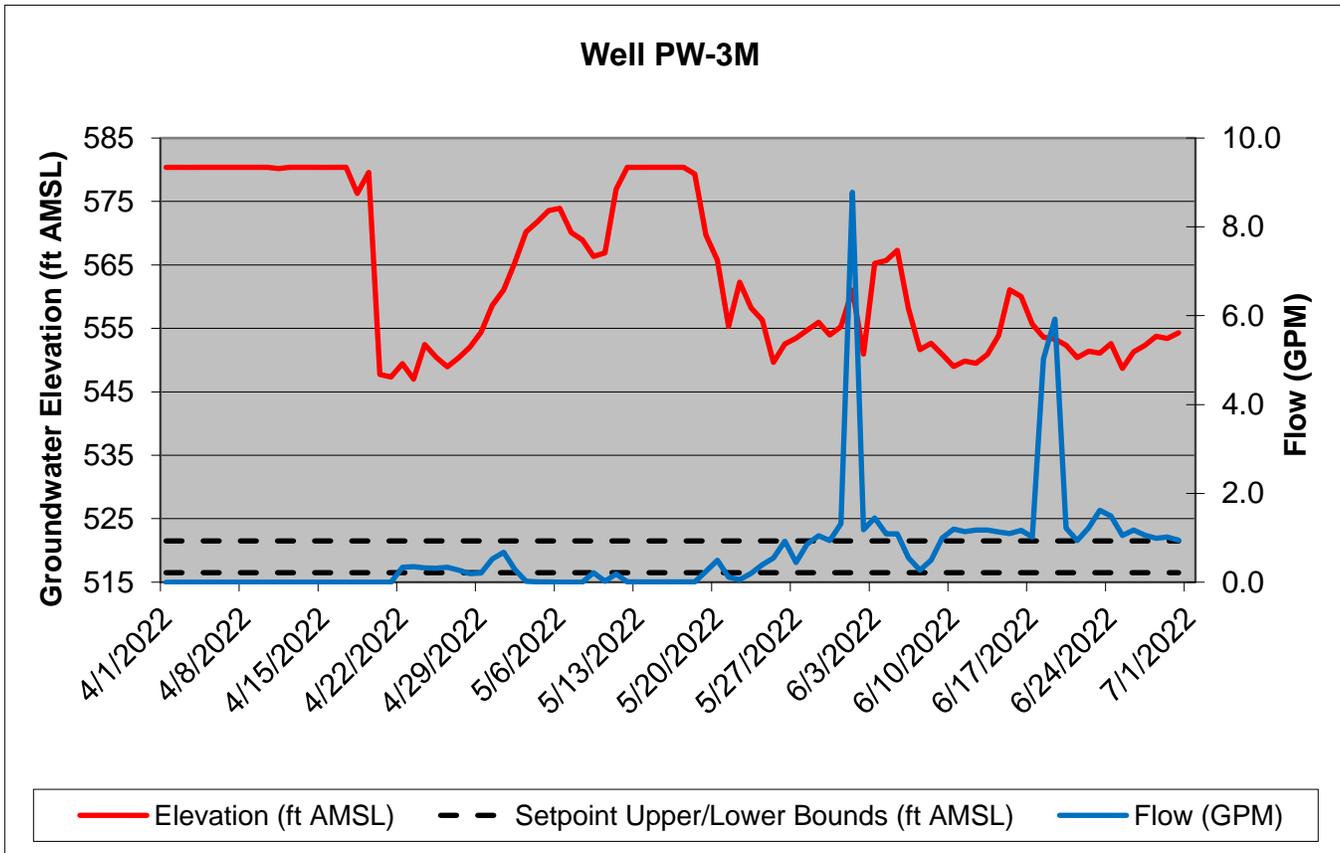
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HYDE PARK



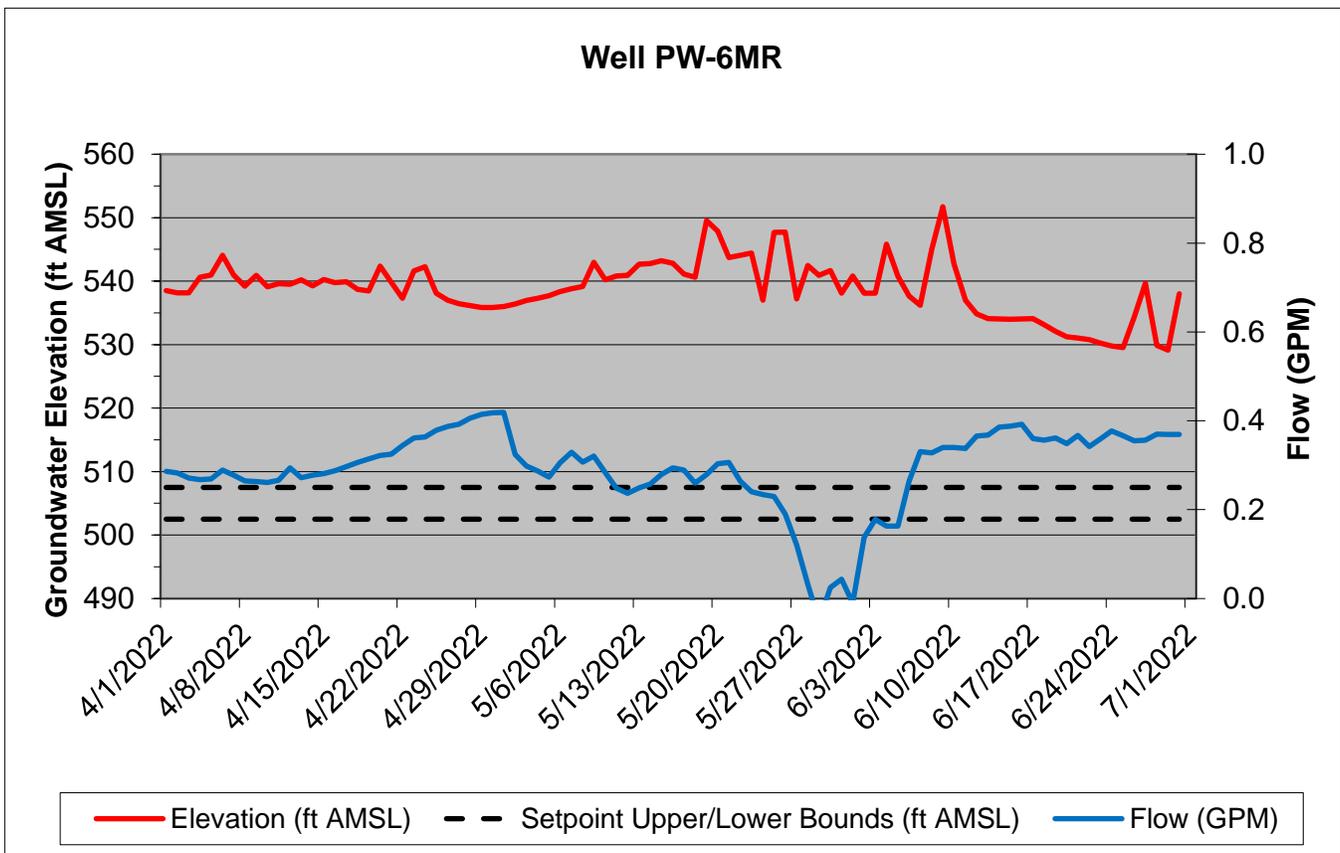
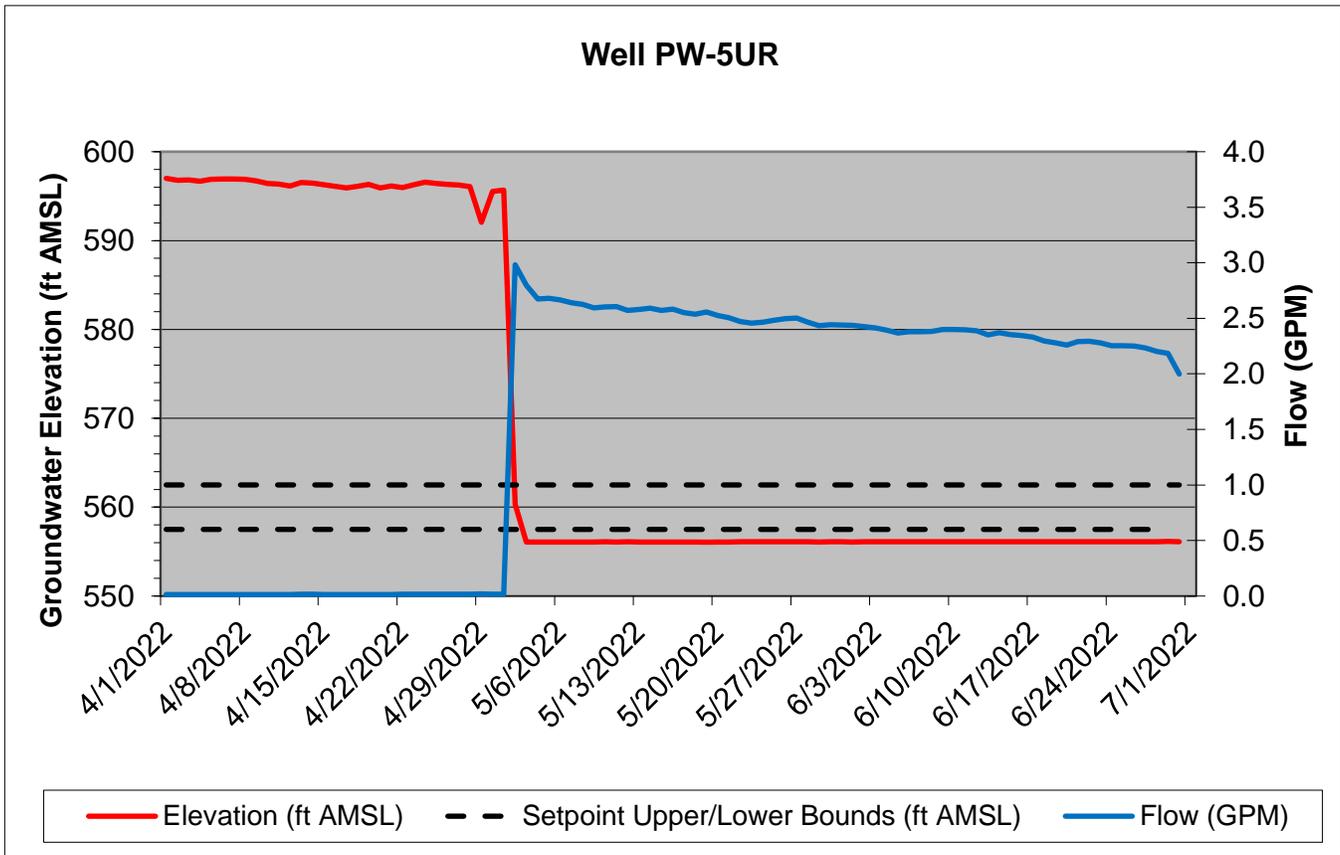
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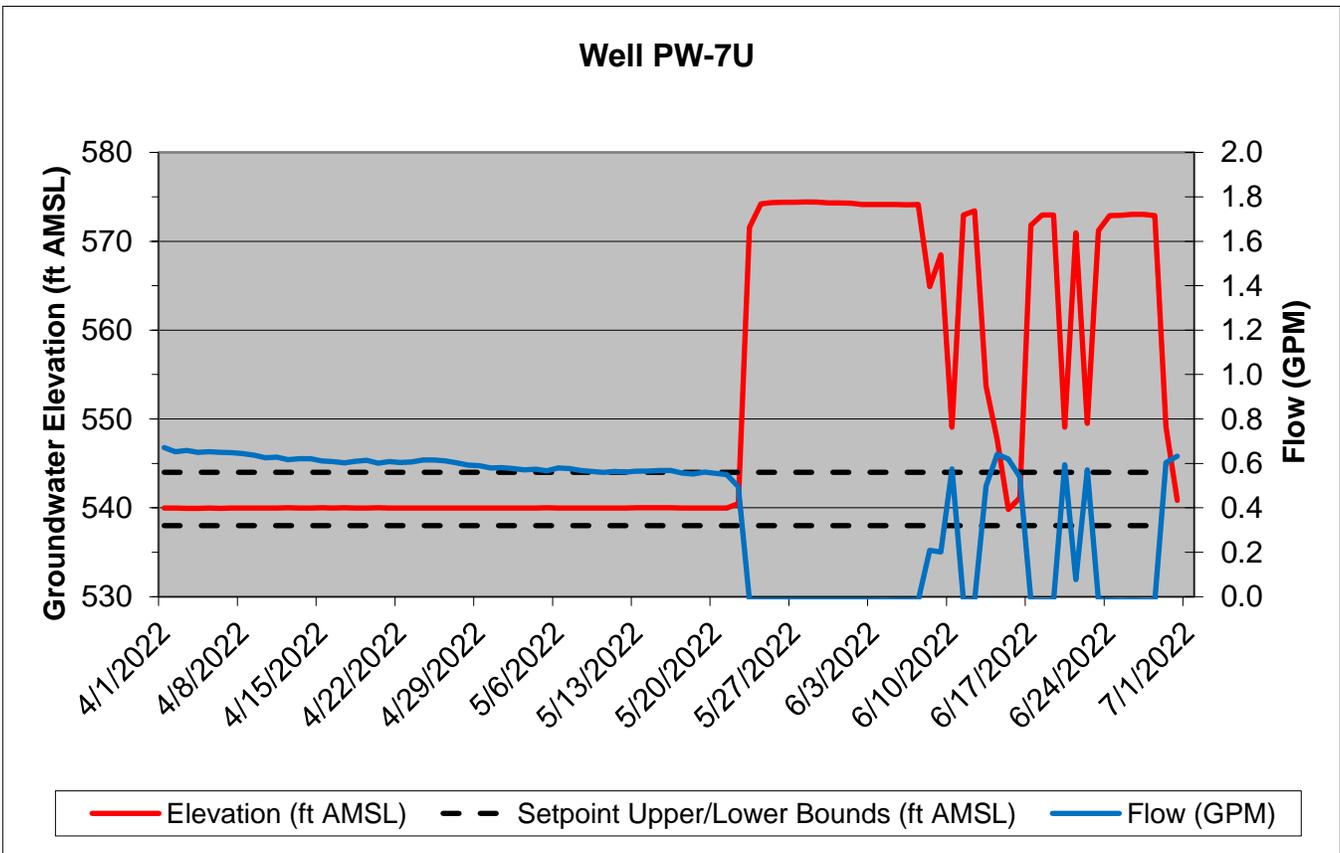
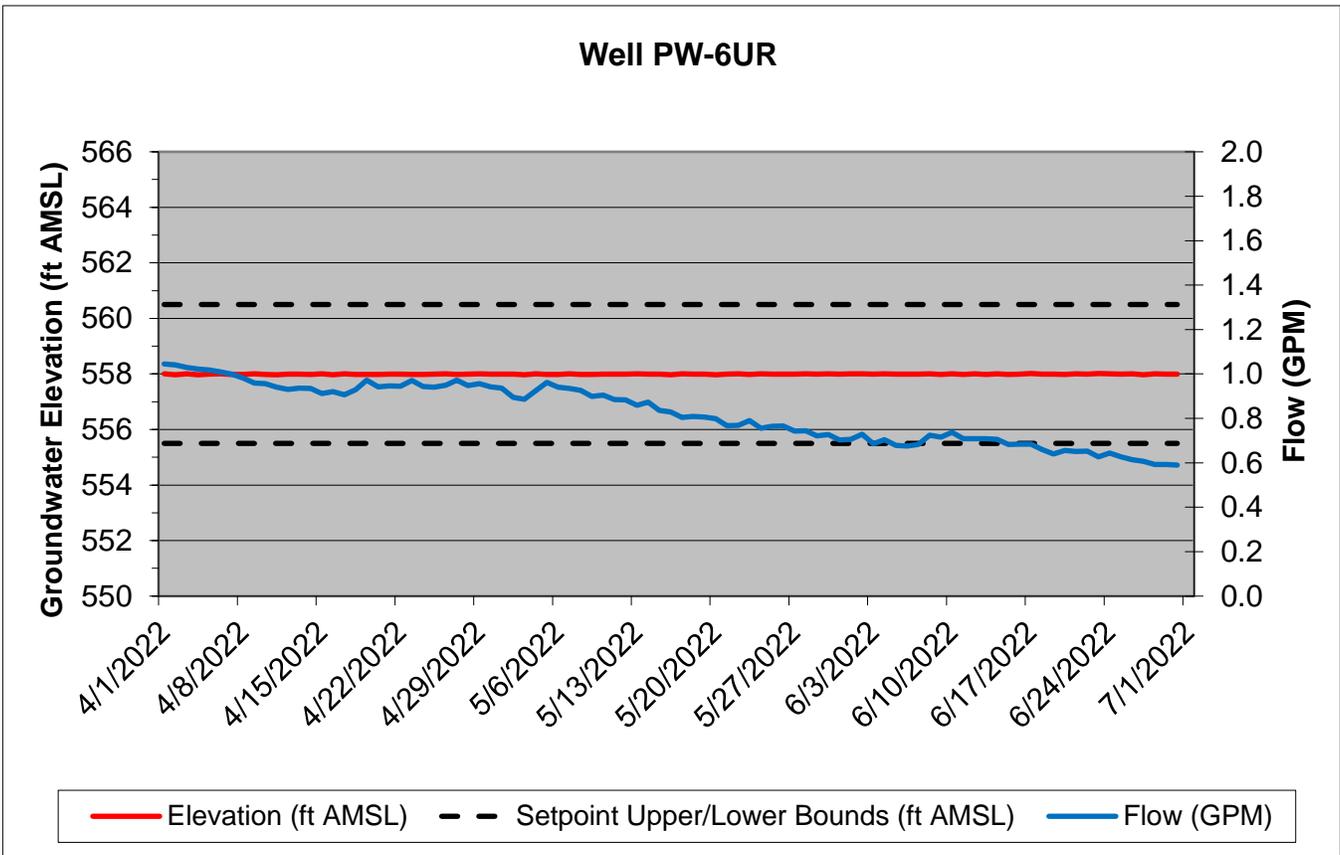
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HYDE PARK



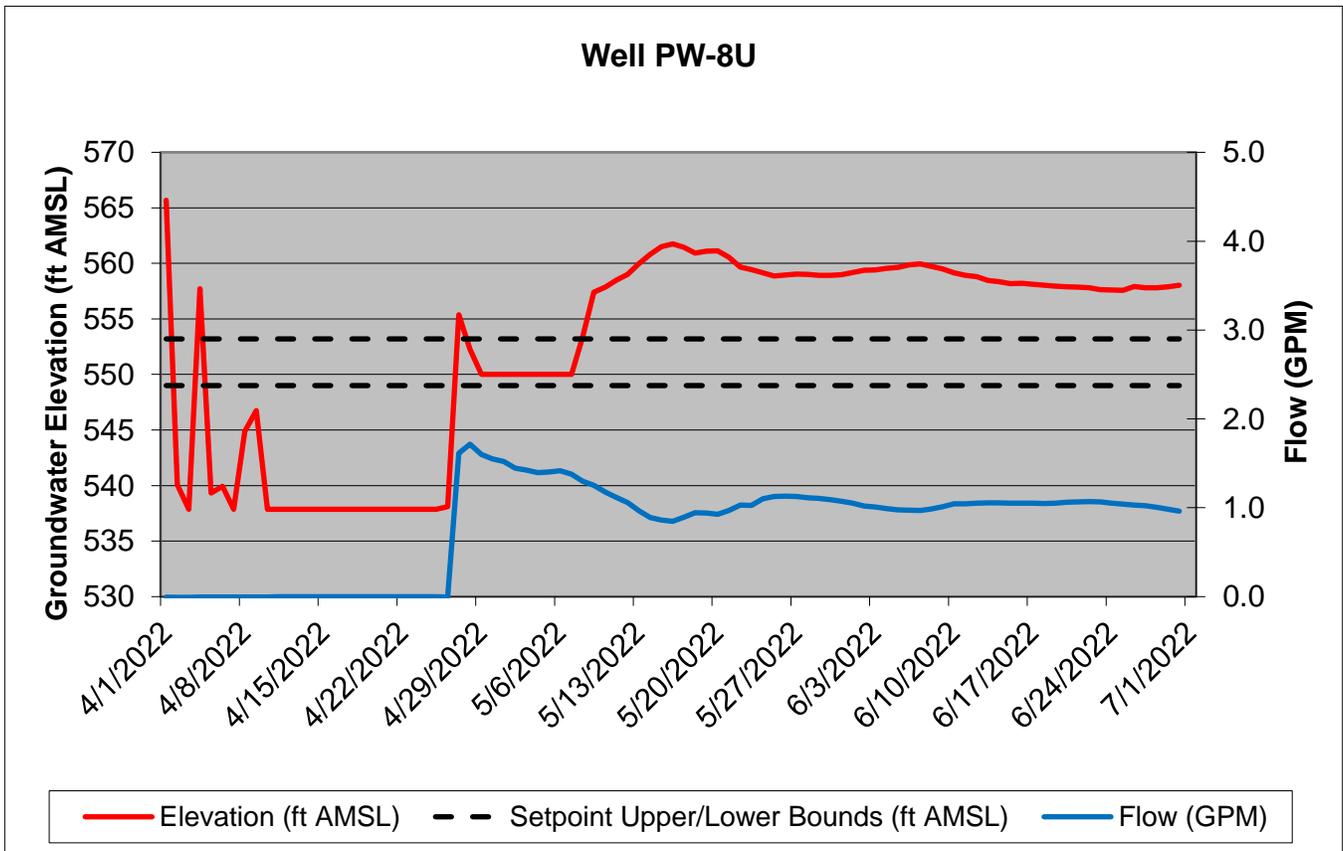
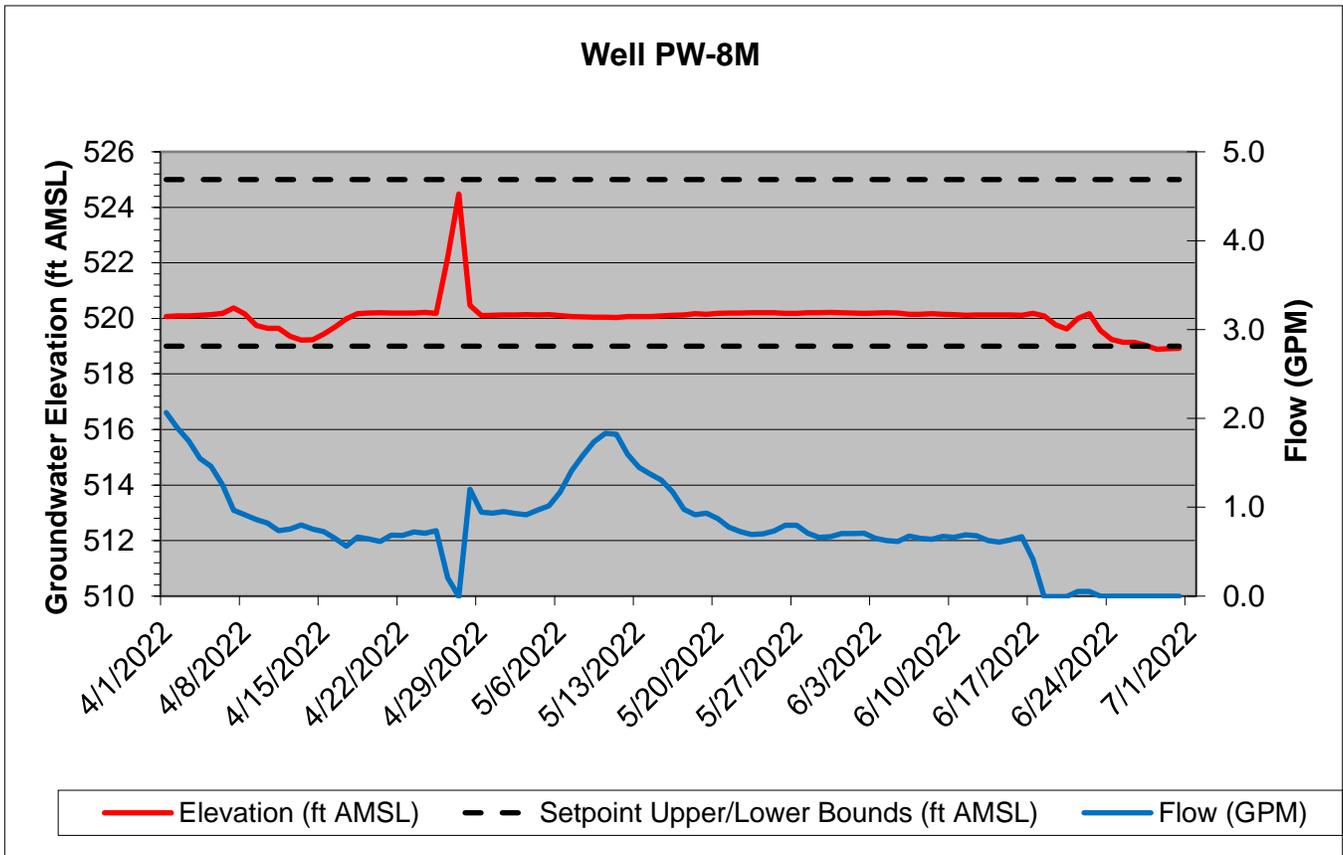
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HYDE PARK



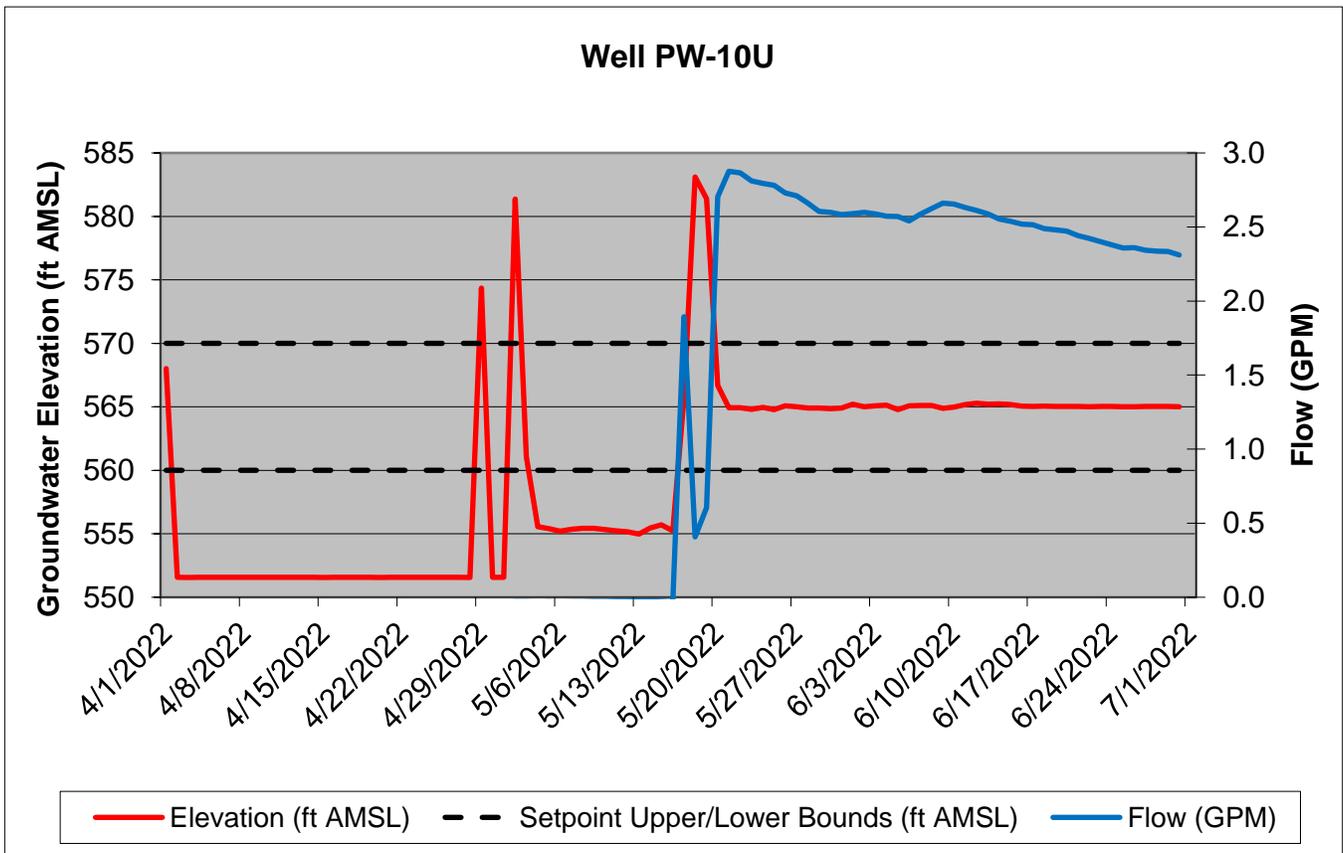
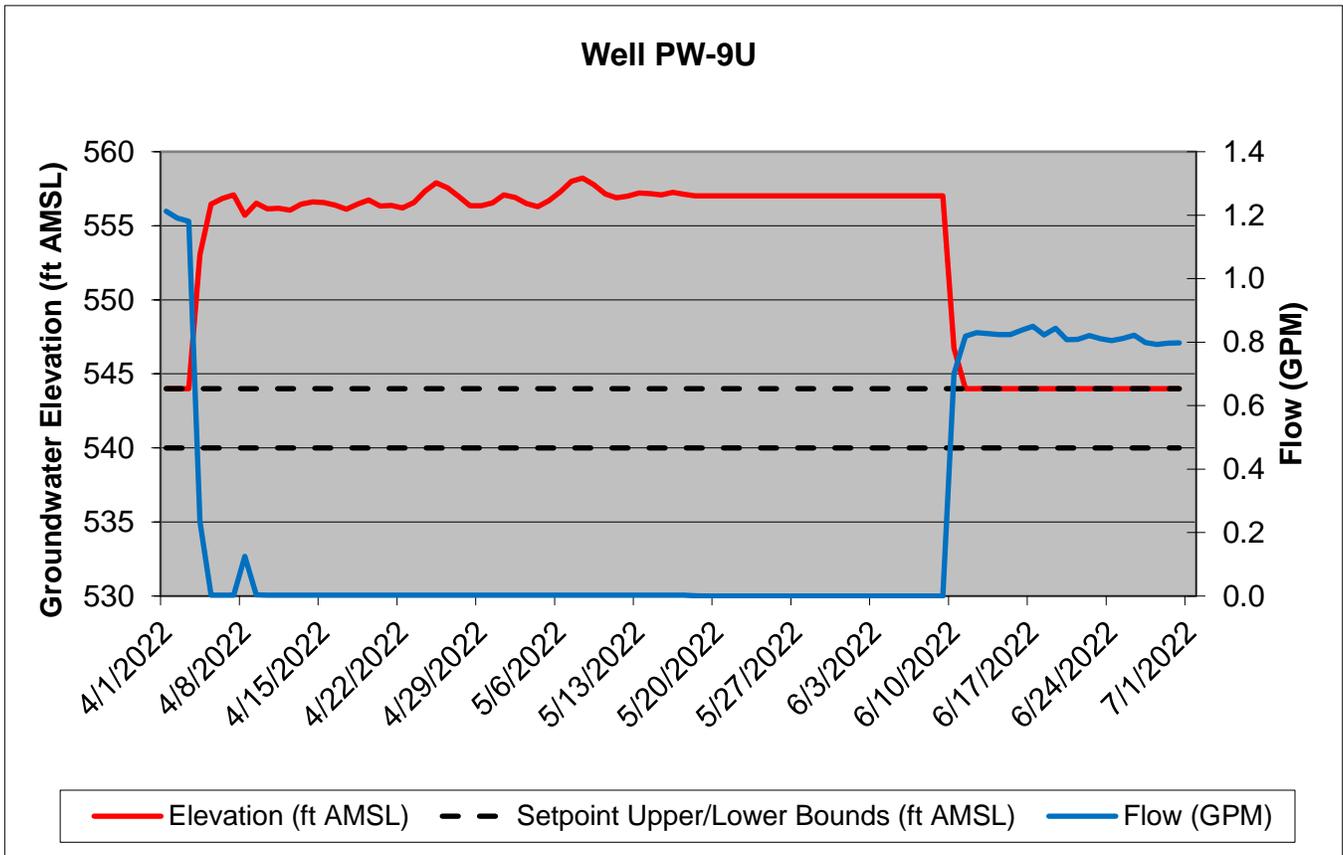
SECOND QUARTER 2022 - PUMPING WELL PERFORMANCE GRAPHS
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SECOND QUARTER 2022 - PUMPING WELL PERFORMANCE GRAPHS
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SECOND QUARTER 2022 - PUMPING WELL PERFORMANCE GRAPHS
HYDE PARK





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

October 31, 2022

Reference No. 11230216

Ms. Jaclyn Kondrk
USEPA
Region II, Site Investigation & Compliance Branch
290 Broadway, 20th Floor
New York, NY 10007-1866

Mr. Andrew Zwack
NYSDEC
270 Michigan Avenue
Buffalo, NY 14203-2999

Dear Ms. Kondrk and Mr. Zwack:

**Re: Quarterly Operations Report - Third Quarter 2022
Hyde Park Remedial Program
Bedrock and Overburden Monitoring Programs
NYSDEC Site No. 932021**

In accordance with the July 2006 "Performance Monitoring Plan" (PMP), the following is the Quarterly Operations Report for the Hyde Park Remedial Program for the period July 1, 2022 through September 30, 2022. A total of 3.15 million gallons of APL were collected, treated, and discharged in compliance with the Site's City of Niagara Falls Publicly Owned Treatment Works (POTW) Significant Industrial User (SIU) Wastewater Discharge Permit #49. One drum (approximately 550 pounds) of non-aqueous phase liquid (NAPL) and eight drums (approximately 5,290 pounds) of personal protective equipment (PPE) and debris were shipped for disposal this quarter. The potentiometric contours are consistent with previous interpretations. Flow Zones 6, 7, and 9 have dewatered areas between the landfill and the gorge face. The current data continue to support the interpretation of effective hydraulic containment and inward gradients.

The performance monitoring data are presented as follows:

- Figures 1-9: Showing the potentiometric surface for the bedrock flow zones and overburden
- Figure 10: Showing continuously recorded water levels at flow zone 9 piezometer PMW-1M-09
- Table 1: Groundwater elevation summary
- Tables 2, 3, and 4: Daily, weekly, and quarterly treatment system effluent monitoring data
- Attachment A: Purge well performance graphs indicating daily level and flow information

The continuously recorded groundwater elevations for the flow zone 9 piezometer PMW-1M-09 for the third quarter 2022 are presented on Figure 10. These groundwater elevations were less than 526 feet above mean sea level (AMSL) from the beginning of the quarter through September 15, indicating that the FZ-09 outcrop along the New York Power Authority (NYPA) access road was unsaturated throughout most of the quarter. All pumping wells were turned off on September 13 and remained offline through the end of the quarter for storage tank cleaning and repair. As a result, groundwater elevations in this piezometer were above 526 feet AMSL from September 16 through the end of the quarter. The pumping wells will be returned online during the fourth quarter 2022.

- 2 -

The pumping wells were operational and functioning as designed during the third quarter 2022, with the exception of the downtime periods discussed below. The pumps are operated to maintain a water level between a typical range of 2.5 feet above (pump on) and 2.5 feet below (pump off) a specific setpoint in accordance with the setpoint range defined in the Operation & Maintenance Manual.

Delivery lead times for equipment (such as pumps, motors, drives, etc.) has recently increased from several weeks to several months (3 to 5 months). Although some spares have always been kept on hand, replacement of the spares is taking significantly longer than anticipated which is affecting repair of the wells as described below. To address this recent change, additional spares have been ordered to address this issue moving forward.

All pumping wells were turned off on September 13 and remained offline through the end of the quarter for storage tank cleaning and repair. As a result, the water level in PW-8M exceeded setpoint range from September 17 through the end of the quarter and the water levels in all other pumping wells exceeded setpoint range from September 13 through the end of the quarter. The pumping wells will be returned online during the fourth quarter 2022.

The following minor operational and setpoint issues were investigated and resolved during the third quarter of 2022:

- Well PW-2M was down during the entire quarter awaiting replacement of pump and motor. The well was repaired and started on October 4.
- The water levels in PW-3M and PW-6MR exceeded setpoint range during the entire quarter due to faulty level sensors. These wells will be repaired in the fourth quarter of 2022 assuming equipment is received.
- PW-9U was down from July 14 through August 4 due to awaiting pump repair. The pump was repaired and the well put back online on August 4 and the water level returned to within setpoint range on August 5.
- Well PW-2L was down from the beginning of the quarter through August 24 awaiting replacement of its pump and motor. The replacements were installed and this well was returned online on August 24. The water level returned to within setpoint range on August 25.
- PW-4U: The water level in PW-4U exceeded setpoint range from July 22 through July 27 due to a flow transmitter issue. The flow transmitter was repaired and the water level returned to within setpoint range on July 28.
- PW-8U: The water level in PW-8U exceeded setpoint range from July 1 through July 13 due to a faulty pump. The pump was repaired and the water level returned to within setpoint range on July 14. The water level in this well also exceeded setpoint range from July 29 through August 1 and from August 20 through August 29 due to level probe issues. The probe was repaired, the well put back in service, and the water levels returned to within setpoint range on August 2 and August 30, respectively.

If you have any questions, please feel free to contact me at (231) 670-6809 or by email at joseph_branch@oxy.com.

Very truly yours,

GLENN SPRINGS HOLDINGS, INC.

October 31, 2022

Reference No. 11230216

- 3 -

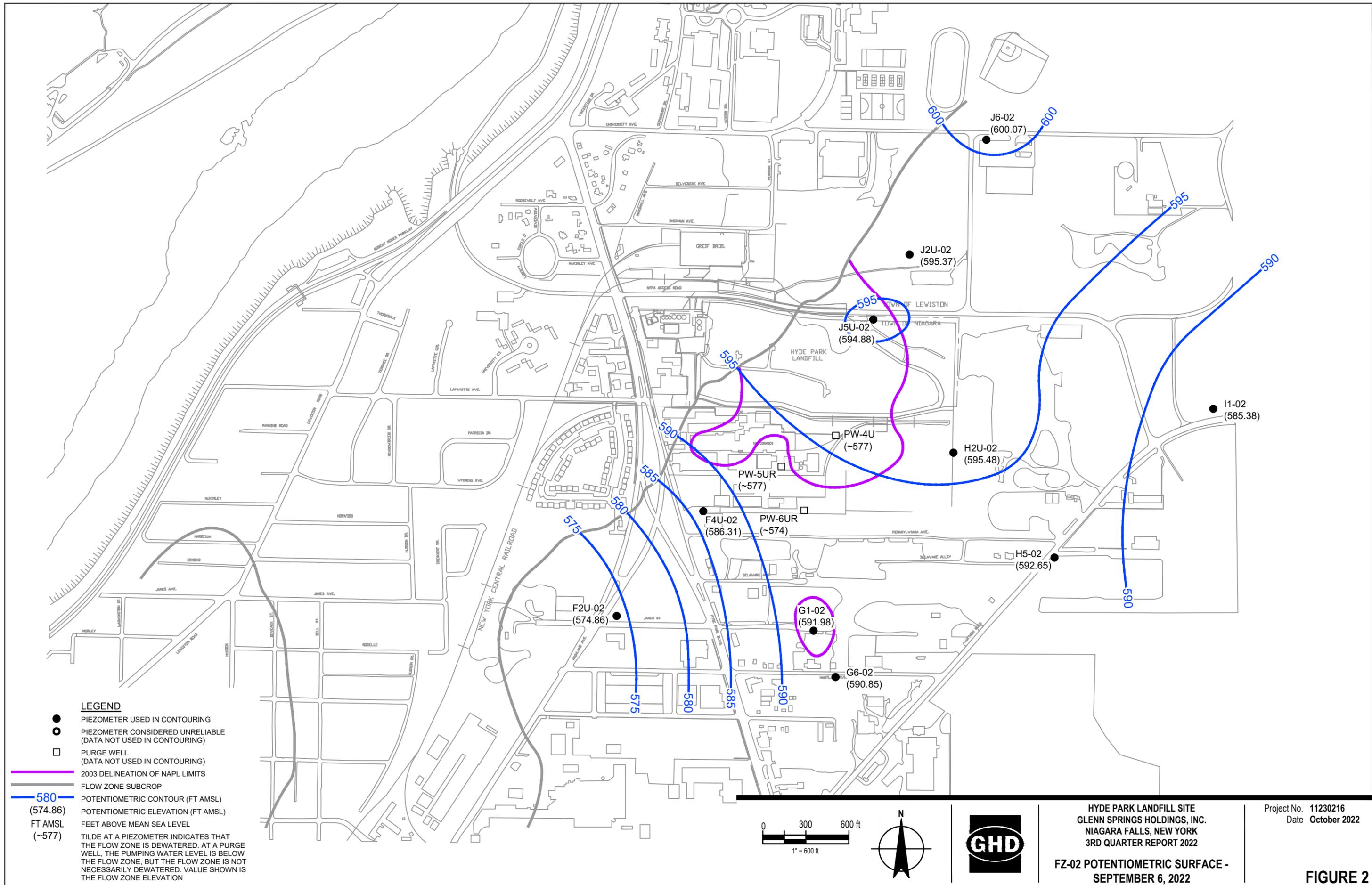
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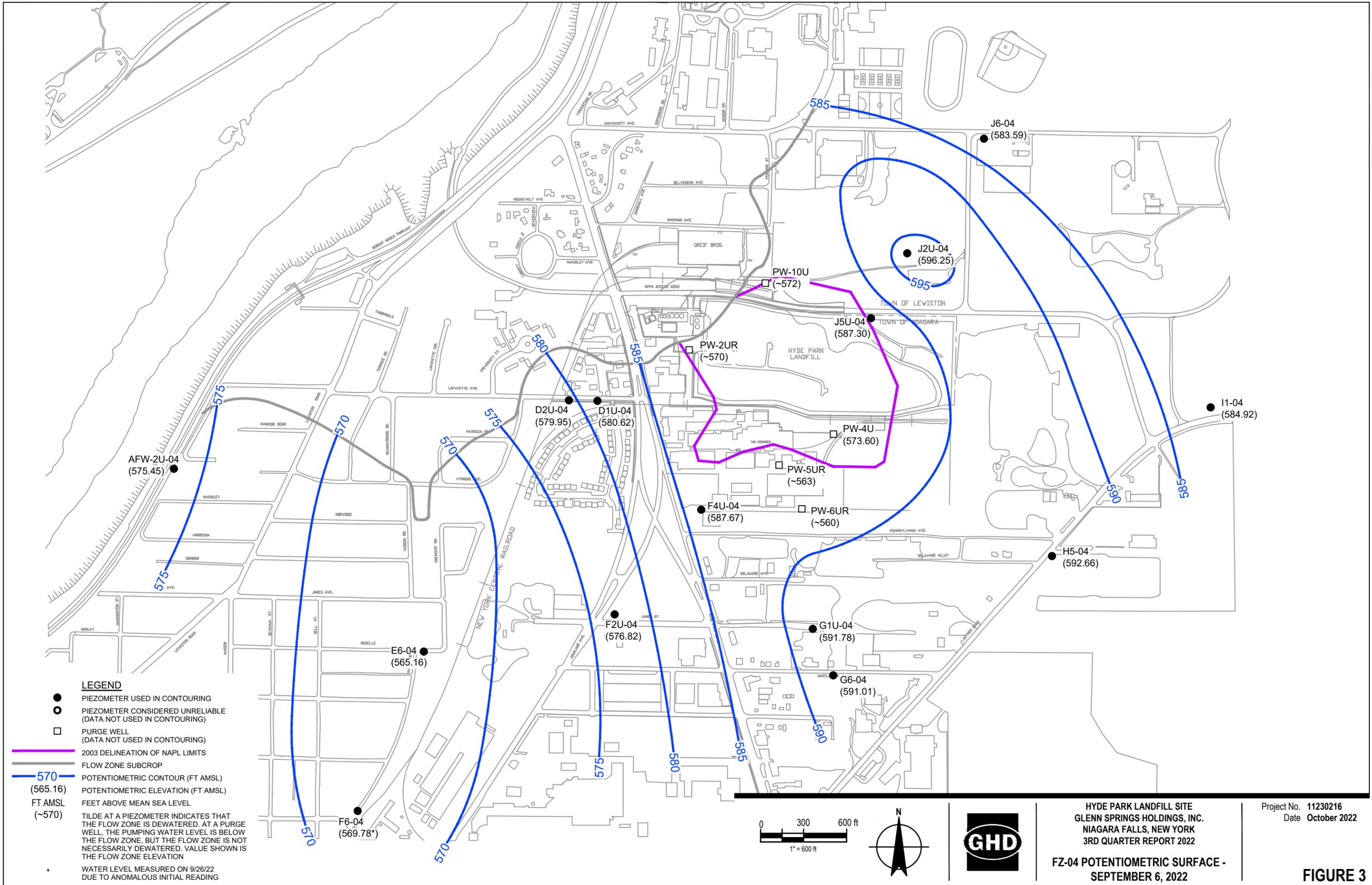
Joe Branch
Project Manager
231-670-6809 Cell

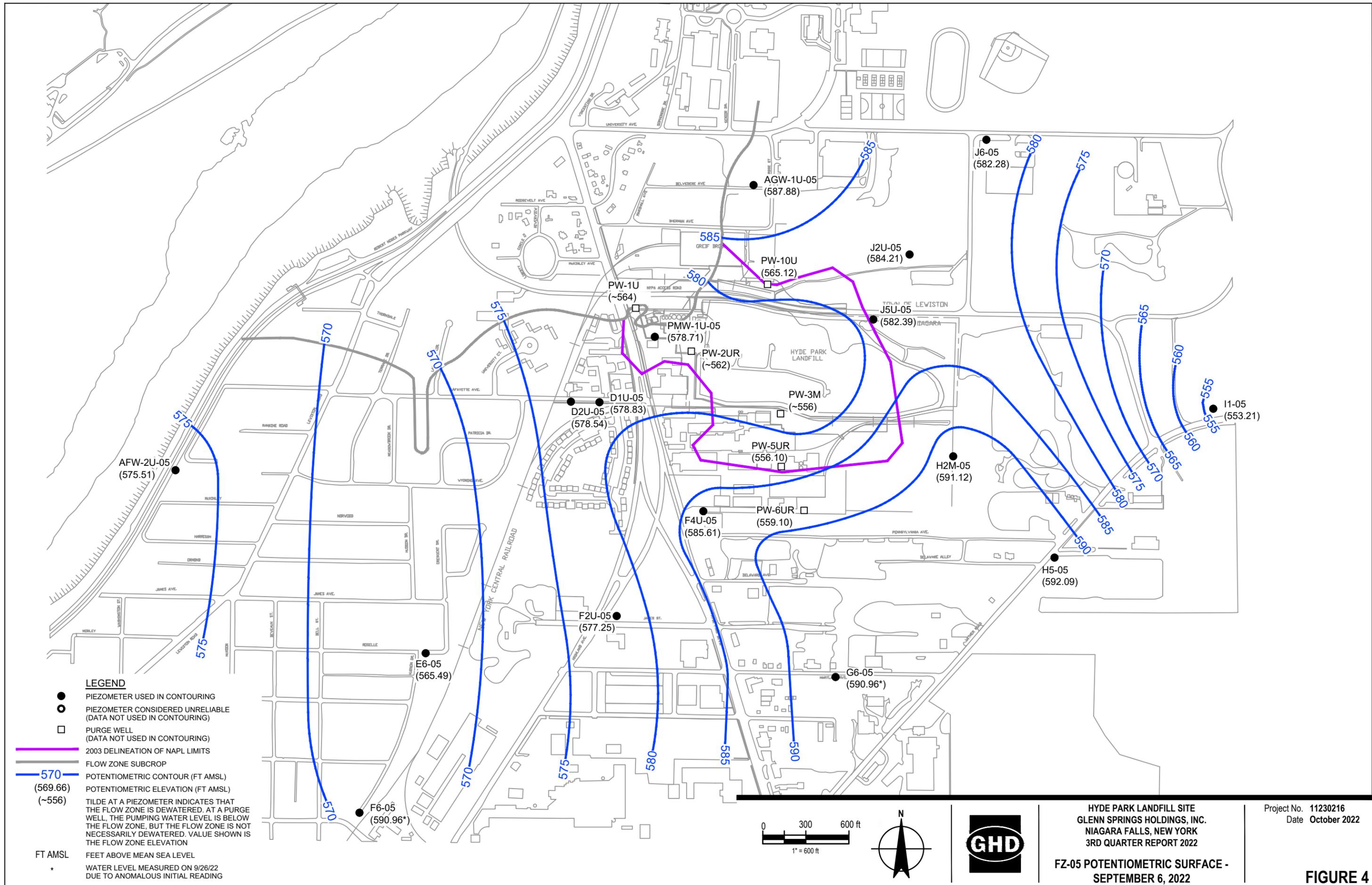
JB/5
Encl.

cc: B. McPherson NYSDEC
J. Robinson, NYSDOH

J. Pentilchuk, GHD
M. Popek, GHD

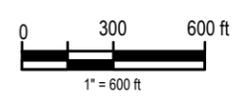






LEGEND

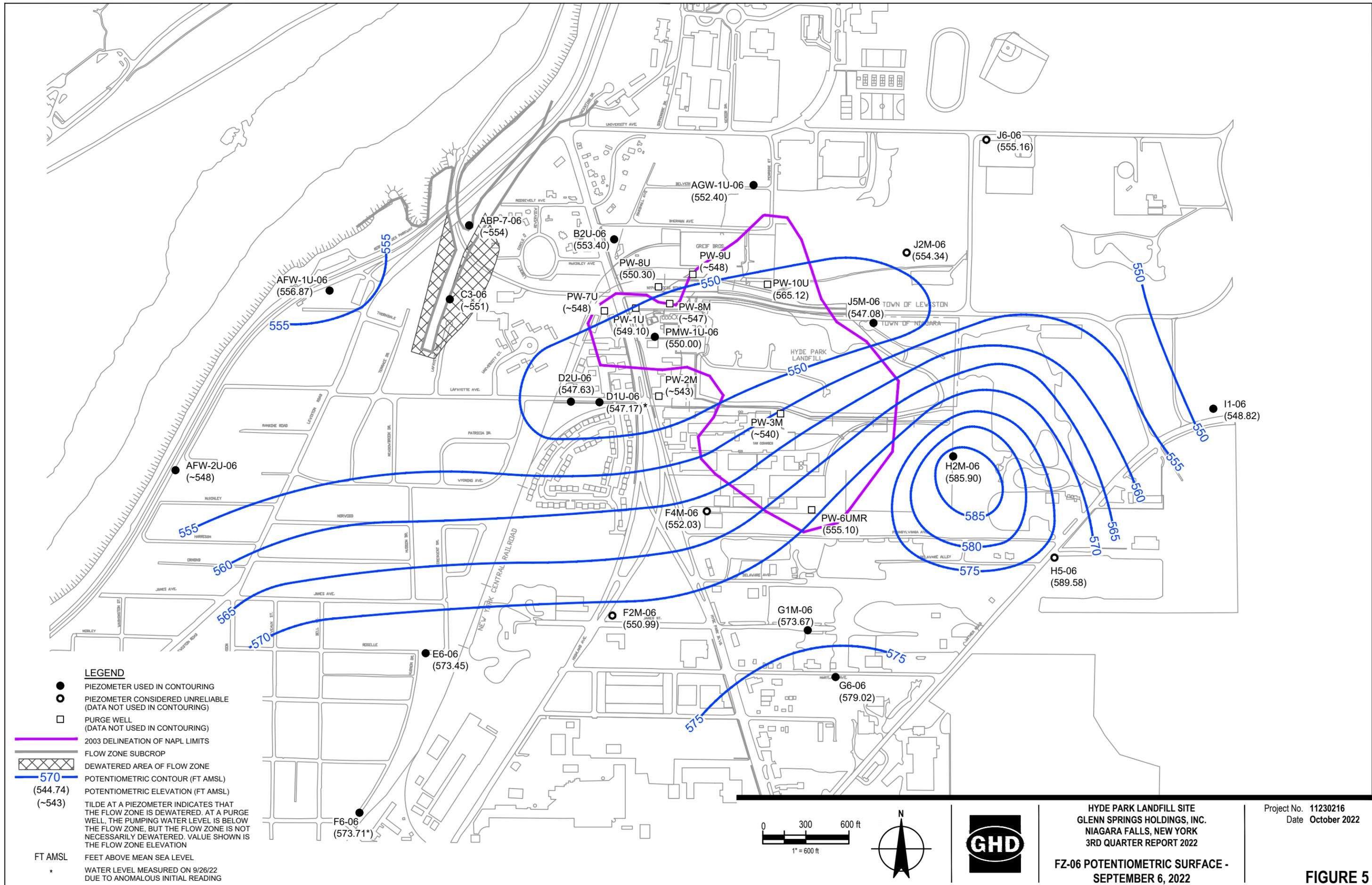
- PIEZOMETER USED IN CONTOURING
- PIEZOMETER CONSIDERED UNRELIABLE (DATA NOT USED IN CONTOURING)
- PURGE WELL (DATA NOT USED IN CONTOURING)
- 2003 DELINEATION OF NAPL LIMITS
- FLOW ZONE SUBCROP
- 570 POTENTIOMETRIC CONTOUR (FT AMSL) (569.66)
- (~556) POTENTIOMETRIC ELEVATION (FT AMSL)
- TILDE AT A PIEZOMETER INDICATES THAT THE FLOW ZONE IS DEWATERED. AT A PURGE WELL, THE PUMPING WATER LEVEL IS BELOW THE FLOW ZONE, BUT THE FLOW ZONE IS NOT NECESSARILY DEWATERED. VALUE SHOWN IS THE FLOW ZONE ELEVATION
- FT AMSL FEET ABOVE MEAN SEA LEVEL
- * WATER LEVEL MEASURED ON 9/26/22 DUE TO ANOMALOUS INITIAL READING

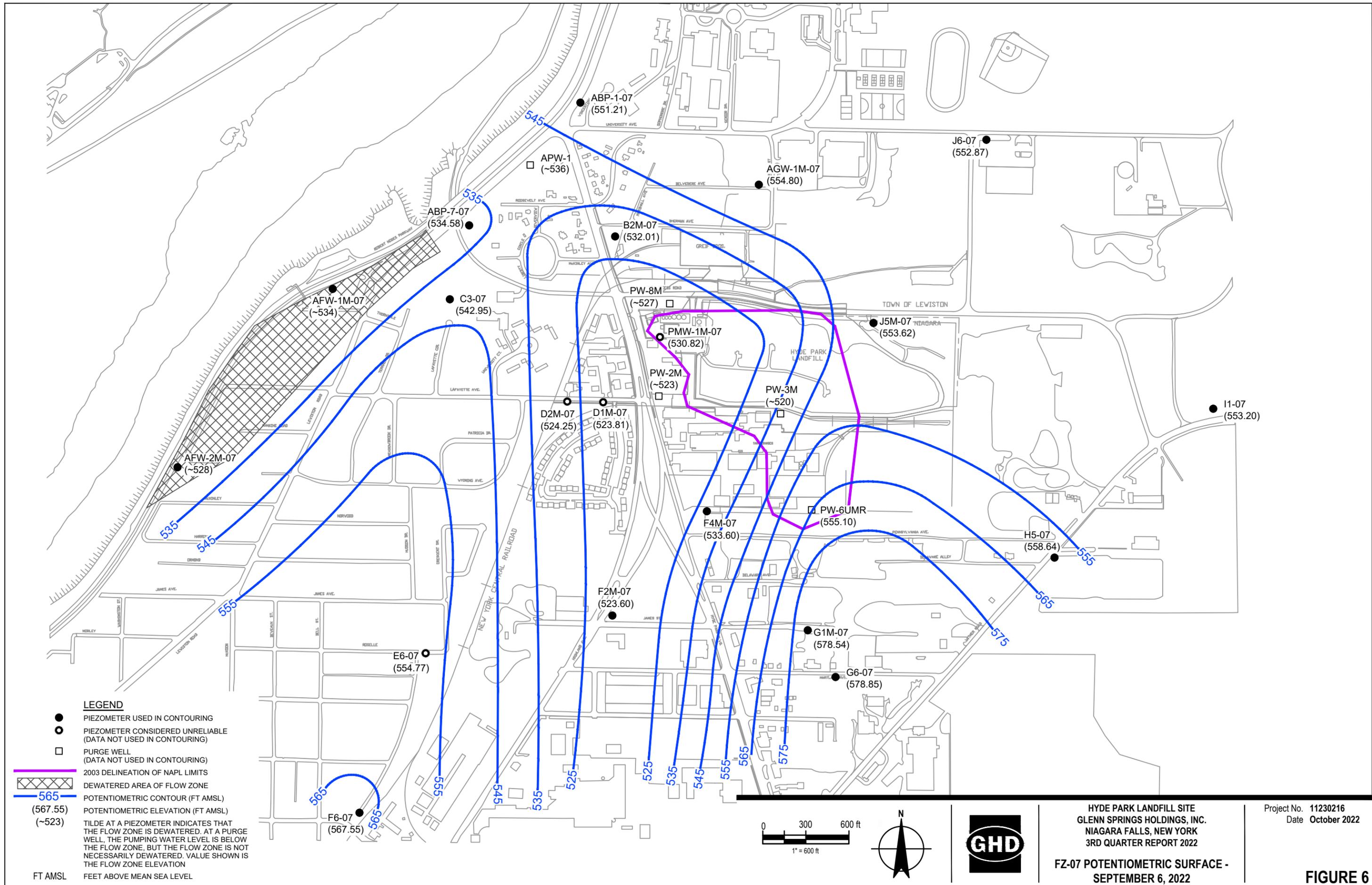


HYDE PARK LANDFILL SITE
 GLENN SPRINGS HOLDINGS, INC.
 NIAGARA FALLS, NEW YORK
 3RD QUARTER REPORT 2022
 FZ-05 POTENTIOMETRIC SURFACE -
 SEPTEMBER 6, 2022

Project No. 11230216
 Date October 2022

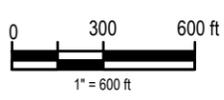
FIGURE 4





LEGEND

- PIEZOMETER USED IN CONTOURING
- PIEZOMETER CONSIDERED UNRELIABLE (DATA NOT USED IN CONTOURING)
- PURGE WELL (DATA NOT USED IN CONTOURING)
- ▭ 2003 DELINEATION OF NAPL LIMITS
- ▨ DEWATERED AREA OF FLOW ZONE
- 565 POTENTIOMETRIC CONTOUR (FT AMSL)
- (567.55) POTENTIOMETRIC ELEVATION (FT AMSL)
- (~523) TILDE AT A PIEZOMETER INDICATES THAT THE FLOW ZONE IS DEWATERED. AT A PURGE WELL, THE PUMPING WATER LEVEL IS BELOW THE FLOW ZONE, BUT THE FLOW ZONE IS NOT NECESSARILY DEWATERED. VALUE SHOWN IS THE FLOW ZONE ELEVATION
- FT AMSL FEET ABOVE MEAN SEA LEVEL



HYDE PARK LANDFILL SITE
 GLENN SPRINGS HOLDINGS, INC.
 NIAGARA FALLS, NEW YORK
 3RD QUARTER REPORT 2022
**FZ-07 POTENTIOMETRIC SURFACE -
 SEPTEMBER 6, 2022**

Project No. 11230216
 Date October 2022

FIGURE 6

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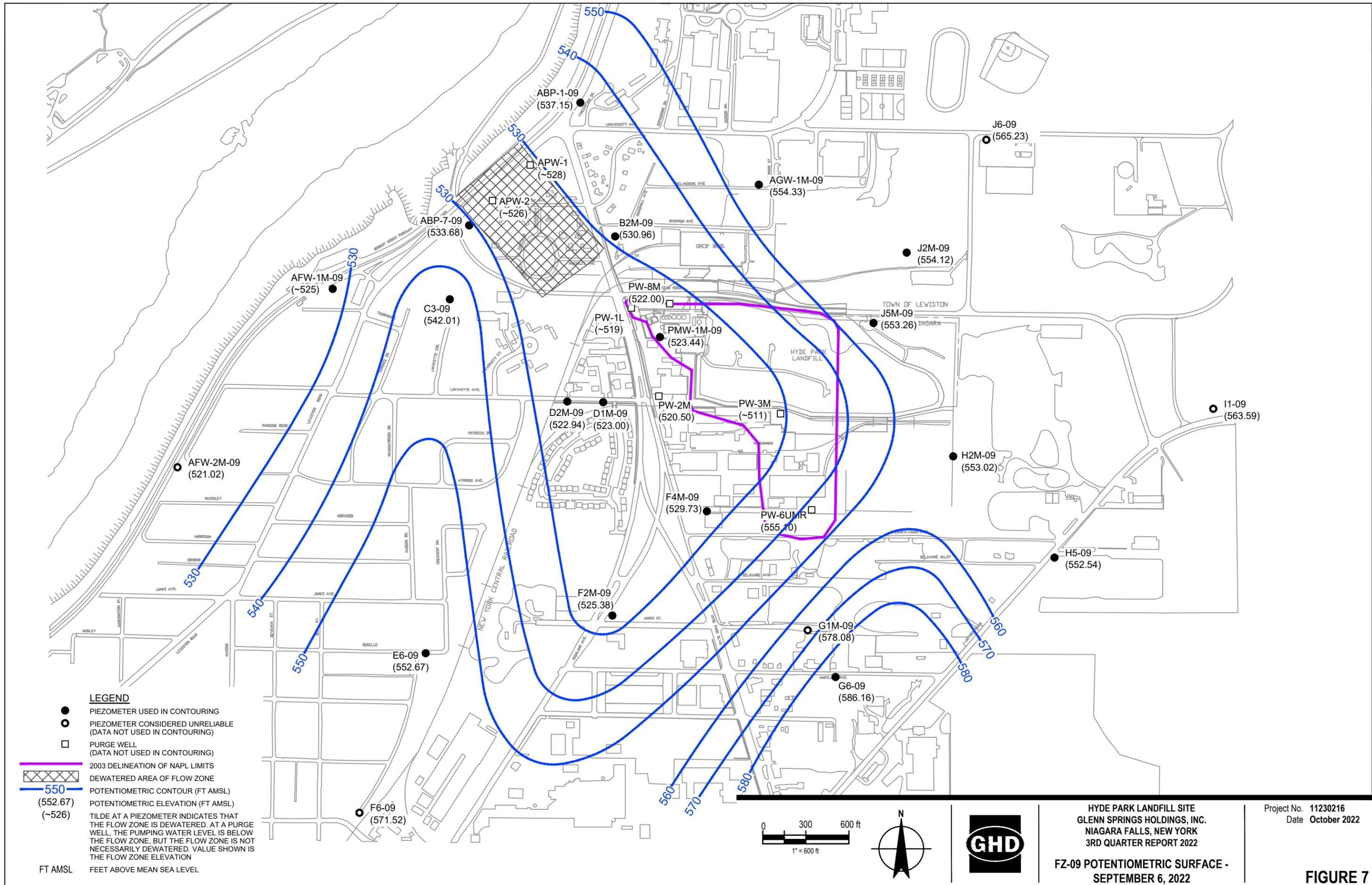
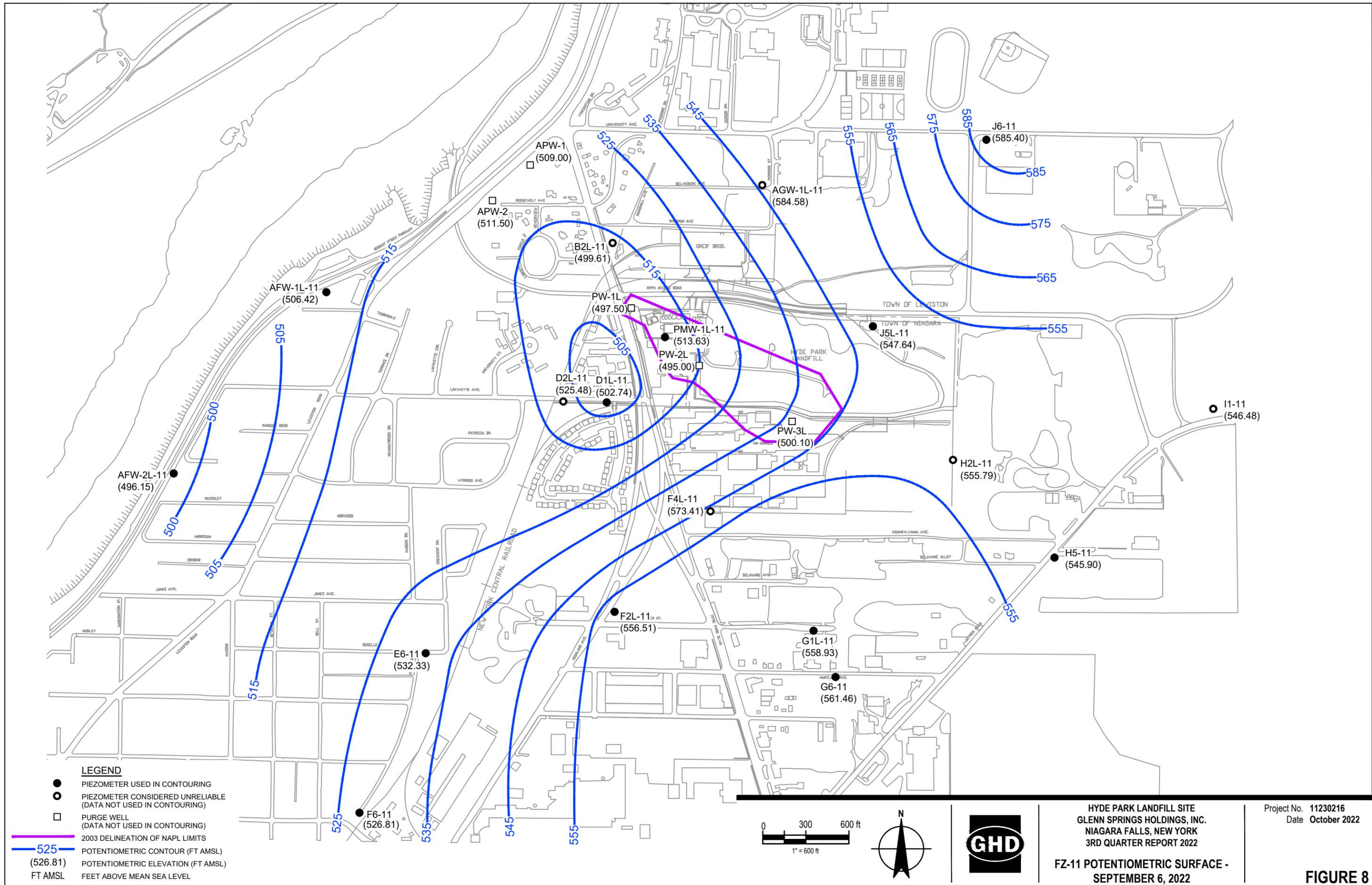
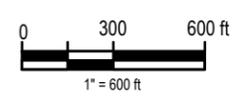


FIGURE 7



LEGEND

- PIEZOMETER USED IN CONTOURING
- PIEZOMETER CONSIDERED UNRELIABLE (DATA NOT USED IN CONTOURING)
- PURGE WELL (DATA NOT USED IN CONTOURING)
- 2003 DELINEATION OF NAPL LIMITS
- 525 (526.81) POTENTIOMETRIC CONTOUR (FT AMSL)
- POTENTIOMETRIC ELEVATION (FT AMSL)
- FT AMSL FEET ABOVE MEAN SEA LEVEL

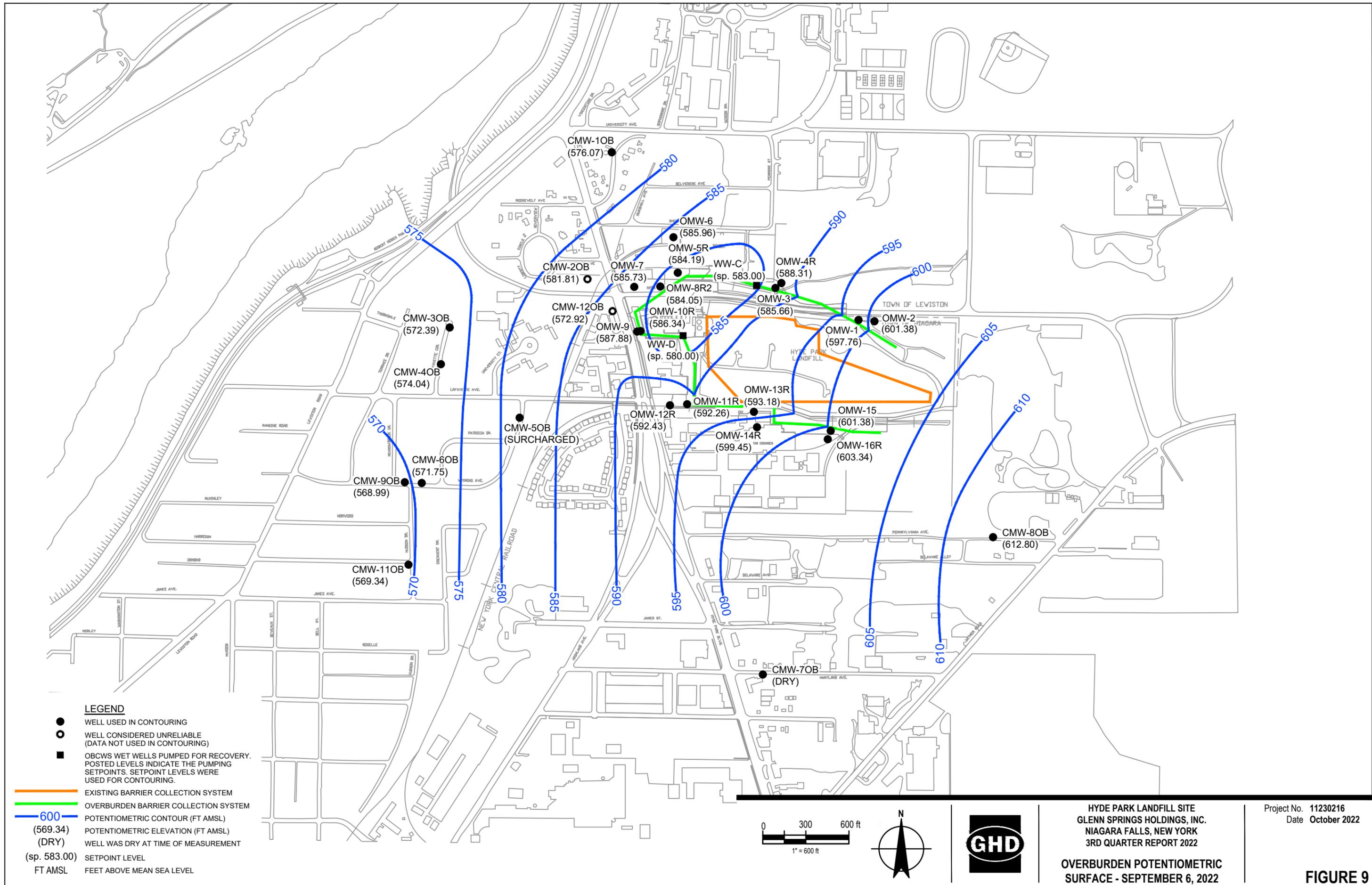


HYDE PARK LANDFILL SITE
 GLENN SPRINGS HOLDINGS, INC.
 NIAGARA FALLS, NEW YORK
 3RD QUARTER REPORT 2022
**FZ-11 POTENTIOMETRIC SURFACE -
 SEPTEMBER 6, 2022**

Project No. 11230216
 Date October 2022

FIGURE 8

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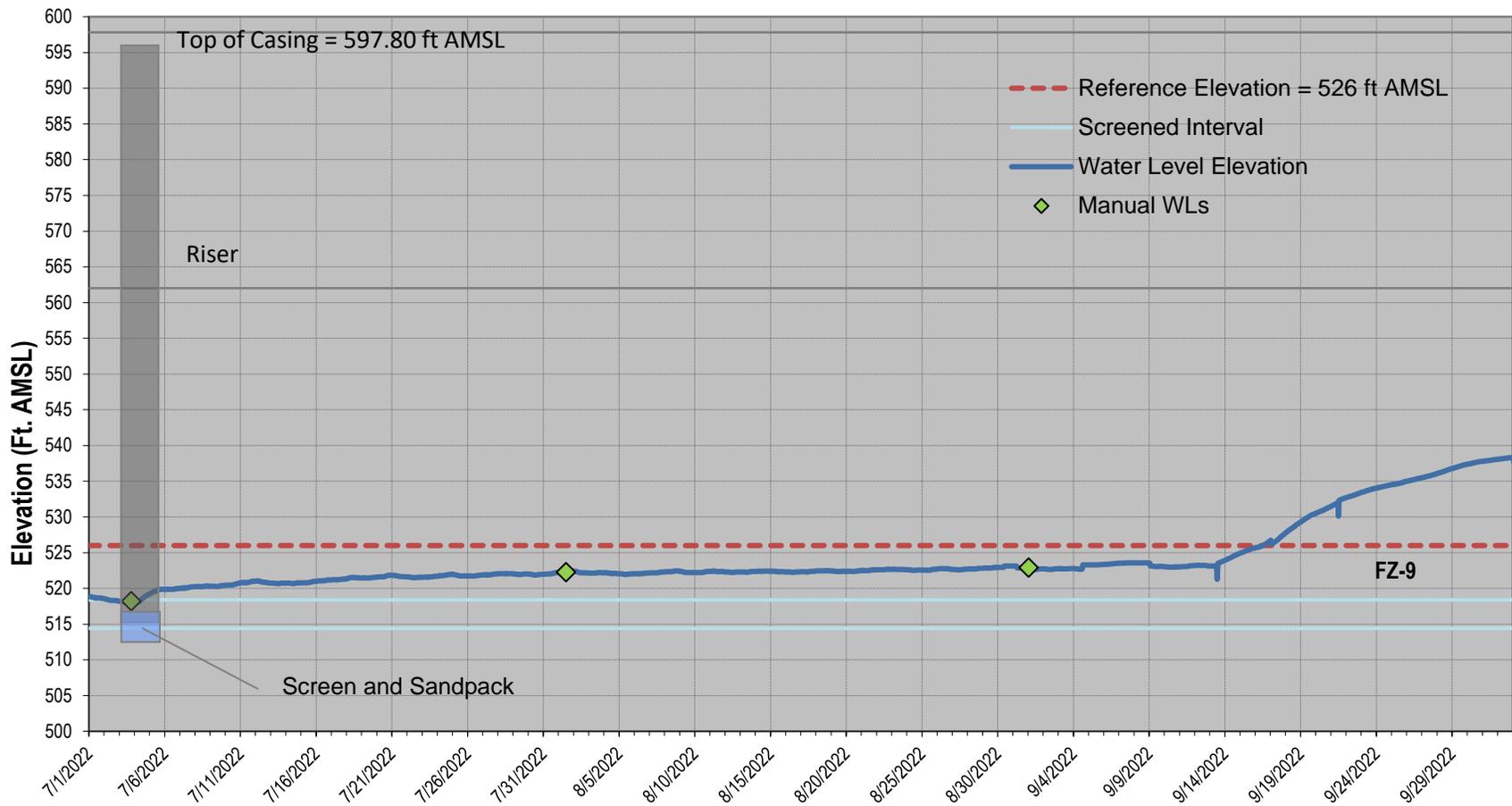


figure 10

PMW-1M-09 3rd Quarter 2022 - Hourly Water Level Elevation
 3rd Quarter Report
 Hyde Park Landfill Site
 Glenn Springs Holdings, Inc.



Glenn Springs Holdings, Inc.

A subsidiary of Occidental Petroleum

**Groundwater Elevation Summary
Third Quarter - 2022
Hyde Park RRT Program**

Well	Reference Elevation (ft AMSL)	Depth to Water (ft)	Groundwater Elevation (ft AMSL)
Overburden			
CMW-2OB	590.79	8.98	581.81
CMW-3OB	582.13	9.74	572.39
CMW-4OB	574.28	0.24	574.04
CMW-5OB	583.43	Surcharged	-
CMW-6OB	571.89	0.14	571.75
CMW-7OB	611.00	Dry	-
CMW-8OB	616.11	3.31	612.80
CMW-9OB	571.76	2.77	568.99
CMW-1OB	576.80	0.73	576.07
CMW-11OB	572.85	3.51	569.34
CMW-12OB	594.74	21.82	572.92
MH20	605.87	4.59	601.28
MH21	599.77	6.08	593.69
MH22	593.37	Dry	-
MH23	587.05	Dry	-
MH24	582.57	8.90	573.67
MH25	583.82	7.92	575.90
MH26	584.48	8.93	575.55
MH27	586.12	10.63	575.49
MH28	585.23	16.40	568.83
MH29	604.58	15.08	589.50
MH30	599.49	9.98	589.51
MH31	590.10	9.56	580.54
MH32	592.01	9.71	582.30
MH33	592.51	8.74	583.77
MH34	598.34	7.19	591.15
MH35	605.69	6.55	599.14
MH35A	605.69	7.53	598.16
OMW-1	605.28	7.52	597.76
OMW-2	605.99	4.61	601.38
OMW-3	598.63	12.97	585.66
OMW-4R	601.17	12.86	588.31
OMW-5R	591.31	7.12	584.19
OMW-6	587.62	1.66	585.96
OMW-7	592.74	7.01	585.73
OMW-8R2	594.67	10.62	584.05
OMW-9	595.27	7.39	587.88
OMW-10R	595.13	8.79	586.34
OMW-11R	597.52	5.26	592.26
OMW-12R	596.71	4.28	592.43
OMW-13R	601.50	8.32	593.18
OMW-14R	599.64	0.19	599.45
OMW-15	607.48	6.10	601.38
OMW-16R	607.62	4.28	603.34
SC-2	625.61	22.67	602.94
SC-3	638.72	39.72	599.00
SC-4	639.35	39.38	599.97
SC-5	634.07	31.82	602.25
SC-6	631.15	19.47	611.68

**Groundwater Elevation Summary
Third Quarter - 2022
Hyde Park RRT Program**

Well	Reference Elevation (ft AMSL)	Depth to Water (ft)	Groundwater Elevation (ft AMSL)
Shallow Bedrock			
CMW-1SH	576.11	13.29	562.82
CMW-2SH	590.51	26.67	563.84
CMW-3SH	581.91	31.17	550.74
CMW-4SH	574.16	10.32	563.84
CMW-5SH	583.36	27.12	556.24
CMW-6SH	572.05	10.28	561.77
CMW-7SH	610.58	12.61	597.97
CMW-8SH	615.95	8.06	607.89
CMW-9SH	571.96	11.68	560.28
CMW-11SH	573.21	8.38	564.83
CMW-12SH	597.02	28.10	568.92
Flow Zone 1			
G1U-01	617.08	14.79	602.29
G6-01	609.24	16.46	592.78
H2U-01	620.92	11.24	609.68
H5-01	617.61	21.23	596.38
I1-01	625.58	27.39	598.19
Flow Zone 2			
F2U-02	599.89	25.03	574.86
F4U-02	602.32	16.01	586.31
G1-02	616.86	24.88	591.98
G6-02	608.65	17.80	590.85
H2U-02	620.88	25.40	595.48
H5-02	617.47	24.82	592.65
I1-02	625.47	40.09	585.38
J2U-02	609.66	14.29	595.37
J5U-02	606.21	11.33	594.88
J6-02	609.23	9.16	600.07
Flow Zone 4			
AFW-2U-04	593.48	18.03	575.45
D1U-04	593.77	13.15	580.62
D2U-04	590.65	10.70	579.95
E6-04	578.23	13.07	565.16
F2U-04	599.76	22.94	576.82
F4U-04	602.19	14.52	587.67
F6-04	588.06	18.28*	569.78
G1U-04	616.96	25.18	591.78
G6-04	609.15	18.14	591.01
H5-04	617.40	24.74	592.66
I1-04	625.30	40.38	584.92
J2U-04	609.42	13.17	596.25
J5U-04	606.05	18.75	587.30
J6-04	609.12	25.53	583.59

**Groundwater Elevation Summary
Third Quarter - 2022
Hyde Park RRT Program**

Well	Reference Elevation (ft AMSL)	Depth to Water (ft)	Groundwater Elevation (ft AMSL)
Flow Zone 5			
AFW-2U-05	593.33	17.82	575.51
AGW-1U-05	591.80	3.92	587.88
D1U-05	593.51	14.68	578.83
D2U-05	590.56	12.02	578.54
E6-05	578.04	12.55	565.49
F2U-05	599.64	22.39	577.25
F4U-05	602.06	16.45	585.61
F6-05	587.85	18.19	569.66
G6-05	609.13	18.17*	590.96
H2M-05	621.59	30.47	591.12
H5-05	617.31	25.22	592.09
I1-05	625.25	72.04	553.21
J2U-05	609.30	25.09	584.21
J5U-05	605.87	23.48	582.39
J6-05	609.02	26.74	582.28
PMW-1U-05	598.00	19.29	578.71
Flow Zone 6			
ABP-7-06	575.78	Dry	-
AFW-1U-06	571.83	14.96	556.87
AFW-2U-06	593.22	48.19	545.03
AGW-1U-06	591.66	39.26	552.40
B2U-06	589.29	35.89	553.40
C3-06	585.78	Dry	-
D1U-06	593.25	46.08	547.17
D2U-06	590.38	42.75	547.63
E6-06	577.99	4.54	573.45
F2M-06	599.06	48.07	550.99
F4M-06	602.05	50.02	552.03
F6-06	587.84	14.13*	573.71
G1M-06	616.75	43.08	573.67
G6-06	609.09	30.07	579.02
H2M-06	621.42	35.52	585.90
H5-06	617.17	27.59	589.58
I1-06	625.15	76.33	548.82
J2M-06	608.94	54.60	554.34
J5M-06	606.22	59.14	547.08
J6-06	608.93	53.77	555.16
PMW-1U-06	597.92	47.92	550.00

**Groundwater Elevation Summary
Third Quarter - 2022
Hyde Park RRT Program**

Well	Reference Elevation (ft AMSL)	Depth to Water (ft)	Groundwater Elevation (ft AMSL)
Flow Zone 7			
ABP-1-07	575.20	23.99	551.21
ABP-7-07	575.73	41.15	534.58
AFW-1M-07	571.41	Dry	-
AFW-2M-07	593.44	66.80	526.64
AGW-1M-07	592.91	38.11	554.80
B2M-07	589.52	57.51	532.01
C3-07	585.62	42.67	542.95
D1M-07	594.15	70.34	523.81
D2M-07	590.77	66.52	524.25
E6-07	577.91	23.14	554.77
F2M-07	598.91	75.31	523.60
F4M-07	601.91	68.31	533.60
F6-07	587.68	20.13	567.55
G1M-07	616.68	38.14	578.54
G6-07	609.06	30.21	578.85
H5-07	617.05	58.41	558.64
I1-07	625.14	71.94	553.20
J5M-07	606.07	52.45	553.62
J6-07	608.85	55.98	552.87
PMW-1M-07	598.50	67.68	530.82
Flow Zone 9			
ABP-1-09	575.19	38.04	537.15
ABP-7-09	575.67	41.99	533.68
AFW-1M-09	571.12	46.58	524.54
AFW-2M-09	593.32	72.30	521.02
AGW-1M-09	592.75	38.42	554.33
B2M-09	589.34	58.38	530.96
C3-09	585.00	42.99	542.01
D1M-09	594.02	71.02	523.00
D2M-09	590.66	67.72	522.94
E6-09	577.82	25.15	552.67
F2M-09	598.71	73.33	525.38
F4M-09	601.79	72.06	529.73
F6-09	587.53	16.01	571.52
G1M-09	616.58	38.50	578.08
G6-09	608.98	22.82	586.16
H2M-09	621.32	68.30	553.02
H5-09	616.93	64.39	552.54
I1-09	624.91	61.32	563.59
J2M-09	608.77	54.65	554.12
J5M-09	605.82	52.56	553.26
J6-09	608.76	43.53	565.23
PMW-1M-09	598.34	74.90	523.44

**Groundwater Elevation Summary
Third Quarter - 2022
Hyde Park RRT Program**

Well	Reference Elevation (ft AMSL)	Depth to Water (ft)	Groundwater Elevation (ft AMSL)
Flow Zone 11			
AFW-1L-11	572.10	65.68	506.42
AFW-2L-11	593.43	97.28	496.15
AGW-1L-11	592.71	8.13	584.58
B2L-11	589.65	90.04	499.61
D1L-11	593.80	91.06	502.74
D2L-11	590.21	64.73	525.48
E6-11	577.72	45.39	532.33
F2L-11	598.94	42.43	556.51
F4L-11	602.22	28.81	573.41
F6-11	587.40	60.59	526.81
G1L-11	616.84	57.91	558.93
G6-11	608.89	47.43	561.46
H2L-11	620.73	64.94	555.79
H5-11	616.81	70.91	545.90
I1-11	624.75	78.27	546.48
J5L-11	607.20	59.56	547.64
J6-11	608.68	23.28	585.40
PMW-1L-11	598.84	85.21	513.63
Purge Wells			
APW-1	564.98	509.00	55.98
APW-2	569.89	511.50	58.39
PW-1L	593.16	95.66	497.50
PW-1U	593.50	44.40	549.10
PW-2L	597.29	102.29	495.00
PW-2M	596.61	76.11	520.50
PW-2UR	594.75	35.55	559.20
PW-3L	599.05	98.95	500.10
PW-3M	597.79	108.29	489.50
PW-4U	604.85	31.25	573.60
PW-5UR	601.31	45.21	556.10
PW-6UMR	609.31	54.21	555.10
PW-6UR	608.47	49.37	559.10
PW-7U	592.47	52.97	539.50
PW-8M	592.67	70.67	522.00
PW-8U	589.27	38.97	550.30
PW-9U	587.47	43.47	544.00
PW-10U	593.54	28.42	565.12

Notes:

- * - Measured on September 26, 2022 due to suspected measurement error in initial reading
- - Not applicable
- ft AMSL - Feet above mean sea level
- Dry - No water present at the time of measurement
- Surcharged - Well surcharged

**Leachate Treatment System Daily Effluent Monitoring Data
Third Quarter - 2022
Hyde Park RRT Program**

Date	Effluent	
	pH (su)	Flow (gal)
07/01/22	7.1	34,000
07/02/22		
07/03/22		
07/04/22		
07/05/22	7.0	127,000
07/06/22	7.2	140,000
07/07/22	7.0	35,000
07/08/22		
07/09/22		
07/10/22		
07/11/22		
07/12/22		
07/13/22	7.0	143,000
07/14/22	7.1	145,000
07/15/22		
07/16/22		
07/17/22		
07/18/22		
07/19/22		
07/20/22	7.0	145,000
07/21/22	7.0	139,000
07/22/22		
07/23/22		
07/24/22		
07/25/22		
07/26/22	7.1	94,000
07/27/22	7.0	44,000
07/28/22	7.0	137,000
07/29/22		
07/30/22		
07/31/22		
08/01/22		
08/02/22	7.0	145,000
08/03/22	7.0	147,000
08/04/22	7.0	32,000
08/05/22	7.1	12,000
08/06/22		

**Leachate Treatment System Daily Effluent Monitoring Data
Third Quarter - 2022
Hyde Park RRT Program**

Date	Effluent	
	pH (su)	Flow (gal)
08/07/22		
08/08/22		
08/09/22	7.0	127,000
08/10/22	7.0	142,000
08/11/22		
08/12/22		
08/13/22		
08/14/22		
08/15/22		
08/16/22	7.0	112,000
08/17/22	7.0	140,000
08/18/22		
08/19/22		
08/20/22		
08/21/22		
08/22/22		
08/23/22	7.0	132,000
08/24/22	7.0	136,000
08/25/22	7.0	28,000
08/26/22		
08/27/22		
08/28/22		
08/29/22		
08/30/22		
08/31/22	6.9	141,000
09/01/22	7.0	138,000
09/02/22	7.0	21,000
09/03/22		
09/04/22		
09/05/22		
09/06/22		
09/07/22	7.0	135,000
09/08/22	7.0	94,000
09/09/22	7.1	240,000
09/10/22		
09/11/22		
09/12/22		

**Leachate Treatment System Daily Effluent Monitoring Data
Third Quarter - 2022
Hyde Park RRT Program**

Date	Effluent	
	pH (su)	Flow (gal)
09/13/22		
09/14/22	7.0	46,000
09/15/22		
09/16/22		
09/17/22		
09/18/22		
09/19/22		
09/20/22		
09/21/22		
09/22/22		
09/23/22		
09/24/22		
09/25/22		
09/26/22		
09/27/22		
09/28/22		
09/29/22		
09/30/22		
	Total	3,151,000

Notes:

- su - Standard Unit
- gal - Gallons

Analytical Results Summary
Weekly Sampling - Leachate Treatment System
Third Quarter - 2022
Hyde Park RRT Program

Effluent	Parameter	Units	07/06/2022	07/13/2022	07/20/2022	07/27/2022	08/03/2022	08/10/2022
Volatiles								
	1,1,1-Trichloroethane	µg/L	1.0 U					
	1,1,2,2-Tetrachloroethane	µg/L	0.56 J	0.76 J	0.85 J	0.57 J	0.56 J	0.57 J
	1,1,2-Trichloroethane	µg/L	1.0 U					
	1,1-Dichloroethane	µg/L	1.9	2.4	2.7	1.8	1.8	1.9
	1,1-Dichloroethene	µg/L	1.0 U					
	1,2,4-Trichlorobenzene	µg/L	1.0 U					
	1,2-Dichlorobenzene	µg/L	1.0 U					
	1,2-Dichloroethane	µg/L	6.2	7.3	7.8	6.4	6.1	6.3
	1,2-Dichloropropane	µg/L	1.0 U	0.62 J	0.58 J	0.50 J	0.45 J	0.50 J
	1,3-Dichlorobenzene	µg/L	1.0 U					
	1,4-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	0.23 J	1.0 U
	2-Chlorotoluene	µg/L	1.0 U					
	3-Chlorotoluene	µg/L	1.0 U					
	4-Chlorotoluene	µg/L	1.0 U					
	Benzene	µg/L	9.1	9.1	9.5	8.0	8.7	8.4
	Bromodichloromethane	µg/L	1.0 U					
	Bromoform	µg/L	1.0 U					
	Bromomethane (Methyl bromide)	µg/L	1.0 U					
	Carbon disulfide	µg/L	27	23	11	19	19	20
	Carbon tetrachloride	µg/L	1.0 U					
	Chlorobenzene	µg/L	1.0 U					
	Chloroethane	µg/L	1.0 U					
	Chloroform (Trichloromethane)	µg/L	2.2	2.7	3.3	2.5	2.6	2.6
	Chloromethane (Methyl chloride)	µg/L	1.0 U					
	cis-1,2-Dichloroethene	µg/L	2.1	2.4	2.6	1.8	2.1	2.1
	cis-1,3-Dichloropropene	µg/L	1.0 U					
	Dichlorodifluoromethane (CFC-12)	µg/L	1.0 U					
	Ethylbenzene	µg/L	1.0 U					
	m&p-Xylenes	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
	m-Monochlorobenzotrifluoride	µg/L	1.0 U					
	Methylene chloride	µg/L	1.0 U					
	o-Monochlorobenzotrifluoride	µg/L	1.0 U					
	o-Xylene	µg/L	1.0 U					
	p-Monochlorobenzotrifluoride	µg/L	1.0 U					
	Styrene	µg/L	1.0 U					
	Tetrachloroethene	µg/L	1.0 U					
	Toluene	µg/L	1.0 U					
	trans-1,2-Dichloroethene	µg/L	1.0 U	0.23 J	1.0 U	1.0 U	1.0 U	1.0 U
	trans-1,3-Dichloropropene	µg/L	1.0 U					
	Trichloroethene	µg/L	1.0 U					
	Trichlorofluoromethane (CFC-11)	µg/L	1.0 U					
	Vinyl acetate	µg/L	2.0 U					
	Vinyl chloride	µg/L	58	75	87	53	56	54
	Xylenes (total)	µg/L	3.0 U					
General Chemistry								
	Phenolics (total)	mg/L	0.0133	0.0153	0.0155	0.0184	0.0158	0.0233

Notes:

J - Estimated concentration

U - Not detected at the associated reporting limit

mg/L - Milligrams per liter

µg/L - Micrograms per liter

Analytical Results Summary
Weekly Sampling - Leachate Treatment System
Third Quarter - 2022
Hyde Park RRT Program

Effluent	Parameter	Units	08/17/2022	08/24/2022	08/31/2022	09/07/2022	09/14/2022
Volatiles							
	1,1,1-Trichloroethane	µg/L	1.0 U				
	1,1,2,2-Tetrachloroethane	µg/L	0.49 J	0.55 J	0.62 J	0.68 J	0.53 J
	1,1,2-Trichloroethane	µg/L	1.0 U				
	1,1-Dichloroethane	µg/L	1.7	2.0	2.3	2.2	1.9
	1,1-Dichloroethene	µg/L	1.0 U				
	1,2,4-Trichlorobenzene	µg/L	1.0 U				
	1,2-Dichlorobenzene	µg/L	1.0 U				
	1,2-Dichloroethane	µg/L	6.3	6.6	7.7	7.1	6.8
	1,2-Dichloropropane	µg/L	1.0 U	0.43 J	1.0 U	0.45 J	0.36 J
	1,3-Dichlorobenzene	µg/L	1.0 U				
	1,4-Dichlorobenzene	µg/L	1.0 U				
	2-Chlorotoluene	µg/L	1.0 U				
	3-Chlorotoluene	µg/L	1.0 U				
	4-Chlorotoluene	µg/L	1.0 U				
	Benzene	µg/L	7.8	8.0	8.2	7.2	8.2
	Bromodichloromethane	µg/L	1.0 U				
	Bromoform	µg/L	1.0 U				
	Bromomethane (Methyl bromide)	µg/L	1.0 U				
	Carbon disulfide	µg/L	20	23	25	9.5	5.2
	Carbon tetrachloride	µg/L	1.0 U				
	Chlorobenzene	µg/L	1.0 U				
	Chloroethane	µg/L	1.0 U				
	Chloroform (Trichloromethane)	µg/L	2.6	2.6	3.0	2.5	2.4
	Chloromethane (Methyl chloride)	µg/L	1.0 U				
	cis-1,2-Dichloroethene	µg/L	1.9	2.1	2.2	2.1	1.9
	cis-1,3-Dichloropropene	µg/L	1.0 U				
	Dichlorodifluoromethane (CFC-12)	µg/L	1.0 U				
	Ethylbenzene	µg/L	1.0 U				
	m&p-Xylenes	µg/L	2.0 U				
	m-Monochlorobenzotrifluoride	µg/L	1.0 U				
	Methylene chloride	µg/L	1.0 U				
	o-Monochlorobenzotrifluoride	µg/L	1.0 U				
	o-Xylene	µg/L	1.0 U				
	p-Monochlorobenzotrifluoride	µg/L	1.0 U				
	Styrene	µg/L	1.0 U				
	Tetrachloroethene	µg/L	1.0 U				
	Toluene	µg/L	1.0 U				
	trans-1,2-Dichloroethene	µg/L	1.0 U				
	trans-1,3-Dichloropropene	µg/L	1.0 U				
	Trichloroethene	µg/L	0.29 J	1.0 U	1.0 U	1.0 U	1.0 U
	Trichlorofluoromethane (CFC-11)	µg/L	0.27 J	1.0 U	1.0 U	1.0 U	1.0 U
	Vinyl acetate	µg/L	2.0 U				
	Vinyl chloride	µg/L	53	52	62	68	53
	Xylenes (total)	µg/L	3.0 U				
General Chemistry							
	Phenolics (total)	mg/L	0.0242	0.0243	0.0208	0.0169	0.0215

Notes:

J - Estimated concentration

U - Not detected at the associated reporting limit

mg/L - Milligrams per liter

µg/L - Micrograms per liter

Table 4

**Analytical Results Summary
Quarterly Sampling - Leachate Treatment System
Third Quarter - 2022
Hyde Park RRT Program**

Sample Location:	EFFLUENT	EFFLUENT
Sample ID:	HP 91422 EFF	HP 91422 EFF
Sample Date:	9/14/2022	9/14/2022

Parameters	Units		
Volatile Organic Compounds			
Vinyl chloride	µg/L	51.9	-
General Chemistry			
Phosphorus	mg/L	-	0.217

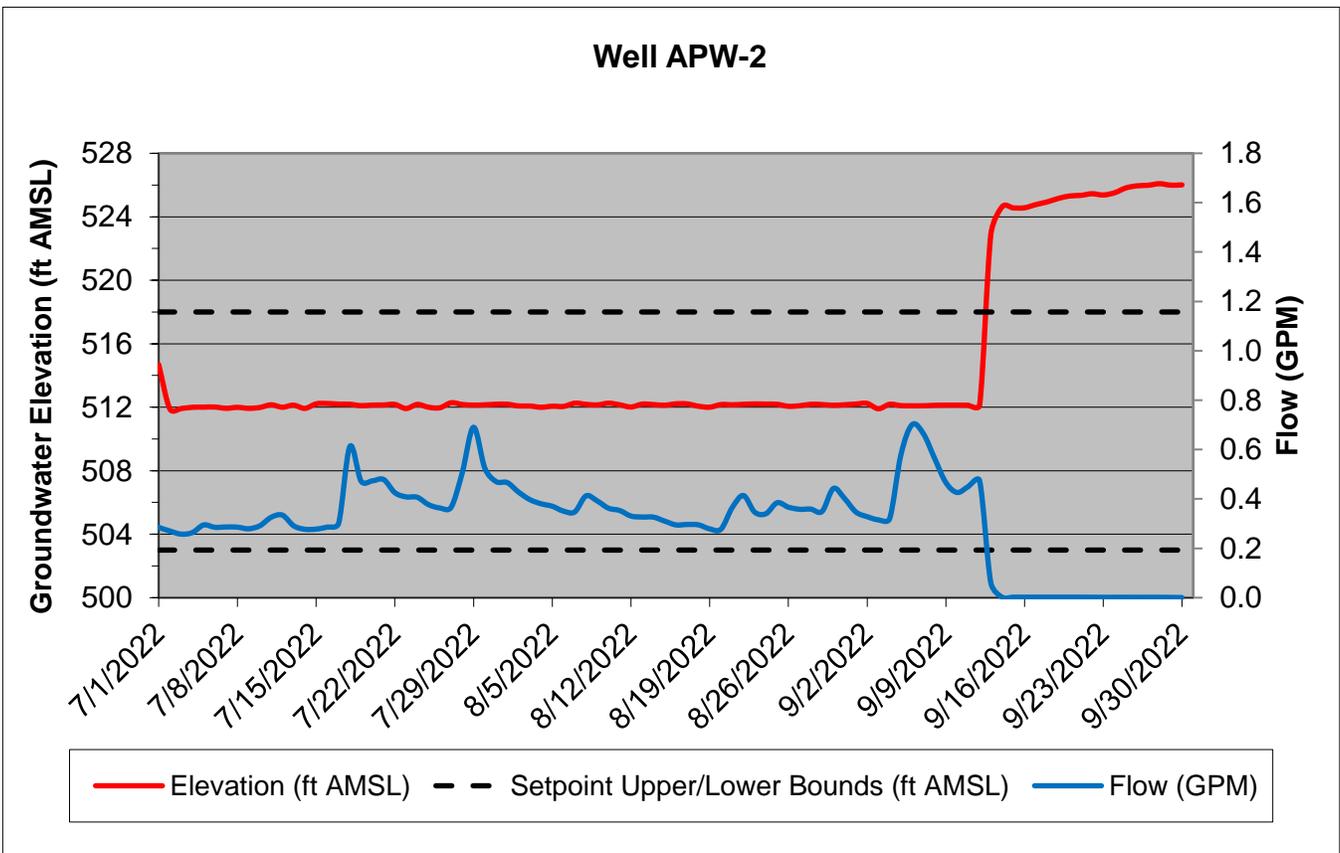
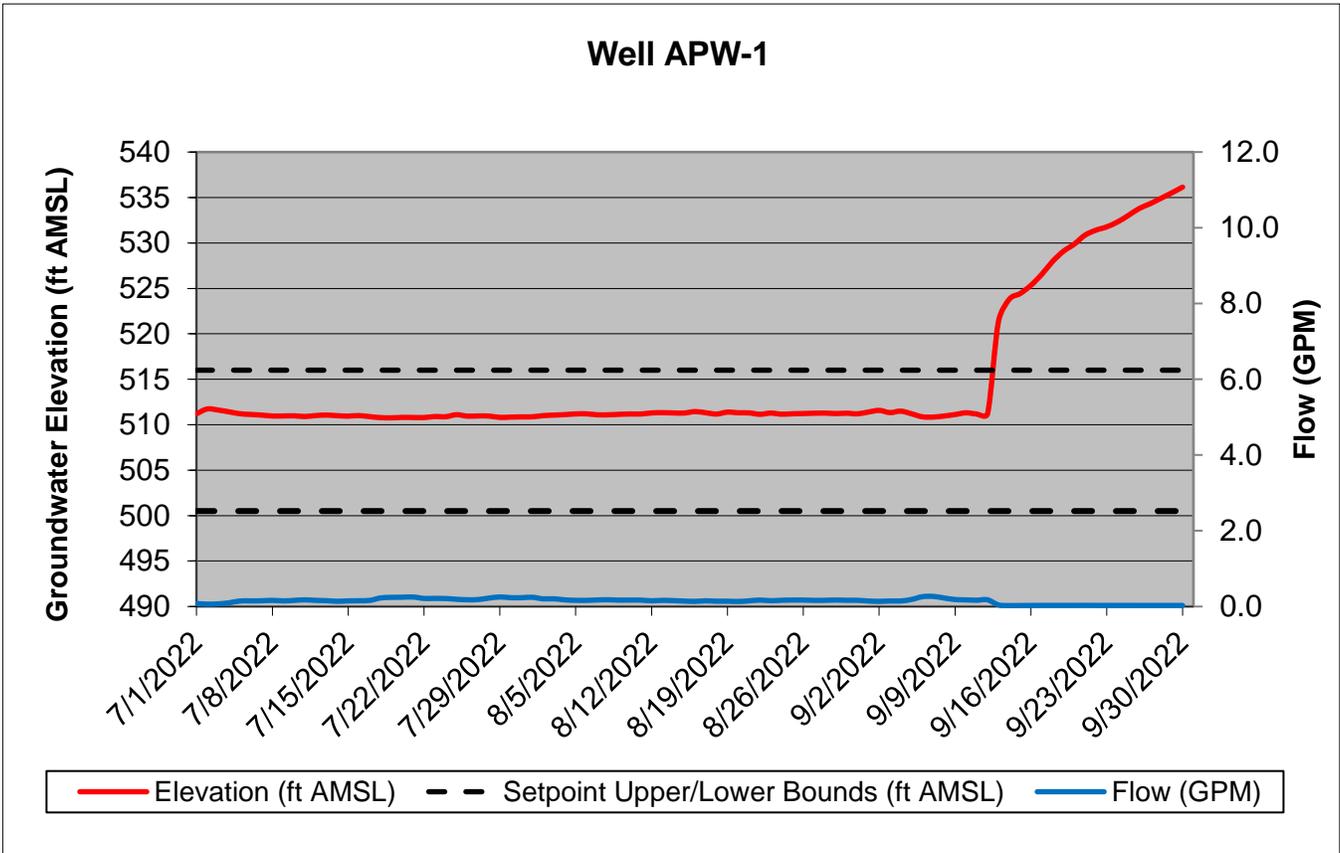
Notes:

"-" - Not applicable

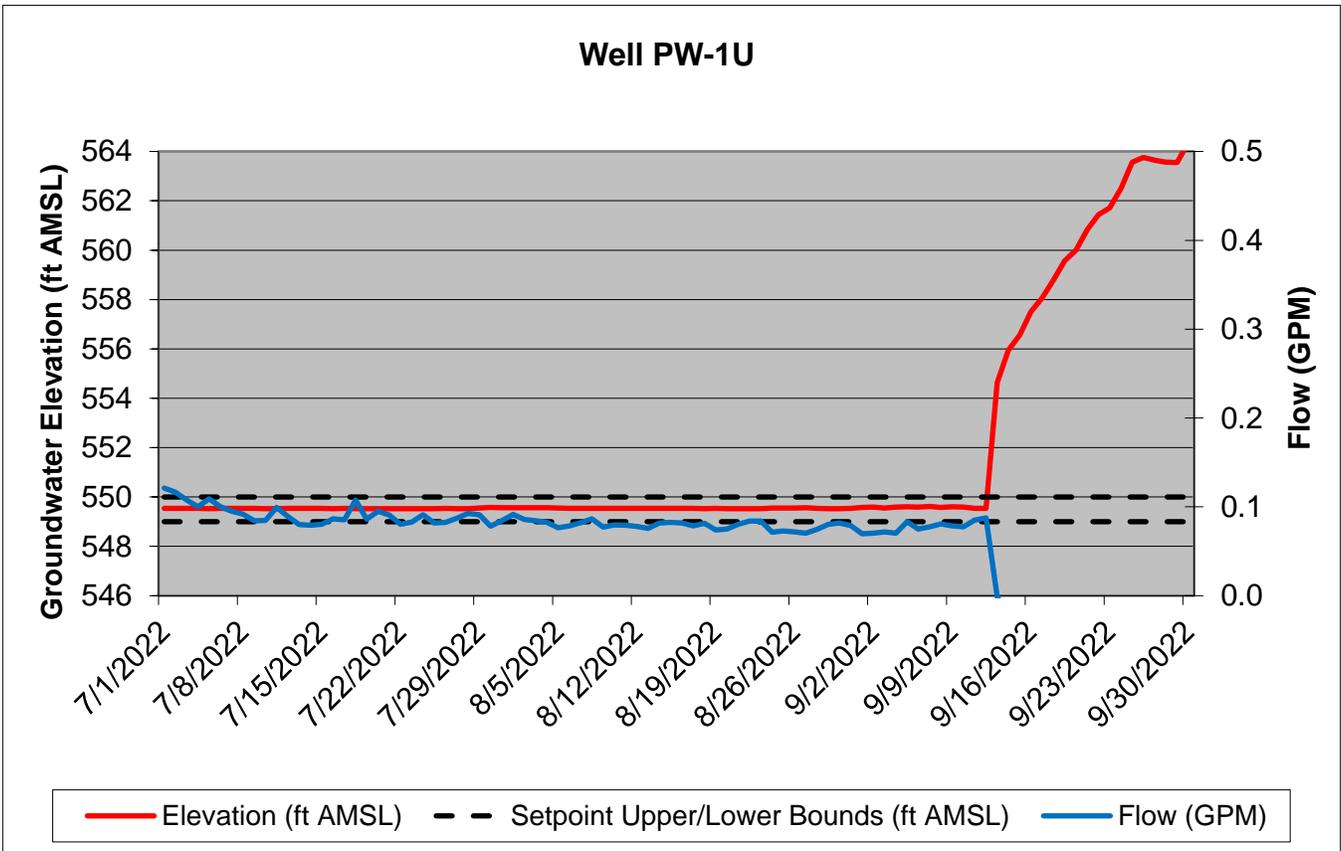
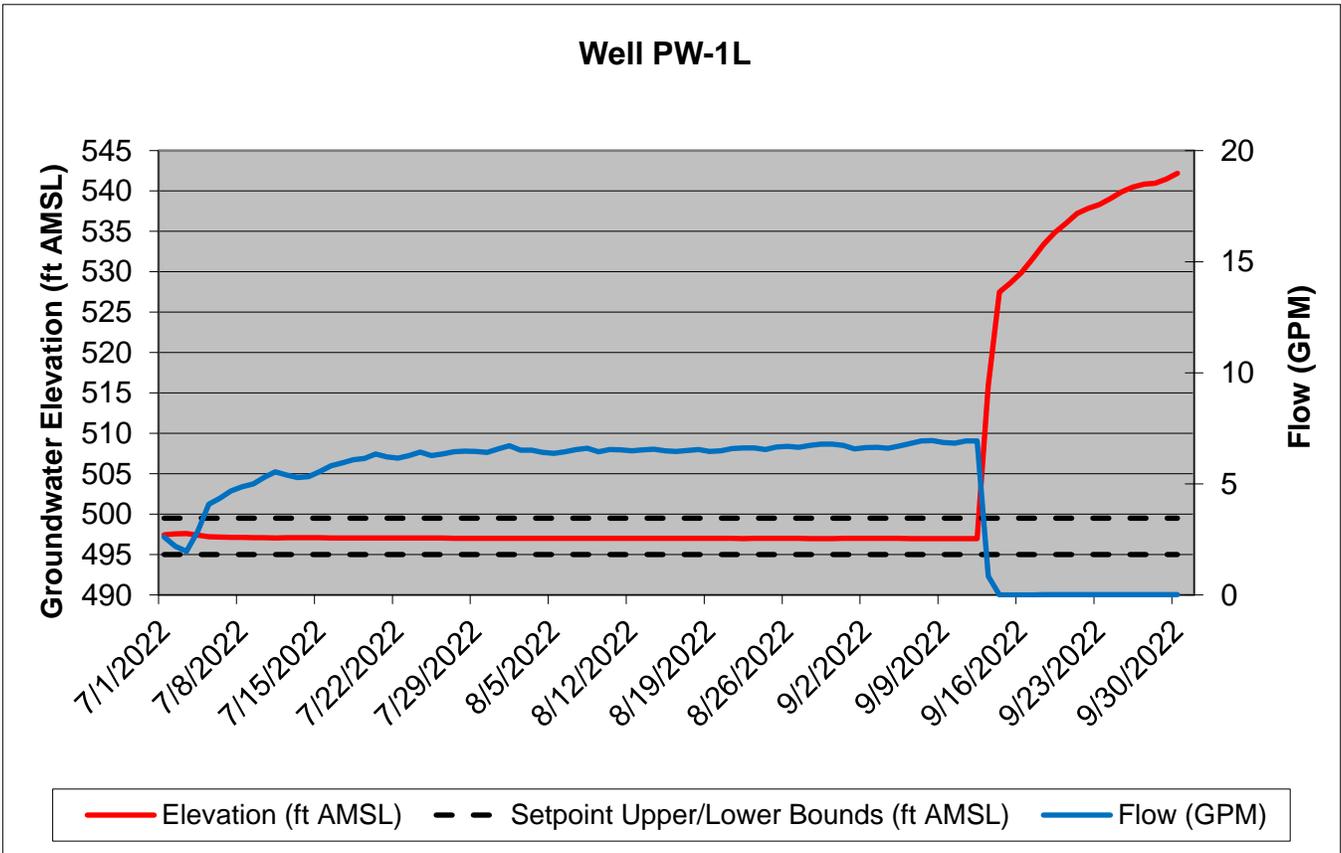
mg/L - Milligrams per liter

µg/L - Micrograms per liter

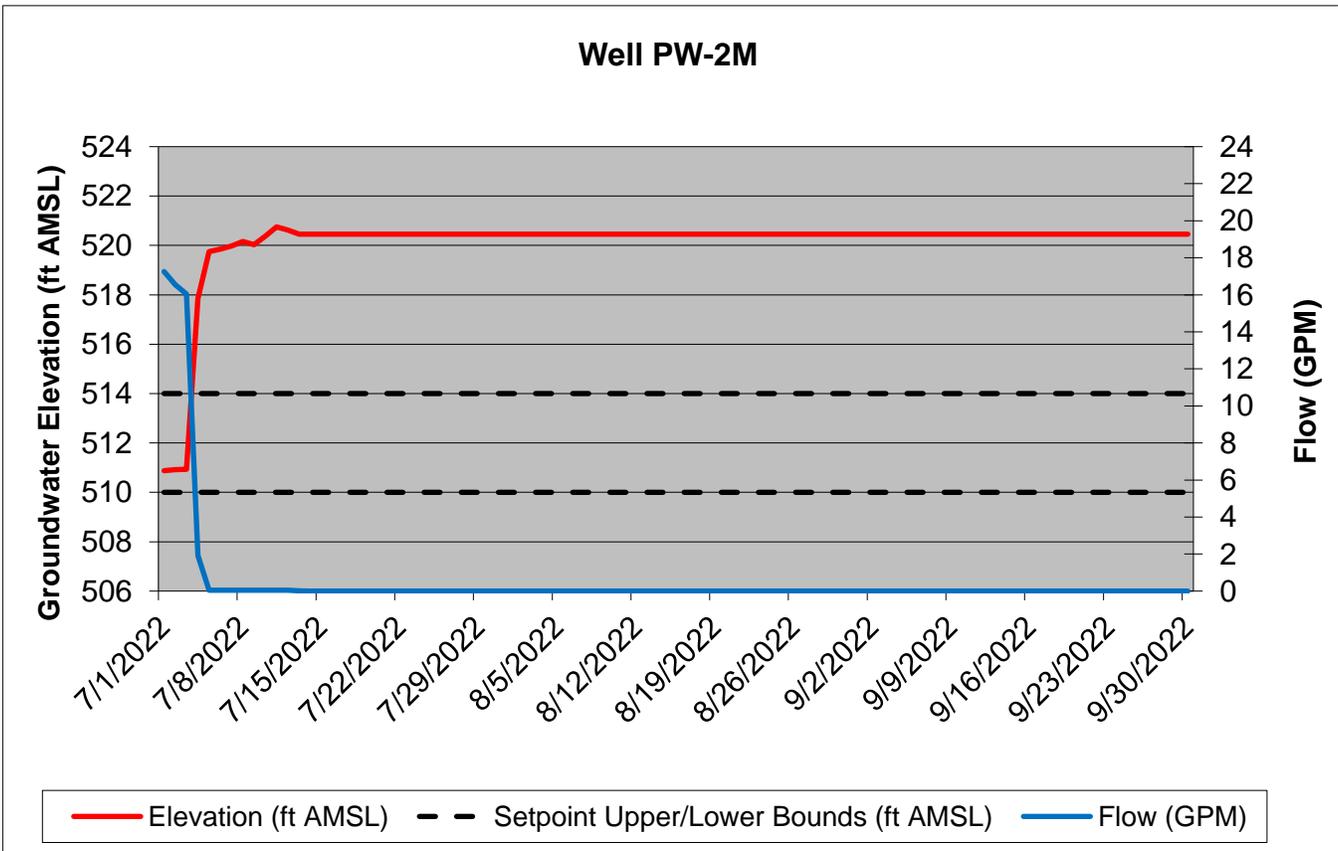
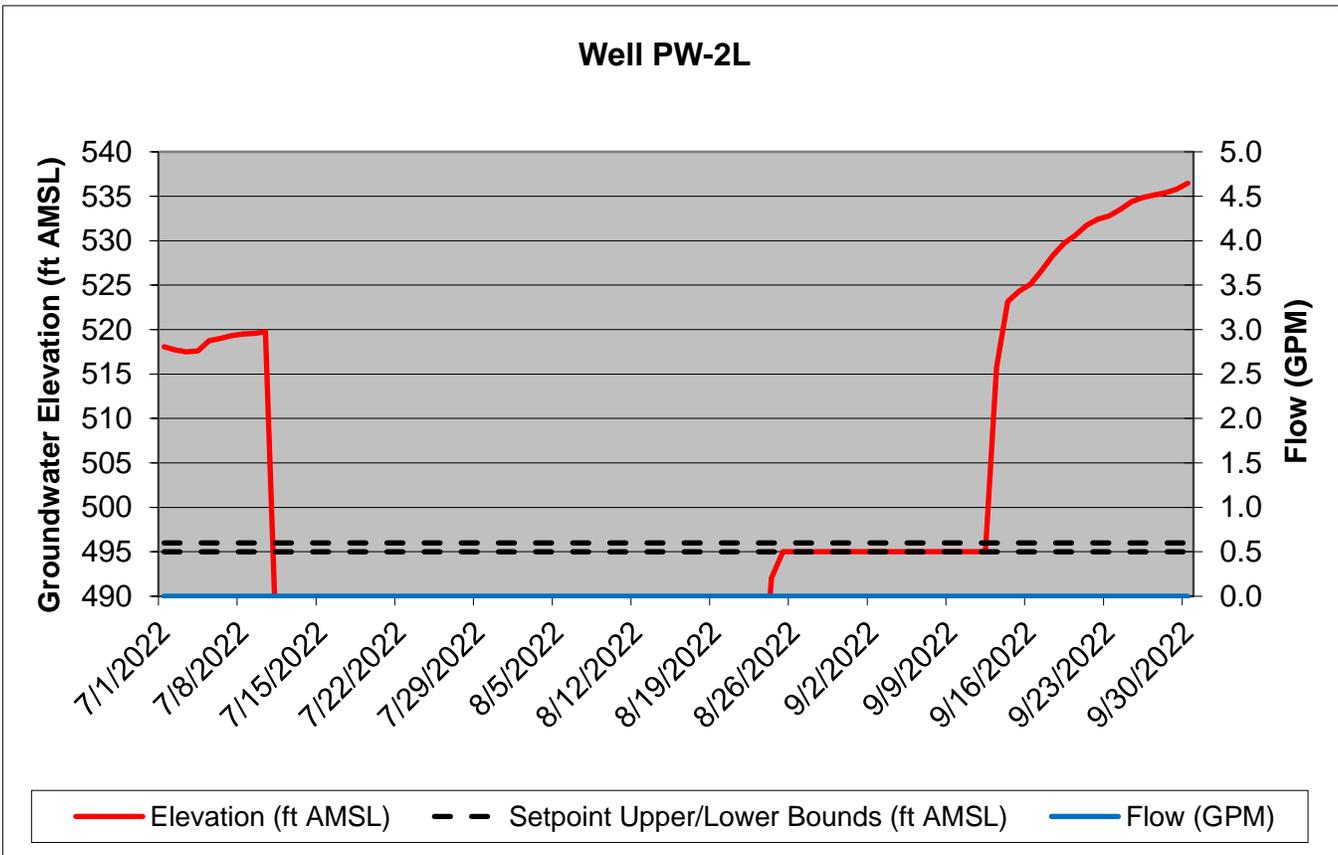
THIRD QUARTER 2022 - PUMPING WELL PERFORMANCE GRAPHS
HYDE PARK



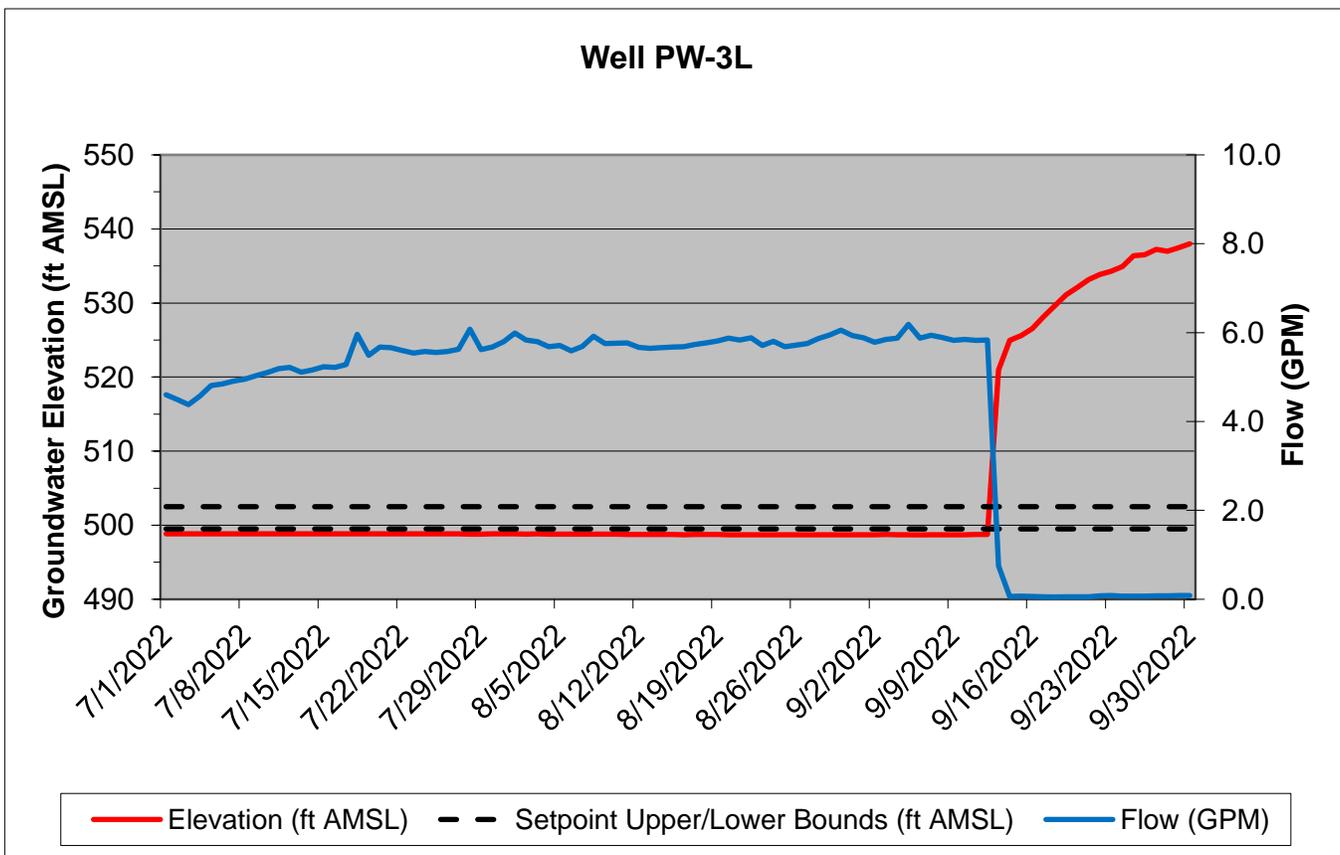
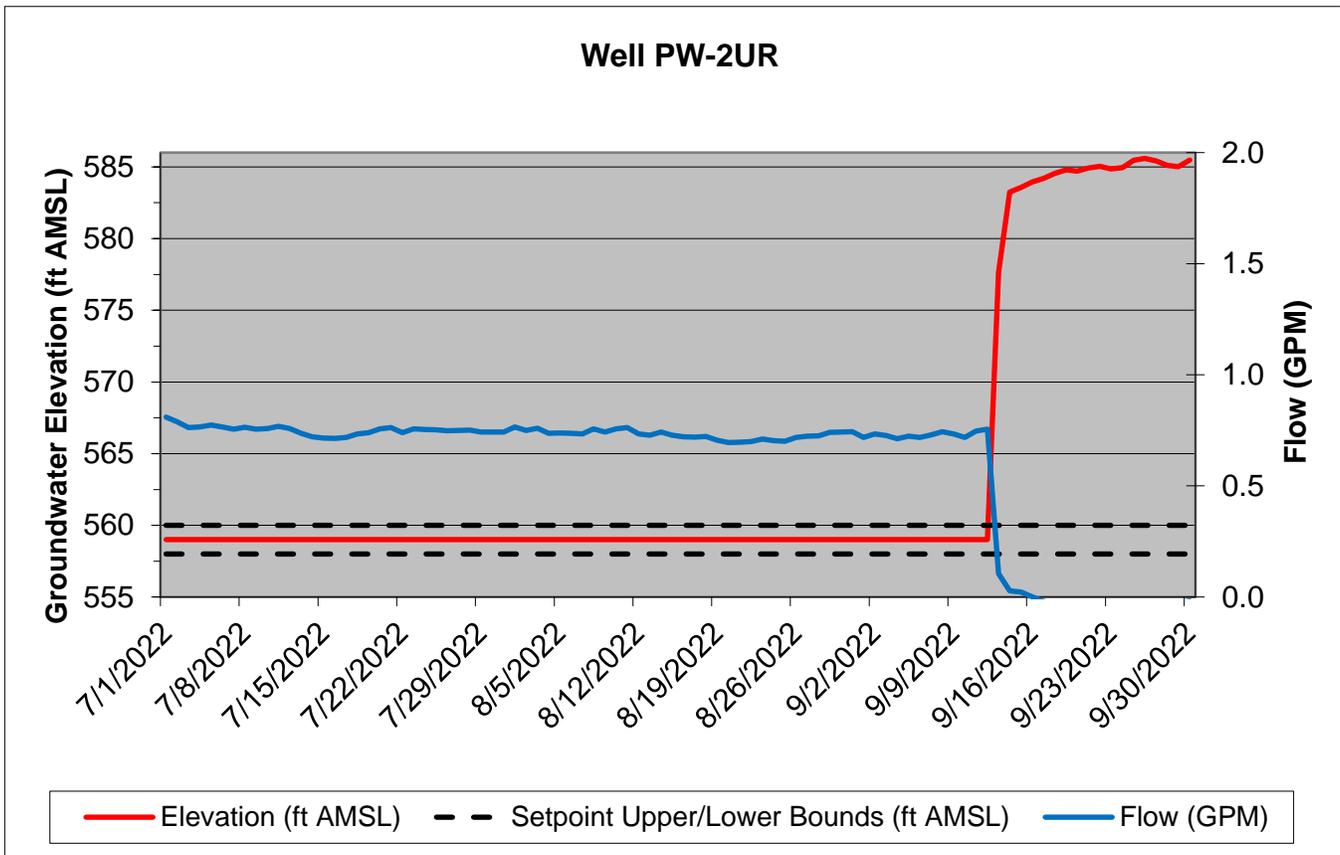
THIRD QUARTER 2022 - PUMPING WELL PERFORMANCE GRAPHS
HYDE PARK



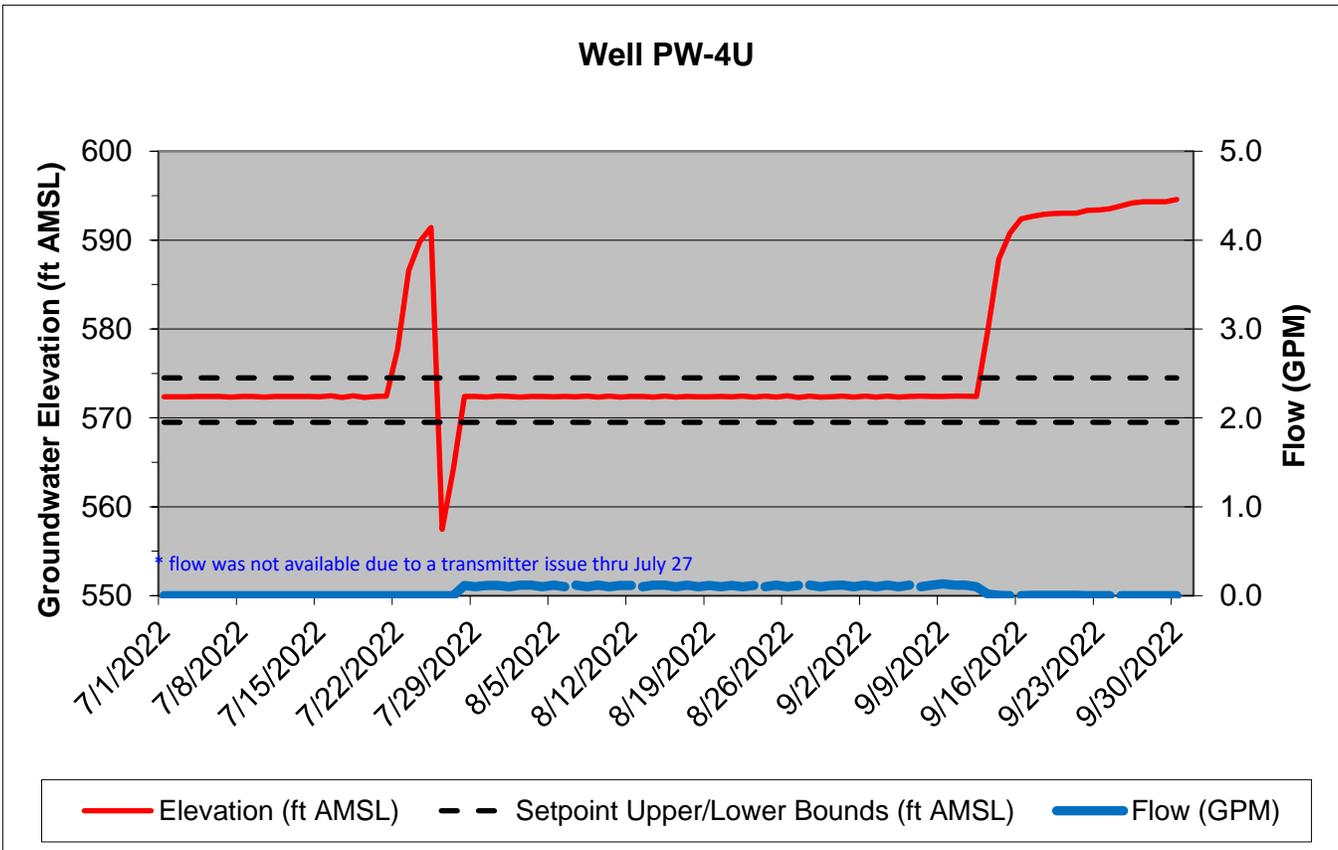
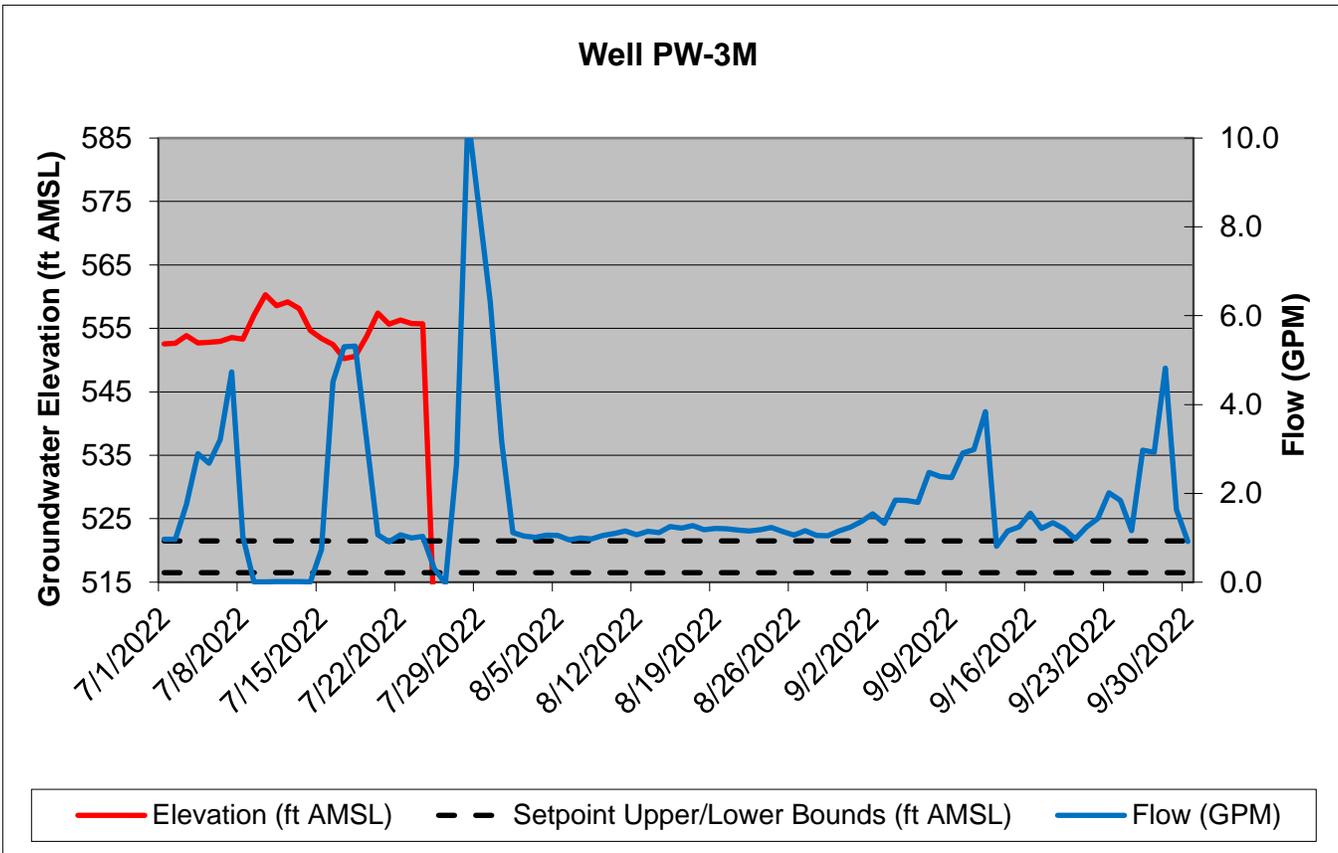
THIRD QUARTER 2022 - PUMPING WELL PERFORMANCE GRAPHS
HYDE PARK



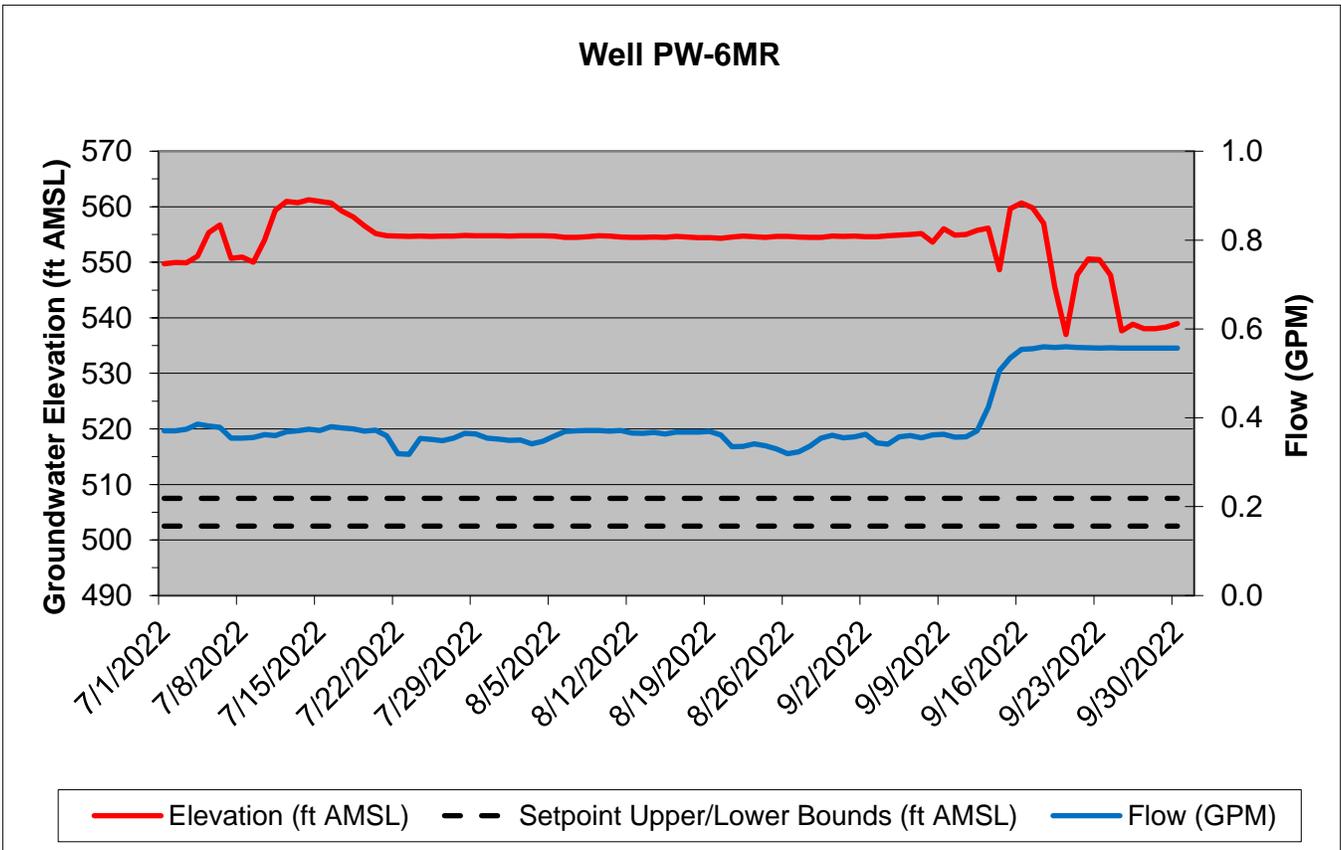
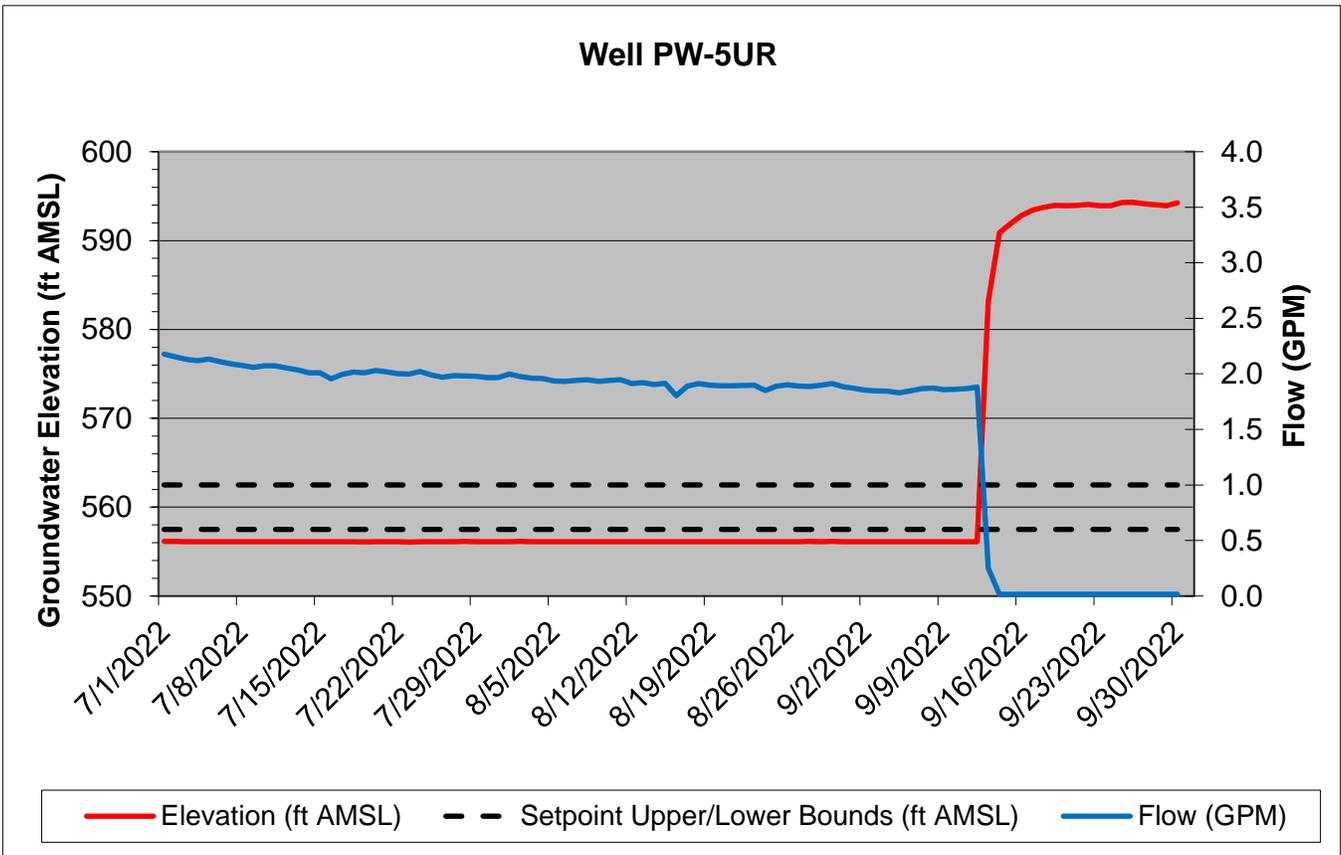
THIRD QUARTER 2022 - PUMPING WELL PERFORMANCE GRAPHS
HYDE PARK



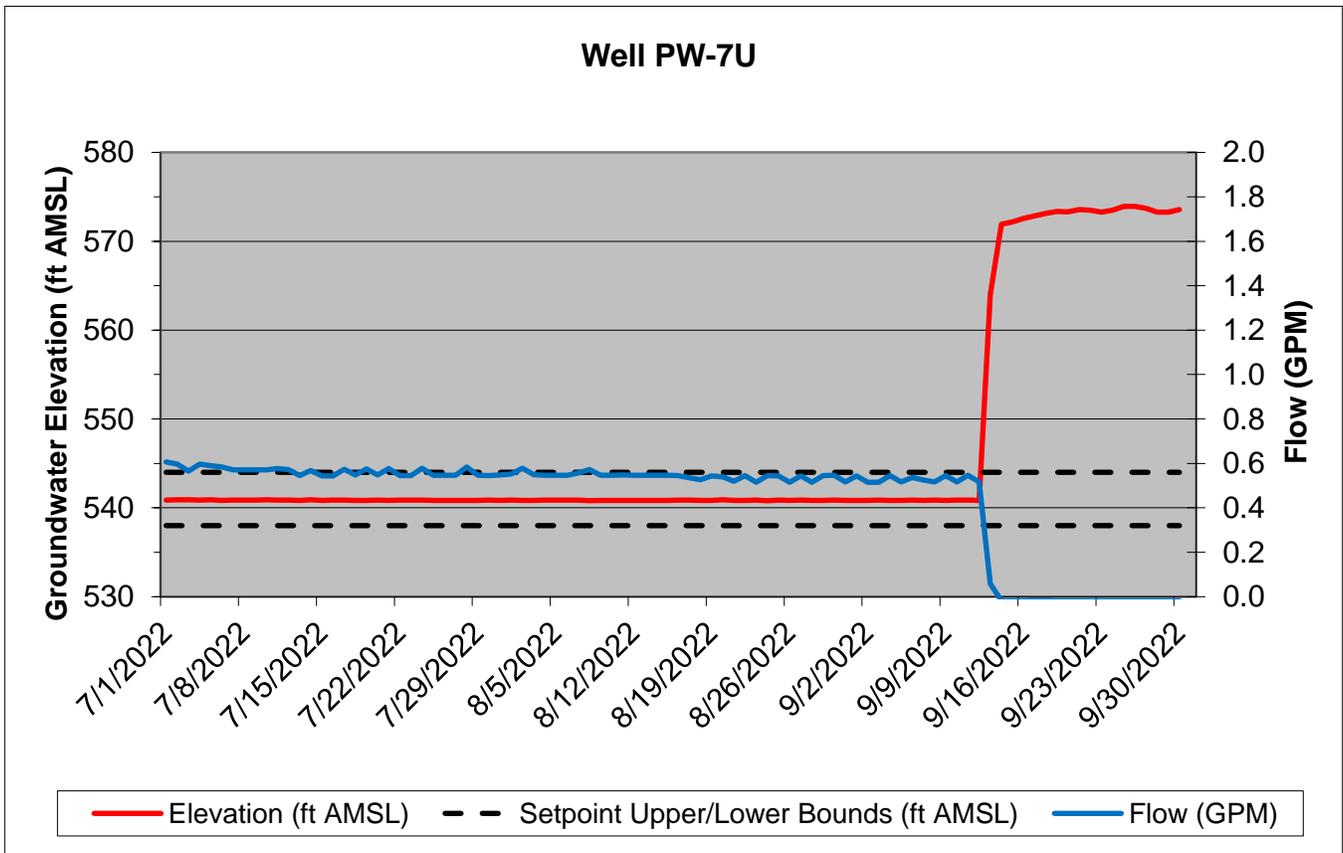
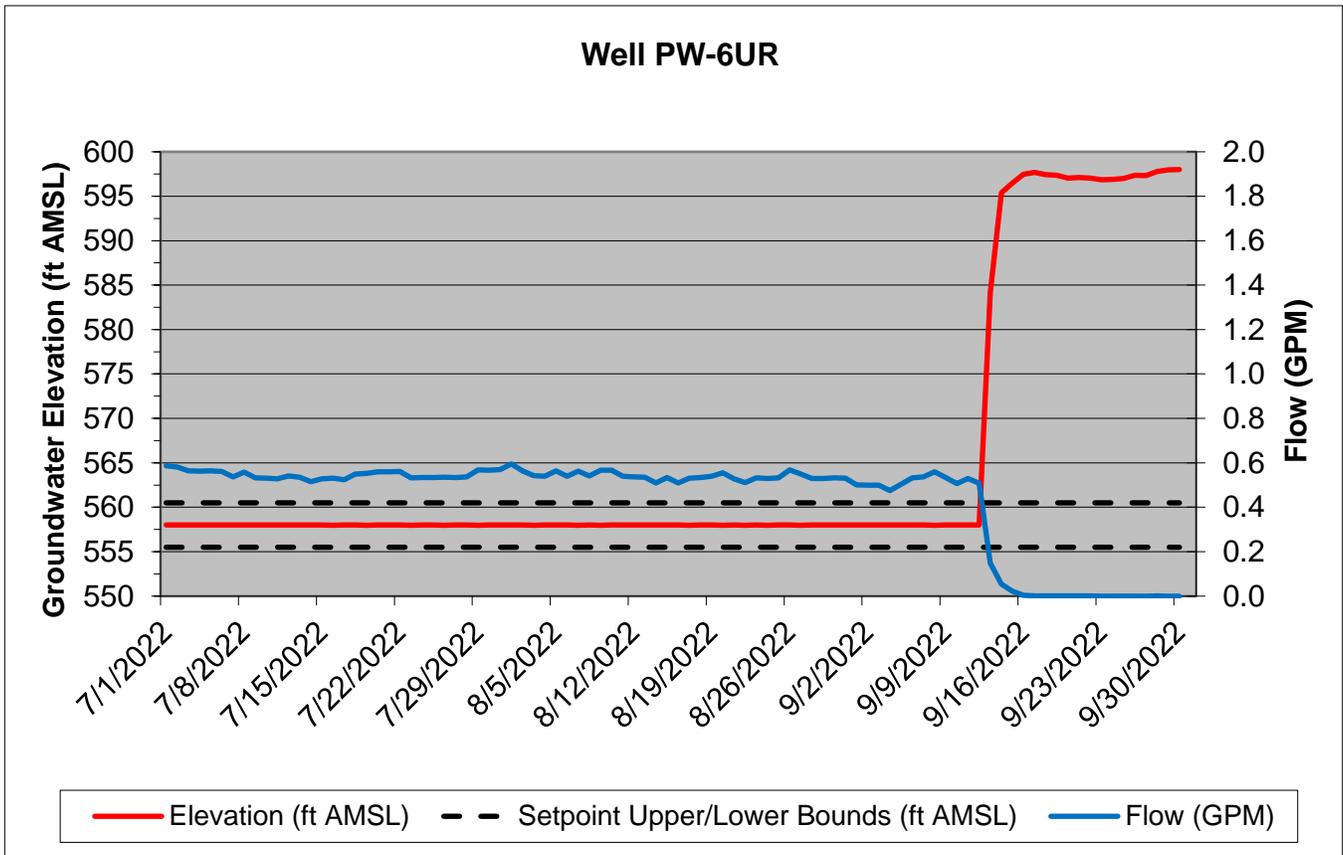
THIRD QUARTER 2022 - PUMPING WELL PERFORMANCE GRAPHS
HYDE PARK



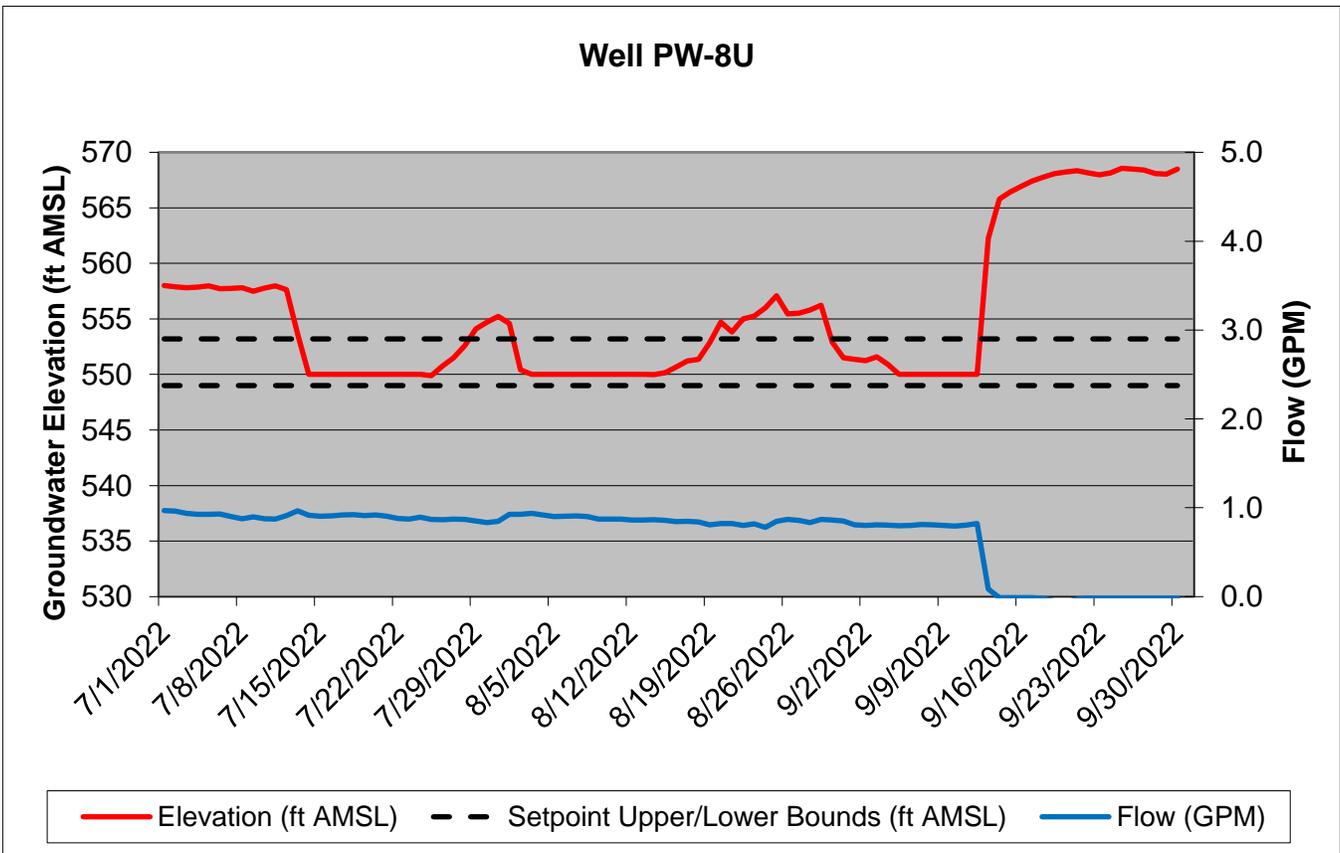
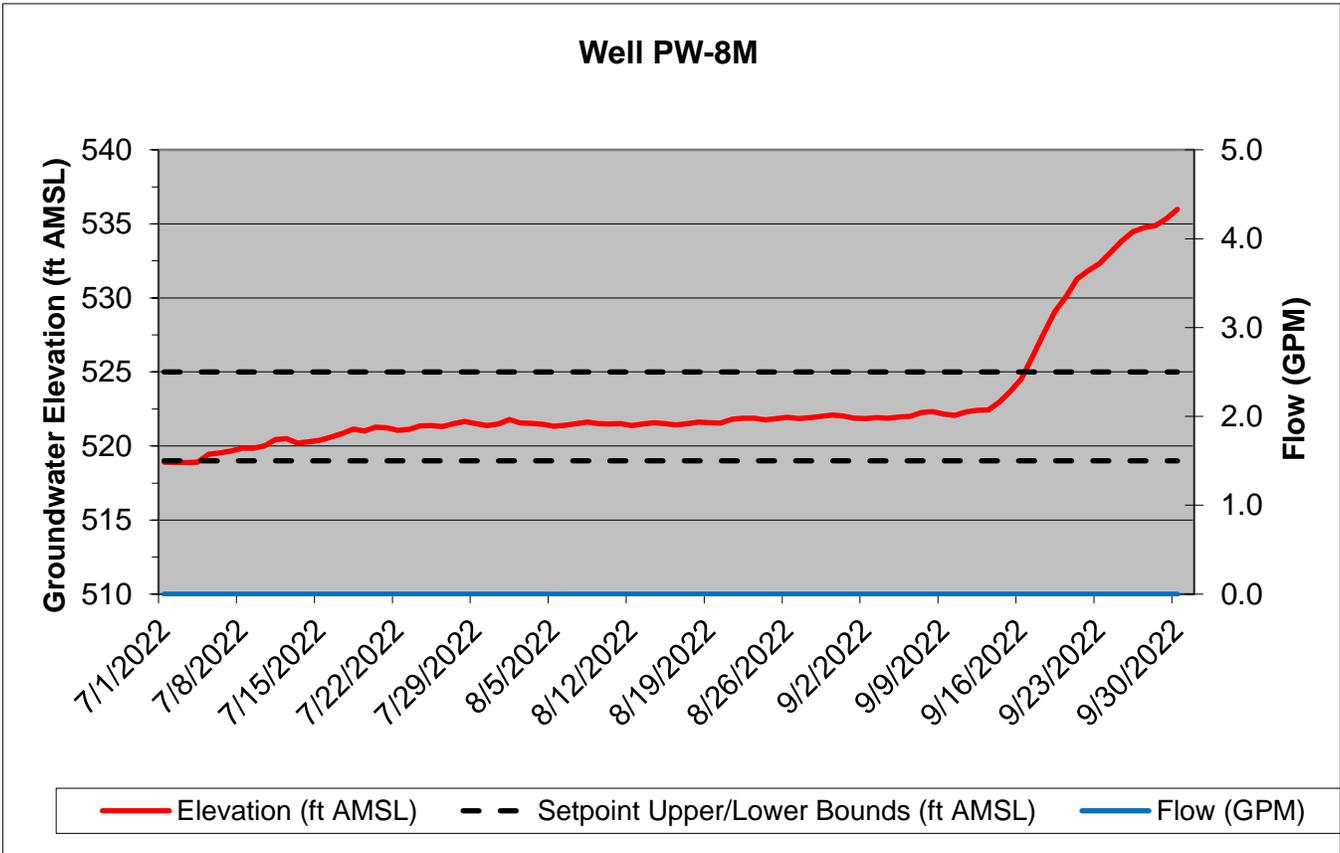
THIRD QUARTER 2022 - PUMPING WELL PERFORMANCE GRAPHS
HYDE PARK



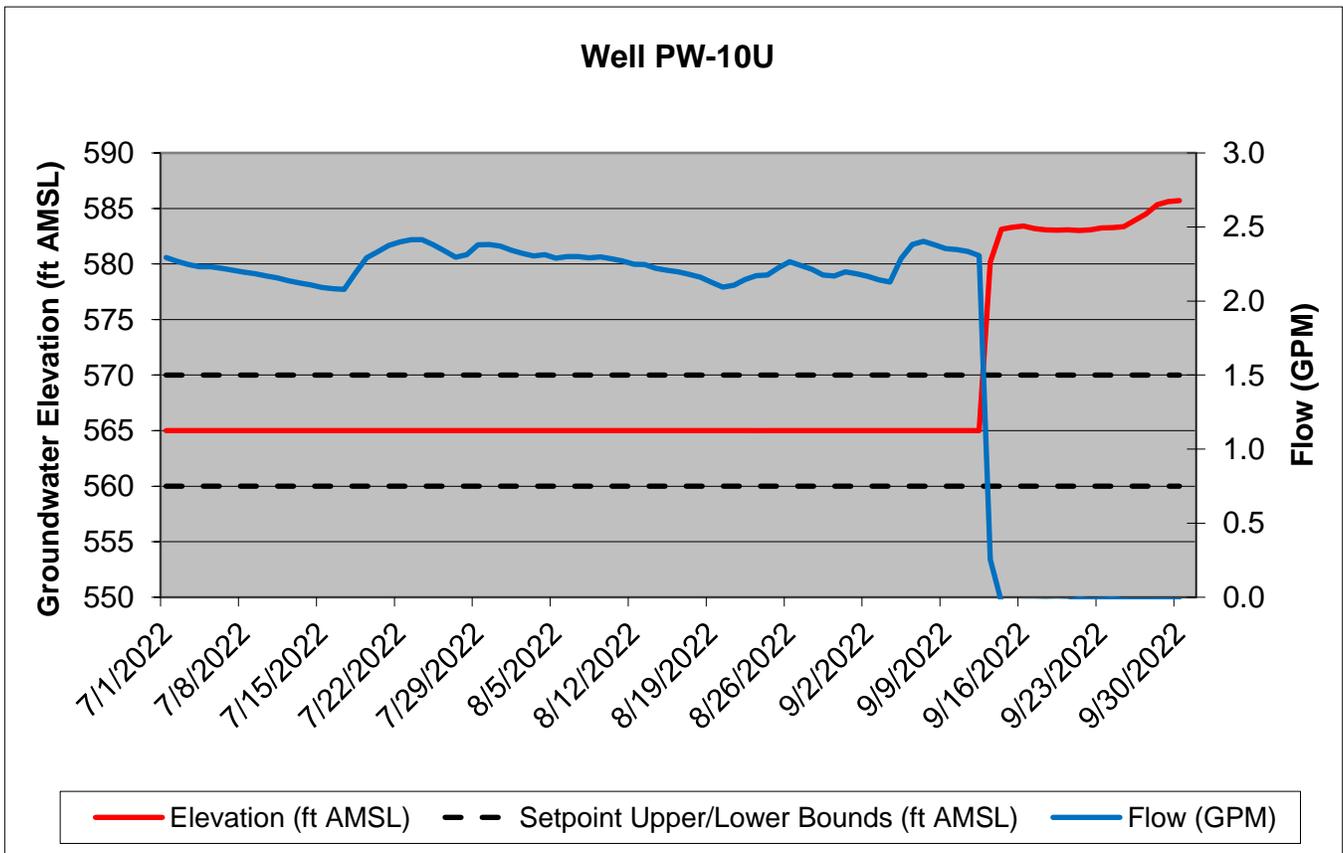
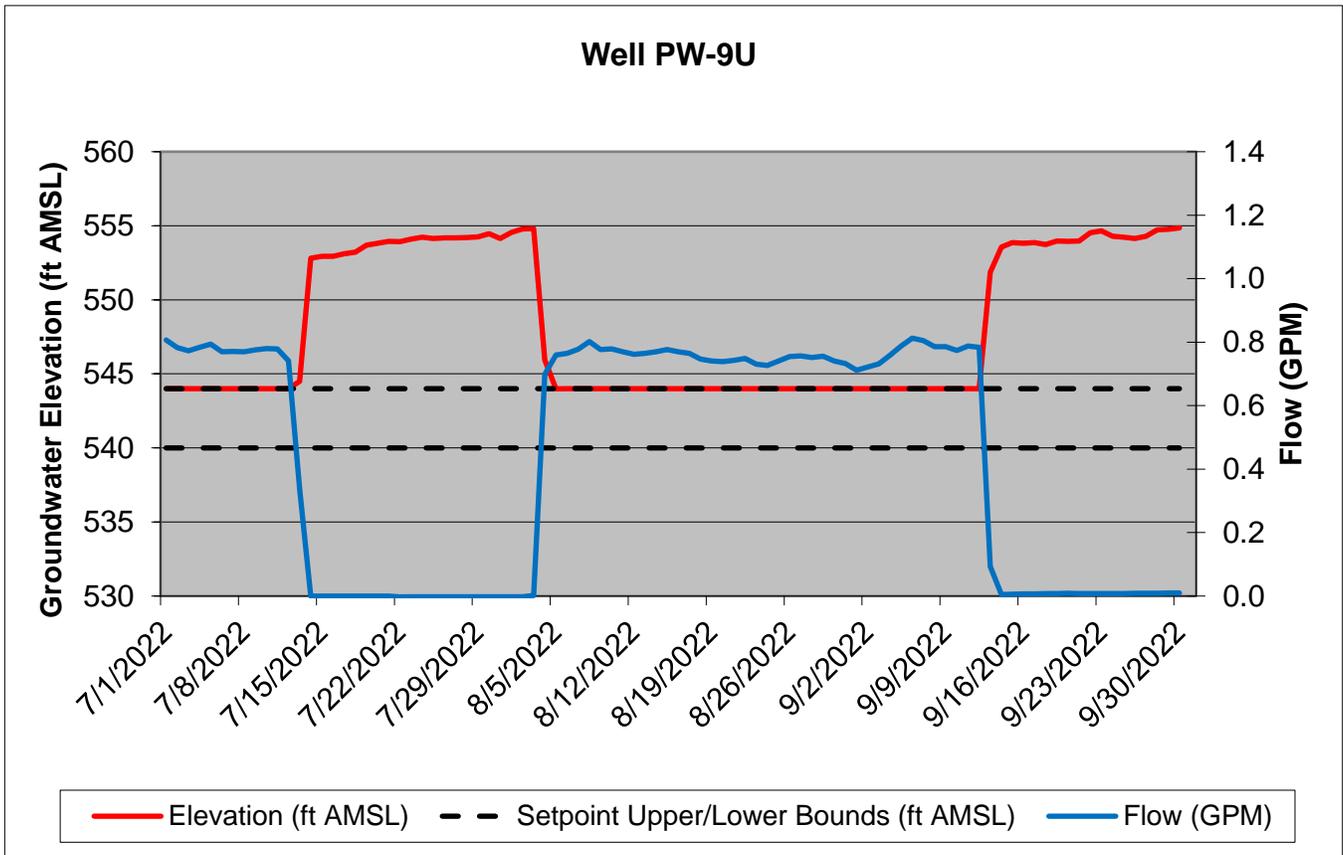
THIRD QUARTER 2022 - PUMPING WELL PERFORMANCE GRAPHS
HYDE PARK



THIRD QUARTER 2022 - PUMPING WELL PERFORMANCE GRAPHS
HYDE PARK



THIRD QUARTER 2022 - PUMPING WELL PERFORMANCE GRAPHS
HYDE PARK





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

January 31, 2023

Reference No. 11230216

Ms. Jaclyn Kondrk
USEPA
Region II, Site Investigation & Compliance Branch
290 Broadway, 20th Floor
New York, NY 10007-1866

Mr. Andrew Zwack
NYSDEC
270 Michigan Avenue
Buffalo, NY 14203-2999

Dear Ms. Kondrk and Mr. Zwack:

**Re: Quarterly Operations Report - Fourth Quarter 2022
Hyde Park Remedial Program
Bedrock and Overburden Monitoring Programs
NYSDEC Site No. 932021**

In accordance with the July 2006 "Performance Monitoring Plan" (PMP), the following is the Quarterly Operations Report for the Hyde Park Remedial Program for the period October 1, 2022 through December 31, 2022. A total of 6.63 million gallons of APL were collected, treated, and discharged in compliance with the Site's City of Niagara Falls Publicly Owned Treatment Works (POTW) Significant Industrial User (SIU) Wastewater Discharge Permit #49. Two hundred and twenty-eight (228) drums (approximately 150,796 pounds) of non-aqueous phase liquid (NAPL) and eight drums (approximately 4,409 pounds) of personal protective equipment (PPE) and debris were shipped for disposal this quarter. The potentiometric contours are consistent with previous interpretations. Flow Zones 6, 7, and 9 have dewatered areas between the landfill and the gorge face. The current data continue to support the interpretation of effective hydraulic containment and inward gradients.

The performance monitoring data are presented as follows:

- Figures 1-9: Showing the potentiometric surface for the bedrock flow zones and overburden
- Figure 10: Showing continuously recorded water levels at flow zone 9 piezometer PMW-1M-09
- Table 1: Groundwater elevation summary
- Tables 2, 3, and 4: Daily, weekly, and quarterly treatment system effluent monitoring data
- Attachment A: Purge well performance graphs indicating daily level and flow information

All pumping wells were turned off on September 13 and remained offline through October 3 for Aqueous Phase Liquid (APL) storage tank cleaning and repair and removal of NAPL from decanters. Wells were returned to operation on October 4.

The continuously recorded groundwater elevations for the flow zone 9 piezometer PMW-1M-09 for the fourth quarter 2022 are presented on Figure 10. These groundwater elevations were less than 526 feet above mean sea level (AMSL) from October 6 through the end of the quarter, indicating that the FZ-09 outcrop along the New York Power Authority (NYPA) access road was unsaturated throughout most of the quarter. As a result of

the shutdown described above, groundwater elevations in this piezometer were above 526 feet AMSL from the beginning of the fourth quarter until October 6.

The pumping wells were operational and functioning as designed during the fourth quarter 2022, with the exception of the downtime periods discussed below. The pumps are operated to maintain a water level between a typical range of 2.5 feet above (pump on) and 2.5 feet below (pump off) a specific setpoint in accordance with the setpoint range defined in the Operation & Maintenance Manual.

Delivery lead times for equipment (such as pumps, motors, drives, etc.) has recently increased from several weeks to several months (3 to 5 months). Although some spares have always been kept on hand, replacement of the spares is taking significantly longer than anticipated which is affecting repair of the wells as described below. To address this recent change, additional spares have been ordered to address this issue moving forward.

As indicated above, all pumping wells were turned off on September 13 and remained offline through October 3 for APL storage tank cleaning and repair and removal of NAPL from decanters. Wells were returned to operation on October 4. As a result, the water levels in APW-1, APW-2, PW-1L, PW-5UR, PW-8M, and PW-10U returned to within setpoint range on October 4. The water levels in PW-1U, PW-2L, PW-2UR, PW-3L, PW-4U, PW-6UR, PW-7U, PW-8U, and PW-9U returned to within setpoint range on October 5. The water level in PW-6MR returned to within setpoint range on October 7. The water level in PW-2M returned to within setpoint range on October 8 following a pump repair completed on October 5.

The following minor operational and setpoint issues were investigated and resolved during the third quarter of 2022:

- The water level in APW-1 exceeded setpoint range for short periods of time (durations of one to four days) several times from November 17 through the end of the quarter due to intermittent radio communication issues.
- The water levels in PW-3L and PW-6MR exceeded setpoint range on December 26 and 27 due to a large volume of snowmelt and returned to within setpoint range on December 28.
- The water level in PW-5UR exceeded setpoint range on October 12 and 13 due to electrical issues. The water level returned to within setpoint range on October 14.
- The water level in PW-6MR exceeded setpoint range from October 10 through October 20 due to a faulty level probe. The level probe was replaced on October 21 and the water level returned to within setpoint range on this date.
- The water levels in PW-5UR and PW-7U exceeded setpoint range from November 2 and November 17, respectively, through the end of the quarter due to pump failure. Replacement is scheduled.
- The water level in PW-9U exceeded setpoint range from December 10 through the end of the quarter due to a pump failure. Replacement is scheduled.

January 31, 2023

Reference No. 11230216

- 3 -

If you have any questions, please feel free to contact me at (231) 670-6809 or by email at joseph_branch@oxy.com.

Very truly yours,

GLENN SPRINGS HOLDINGS, INC.

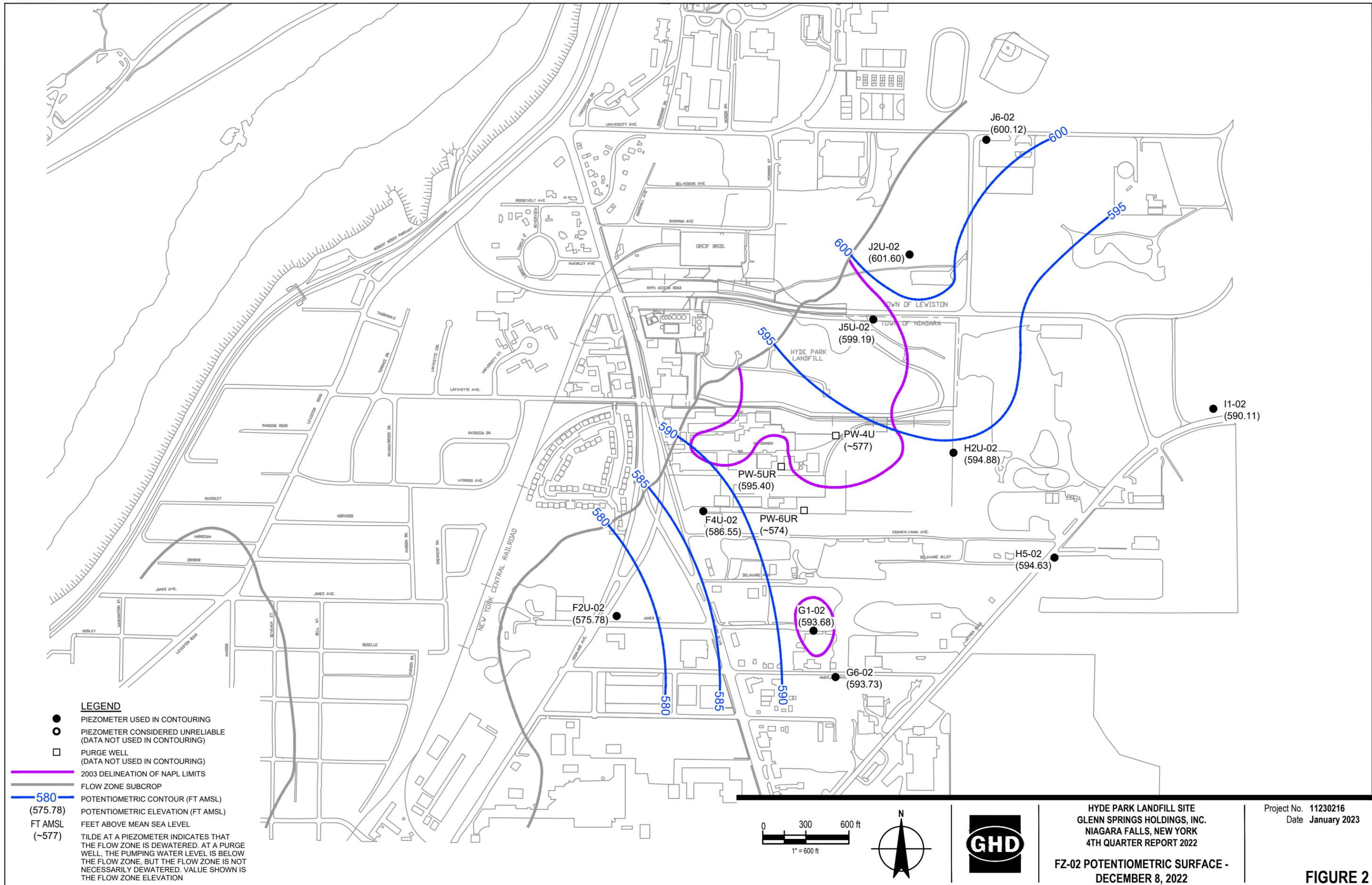
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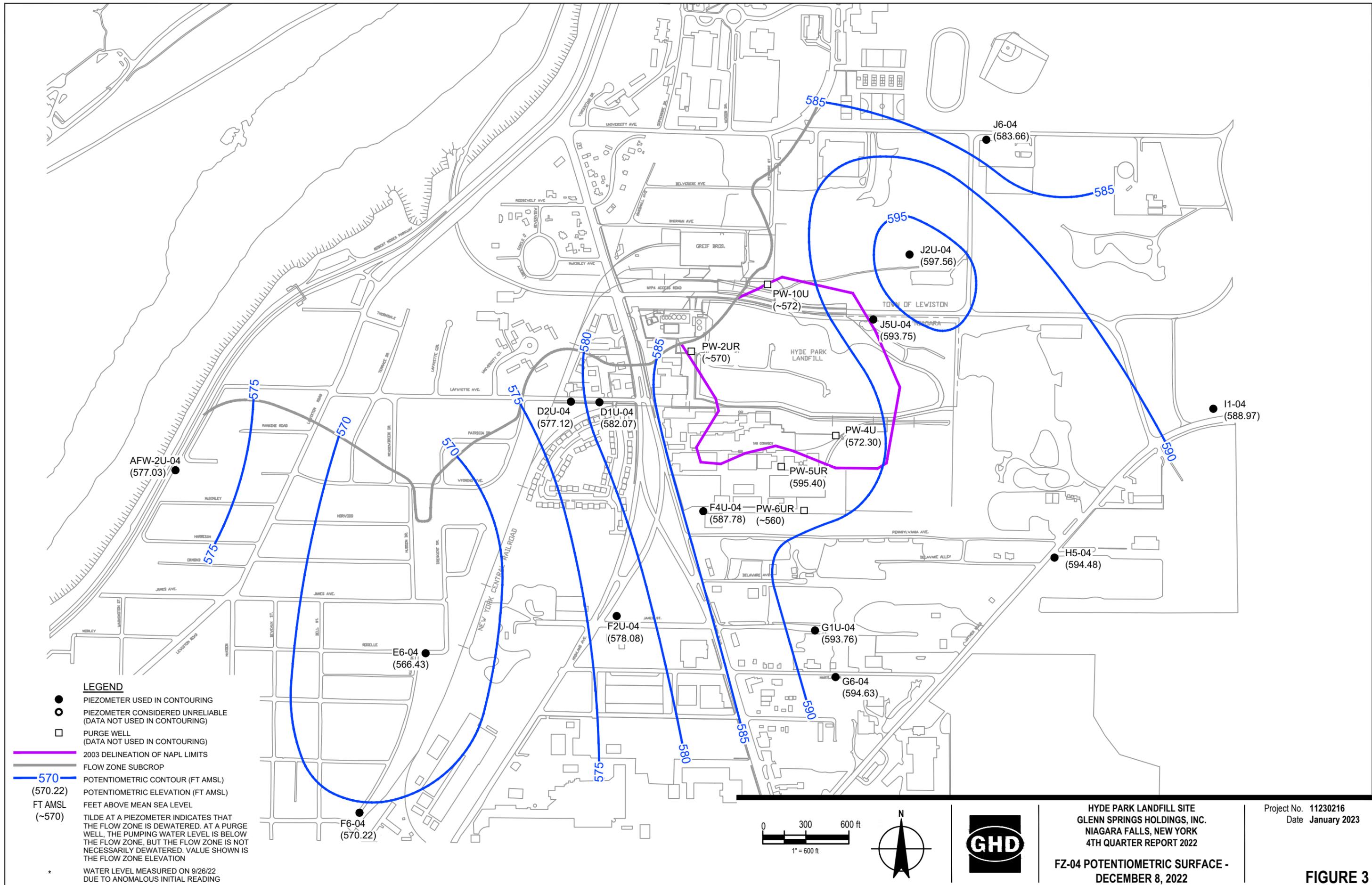
Joe Branch
Project Manager
231-670-6809 Cell

JB/6
Encl.

cc: B. McPherson NYSDEC
J. Robinson, NYSDOH

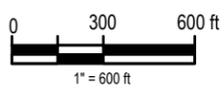
J. Pentilchuk, GHD
M. Popek, GHD





LEGEND

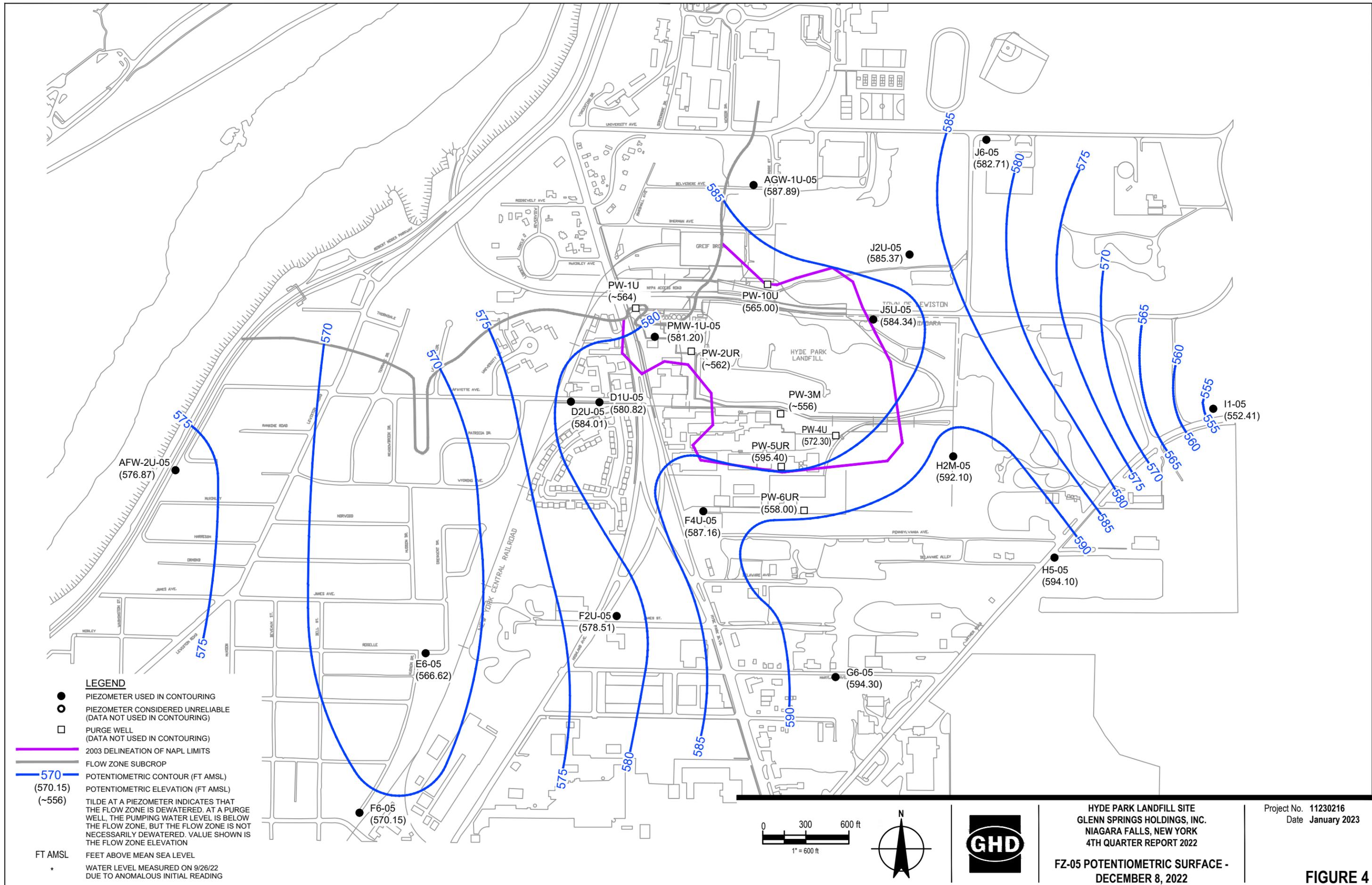
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- PIEZOMETER CONSIDERED UNRELIABLE (DATA NOT USED IN CONTOURING)
- PURGE WELL (DATA NOT USED IN CONTOURING)
- 2003 DELINEATION OF NAPL LIMITS
- FLOW ZONE SUBCROP
- 570 — POTENTIOMETRIC CONTOUR (FT AMSL)
- (570.22) POTENTIOMETRIC ELEVATION (FT AMSL)
- FT AMSL FEET ABOVE MEAN SEA LEVEL
- (~570) TILDE AT A PIEZOMETER INDICATES THAT THE FLOW ZONE IS DEWATERED. AT A PURGE WELL, THE PUMPING WATER LEVEL IS BELOW THE FLOW ZONE, BUT THE FLOW ZONE IS NOT NECESSARILY DEWATERED. VALUE SHOWN IS THE FLOW ZONE ELEVATION
- * WATER LEVEL MEASURED ON 9/26/22 DUE TO ANOMALOUS INITIAL READING

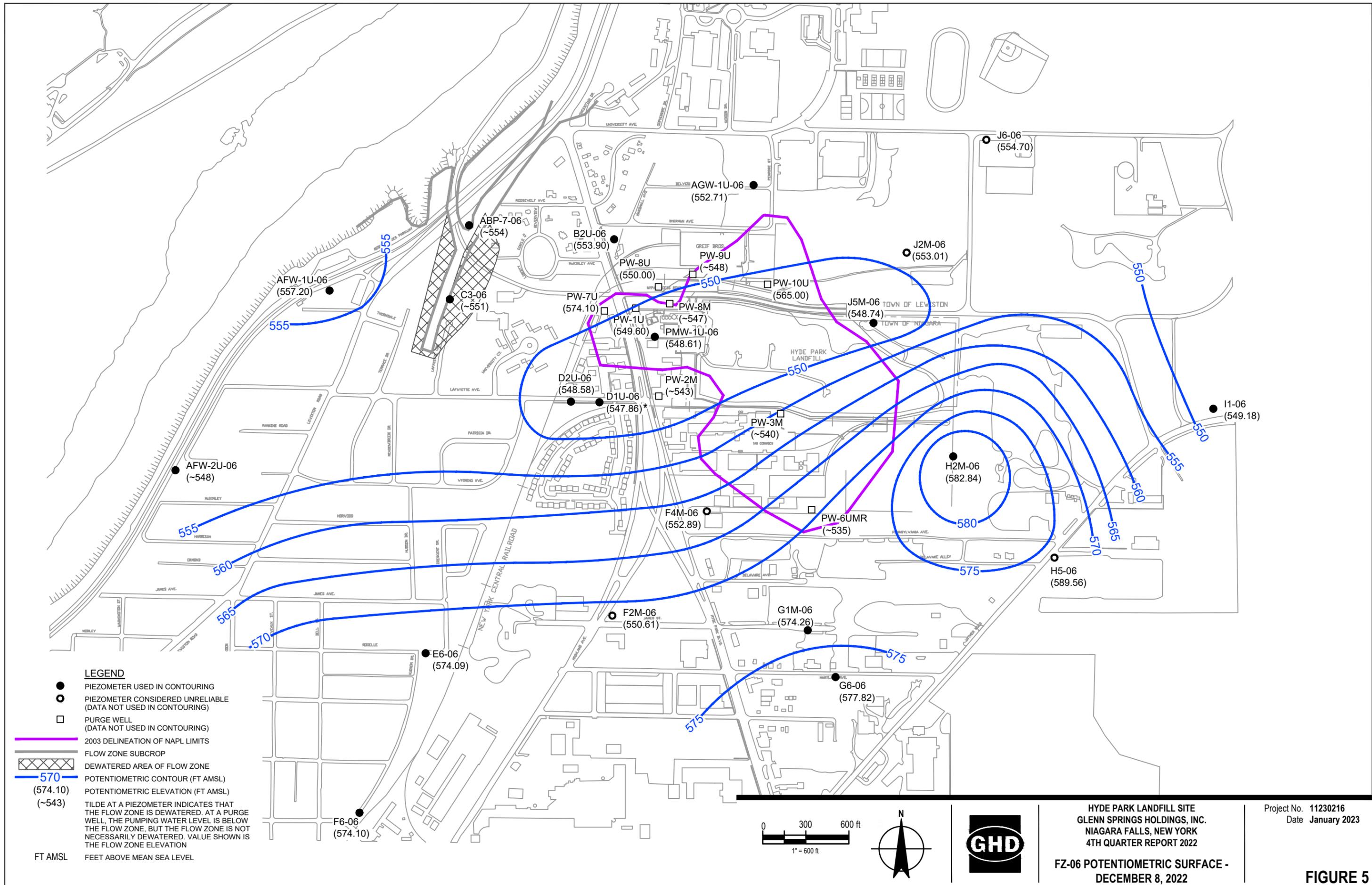


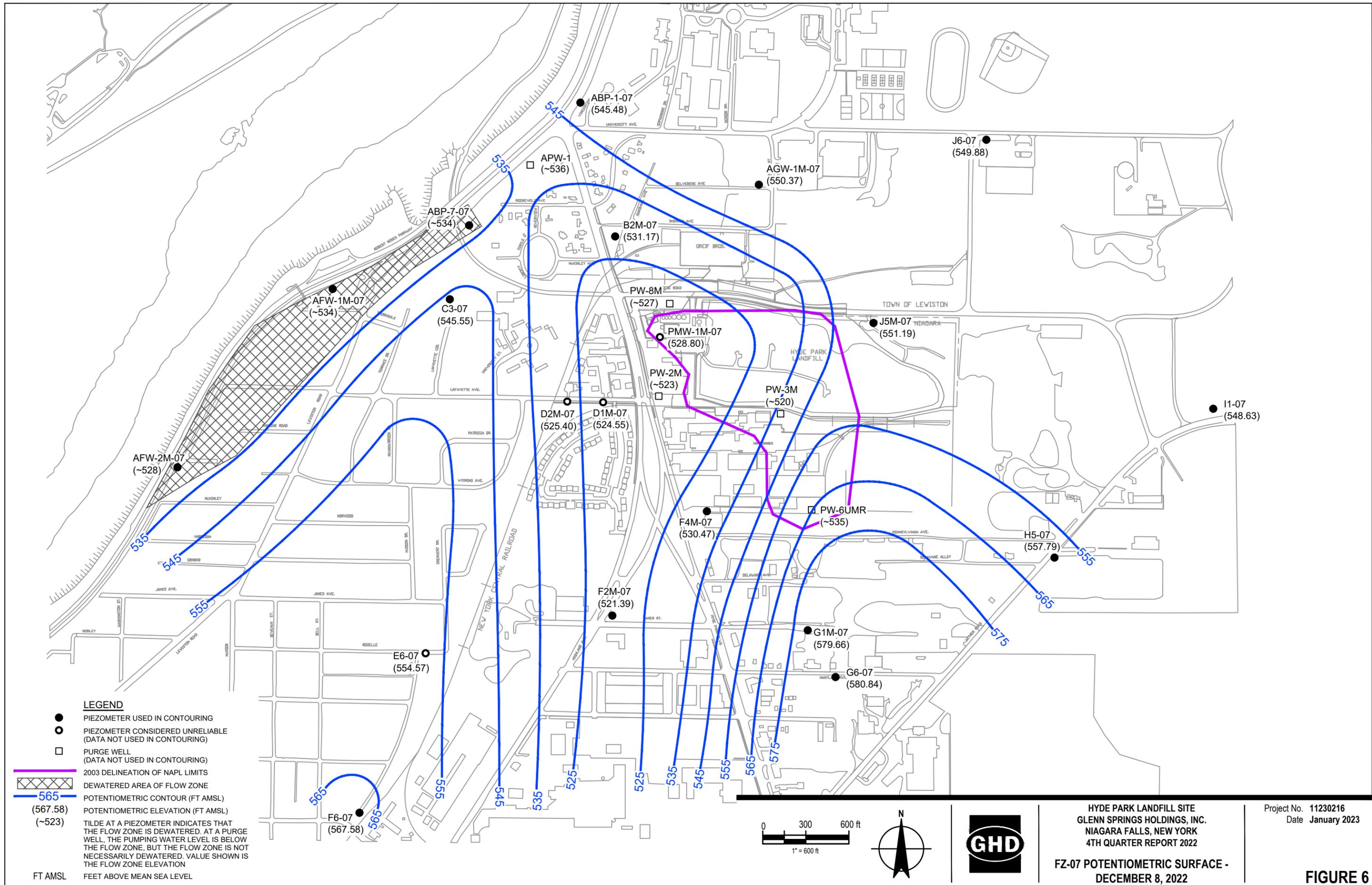
HYDE PARK LANDFILL SITE
 GLENN SPRINGS HOLDINGS, INC.
 NIAGARA FALLS, NEW YORK
 4TH QUARTER REPORT 2022
 FZ-04 POTENTIOMETRIC SURFACE -
 DECEMBER 8, 2022

Project No. 11230216
 Date January 2023

FIGURE 3







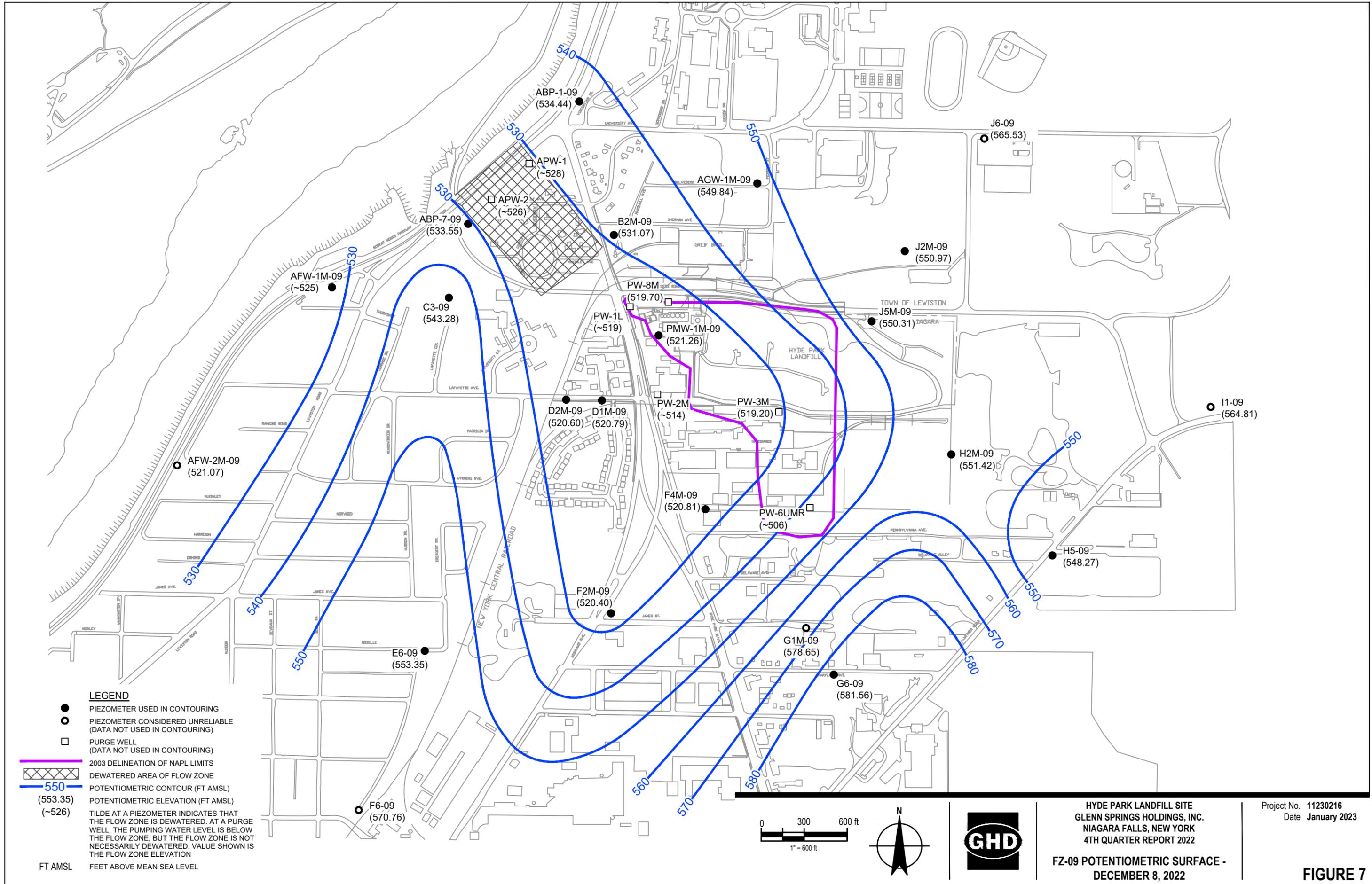
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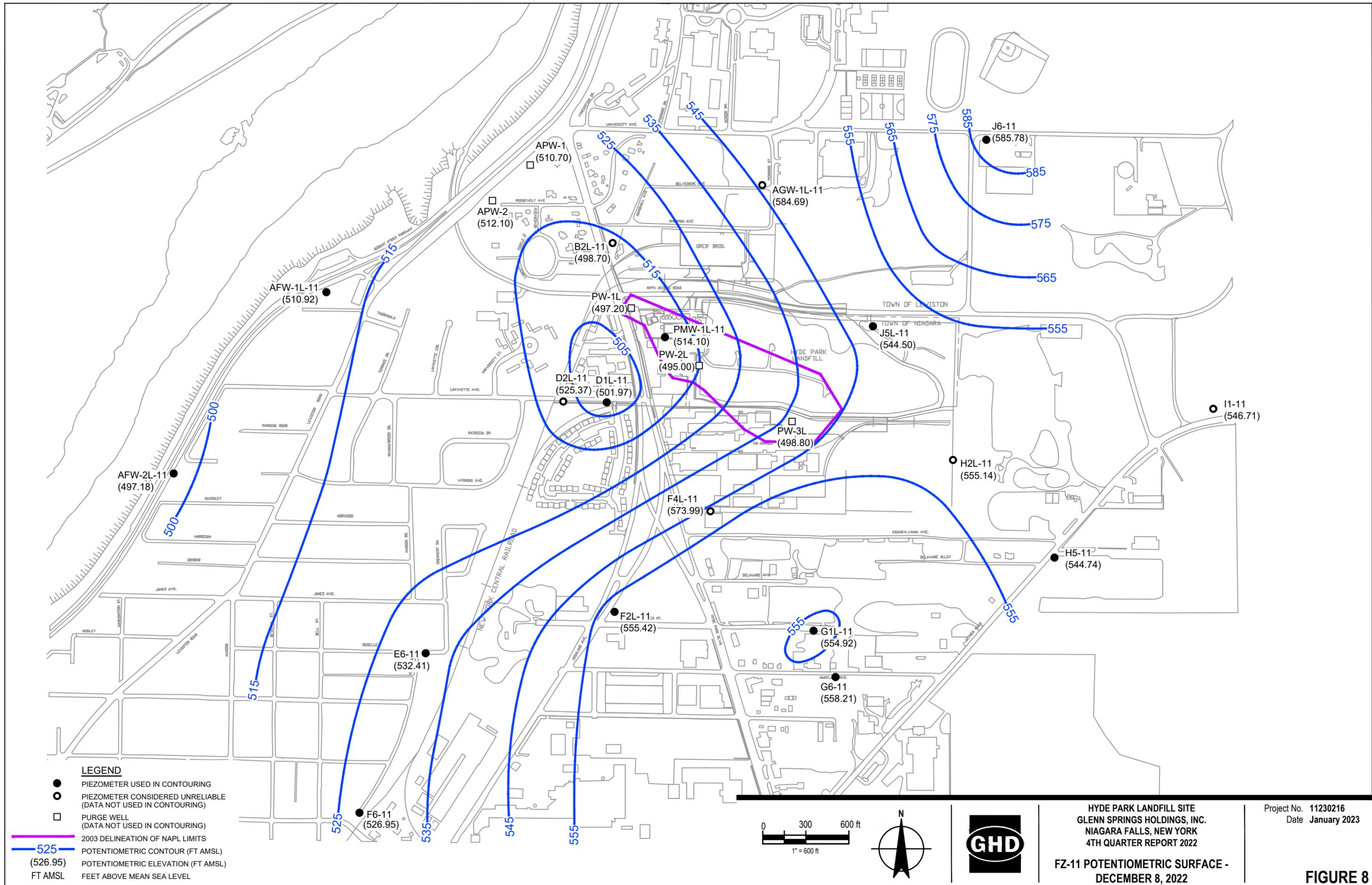
- PIEZOMETER USED IN CONTOURING
- PIEZOMETER CONSIDERED UNRELIABLE (DATA NOT USED IN CONTOURING)
- PURGE WELL (DATA NOT USED IN CONTOURING)
- ▭ 2003 DELINEATION OF NAPL LIMITS
- ▨ DEWATERED AREA OF FLOW ZONE
- 565 POTENTIOMETRIC CONTOUR (FT AMSL)
- (567.58) POTENTIOMETRIC ELEVATION (FT AMSL)
- (~523) TILDE AT A PIEZOMETER INDICATES THAT THE FLOW ZONE IS DEWATERED. AT A PURGE WELL, THE PUMPING WATER LEVEL IS BELOW THE FLOW ZONE, BUT THE FLOW ZONE IS NOT NECESSARILY DEWATERED. VALUE SHOWN IS THE FLOW ZONE ELEVATION
- FT AMSL FEET ABOVE MEAN SEA LEVEL

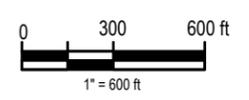
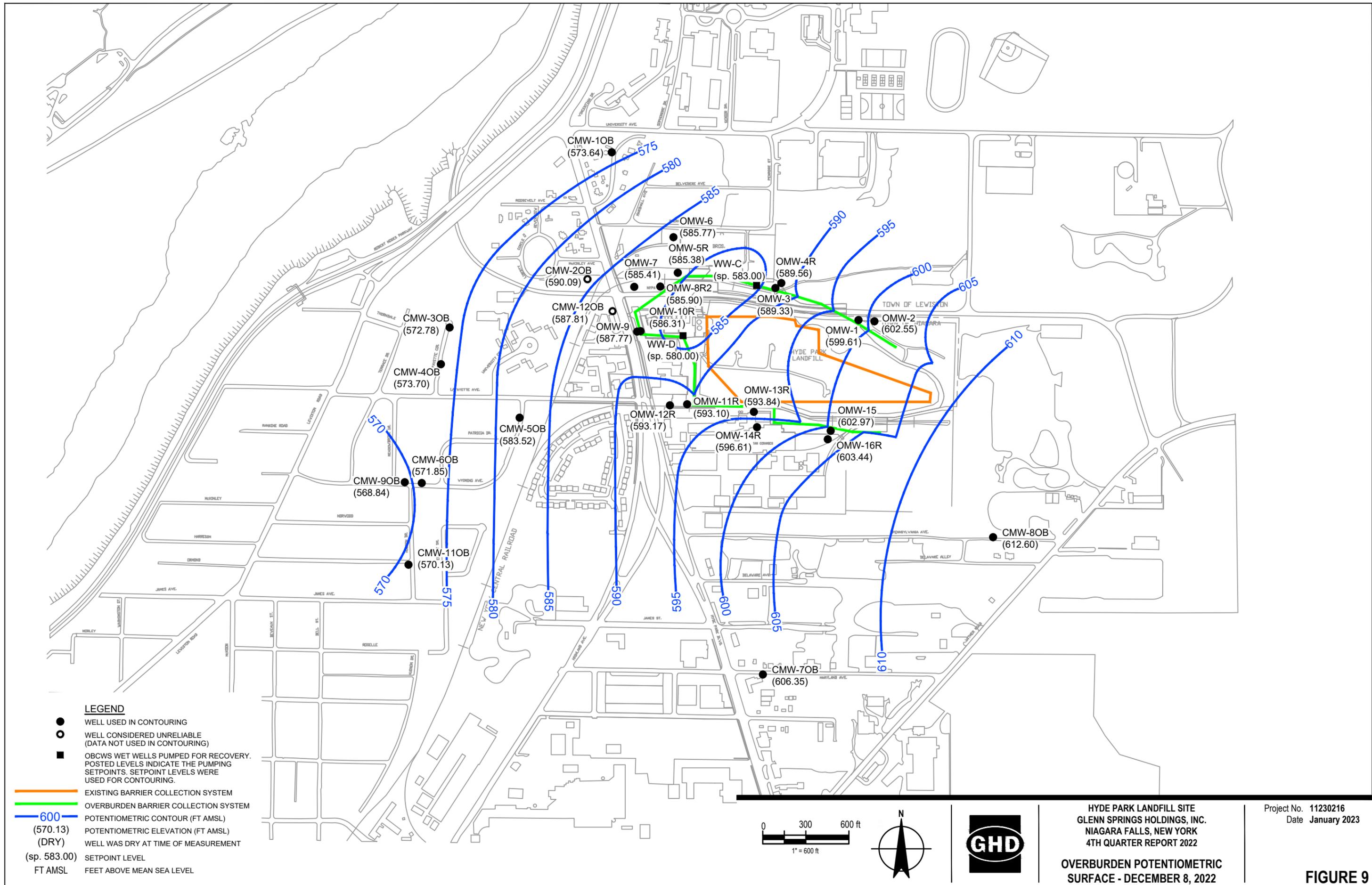
HYDE PARK LANDFILL SITE
GLENN SPRINGS HOLDINGS, INC.
NIAGARA FALLS, NEW YORK
4TH QUARTER REPORT 2022
FZ-07 POTENTIOMETRIC SURFACE -
DECEMBER 8, 2022

Project No. 11230216
 Date January 2023

FIGURE 6







HYDE PARK LANDFILL SITE
 GLENN SPRINGS HOLDINGS, INC.
 NIAGARA FALLS, NEW YORK
 4TH QUARTER REPORT 2022

OVERBURDEN POTENTIOMETRIC SURFACE - DECEMBER 8, 2022

Project No. 11230216
 Date January 2023

FIGURE 9

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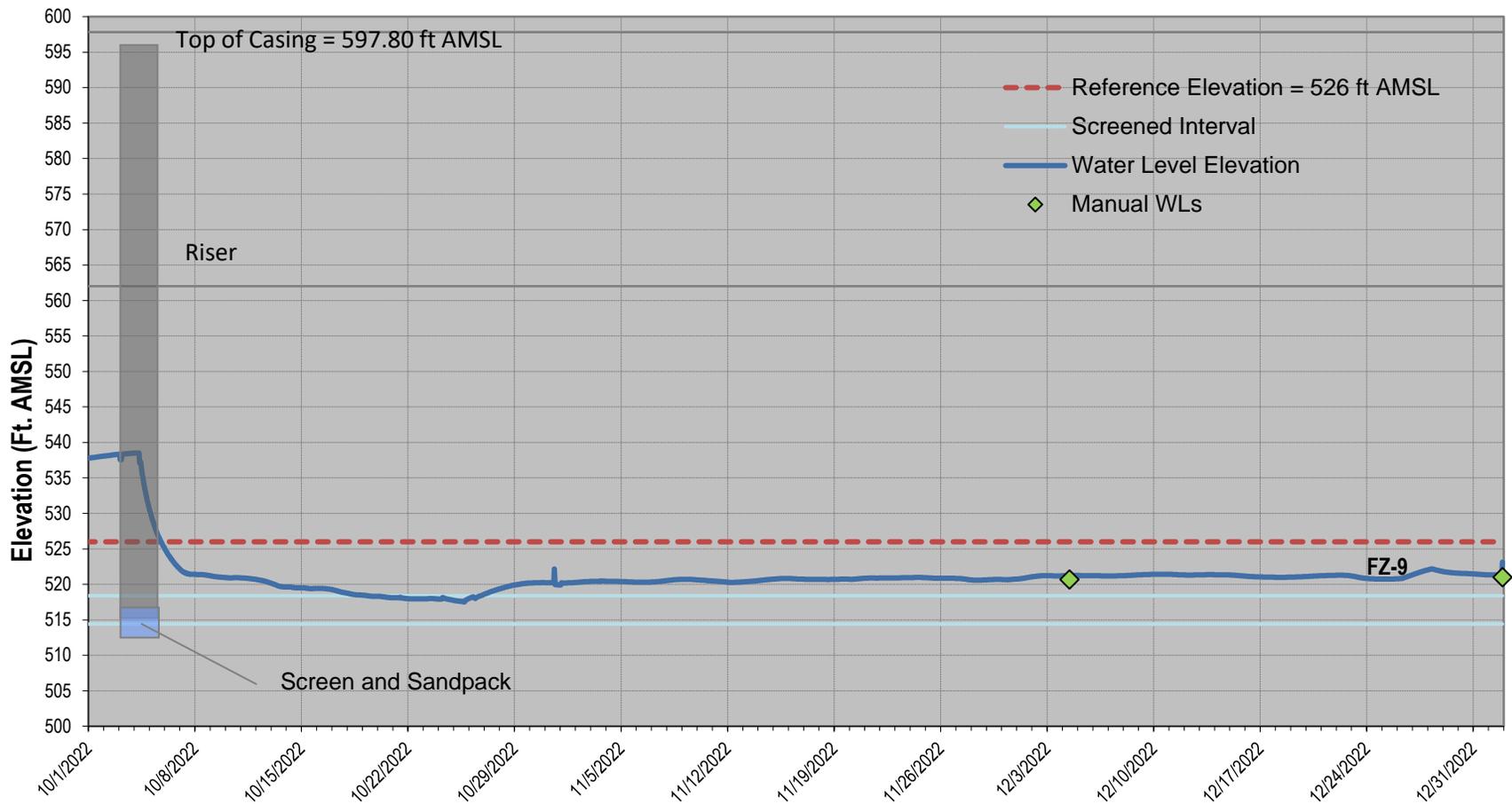


figure 10

PMW-1M-09 4th Quarter 2022 - Hourly Water Level Elevation
 4th Quarter Report
 Hyde Park Landfill Site
 Glenn Springs Holdings, Inc.

**Groundwater Elevation Summary
Fourth Quarter - 2022
Hyde Park RRT Program**

Well	Reference Elevation (ft AMSL)	Depth to Water (ft)	Groundwater Elevation (ft AMSL)
Overburden			
CMW-2OB	590.79	0.70	590.09
CMW-3OB	582.13	9.35	572.78
CMW-4OB	574.28	0.58	573.70
CMW-5OB	583.43	0.09	583.52
CMW-6OB	571.89	0.04	571.85
CMW-7OB	611.00	4.65	606.35
CMW-8OB	616.11	3.51	612.60
CMW-9OB	571.76	2.92	568.84
CMW-1OB	576.80	3.16	573.64
CMW-11OB	572.85	2.72	570.13
CMW-12OB	594.74	6.93	587.81
MH20	605.87	4.71	601.16
MH21	599.77	6.03	593.74
MH22	593.37	7.58	585.79
MH23	587.05	12.08	574.97
MH24	582.57	8.42	574.15
MH25	583.82	8.05	575.77
MH26	584.48	8.95	575.53
MH27	586.12	10.63	575.49
MH28	585.23	16.36	568.87
MH29	604.58	Dry	-
MH30	599.49	10.21	589.28
MH31	590.10	9.60	580.50
MH32	592.01	9.65	582.36
MH33	592.51	8.96	583.55
MH34	598.34	7.17	591.17
MH35	605.69	6.55	599.14
MH35A	605.69	7.23	598.46
OMW-1	605.28	5.67	599.61
OMW-2	605.99	3.44	602.55
OMW-3	598.63	9.30	589.33
OMW-4R	601.17	11.61	589.56
OMW-5R	591.31	5.93	585.38
OMW-6	587.62	1.85	585.77
OMW-7	592.74	7.33	585.41
OMW-8R2	594.67	8.77	585.90
OMW-9	595.27	7.50	587.77
OMW-10R	595.13	8.82	586.31
OMW-11R	597.52	4.42	593.10
OMW-12R	596.71	3.54	593.17
OMW-13R	601.50	7.66	593.84
OMW-14R	599.64	3.03	596.61
OMW-15	607.48	4.51	602.97
OMW-16R	607.62	4.18	603.44
SC-2	625.61	22.80	602.81
SC-3	638.72	39.85	598.87
SC-4	639.35	39.41	599.94
SC-5	634.07	31.75	602.32
SC-6	631.15	19.55	611.60

**Groundwater Elevation Summary
Fourth Quarter - 2022
Hyde Park RRT Program**

Well	Reference Elevation (ft AMSL)	Depth to Water (ft)	Groundwater Elevation (ft AMSL)
Shallow Bedrock			
CMW-1SH	576.11	12.84	563.27
CMW-2SH	590.51	26.64	563.87
CMW-3SH	581.91	27.29	554.62
CMW-4SH	574.16	7.02	567.14
CMW-5SH	583.36	6.74	576.62
CMW-6SH	572.05	10.12	561.93
CMW-7SH	610.58	11.82	598.76
CMW-8SH	615.95	6.29	609.66
CMW-9SH	571.96	11.84	560.12
CMW-11SH	573.21	8.00	565.21
CMW-12SH	597.02	23.59	573.43
Flow Zone 1			
G1U-01	617.08	11.76	605.32
G6-01	609.24	3.94	605.30
H2U-01	620.92	10.87	610.05
H5-01	617.61	22.60	595.01
I1-01	625.58	24.92	600.66
Flow Zone 2			
F2U-02	599.89	24.11	575.78
F4U-02	602.32	15.77	586.55
G1-02	616.86	23.18	593.68
G6-02	608.65	14.92	593.73
H2U-02	620.88	26.00	594.88
H5-02	617.47	22.84	594.63
I1-02	625.47	35.36	590.11
J2U-02	609.66	8.06	601.60
J5U-02	606.21	7.02	599.19
J6-02	609.23	9.11	600.12
Flow Zone 4			
AFW-2U-04	593.48	16.45	577.03
D1U-04	593.77	11.70	582.07
D2U-04	590.65	13.53	577.12
E6-04	578.23	11.80	566.43
F2U-04	599.76	21.68	578.08
F4U-04	602.19	14.41	587.78
F6-04	588.06	17.84	570.22
G1U-04	616.96	23.20	593.76
G6-04	609.15	14.52	594.63
H5-04	617.40	22.92	594.48
I1-04	625.30	36.33	588.97
J2U-04	609.42	11.86	597.56
J5U-04	606.05	12.30	593.75
J6-04	609.12	25.46	583.66

**Groundwater Elevation Summary
Fourth Quarter - 2022
Hyde Park RRT Program**

Well	Reference Elevation (ft AMSL)	Depth to Water (ft)	Groundwater Elevation (ft AMSL)
Flow Zone 5			
AFW-2U-05	593.33	16.46	576.87
AGW-1U-05	591.80	3.91	587.89
D1U-05	593.51	12.69	580.82
D2U-05	590.56	6.55	584.01
E6-05	578.04	11.42	566.62
F2U-05	599.64	21.13	578.51
F4U-05	602.06	14.90	587.16
F6-05	587.85	17.70	570.15
G6-05	609.13	14.83	594.30
H2M-05	621.59	29.49	592.10
H5-05	617.31	23.21	594.10
I1-05	625.25	72.84	552.41
J2U-05	609.30	23.93	585.37
J5U-05	605.87	21.53	584.34
J6-05	609.02	26.31	582.71
PMW-1U-05	598.00	16.80	581.20
Flow Zone 6			
ABP-7-06	575.78	Dry	-
AFW-1U-06	571.83	14.63	557.20
AFW-2U-06	593.22	48.09	545.13
AGW-1U-06	591.66	38.95	552.71
B2U-06	589.29	35.39	553.90
C3-06	585.78	Dry	-
D1U-06	593.25	45.39	547.86
D2U-06	590.38	41.80	548.58
E6-06	577.99	3.90	574.09
F2M-06	599.06	48.45	550.61
F4M-06	602.05	49.16	552.89
F6-06	587.84	13.74	574.10
G1M-06	616.75	42.49	574.26
G6-06	609.09	31.27	577.82
H2M-06	621.42	38.58	582.84
H5-06	617.17	27.61	589.56
I1-06	625.15	75.97	549.18
J2M-06	608.94	55.93	553.01
J5M-06	606.22	57.48	548.74
J6-06	608.93	54.23	554.70
PMW-1U-06	597.92	49.31	548.61

**Groundwater Elevation Summary
Fourth Quarter - 2022
Hyde Park RRT Program**

Well	Reference Elevation (ft AMSL)	Depth to Water (ft)	Groundwater Elevation (ft AMSL)
Flow Zone 7			
ABP-1-07	575.20	29.72	545.48
ABP-7-07	575.73	41.81	533.92
AFW-1M-07	571.41	Dry	-
AFW-2M-07	593.44	66.76	526.68
AGW-1M-07	592.91	42.54	550.37
B2M-07	589.52	58.35	531.17
C3-07	585.62	40.07	545.55
D1M-07	594.15	69.60	524.55
D2M-07	590.77	65.37	525.40
E6-07	577.91	23.34	554.57
F2M-07	598.91	77.52	521.39
F4M-07	601.91	71.44	530.47
F6-07	587.68	20.10	567.58
G1M-07	616.68	37.02	579.66
G6-07	609.06	28.22	580.84
H5-07	617.05	59.26	557.79
I1-07	625.14	76.51	548.63
J5M-07	606.07	54.88	551.19
J6-07	608.85	58.97	549.88
PMW-1M-07	598.50	69.70	528.80
Flow Zone 9			
ABP-1-09	575.19	40.75	534.44
ABP-7-09	575.67	42.12	533.55
AFW-1M-09	571.12	46.52	524.60
AFW-2M-09	593.32	72.25	521.07
AGW-1M-09	592.75	42.91	549.84
B2M-09	589.34	58.27	531.07
C3-09	585.00	41.72	543.28
D1M-09	594.02	73.23	520.79
D2M-09	590.66	70.06	520.60
E6-09	577.82	24.47	553.35
F2M-09	598.71	78.31	520.40
F4M-09	601.79	80.98	520.81
F6-09	587.53	16.77	570.76
G1M-09	616.58	37.93	578.65
G6-09	608.98	27.42	581.56
H2M-09	621.32	69.90	551.42
H5-09	616.93	68.66	548.27
I1-09	624.91	60.10	564.81
J2M-09	608.77	57.80	550.97
J5M-09	605.82	55.51	550.31
J6-09	608.76	43.23	565.53
PMW-1M-09	598.34	77.08	521.26

**Groundwater Elevation Summary
Fourth Quarter - 2022
Hyde Park RRT Program**

Well	Reference Elevation (ft AMSL)	Depth to Water (ft)	Groundwater Elevation (ft AMSL)
Flow Zone 11			
AFW-1L-11	572.10	61.18	510.92
AFW-2L-11	593.43	96.25	497.18
AGW-1L-11	592.71	8.02	584.69
B2L-11	589.65	90.95	498.70
D1L-11	593.80	91.83	501.97
D2L-11	590.21	64.84	525.37
E6-11	577.72	45.31	532.41
F2L-11	598.94	43.52	555.42
F4L-11	602.22	28.23	573.99
F6-11	587.40	60.45	526.95
G1L-11	616.84	61.92	554.92
G6-11	608.89	50.68	558.21
H2L-11	620.73	65.59	555.14
H5-11	616.81	72.07	544.74
I1-11	624.75	78.04	546.71
J5L-11	607.20	62.70	544.50
J6-11	608.68	22.90	585.78
PMW-1L-11	598.84	84.74	514.10
Purge Wells			
APW-1	564.98	54.28	510.70
APW-2	569.89	57.79	512.10
PW-1L	593.16	95.96	497.20
PW-1U	593.50	43.90	549.60
PW-2L	597.29	102.29	495.00
PW-2M	596.61	83.71	512.90
PW-2UR	594.75	35.75	559.00
PW-3L	599.05	100.25	498.80
PW-3M	597.79	78.59	519.20
PW-4U	604.85	32.55	572.30
PW-5UR	601.31	5.91	595.40
PW-6UMR	609.31	106.31	503.00
PW-6UR	608.47	50.47	558.00
PW-7U	592.47	18.37	574.10
PW-8M	592.67	72.97	519.70
PW-8U	589.27	39.27	550.00
PW-9U	587.47	43.47	544.00
PW-10U	593.54	28.54	565.00

Notes:

- - Not applicable
- ft AMSL - Feet above mean sea level
- Dry - No water present at the time of measurement

**Leachate Treatment System Daily Effluent Monitoring Data
Fourth Quarter - 2022
Hyde Park RRT Program**

Date	Effluent	
	pH (su)	Flow (gal)
10/01/22		
10/02/22		
10/03/22		
10/04/22	7.0	118,000
10/05/22	7.0	245,000
10/06/22	7.0	51,000
10/07/22	7.1	32,000
10/08/22		
10/09/22		
10/10/22	7.0	240,000
10/11/22	7.0	41,000
10/12/22	7.0	49,000
10/13/22	7.1	167,000
10/14/22	7.1	60,000
10/15/22		
10/16/22		
10/17/22	7.1	180,000
10/18/22	7.2	67,000
10/19/22	7.2	62,000
10/20/22	7.2	156,000
10/21/22	7.1	71,000
10/22/22		
10/23/22		
10/24/22		
10/25/22		
10/26/22	7.1	213,000
10/27/22	7.1	205,000
10/28/22		
10/29/22		
10/30/22		
10/31/22		
11/01/22	7.1	188,000
11/02/22	7.1	24,000
11/03/22		
11/04/22		
11/05/22		
11/06/22		

**Leachate Treatment System Daily Effluent Monitoring Data
Fourth Quarter - 2022
Hyde Park RRT Program**

Date	Effluent	
	pH (su)	Flow (gal)
11/07/22		
11/08/22	7.2	189,000
11/09/22		
11/10/22	7.2	158,000
11/11/22		
11/12/22		
11/13/22		
11/14/22	7.1	187,000
11/15/22	7.1	185,000
11/16/22	7.1	86,000
11/17/22	7.0	198,000
11/18/22	7.2	34,000
11/19/22		
11/20/22		
11/21/22	7.1	77,000
11/22/22	7.2	239,000
11/23/22	7.2	47,000
11/24/22		
11/25/22		
11/26/22		
11/27/22		
11/28/22	7.2	133,000
11/29/22	7.2	187,000
11/30/22	7.1	136,000
12/01/22	7.1	168,000
12/02/22	7.4	196,000
12/03/22		
12/04/22		
12/05/22	7.4	125,000
12/06/22	7.2	176,000
12/07/22	7.3	174,000
12/08/22	7.2	18,000
12/09/22		
12/10/22		
12/11/22		
12/12/22		
12/13/22	7.1	146,000

**Leachate Treatment System Daily Effluent Monitoring Data
Fourth Quarter - 2022
Hyde Park RRT Program**

Date	Effluent	
	pH (su)	Flow (gal)
12/14/22	7.0	180,000
12/15/22	7.1	186,000
12/16/22	7.4	28,000
12/17/22		
12/18/22	7.4	126,000
12/19/22	7.4	169,000
12/20/22	7.4	178,000
12/21/22	7.4	42,000
12/22/22	7.1	162,000
12/23/22	7.3	23,000
12/24/22		
12/25/22		
12/26/22		
12/27/22	7.1	153,000
12/28/22	7.0	166,000
12/29/22	7.0	188,000
12/30/22		
12/31/22		
	Total	6,629,000

Notes:

su - Standard Unit
gal - Gallons

Analytical Results Summary
Weekly Sampling - Leachate Treatment System
Fourth Quarter - 2022
Hyde Park RRT Program

Effluent	Parameter	Units	10/05/2022	10/12/2022	10/19/2022	10/26/2022	11/02/2022	11/09/2022
Volatiles								
	1,1,1-Trichloroethane	µg/L	1.0 U					
	1,1,2,2-Tetrachloroethane	µg/L	0.56 J	0.40 J	0.42 J	0.51 J	0.40 J	0.41 J
	1,1,2-Trichloroethane	µg/L	1.0 U					
	1,1-Dichloroethane	µg/L	1.8	1.8	1.8	2.0	1.7	1.7
	1,1-Dichloroethene	µg/L	1.0 U					
	1,2,4-Trichlorobenzene	µg/L	1.0 U					
	1,2-Dichlorobenzene	µg/L	1.0 U					
	1,2-Dichloroethane	µg/L	6.1	5.9	5.0	5.7	5.1	5.2
	1,2-Dichloropropane	µg/L	0.39 J	0.36 J	0.35 J	0.43 J	0.32 J	0.38 J
	1,3-Dichlorobenzene	µg/L	1.0 U					
	1,4-Dichlorobenzene	µg/L	1.0 U					
	2-Chlorotoluene	µg/L	1.0 U					
	3-Chlorotoluene	µg/L	1.0 U					
	4-Chlorotoluene	µg/L	1.0 U					
	Benzene	µg/L	6.7	7.1	7.4	7.8	7.9	6.4
	Bromodichloromethane	µg/L	1.0 U					
	Bromoform	µg/L	1.0 U					
	Bromomethane (Methyl bromide)	µg/L	1.0 U					
	Carbon disulfide	µg/L	9.1	2.3	3.2	2.0	7.8	0.59 J
	Carbon tetrachloride	µg/L	1.0 U					
	Chlorobenzene	µg/L	1.0 U	0.21 J				
	Chloroethane	µg/L	1.0 U					
	Chloroform (Trichloromethane)	µg/L	1.8	2.2	2.1	2.3	1.8	1.8
	Chloromethane (Methyl chloride)	µg/L	1.0 U					
	cis-1,2-Dichloroethene	µg/L	1.7	1.7	1.8	1.8	1.5	1.3
	cis-1,3-Dichloropropene	µg/L	1.0 U					
	Dichlorodifluoromethane (CFC-12)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U
	Ethylbenzene	µg/L	1.0 U					
	m&p-Xylenes	µg/L	2.0 U					
	m-Monochlorobenzotrifluoride	µg/L	1.0 U					
	Methylene chloride	µg/L	1.0 U					
	o-Monochlorobenzotrifluoride	µg/L	1.0 U					
	o-Xylene	µg/L	1.0 U					
	p-Monochlorobenzotrifluoride	µg/L	1.0 U					
	Styrene	µg/L	1.0 U					
	Tetrachloroethene	µg/L	0.21 J	1.0 U				
	Toluene	µg/L	1.0 U					
	trans-1,2-Dichloroethene	µg/L	1.0 U					
	trans-1,3-Dichloropropene	µg/L	1.0 U					
	Trichloroethene	µg/L	1.0 U					
	Trichlorofluoromethane (CFC-11)	µg/L	1.0 U					
	Vinyl acetate	µg/L	2.0 U					
	Vinyl chloride	µg/L	46	48	44	53	36 J	13
	Xylenes (total)	µg/L	3.0 U					
General Chemistry								
	Phenolics (total)	mg/L	0.0180	0.0270	0.0310	0.0184	0.0154	0.0118

Notes:

J - Estimated concentration

U - Not detected at the associated reporting limit

mg/L - Milligrams per liter

µg/L - Micrograms per liter

Analytical Results Summary
Weekly Sampling - Leachate Treatment System
Fourth Quarter - 2022
Hyde Park RRT Program

Effluent	Parameter	Units	11/16/2022	11/21/2022	11/30/2022	12/07/2022	12/14/2022	12/21/2022	12/30/2022
Volatiles									
	1,1,1-Trichloroethane	µg/L	1.0 U						
	1,1,2,2-Tetrachloroethane	µg/L	0.39 J	0.45 J	0.37 J	0.36 J	0.34 J	0.33 J	0.32 J
	1,1,2-Trichloroethane	µg/L	1.0 U						
	1,1-Dichloroethane	µg/L	1.6	2.0	1.9	1.8	1.8	2.4	1.8
	1,1-Dichloroethene	µg/L	1.0 U						
	1,2,4-Trichlorobenzene	µg/L	1.0 U						
	1,2-Dichlorobenzene	µg/L	1.0 U						
	1,2-Dichloroethane	µg/L	4.8	5.7	4.9	4.3	5.0	4.8	4.2
	1,2-Dichloropropane	µg/L	0.35 J	0.42 J	0.39 J	0.31 J	0.46 J+	0.38 J	0.36 J
	1,3-Dichlorobenzene	µg/L	1.0 U						
	1,4-Dichlorobenzene	µg/L	1.0 U						
	2-Chlorotoluene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	0.58 J	1.0 U	1.0 U
	3-Chlorotoluene	µg/L	1.0 U						
	4-Chlorotoluene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	0.46 J	1.0 U	1.0 U
	Benzene	µg/L	7.6	7.9	8.5	8.6	8.5	10	8.9
	Bromodichloromethane	µg/L	1.0 U						
	Bromoform	µg/L	1.0 U						
	Bromomethane (Methyl bromide)	µg/L	1.0 U						
	Carbon disulfide	µg/L	6.7	1.4	2.1	8.9	5.1	6.0	7.7
	Carbon tetrachloride	µg/L	1.0 U						
	Chlorobenzene	µg/L	1.0 U						
	Chloroethane	µg/L	1.0 U						
	Chloroform (Trichloromethane)	µg/L	1.7	2.4	2.1	1.7	2.2	2.1	2.0
	Chloromethane (Methyl chloride)	µg/L	1.0 U						
	cis-1,2-Dichloroethene	µg/L	1.3	1.9	1.6	1.4	1.7	1.7	1.5
	cis-1,3-Dichloropropene	µg/L	1.0 U						
	Dichlorodifluoromethane (CFC-12)	µg/L	1.0 U						
	Ethylbenzene	µg/L	1.0 U						
	m&p-Xylenes	µg/L	2.0 U						
	m-Monochlorobenzotrifluoride	µg/L	1.0 U						
	Methylene chloride	µg/L	1.0 U						
	o-Monochlorobenzotrifluoride	µg/L	1.0 U						
	o-Xylene	µg/L	1.0 U						
	p-Monochlorobenzotrifluoride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	2.4	1.0 U	1.0 U
	Styrene	µg/L	1.0 U						
	Tetrachloroethene	µg/L	1.0 U						
	Toluene	µg/L	1.0 U						
	trans-1,2-Dichloroethene	µg/L	1.0 U						
	trans-1,3-Dichloropropene	µg/L	1.0 U						
	Trichloroethene	µg/L	1.0 U						
	Trichlorofluoromethane (CFC-11)	µg/L	1.0 U						
	Vinyl acetate	µg/L	2.0 U						
	Vinyl chloride	µg/L	29	49	37	29	47	38	27
	Xylenes (total)	µg/L	3.0 U						
General Chemistry									
	Phenolics (total)	mg/L	0.0069	0.0130	0.0042 J	0.0046 J	0.0063	0.0070	0.0039 J

Notes:

J - Estimated concentration

U - Not detected at the associated reporting limit

mg/L - Milligrams per liter

µg/L - Micrograms per liter

Table 4

**Analytical Results Summary
Quarterly Sampling - Leachate Treatment System
Fourth Quarter - 2022
Hyde Park RRT Program**

Sample Location:	EFFLUENT	EFFLUENT
Sample ID:	HP 121422 EFF	HP 121422 EFF
Sample Date:	12/14/2022	12/14/2022

Parameters	Units		
Volatile Organic Compounds			
Vinyl chloride	µg/L	40.2	-
General Chemistry			
Phosphorus	mg/L	-	0.207

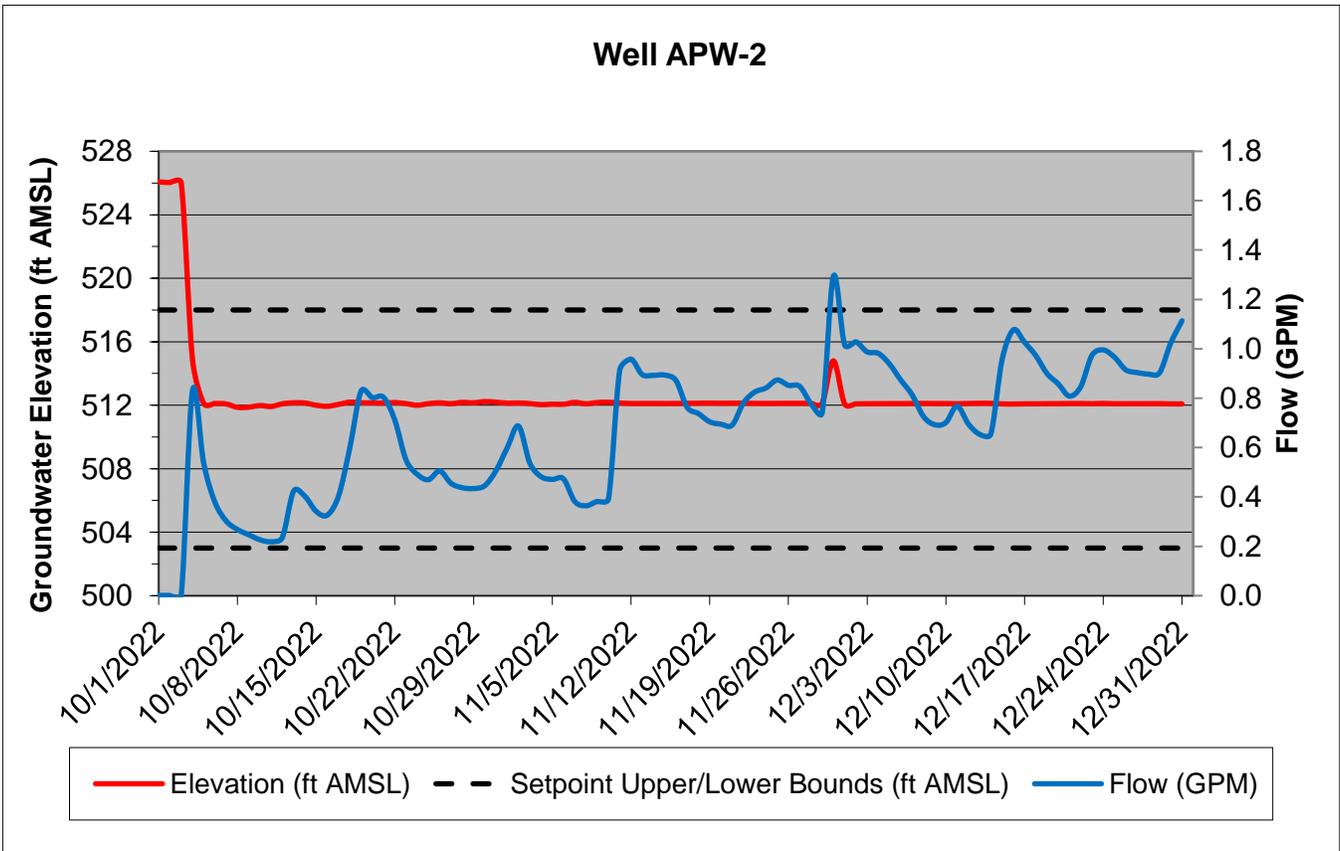
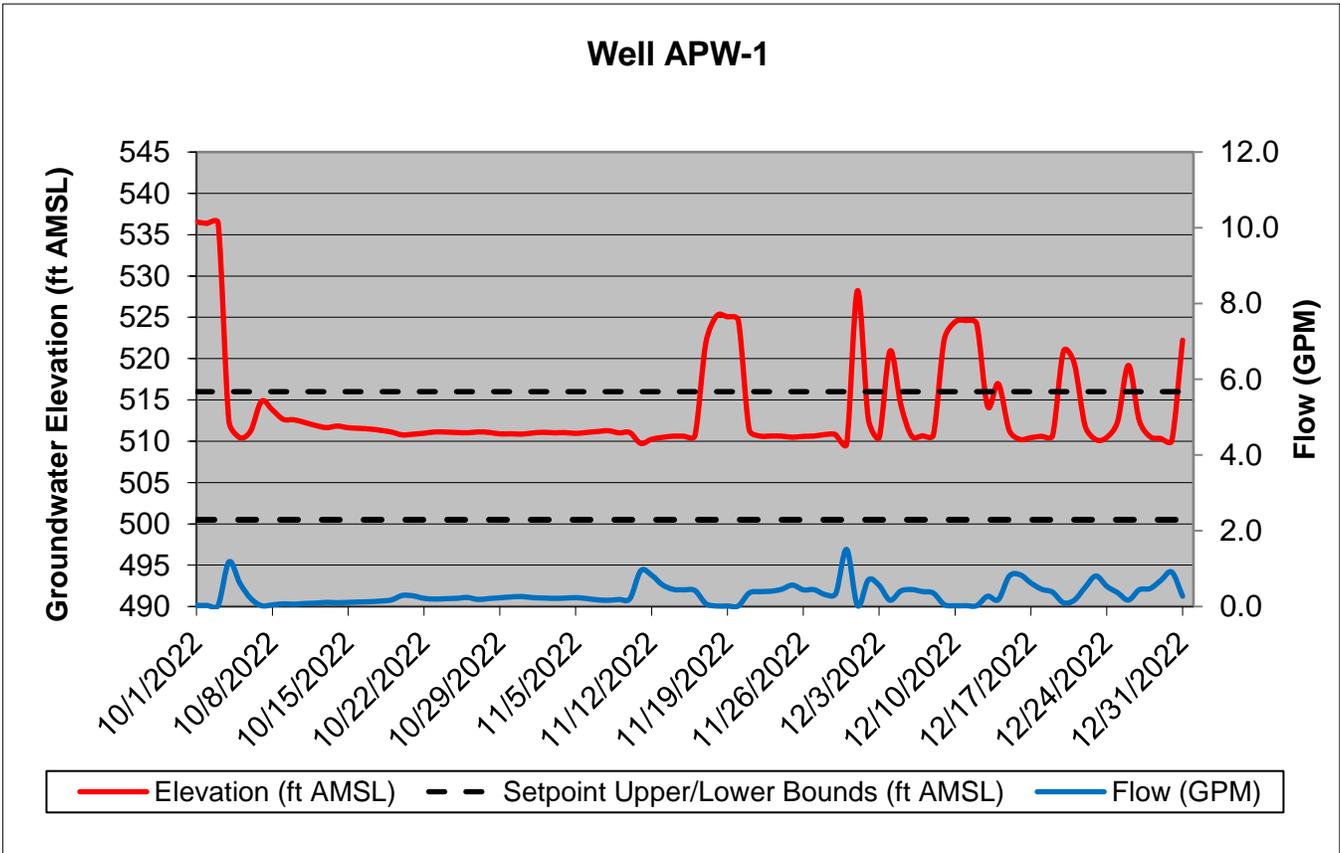
Notes:

"-" - Not applicable

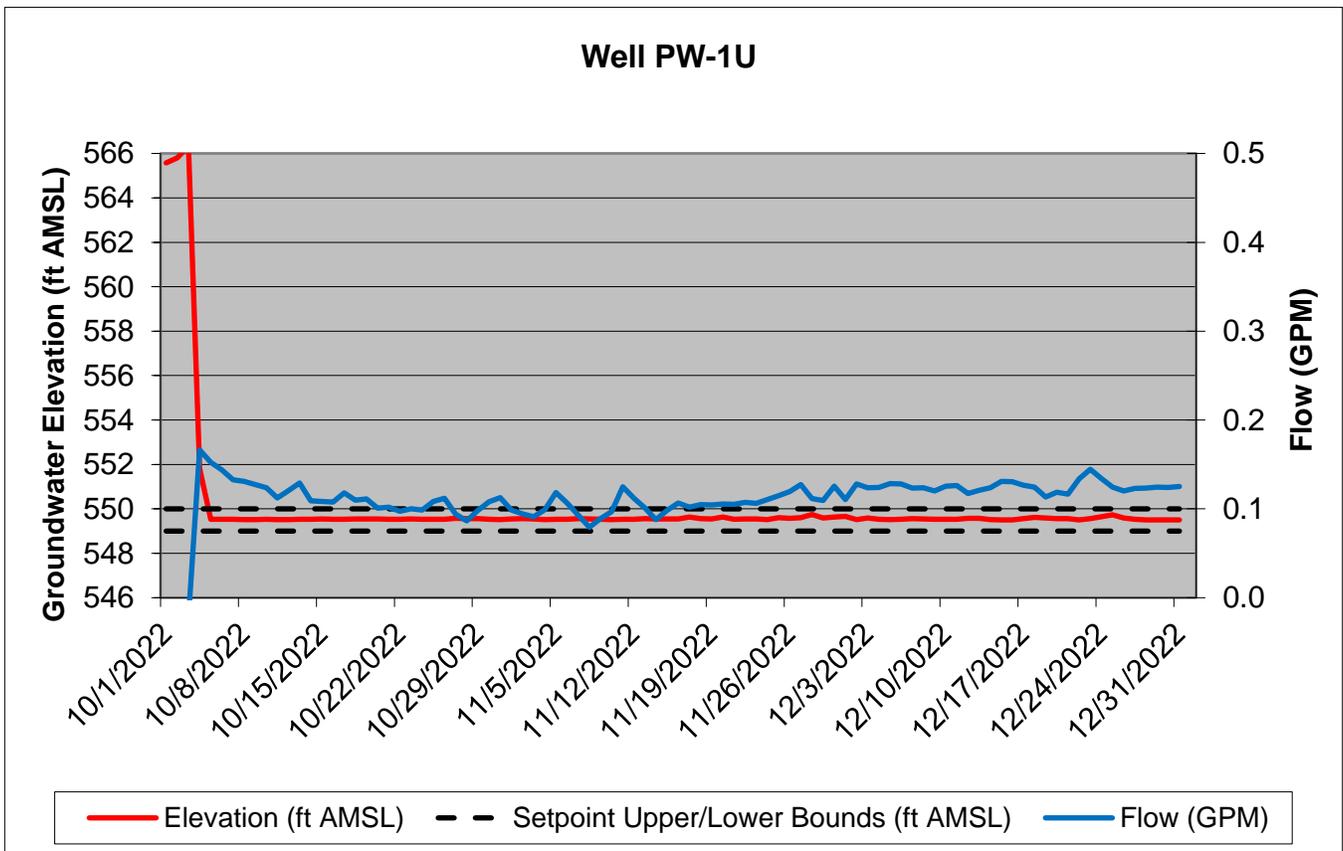
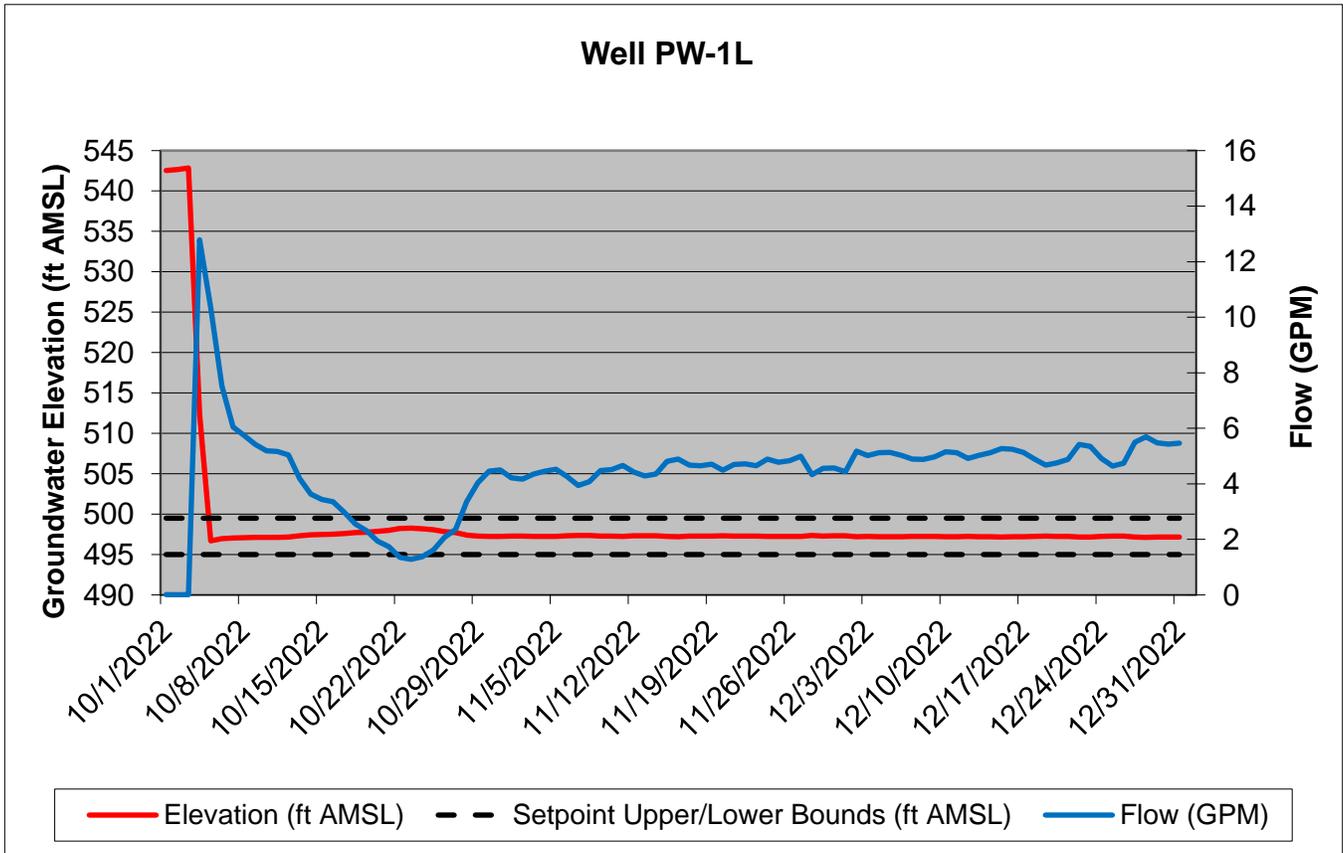
mg/L - Milligrams per liter

µg/L - Micrograms per liter

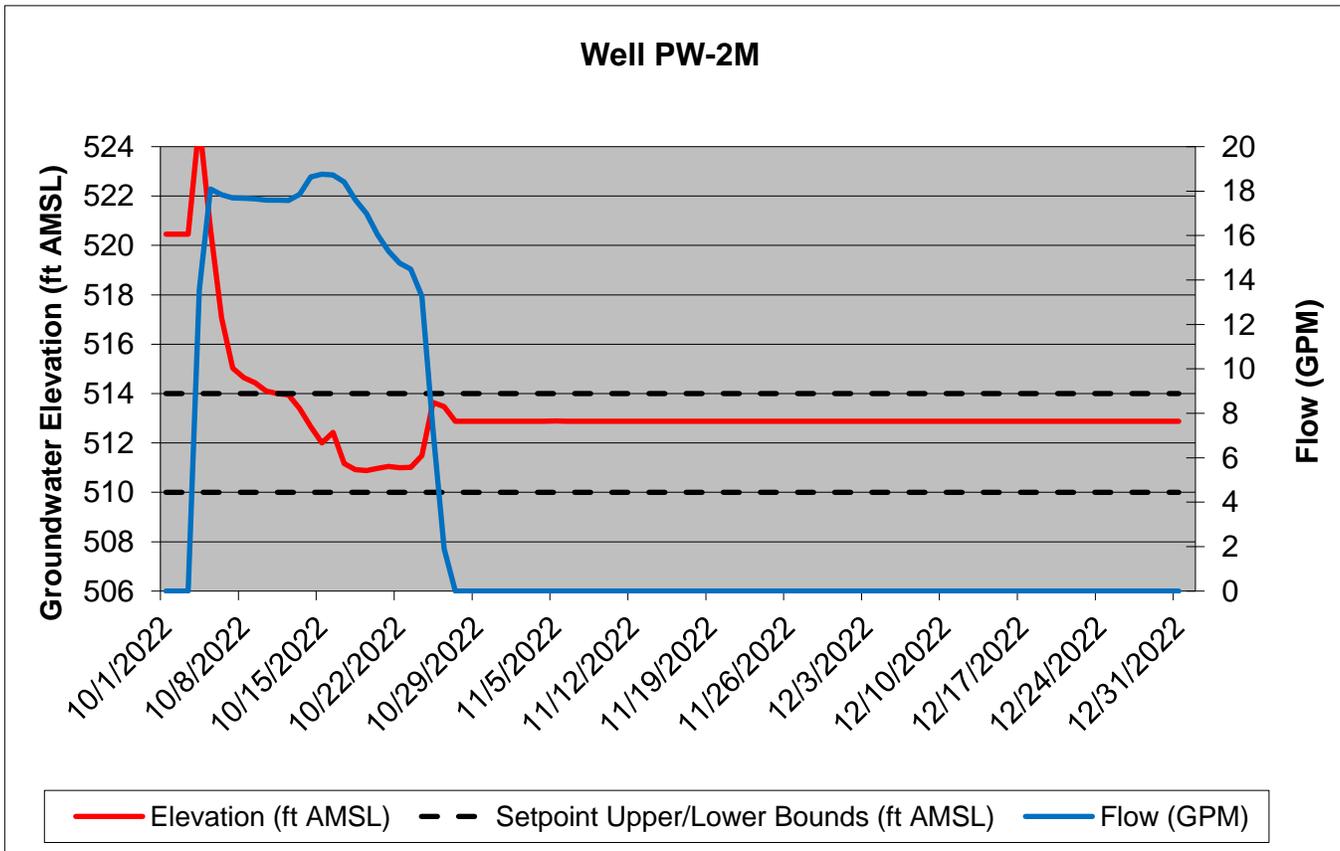
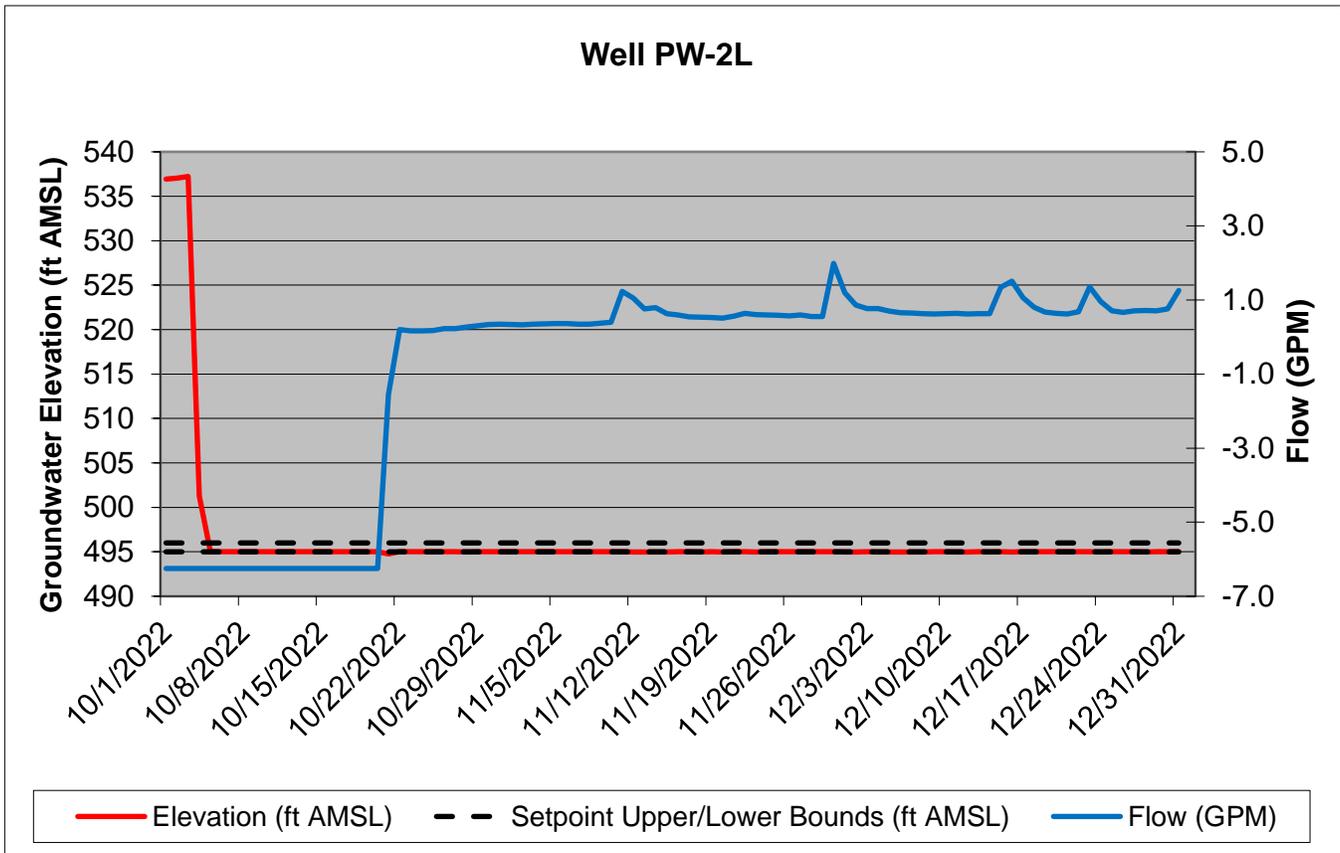
FOURTH QUARTER 2022 - PUMPING WELL PERFORMANCE GRAPHS
HYDE PARK



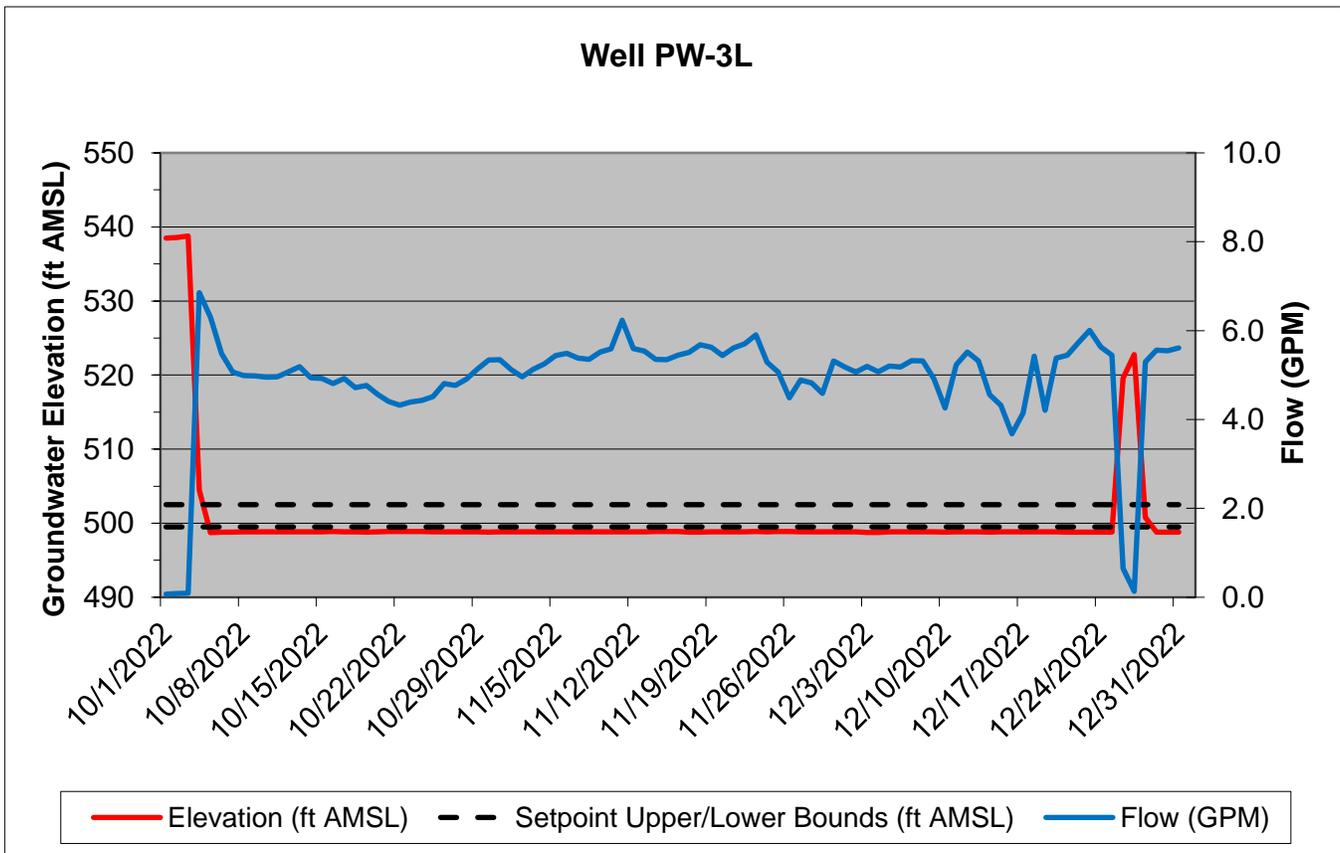
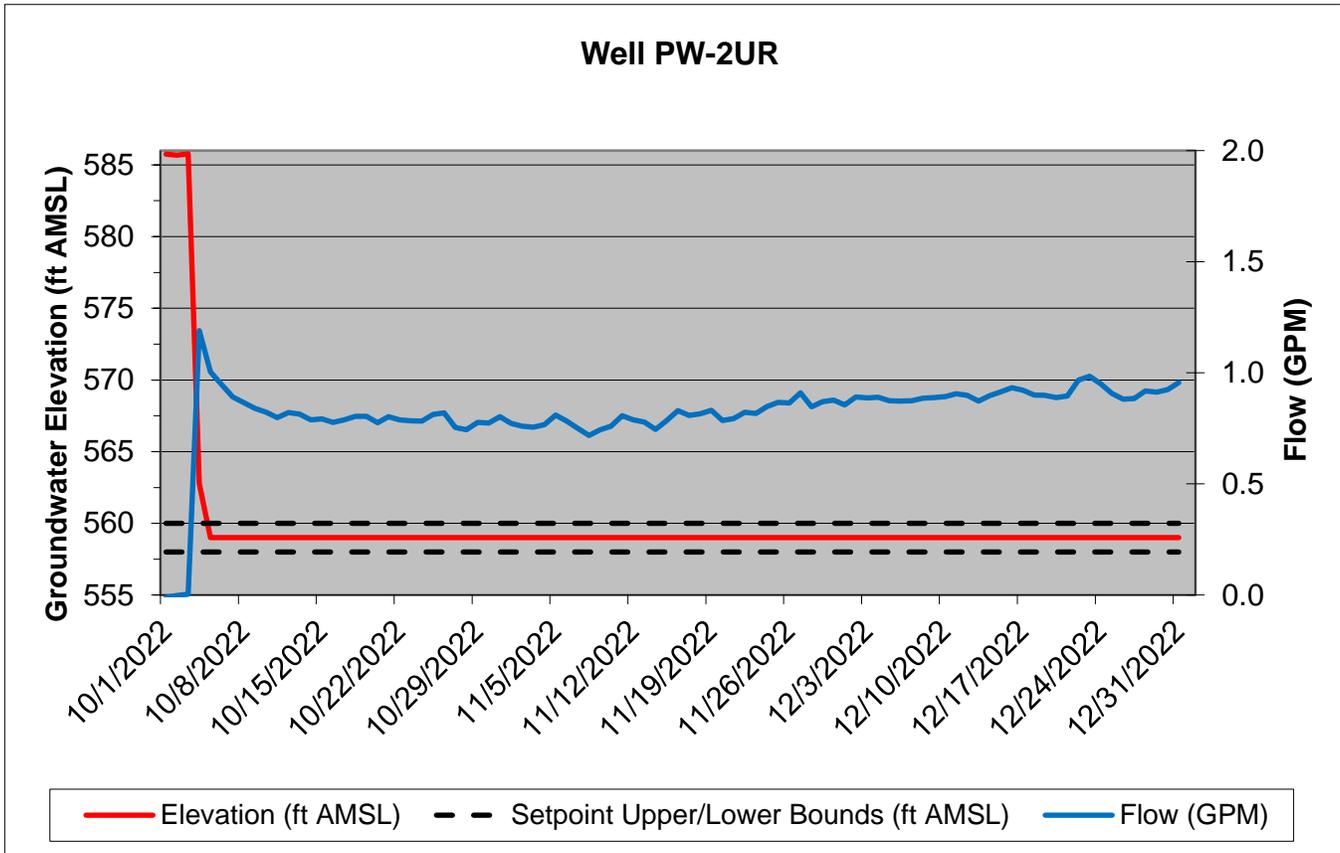
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HYDE PARK



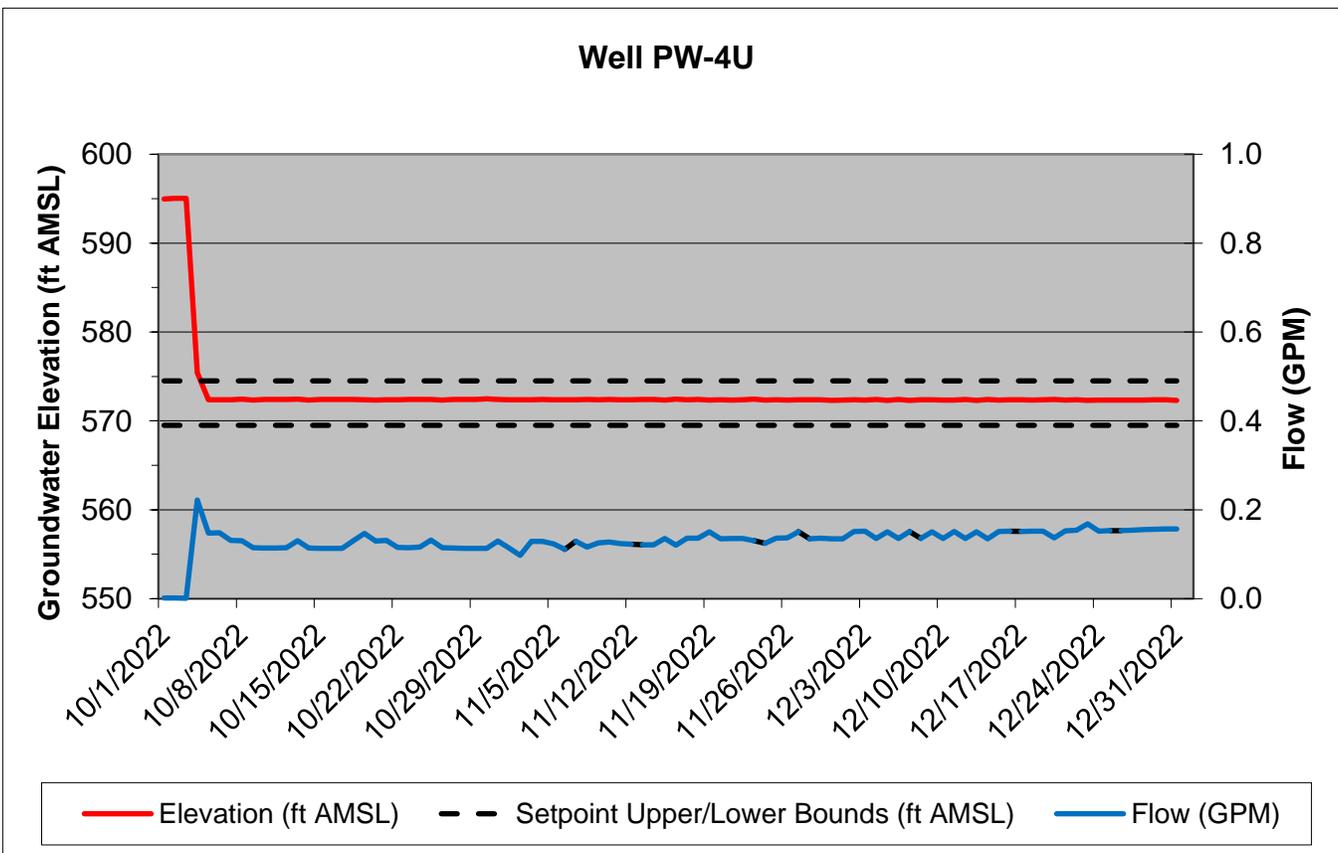
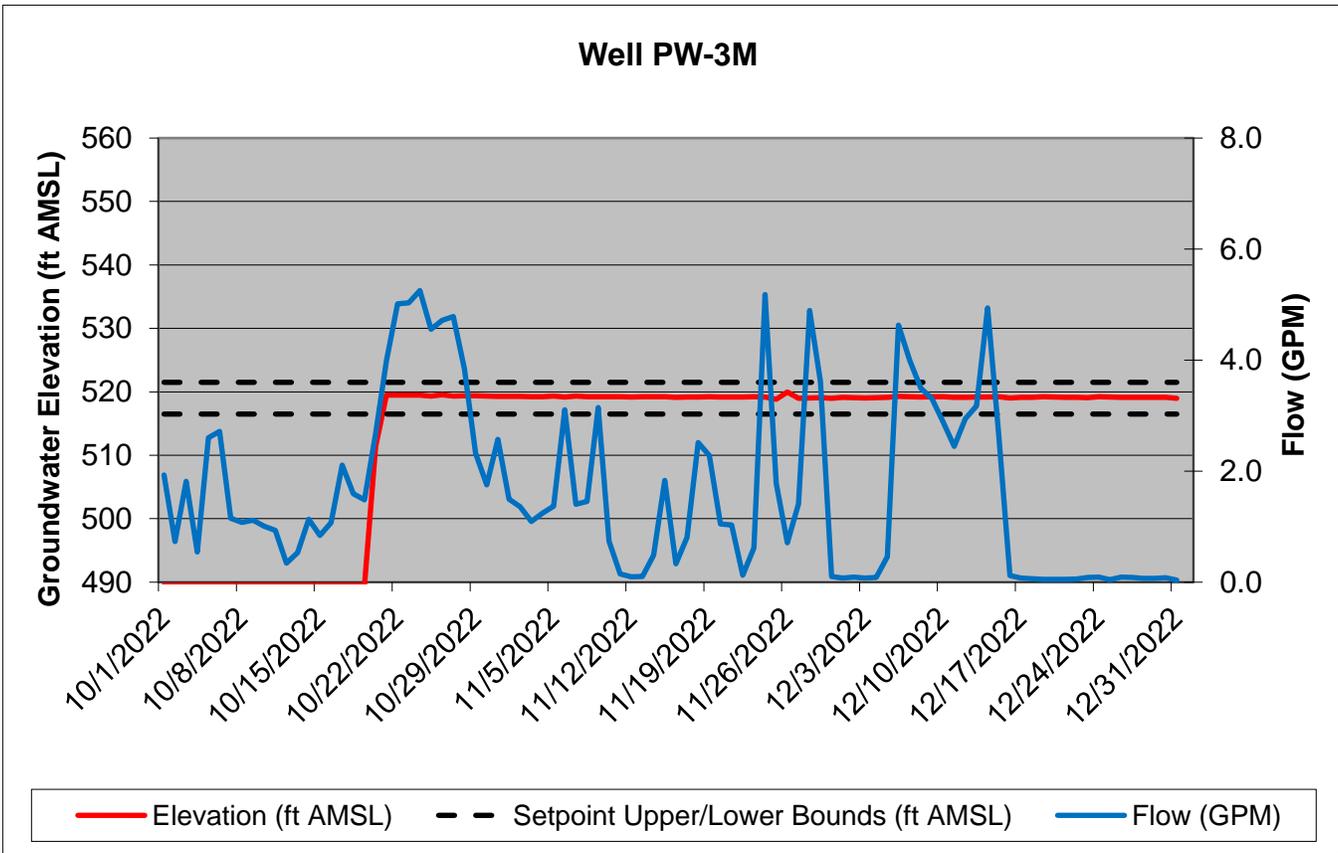
FOURTH QUARTER 2022 - PUMPING WELL PERFORMANCE GRAPHS
HYDE PARK



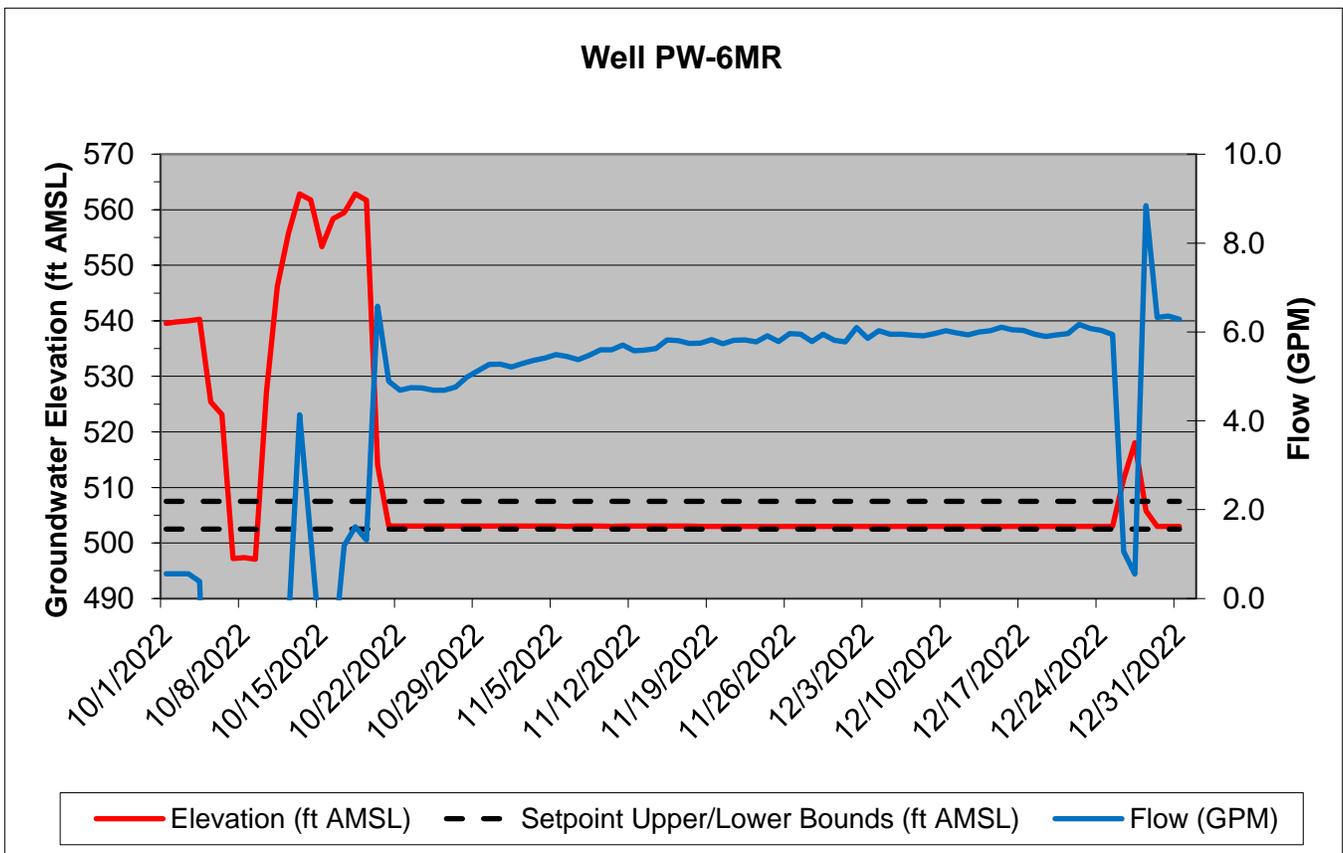
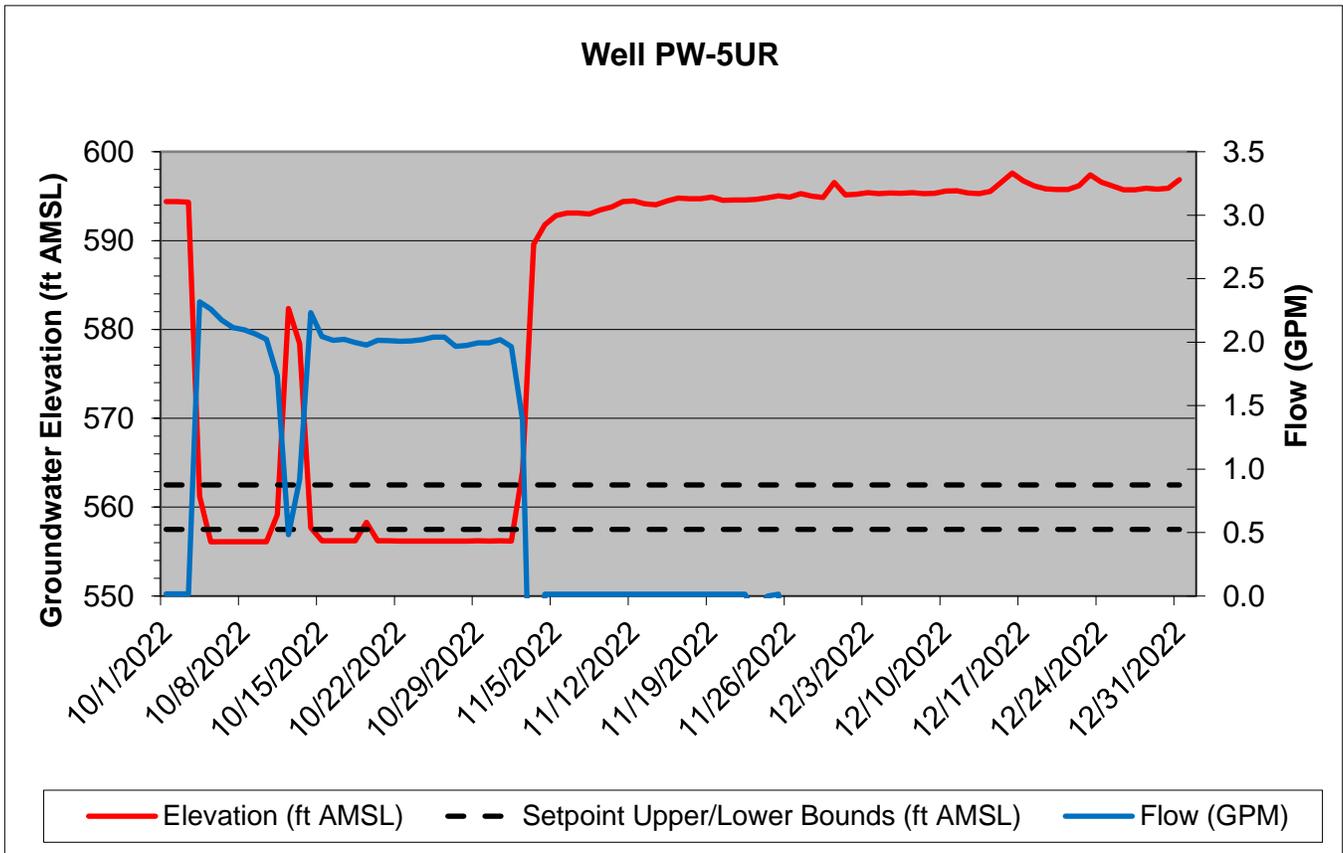
FOURTH QUARTER 2022 - PUMPING WELL PERFORMANCE GRAPHS
HYDE PARK



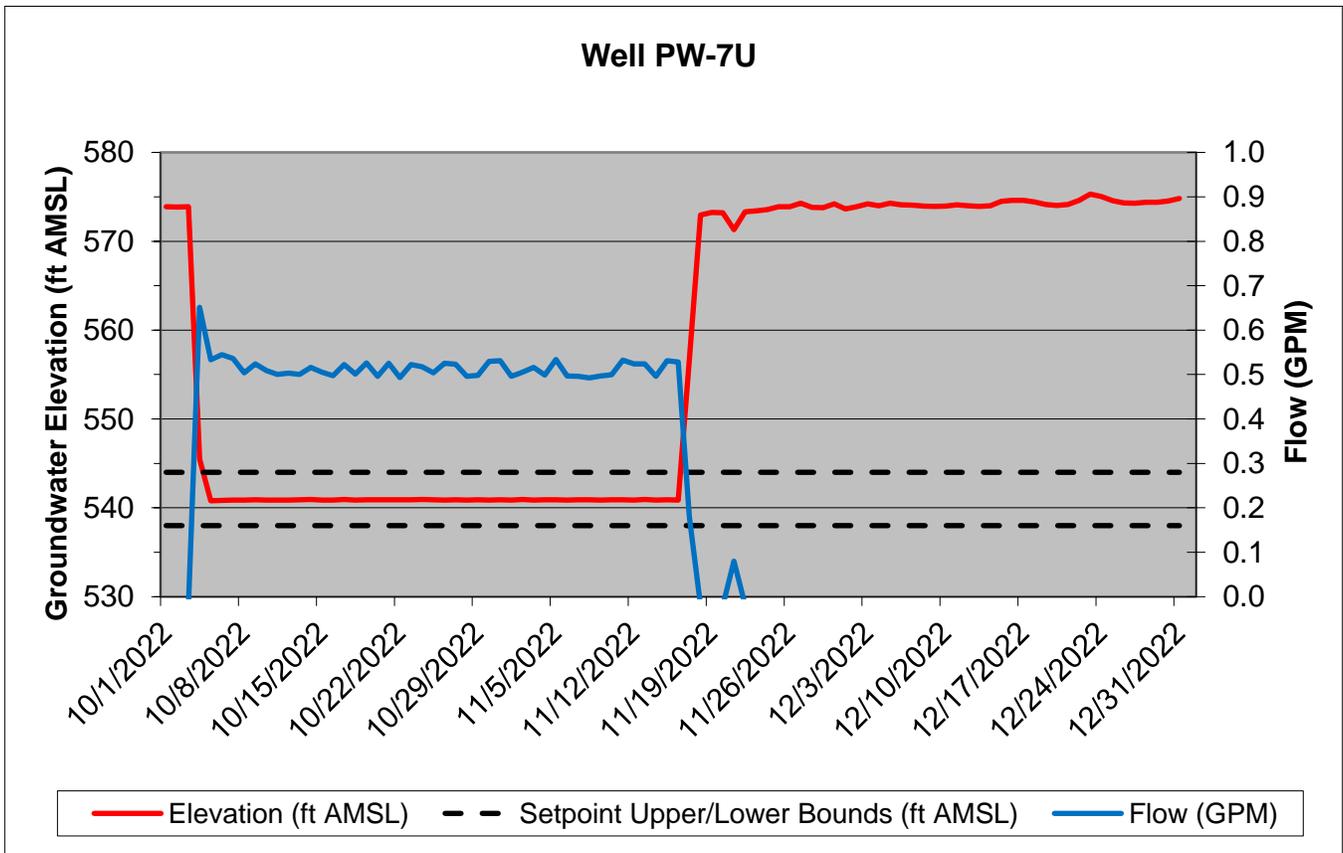
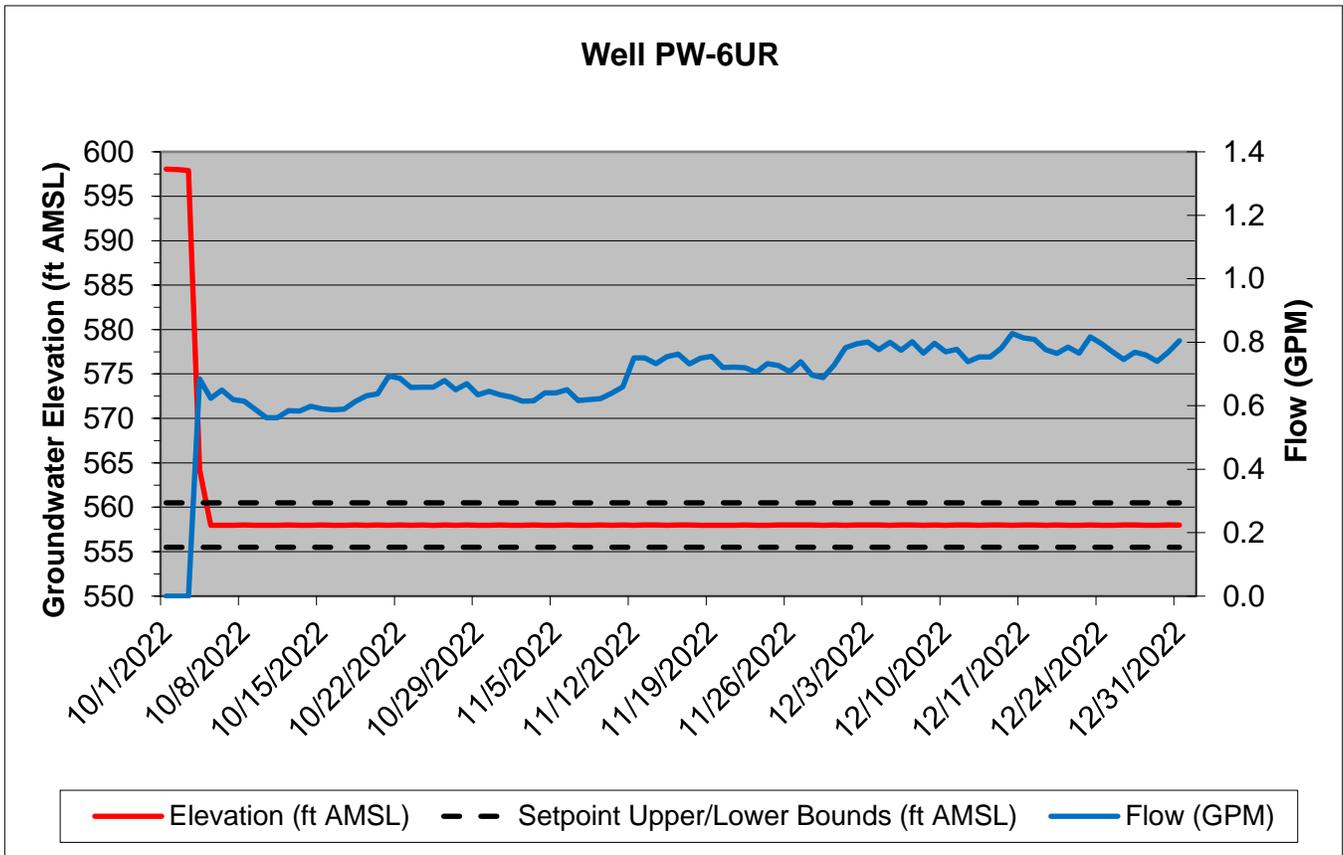
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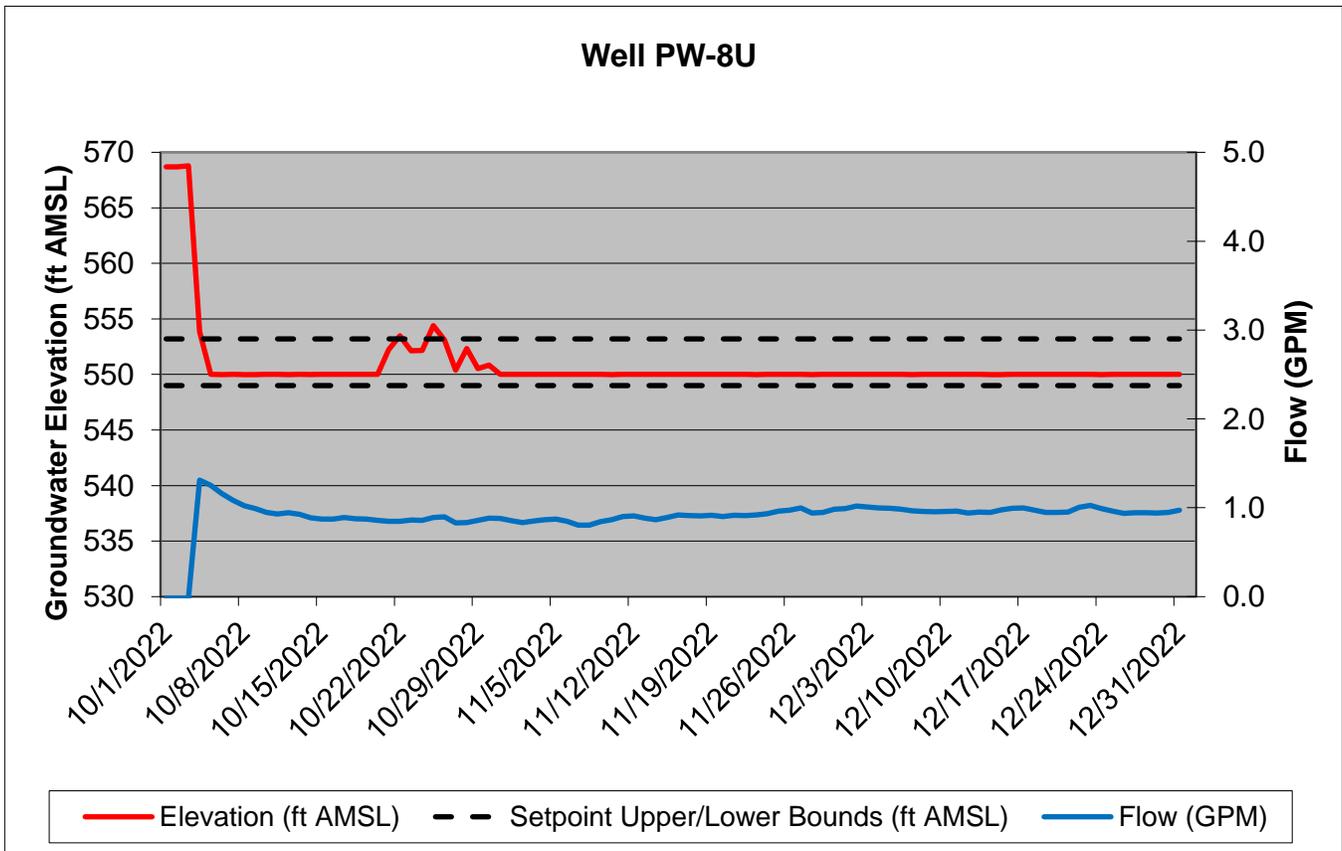
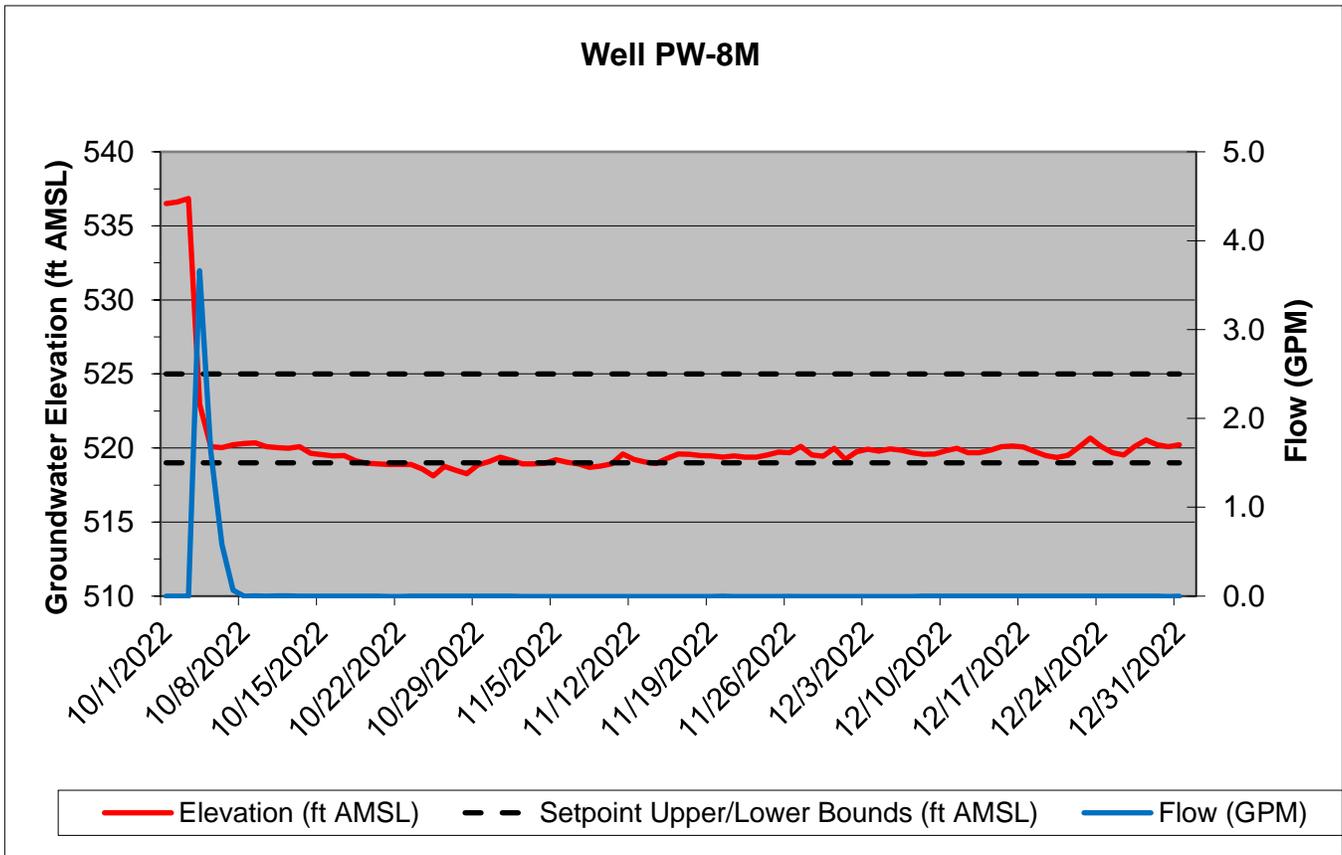
FOURTH QUARTER 2022 - PUMPING WELL PERFORMANCE GRAPHS
HYDE PARK



FOURTH QUARTER 2022 - PUMPING WELL PERFORMANCE GRAPHS
HYDE PARK



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HYDE PARK



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