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

April 30, 2020

Reference No. 001069

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

Mr. Brian P. Sadowski
NYSDEC
270 Michigan Avenue
Buffalo, NY 14203-2999

Dear Ms. Kondrk and Mr. Sadowski:

Re: Quarterly Operations Report - First Quarter 2020
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, 2020 through March 31, 2020. A total of 11.04 million gallons of aqueous phase liquid (APL) were collected, treated, and discharged in compliance with the Site's City of Niagara Falls Publicly Owned Treatment Works (POTW) Significant Industrial Users (SIU) Wastewater Discharge Permit #49. Two drums (approximately 988 pounds) of non-aqueous phase liquid (NAPL) and twelve drums (approximately 2,646 pounds) of personal protective equipment (PPE) 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: Water level elevation summary
- Tables 2 and 3: Daily and weekly treatment system effluent monitoring data
- Attachment A: Purge well performance graphs indicating daily level and flow information

Due to a barometric transducer malfunction, the water elevations presented for the flow zone 9 piezometer PMW-1M-09 for this quarterly reporting period have not been compensated for barometric pressure. Compensating the water elevations removes the pressure exerted on the water level transducer by the overlying atmosphere, leaving only the pressure exerted on the transducer by the overlying water column. This results in “real” water elevations that are lower relative to the uncompensated elevations. As the uncompensated water elevations are already below the water elevation of 526 feet above mean sea level (ft. AMSL) required to be maintained in flow zone FZ-09 between the landfill and the APL purge wells, the compensated water elevations would also be below that target elevation. As such, the FZ-09 outcrop along the New York Power Authority (NYPA) access road remained unsaturated during the quarterly reporting period. The small number of water

elevations that were compensated with the barometric data from the barometric transducer early in the quarter before the transducer malfunction were approximately 515.5 ft. AMSL. In addition, the quarterly groundwater elevation in piezometer PMW-1M-09 measured manually on March 3, 2020 was 517.25 feet above mean sea level (AMSL), confirming that the FZ-09 outcrop along the NYPA access road was unsaturated. The barometric transducer will be replaced in April 2020.

The pumping wells were operational and functioning as designed during the first quarter 2020. 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. The following minor operational and setpoint issues were investigated or resolved during the first quarter of 2020:

- The water level in PW-2UR exceeded setpoint range from January 1 through January 7 due to pump maintenance. The water level returned to within setpoint range on January 8.
- The water level in PW-6UR exceeded setpoint range from January 1 through January 14 due to rain and snow melt. The water level returned to within setpoint range on January 15.
- The water level in PW-3M exceeded setpoint range on January 11 due to leak detection switch trip and on March 2 due to rain and snow melt. The water level returned to within setpoint range on January 12 and March 3, respectively.
- The water level in APW-1 exceeded setpoint range due to rain and snow melt from January 11 through January 12, January 24 through January 30, February 17 through February 20, and March 2 through March 6. The water level returned to within setpoint range on January 13, January 31, February 21, and March 7, respectively.
- The water level in APW-1 exceeded setpoint range on March 29 due to a pump fault. The pump was reset and the water level returned to within setpoint range on March 30.
- The water levels in the following wells exceeded setpoint range due to a heat trace failure:
  - PW-1L, PW-8U, PW-10U, and APW-2 on January 29. The water levels in these wells returned to within setpoint range on January 30.
  - PW-1U, PW-2UR, PW-2L, PW-3L, PW-5U, PW-6MR, PW-6UR, and PW-7U from January 29 through January 30. The water levels in these wells returned to within setpoint range on January 31.
- The water level in PW-4U exceeded setpoint range on the following dates:
  - January 29 through January 31 and February 1, February 10, and February 15 due to an electrical fault. The pump was reset and the water level returned to within setpoint range on February 2, February 11 and February 15, respectively.
  - March 1 and March 2 due to rain and snow melt. The water level returned to within setpoint range on March 3.
  - March 11 and March 13 through March 14 due to communication faults. The pump was reset and the water level returned to within setpoint range on March 12 and March 15, respectively.
  - March 19 for cleaning and maintenance of the water level transducer. The water level returned to within setpoint range on March 20.

- The water levels in the following wells exceeded setpoint range due to effluent tank process control maintenance:
  - PW-4U from February 22 (due to an electrical fault) and February 23 through February 25. The water level returned to within setpoint range on February 26.
  - PW-1L from February 23 through February 26. The water level returned to within setpoint range on February 27.
  - PW-1U, PW-2UR, PW-2L, PW-3L, PW-5UR, PW-6UR, PW-6MR, PW-8U, and PW-10U from February 23 through February 25. The water levels returned to within setpoint range on February 26.
  - PW-2M and PW-3M from February 24 through February 26. The water levels returned to within setpoint range on February 27.
  - APW-2 from February 23 through February 24. The water level returned to within setpoint range on February 25.
  - APW-1 from February 23 through February 24 and February 26 through February 27. The water level returned to within setpoint range on February 25 and February 28, respectively.
- The water level in PW-7U exceeded setpoint range from March 12 through March 20 and from March 22 through March 23 due to a communication issue with the pump. The water levels returned to within setpoint range on March 21 and March 24, respectively. Select communication equipment associated with PW-7U will be replaced in the second quarter of 2020.
- The water level in PW-9U exceeded set point range from January 16 to March 25 due to water level transducer issues. The transducer was removed and reset on March 25. The water level decreased; however, the transducer could not be placed to a depth where set point could be achieved. Cleaning of this well will occur in the second quarter such that the transducer can be reset to the required depth.

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.

JBranch

Joe Branch
Project Manager
231-670-6809 Cell

JB/eew/5
Encl.

cc: G. May, NYSDEC
J. Robinson, NYSDOH
J. Pentilchuk, GHD
D. Hoyt, GHD
M. Popek, GHD

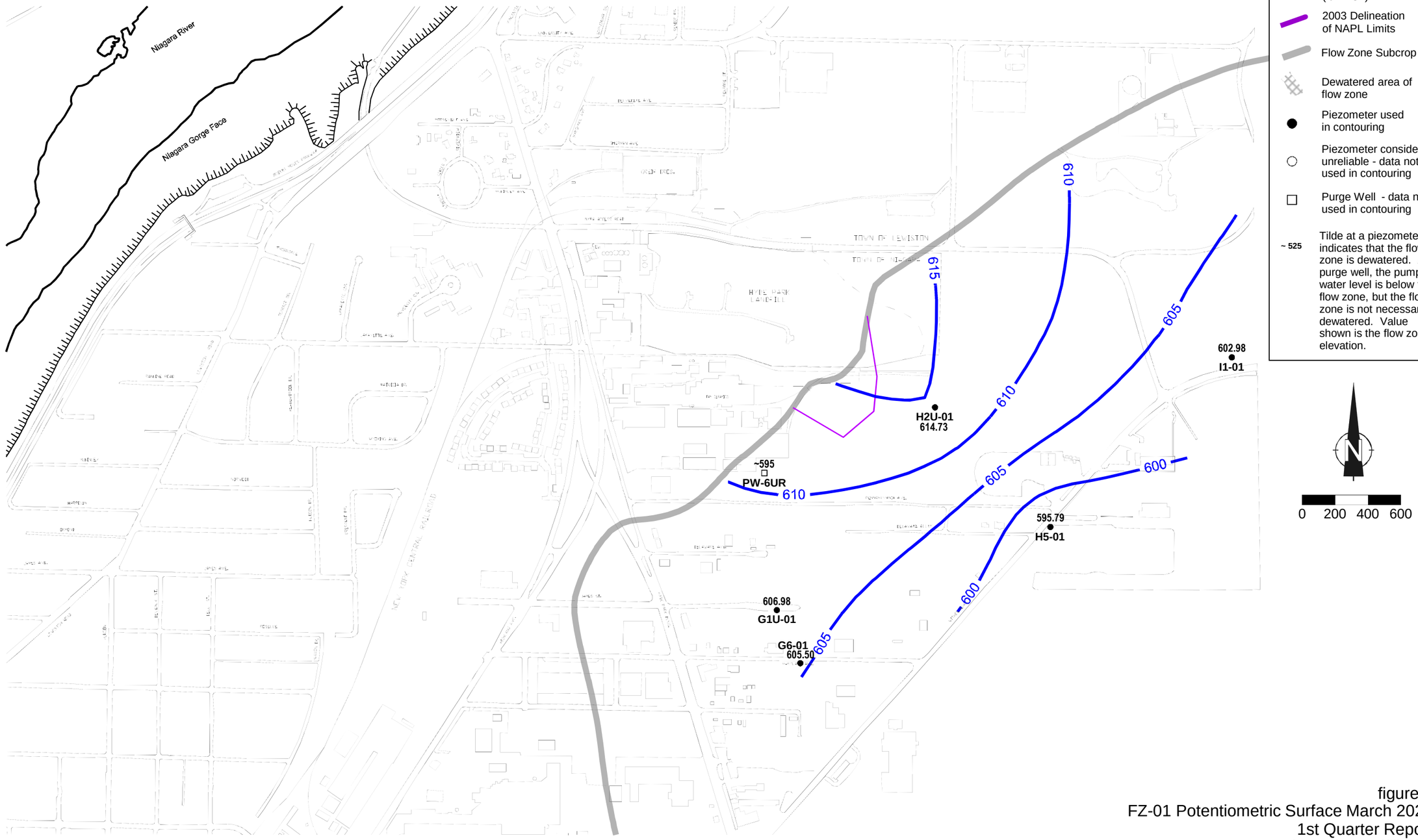


figure 1
FZ-01 Potentiometric Surface March 2020
1st Quarter Report
Hyde Park Landfill Site
Glenn Springs Holdings, Inc.
Niagara Falls, New York

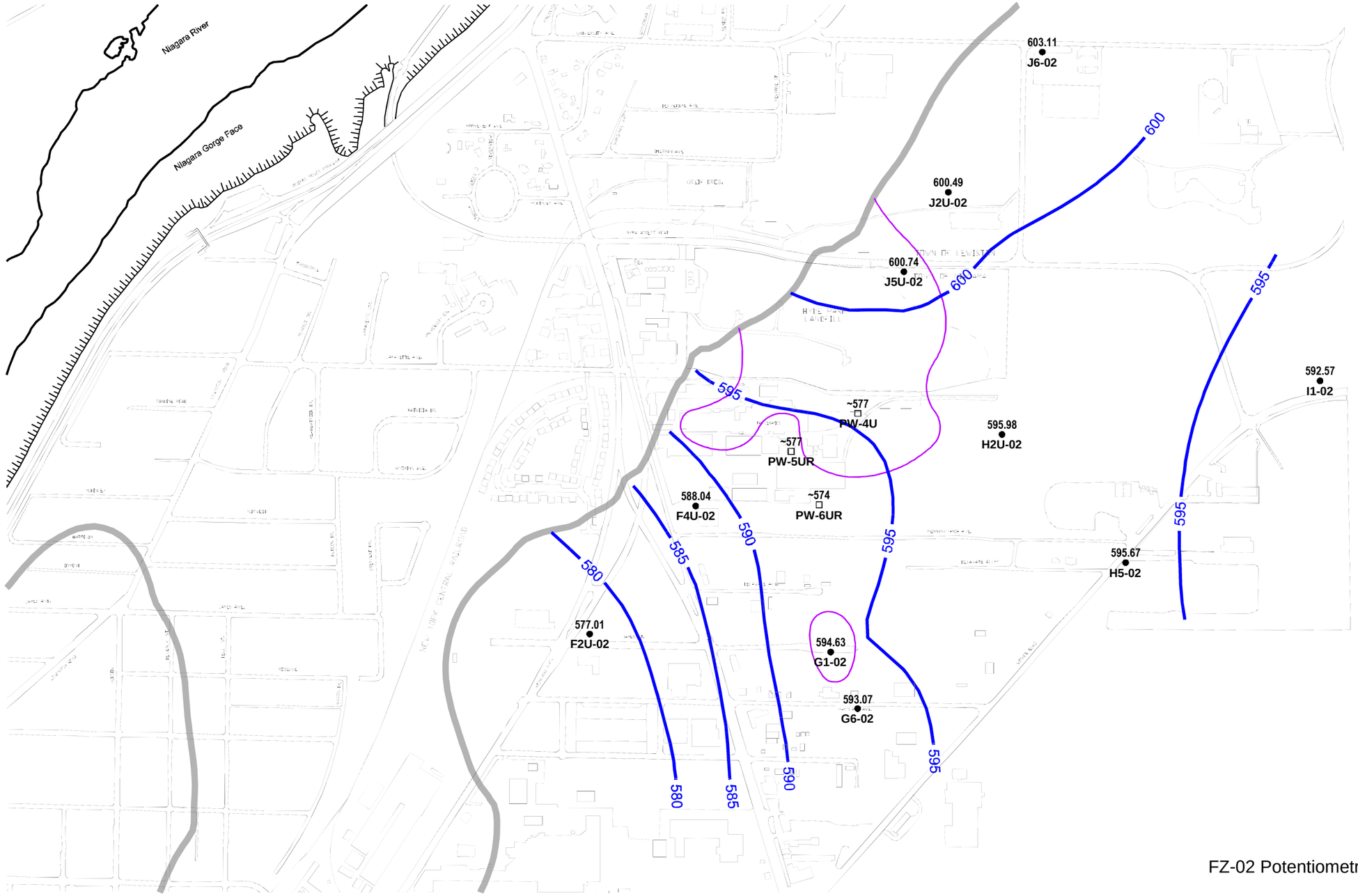
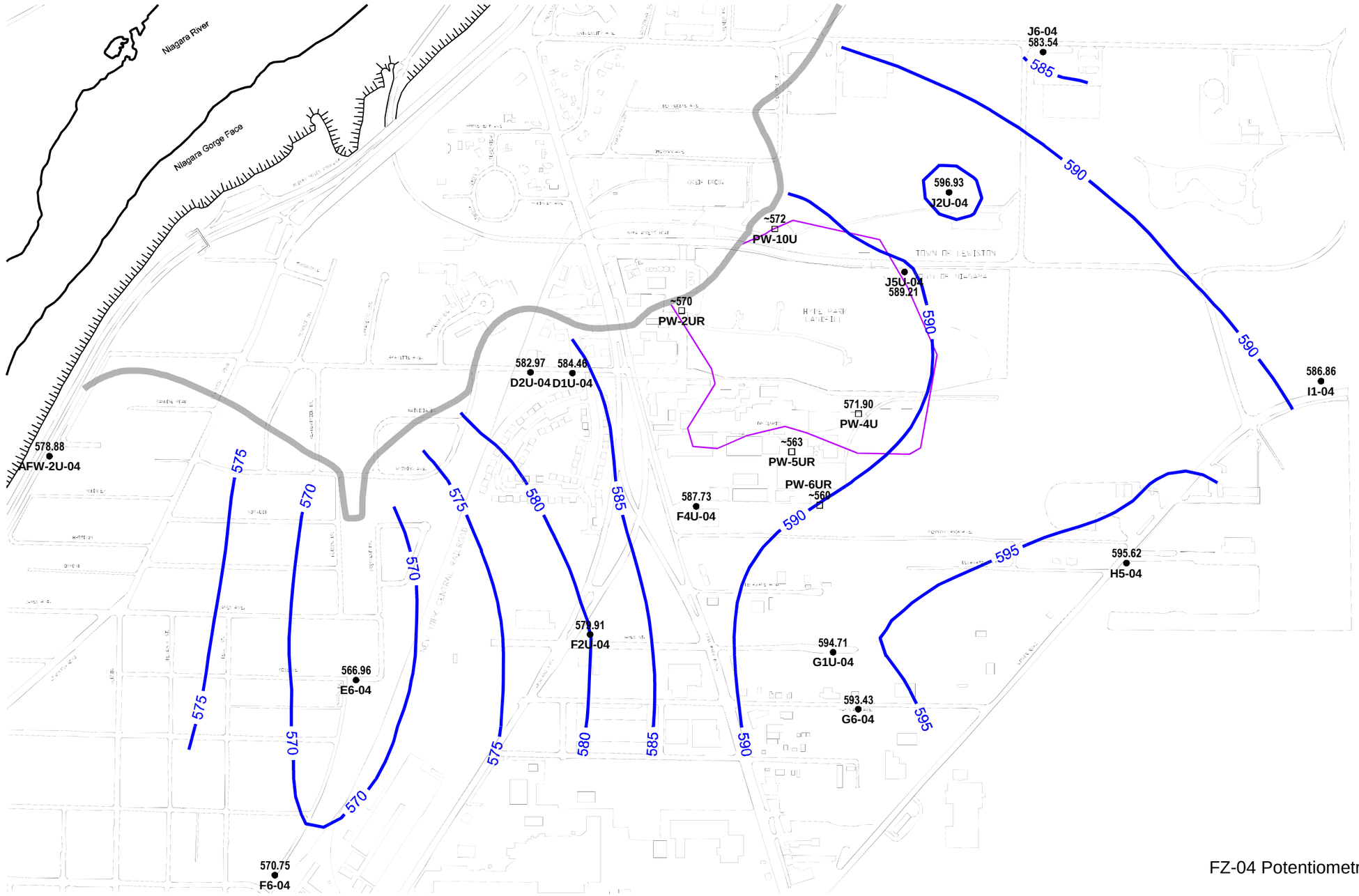


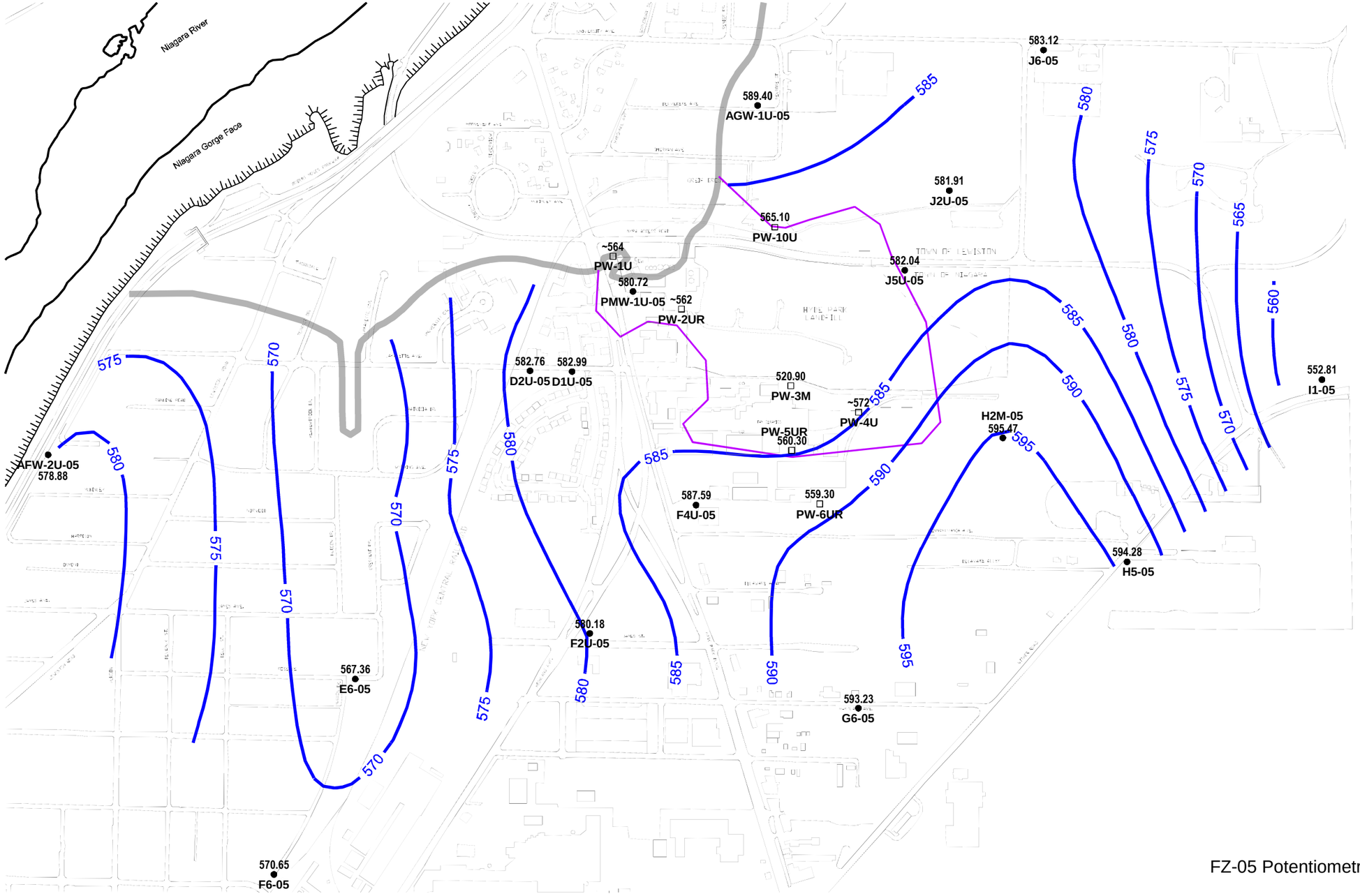
figure 2
FZ-02 Potentiometric Surface March 2020
1st Quarter Report
Hyde Park Landfill Site
Glenn Springs Holdings, Inc.
Niagara Falls, New York



Legend

- Potentiometric Contour (ft AMSL)
- 2003 Delineation of NAPL Limits
- Flow Zone Subcrop
- Dewatered area of flow zone
- ● Piezometer used in contouring
- ○ Piezometer considered unreliable - data not used in contouring
- □ Purge Well - data not used in contouring
- ~ 525 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.

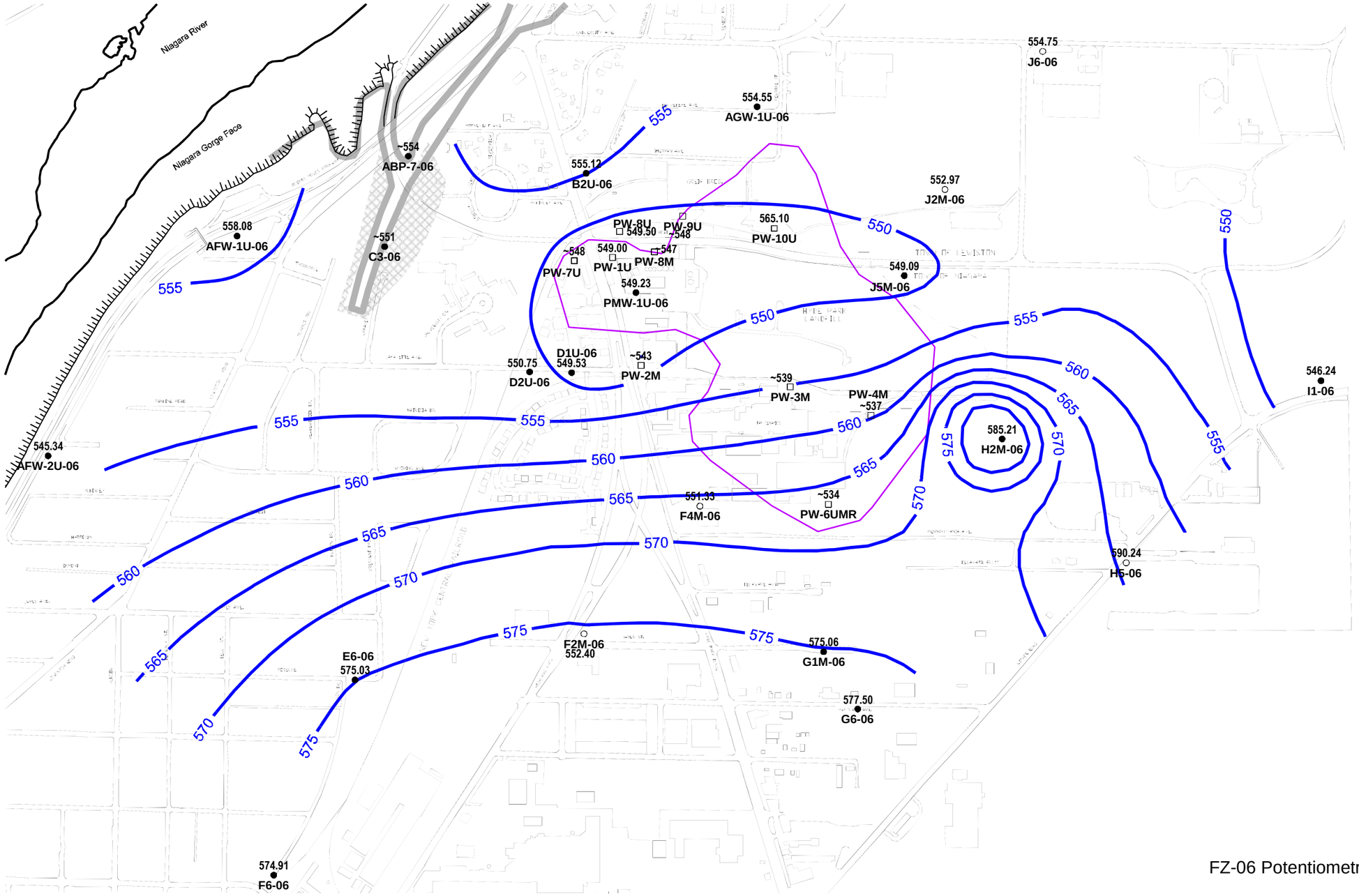
figure 3
FZ-04 Potentiometric Surface March 2020
1st Quarter Report
Hyde Park Landfill Site
Glenn Springs Holdings, Inc.
Niagara Falls, New York



Legend

- Potentiometric Contour (ft AMSL)
- 2003 Delineation of NAPL Limits
- Flow Zone Subcrop
- Dewatered area of flow zone
- ● Piezometer used in contouring
- ○ Piezometer considered unreliable - data not used in contouring
- □ Purge Well - data not used in contouring
- ~ 525 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.

figure 4
FZ-05 Potentiometric Surface March 2020
1st Quarter Report
Hyde Park Landfill Site
Glenn Springs Holdings, Inc.
Niagara Falls, New York



Legend

- Potentiometric Contour (ft AMSL)
- 2003 Delineation of NAPL Limits
- Flow Zone Subcrop
- Dewatered area of flow zone
- ● Piezometer used in contouring
- ○ Piezometer considered unreliable - data not used in contouring
- □ Purge Well - data not used in contouring
- ~ 525 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.

figure 5
FZ-06 Potentiometric Surface March 2020
1st Quarter Report
Hyde Park Landfill Site
Glenn Springs Holdings, Inc.
Niagara Falls, New York

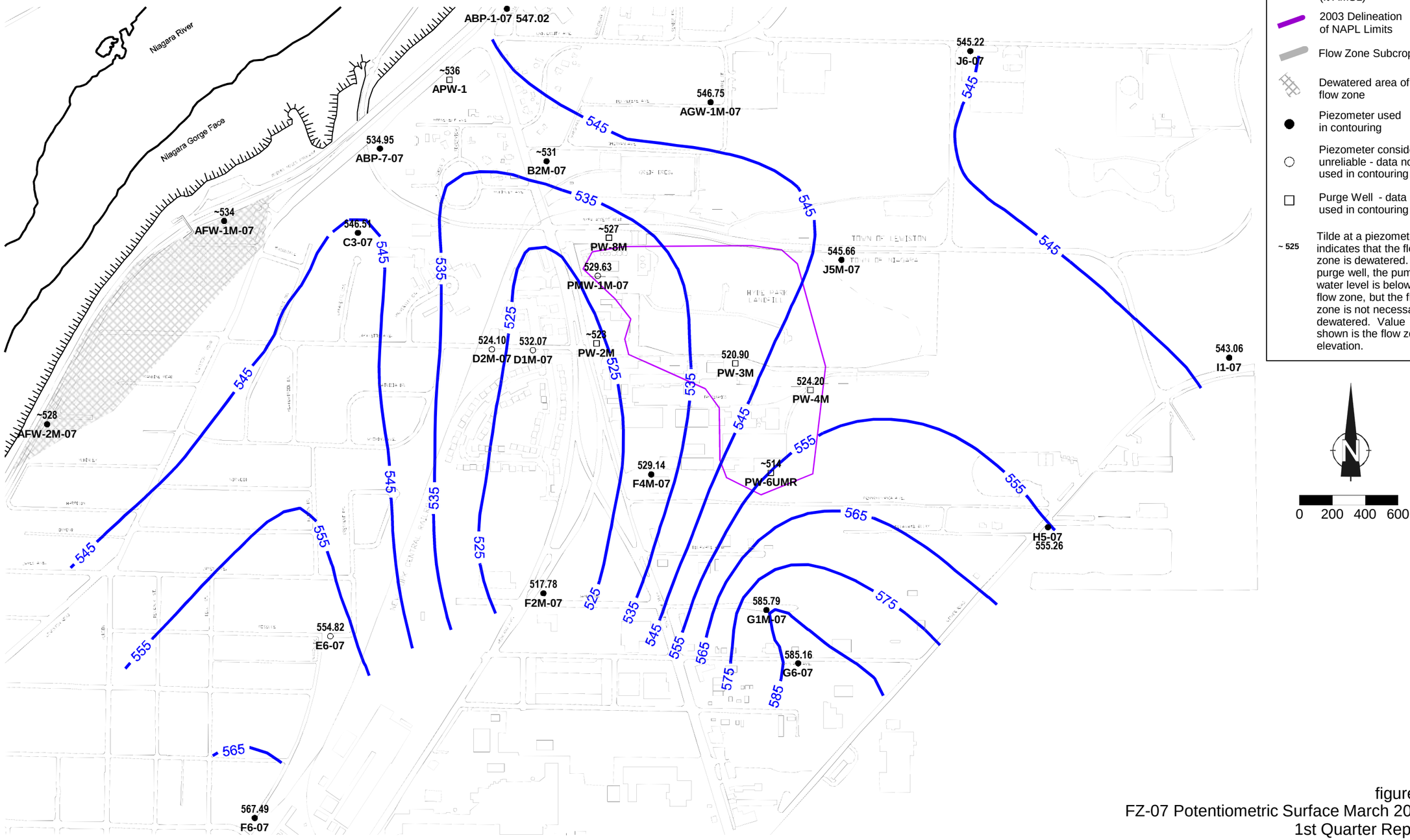


figure 6
FZ-07 Potentiometric Surface March 2020
1st Quarter Report
Hyde Park Landfill Site
Glenn Springs Holdings, Inc.
Niagara Falls, New York

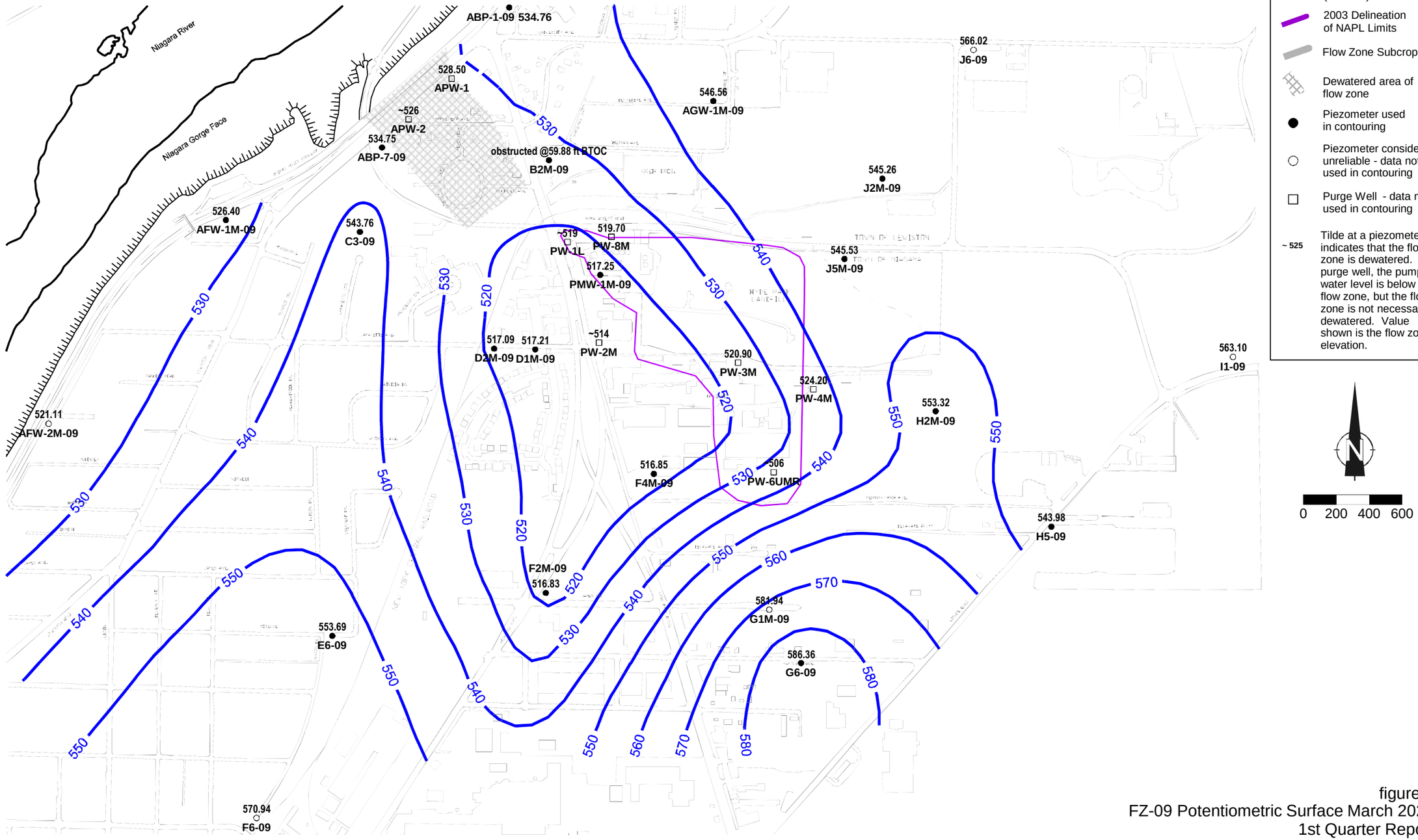
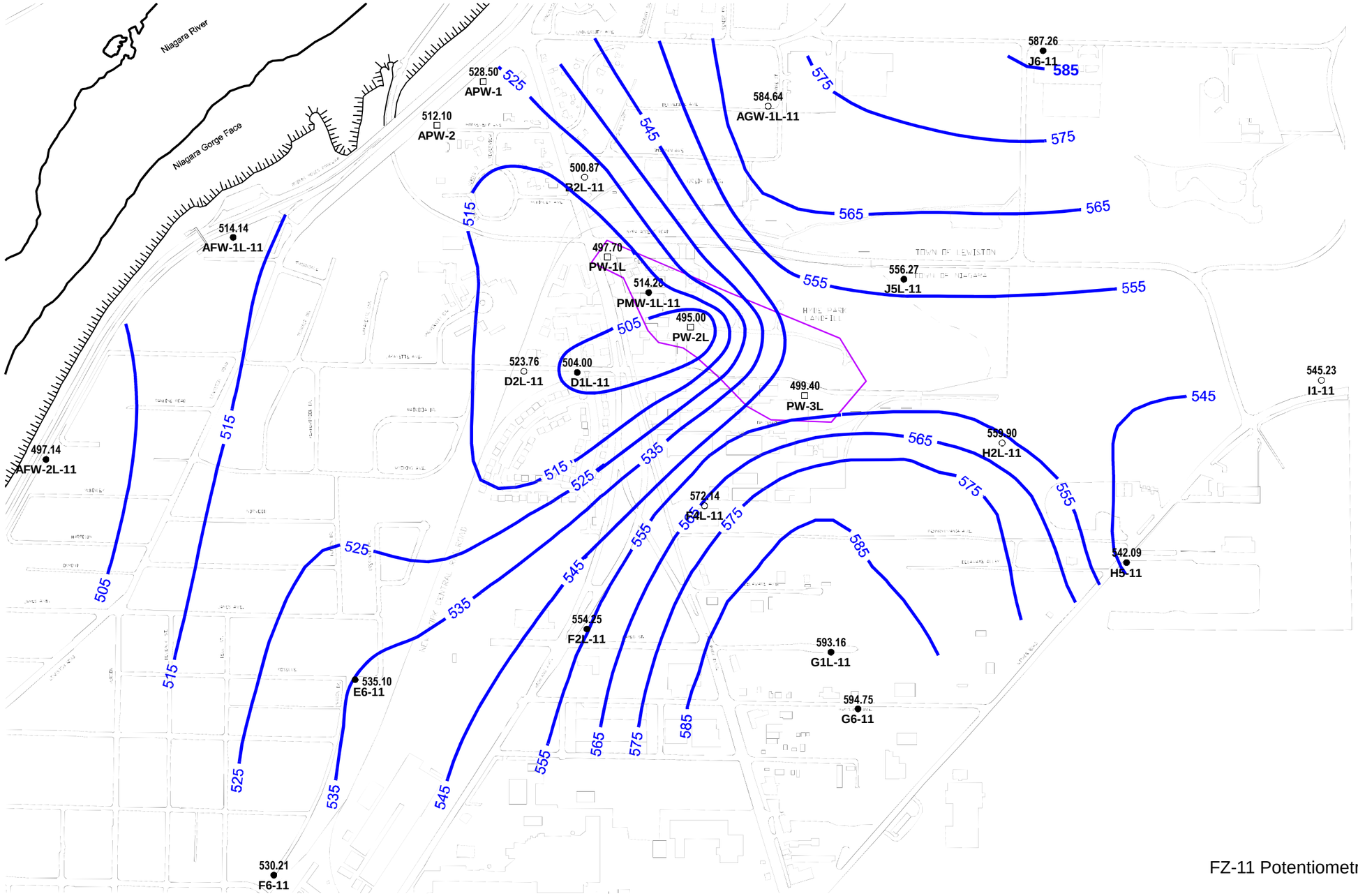


figure 7
FZ-09 Potentiometric Surface March 2020
1st Quarter Report
Hyde Park Landfill Site
Glenn Springs Holdings, Inc.
Niagara Falls, New York



Legend

- Potentiometric Contour (ft AMSL)
- 2003 Delineation of NAPL Limits
- Flow Zone Subcrop
- Dewatered area of flow zone
- ● Piezometer used in contouring
- ○ Piezometer considered unreliable - data not used in contouring
- □ Purge Well - data not used in contouring
- ~ 525 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.

figure 8
FZ-11 Potentiometric Surface March 2020
1st Quarter Report
Hyde Park Landfill Site
Glenn Springs Holdings, Inc.
Niagara Falls, New York

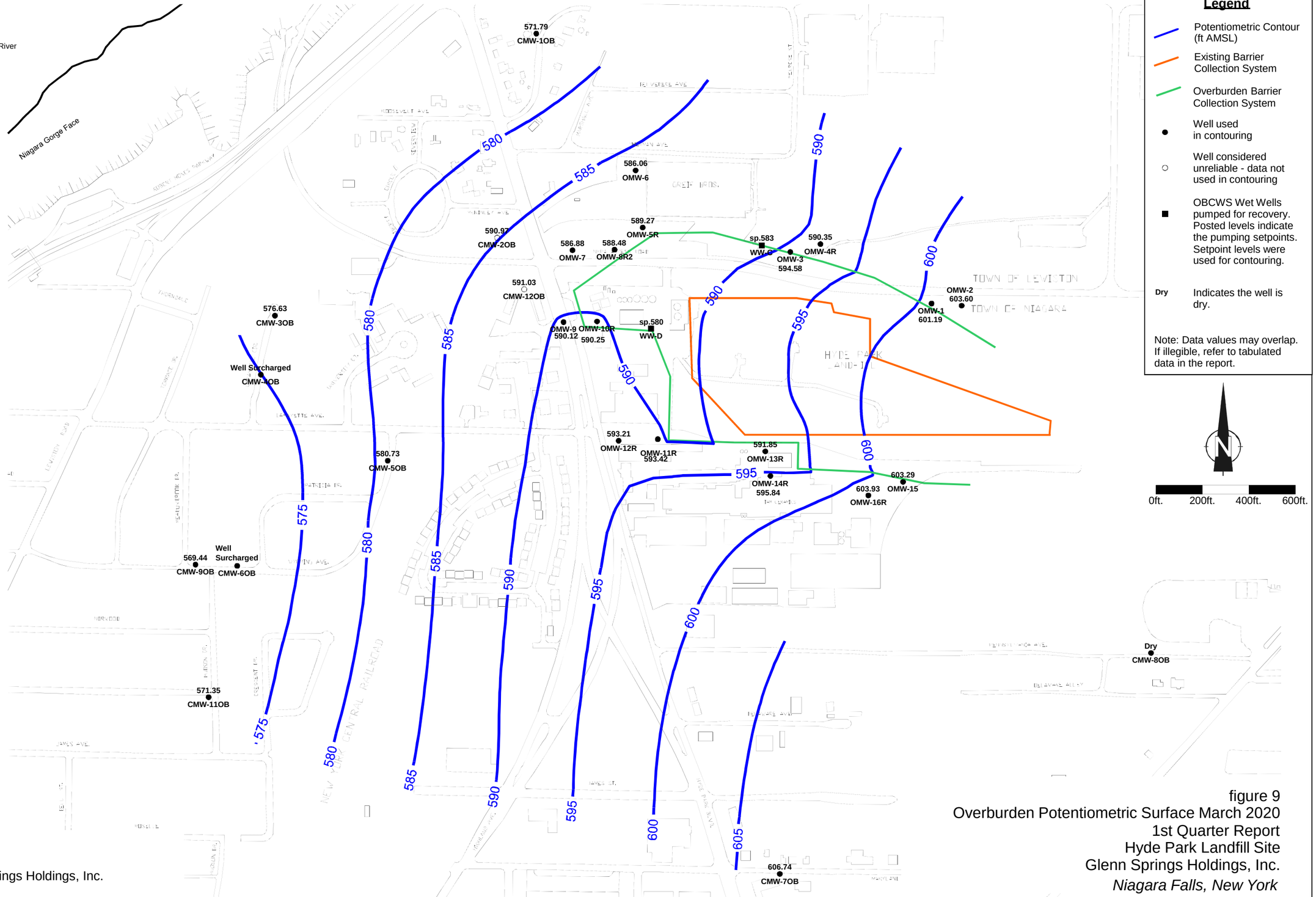


figure 9
Overburden Potentiometric Surface March 2020
1st Quarter Report
Hyde Park Landfill Site
Glenn Springs Holdings, Inc.
Niagara Falls, New York

Glenn Springs Holdings, Inc.

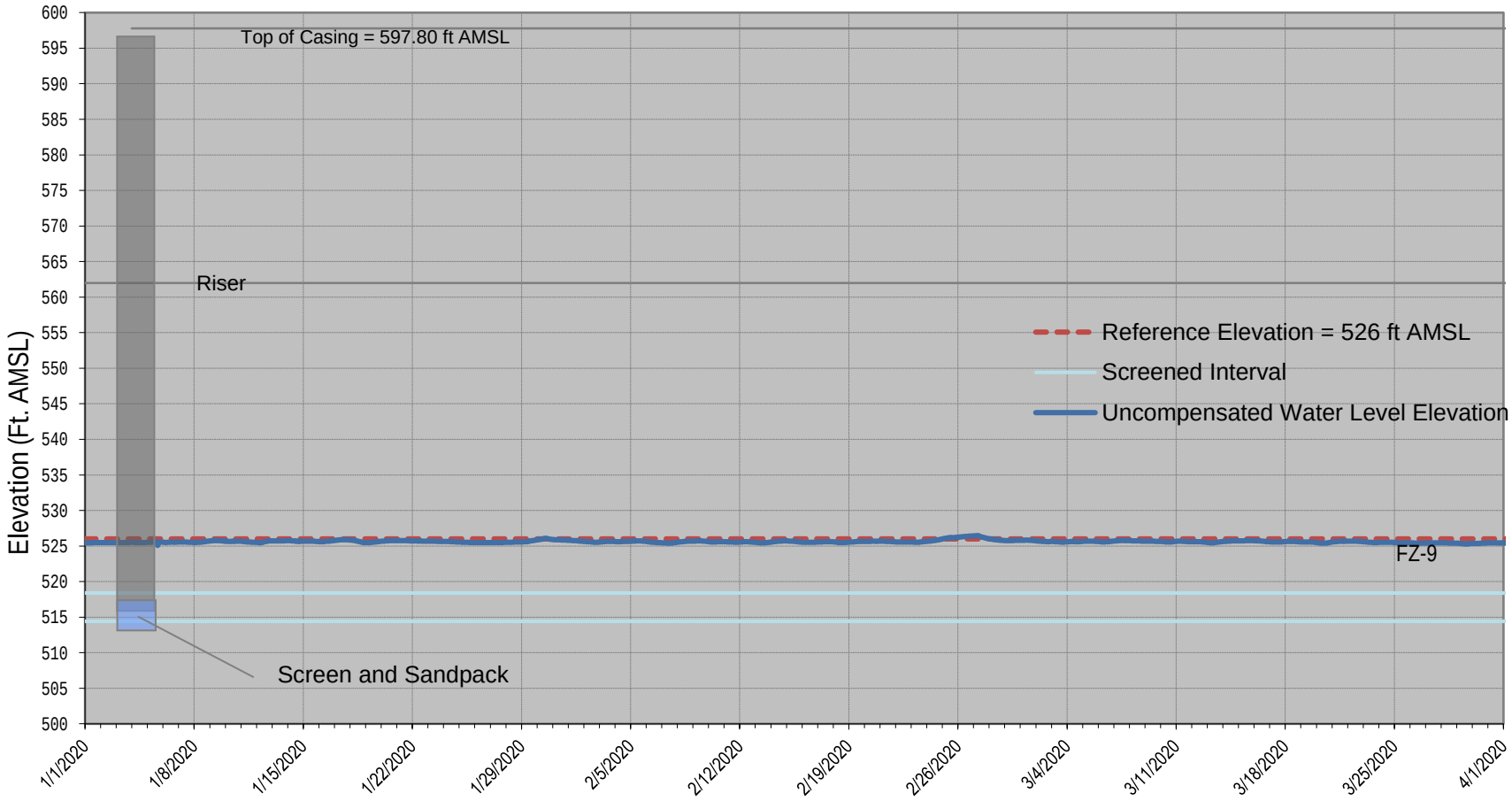


figure 10

PMW-1M-09 1st Quarter 2020 - Hourly Water Level Elevation
1st Quarter Report
Hyde Park Landfill Site
Glenn Springs Holdings, Inc.

Glenn Springs Holdings, Inc.
A subsidiary of Occidental Petroleum

Table 1

Water Level Elevation Summary
First Quarter - 2020
Hyde Park RRT Program

Well	Reference Elevation (ft AMSL)	Depth to Water (ft)	Water Level Elevation (ft AMSL)
Overburden			
CMW-2OB	590.79	-0.18	590.97
CMW-3OB	582.13	5.50	576.63
CMW-4OB	574.28	Surcharged	574.28
CMW-5OB	583.43	2.70	580.73
CMW-6OB	571.89	Surcharged	571.89
CMW-7OB	611.00	4.26	606.74
CMW-8OB	616.11	Dry	-
CMW-9OB	571.76	2.32	569.44
CMW-1OB	576.80	5.01	571.79
CMW-11OB	572.85	1.50	571.35
CMW-12OB	594.74	3.71	591.03
MH20	605.87	4.66	601.21
MH21	599.77	6.06	593.71
MH22	593.37	6.62	586.75
MH23	587.05	7.84	579.21
MH24	582.57	1.36	581.21
MH25	583.82	0.99	582.83
MH26	584.48	2.54	581.94
MH27	586.12	5.73	580.39
MH28	585.23	5.68	579.55
MH29	604.58	NM	-
MH30	599.49	7.58	591.91
MH31	590.10	8.61	581.49
MH32	592.01	9.59	582.42
MH33	592.51	8.64	583.87
MH34	598.34	7.10	591.24
MH35	605.69	6.55	599.14
MH35A	605.69	7.14	598.55
OMW-1	605.28	4.09	601.19
OMW-2	605.99	2.39	603.60
OMW-3	598.63	4.05	594.58
OMW-4R	601.17	10.82	590.35
OMW-5R	591.31	2.04	589.27
OMW-6	587.62	1.56	586.06
OMW-7	592.74	5.86	586.88
OMW-8R2	594.67	6.19	588.48
OMW-9	595.27	5.15	590.12
OMW-10R	595.13	4.88	590.25
OMW-11R	597.52	4.10	593.42
OMW-12R	596.71	3.50	593.21
OMW-13R	601.50	9.65	591.85
OMW-14R	599.64	3.80	595.84
OMW-15	607.48	4.19	603.29
OMW-16R	607.62	3.69	603.93
SC-2	625.61	22.64	602.97
SC-3	638.72	40.58	598.14
SC-4	639.35	39.22	600.13
SC-5	634.07	Obstructed	-
SC-6	631.15	17.51	613.64

Table 1

Water Level Elevation Summary
First Quarter - 2020
Hyde Park RRT Program

Well	Reference Elevation (ft AMSL)	Depth to Water (ft)	Water Level Elevation (ft AMSL)
Shallow Bedrock			
CMW-1SH	576.11	10.56	565.55
CMW-2SH	590.51	16.17	574.34
CMW-3SH	581.91	25.99	555.92
CMW-4SH	574.16	16.52	557.64
CMW-5SH	583.36	Surcharged	583.36
CMW-6SH	572.05	9.27	562.78
CMW-7SH	610.58	10.23	600.35
CMW-8SH	615.95	3.45	612.50
CMW-9SH	571.96	11.02	560.94
CMW-11SH	573.21	7.48	565.73
CMW-12SH	597.02	21.64	575.38
Flow Zone 1			
G1U-01	617.08	10.10	606.98
G6-01	609.24	3.74	605.50
H2U-01	620.92	6.19	614.73
H5-01	617.61	21.82	595.79
I1-01	625.58	22.60	602.98
Flow Zone 2			
F2U-02	599.89	22.88	577.01
F4U-02	602.32	14.28	588.04
G1-02	616.86	22.23	594.63
G6-02	608.65	15.58	593.07
H2U-02	620.88	24.90	595.98
H5-02	617.47	21.80	595.67
I1-02	625.47	32.90	592.57
J2U-02	609.66	9.17	600.49
J5U-02	606.21	5.47	600.74
J6-02	609.23	6.12	603.11
Flow Zone 4			
AFW-2U-04	593.48	14.60	578.88
D1U-04	593.77	9.31	584.46
D2U-04	590.65	7.68	582.97
E6-04	578.23	11.27	566.96
F2U-04	599.76	19.85	579.91
F4U-04	602.19	14.46	587.73
F6-04	588.06	17.31	570.75
G1U-04	616.96	22.25	594.71
G6-04	609.15	15.72	593.43
H5-04	617.40	21.78	595.62
I1-04	625.30	38.44	586.86
J2U-04	609.42	12.49	596.93
J5U-04	606.05	16.84	589.21
J6-04	609.12	25.58	583.54

Table 1

Water Level Elevation Summary
First Quarter - 2020
Hyde Park RRT Program

Well	Reference Elevation (ft AMSL)	Depth to Water (ft)	Water Level Elevation (ft AMSL)
Flow Zone 5			
AFW-2U-05	593.33	14.45	578.88
AGW-1U-05	591.80	2.40	589.40
D1U-05	593.51	10.52	582.99
D2U-05	590.56	7.80	582.76
E6-05	578.04	10.68	567.36
F2U-05	599.64	19.46	580.18
F4U-05	602.06	14.47	587.59
F6-05	587.85	17.20	570.65
G6-05	609.13	15.90	593.23
H2M-05	621.59	26.12	595.47
H5-05	617.31	23.03	594.28
I1-05	625.25	72.44	552.81
J2U-05	609.30	27.39	581.91
J5U-05	605.87	23.83	582.04
J6-05	609.02	25.90	583.12
PMW-1U-05	598.00	17.28	580.72
Flow Zone 6			
ABP-7-06	575.78	Dry	-
AFW-1U-06	571.83	13.75	558.08
AFW-2U-06	593.22	47.88	545.34
AGW-1U-06	591.66	37.11	554.55
B2U-06	589.29	34.17	555.12
C3-06	585.78	37.19	548.59
D1U-06	593.25	43.72	549.53
D2U-06	590.38	39.63	550.75
E6-06	577.99	2.96	575.03
F2M-06	599.06	46.66	552.40
F4M-06	602.05	50.72	551.33
F6-06	587.84	12.93	574.91
G1M-06	616.75	41.69	575.06
G6-06	609.09	31.59	577.50
H2M-06	621.42	36.21	585.21
H5-06	617.17	26.93	590.24
I1-06	625.15	78.91	546.24
J2M-06	608.94	55.97	552.97
J5M-06	606.22	57.13	549.09
J6-06	608.93	54.18	554.75
PMW-1U-06	597.92	48.69	549.23

Table 1

Water Level Elevation Summary
First Quarter - 2020
Hyde Park RRT Program

Well	Reference Elevation (ft AMSL)	Depth to Water (ft)	Water Level Elevation (ft AMSL)
Flow Zone 7			
ABP-1-07	575.20	28.18	547.02
ABP-7-07	575.73	40.78	534.95
AFW-1M-07	571.41	38.78	532.63
AFW-2M-07	593.44	66.73	526.71
AGW-1M-07	592.91	46.16	546.75
B2M-07	589.52	Dry	-
C3-07	585.62	39.11	546.51
D1M-07	594.15	62.08	532.07
D2M-07	590.77	66.67	524.10
E6-07	577.91	23.09	554.82
F2M-07	598.91	81.13	517.78
F4M-07	601.91	72.77	529.14
F6-07	587.68	20.19	567.49
G1M-07	616.68	30.89	585.79
G6-07	609.06	23.90	585.16
H5-07	617.05	61.79	555.26
I1-07	625.14	82.08	543.06
J5M-07	606.07	60.41	545.66
J6-07	608.85	63.63	545.22
PMW-1M-07	598.50	68.87	529.63
Flow Zone 9			
ABP-1-09	575.19	40.43	534.76
ABP-7-09	575.67	40.92	534.75
AFW-1M-09	571.12	44.72	526.40
AFW-2M-09	593.32	72.21	521.11
AGW-1M-09	592.75	46.19	546.56
B2M-09	589.34	Obstructed	-
C3-09	585.00	41.24	543.76
D1M-09	594.02	76.81	517.21
D2M-09	590.66	73.57	517.09
E6-09	577.82	24.13	553.69
F2M-09	598.71	81.88	516.83
F4M-09	601.79	84.94	516.85
F6-09	587.53	16.59	570.94
G1M-09	616.58	34.64	581.94
G6-09	608.98	22.62	586.36
H2M-09	621.32	68.00	553.32
H5-09	616.93	72.95	543.98
I1-09	624.91	61.81	563.10
J2M-09	608.77	63.51	545.26
J5M-09	605.82	60.29	545.53
J6-09	608.76	42.74	566.02
PMW-1M-09	598.34	81.09	517.25

Table 1

Water Level Elevation Summary
First Quarter - 2020
Hyde Park RRT Program

Well	Reference Elevation (ft AMSL)	Depth to Water (ft)	Water Level Elevation (ft AMSL)
Flow Zone 11			
AFW-1L-11	572.10	57.96	514.14
AFW-2L-11	593.43	96.29	497.14
AGW-1L-11	592.71	8.07	584.64
B2L-11	589.65	88.78	500.87
D1L-11	593.80	89.80	504.00
D2L-11	590.21	66.45	523.76
E6-11	577.72	42.62	535.10
F2L-11	598.94	44.69	554.25
F4L-11	602.22	30.08	572.14
F6-11	587.40	57.19	530.21
G1L-11	616.84	23.68	593.16
G6-11	608.89	14.14	594.75
H2L-11	620.73	60.83	559.90
H5-11	616.81	74.72	542.09
I1-11	624.75	79.52	545.23
J5L-11	607.20	50.93	556.27
J6-11	608.68	21.42	587.26
PMW-1L-11	598.84	84.56	514.28
Purge Wells			
APW-1	564.98	36.48	528.50
APW-2	569.89	57.79	512.10
PW-1L	593.16	95.46	497.70
PW-1U	593.50	44.50	549.00
PW-2L	597.29	102.29	495.00
PW-2M	596.61	85.21	511.40
PW-2UR	594.75	35.85	558.90
PW-3L	599.05	99.65	499.40
PW-3M	597.79	76.89	520.90
PW-4M	606.93	82.73	524.20
PW-4U	604.85	32.95	571.90
PW-5UR	601.31	41.01	560.30
PW-6UMR	609.31	106.11	503.20
PW-6UR	608.47	49.17	559.30
PW-7U	592.47	52.17	540.30
PW-8M	592.67	72.97	519.70
PW-8U	589.27	39.77	549.50
PW-9U	587.47	40.37	547.10
PW-10U	593.54	28.44	565.10

Notes:

"-"	- Not applicable
ft AMSL	- Feet above mean sea level
NM	- Not measured due to overlying ice and snow
Dry	- No water present at the time of measurement

Table 2

Leachate Treatment System Daily Effluent Monitoring Data
First Quarter - 2020
Hyde Park RRT Program

	Effluent	
Date	**pH**	**Flow**
	(su)	(gal)
01/01/20	7.1	257,000
01/02/20	7.2	166,000
01/03/20	7.2	51,000
01/04/20		
01/05/20		
01/06/20	7.8	262,000
01/07/20	7.8	319,000
01/08/20	7.1	103,000
01/09/20	7.1	171,000
01/10/20		
01/11/20		
01/12/20	7.0	335,000
01/13/20	7.0	291,000
01/14/20		
01/15/20	7.0	299,000
01/16/20		
01/17/20	7.1	263,000
01/18/20		
01/19/20		
01/20/20	7.0	316,000
01/21/20	7.0	192,000
01/22/20	7.1	73,000
01/23/20	7.0	68,000
01/24/20		
01/25/20		
01/26/20	7.0	199,000
01/27/20	7.0	340,000
01/28/20	7.0	280,000
01/29/20	7.0	20,000
01/30/20	7.0	125,000
01/31/20	7.1	75,000
02/01/20		
02/02/20		
02/03/20	7.0	317,000
02/04/20	6.9	323,000
02/05/20	6.9	88,000
02/06/20	7.5	202,000

Table 2

Leachate Treatment System Daily Effluent Monitoring Data
First Quarter - 2020
Hyde Park RRT Program

	Effluent	
Date	**pH**	**Flow**
	(su)	(gal)
02/07/20	6.9	32,000
02/08/20		
02/09/20		
02/10/20	7.5	228,000
02/11/20	7.4	275,000
02/12/20	6.9	24,000
02/13/20	7.0	178,000
02/14/20	7.1	41,000
02/15/20		
02/16/20		
02/17/20	7.0	282,000
02/18/20	7.0	83,000
02/19/20	7.1	59,000
02/20/20	7.5	82,000
02/21/20		
02/22/20		
02/23/20		
02/24/20		
02/25/20	7.5	55,000
02/26/20	7.3	37,000
02/27/20	7.3	293,000
02/28/20	7.2	290,000
02/29/20		
03/01/20		
03/02/20	7.2	43,000
03/03/20	7.2	249,000
03/04/20	7.2	278,000
03/05/20	7.2	246,000
03/06/20	7.1	68,000
03/07/20		
03/08/20		
03/09/20	7.0	203,000
03/10/20	7.1	404,000
03/11/20	7.3	219,000
03/12/20	7.3	30,000
03/13/20	7.2	220,000
03/14/20		

Table 2

Leachate Treatment System Daily Effluent Monitoring Data
First Quarter - 2020
Hyde Park RRT Program

	Effluent	
Date	**pH**	**Flow**
	(su)	(gal)
03/15/20		
03/16/20	7.3	238,000
03/17/20	7.2	255,000
03/18/20	7.1	58,000
03/19/20	7.0	261,000
03/20/20		
03/21/20		
03/22/20		
03/23/20	7.1	216,000
03/24/20	7.0	275,000
03/25/20		
03/26/20	7.1	134,000
03/27/20	7.1	56,000
03/28/20		
03/29/20		
03/30/20	7.2	201,000
03/31/20	7.1	296,000
	Total	11,044,000

Notes:

su - Standard Unit
gal - Gallons

Table 3

Analytical Results Summary
Weekly Sampling - Leachate Treatment System
First Quarter - 2020
Hyde Park RRT Program

Effluent

Parameter	Units	01/02/2020	01/08/2020	01/15/2020	01/22/2020	01/29/2020	02/05/2020
Volatiles							
1,1,1-Trichloroethane	µg/L	0.28 J	0.48 J	0.40 J	0.52 J	0.73 J	1.1
1,1,2,2-Tetrachloroethane	µg/L	0.61 J	1.1	0.71 J	1.6	3.5	5.2
1,1,2-Trichloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	0.41 J	0.49 J
1,1-Dichloroethane	µg/L	2.3	2.0	2.3	2.7	2.8	2.9
1,1-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	µg/L	1.8	2.3	1.8	2.7	2.7	3.9
1,2-Dichloropropane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	0.43 J	0.54 J
1,3-Dichlorobenzene	µg/L	1.0 U	0.24 J	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	µg/L	1.0 U	0.55 J	1.0 U	1.0 U	1.0 U	1.0 U
2-Chlorotoluene	µg/L	1.0 U	0.79 J	1.0 U	1.0 U	1.0 U	1.0 U
3-Chlorotoluene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Chlorotoluene	µg/L	1.0 U	0.25 J	1.0 U	1.0 U	1.0 U	1.0 U
Benzene	µg/L	0.37 J	0.86 J	0.44 J	1.0	3.0	4.6
Bromodichloromethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	µg/L	29	4.1	15	33	22	21
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	µg/L	1.0 U	0.38 J	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.3	1.8	1.4	1.6	3.3	4.8
Chloromethane (Methyl chloride)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	0.27 J	0.66 J	0.29 J	0.49 J	0.68 J	0.85 J
cis-1,3-Dichloropropene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
m&p-Xylenes	µg/L	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	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	0.38 J	1.0 U
o-Monochlorobenzotrifluoride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
o-Xylene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
p-Monochlorobenzotrifluoride	µg/L	1.0 U	0.45 J	1.0 U	1.0 U	1.0 U	1.0 U
Styrene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	0.21 J	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl acetate	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Vinyl chloride	µg/L	140	120	130	150	170	140
Xylenes (total)	µg/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
General Chemistry							
Phenolics (total)	mg/L	0.0011 J	0.0045 J	0.0037 J	0.0027 J	0.0050	0.0188

Notes:

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

Table 3

Analytical Results Summary
Weekly Sampling - Leachate Treatment System
First Quarter - 2020
Hyde Park RRT Program

Effluent

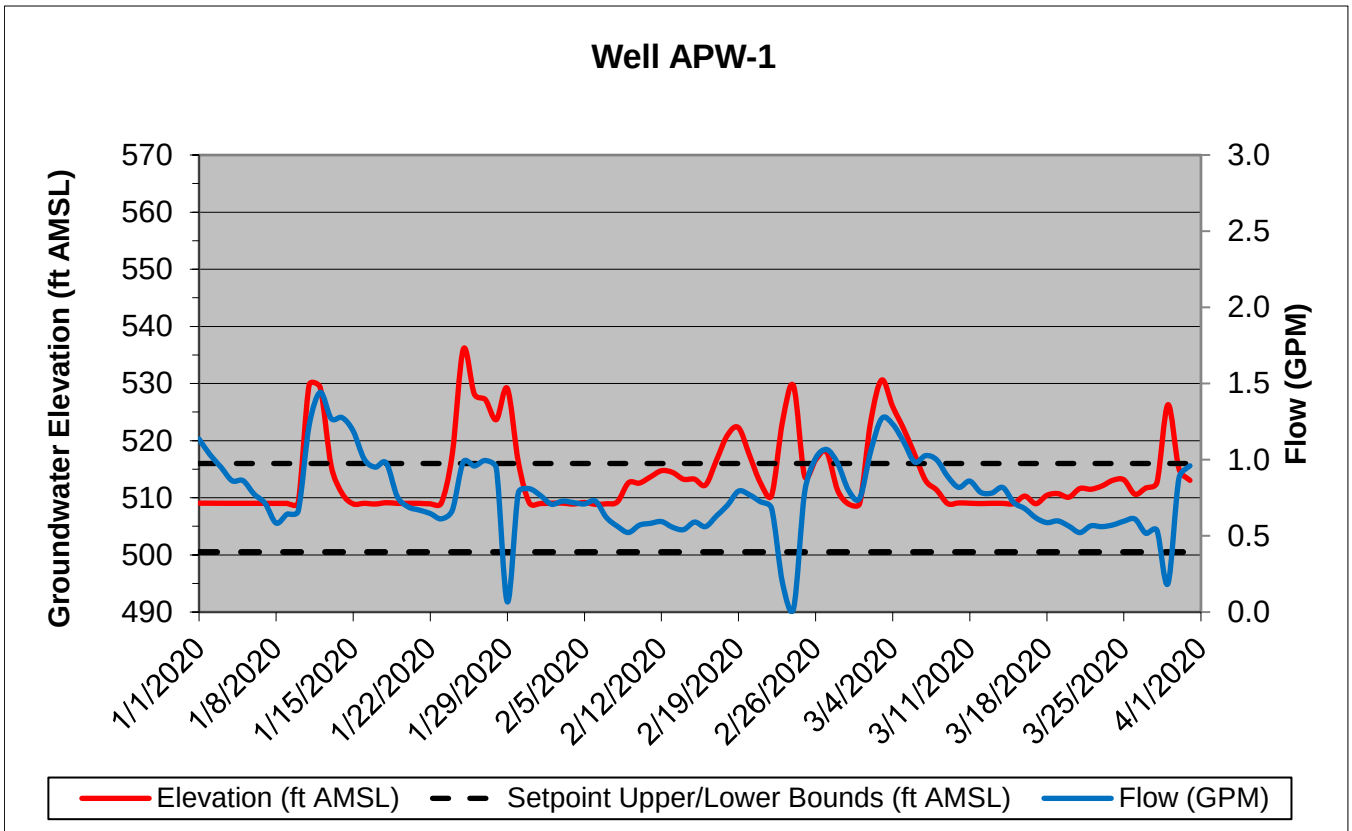
Parameter	Units	02/12/2020	02/19/2020	02/28/2020	03/04/2020	03/10/2020	03/17/2020	03/25/2020
Volatiles								
1,1,1-Trichloroethane	µg/L	0.93 J	0.76 J	0.57 J	1.0	1.1	1.1	1.2
1,1,2,2-Tetrachloroethane	µg/L	4.7	3.1	2.6	6.2	9.0	7.0	12
1,1,2-Trichloroethane	µg/L	0.50 J	0.34 J	0.33 J	0.56 J	0.85 J	0.63 J	0.81 J
1,1-Dichloroethane	µg/L	3.3 J	3.4 J	3.4	3.1	3.1	3.3	3.4
1,1-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	µg/L	4.2	3.9	3.2	4.1	5.1	5.0	6.3
1,2-Dichloropropane	µg/L	0.69 J	0.51 J	0.50 J	0.59 J	0.65 J	0.67 J	0.83 J
1,3-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Chlorotoluene	µg/L	1.0 U	1.0 U	1.0 U	0.79 J	1.0 U	1.0 U	1.0 U
3-Chlorotoluene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Chlorotoluene	µg/L	1.0 U	1.0 U	1.0 U	0.41 J	1.0 U	1.0 U	1.0 U
Benzene	µg/L	4.7	2.7	2.1	6.6	11	9.8	16
Bromodichloromethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	µg/L	40	28	35	14	19	20	35
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	0.98 J	1.0 U	1.0 U	1.0 U
Chloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	4.5	3.4	3.5	6.5	6.7	3.7	5.4
Chloromethane (Methyl chloride)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	0.89 J	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	0.83 J	0.74 J	0.61 J	1.2	1.5	1.6	2.0
cis-1,3-Dichloropropene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	µg/L	1.0 U	1.0 U	1.0 U	0.21 J	1.0 U	1.0 U	1.0 U
m&p-Xylenes	µg/L	2.0 U	2.0 U	2.0 U	0.59 J	2.0 U	0.21 J	2.0 U
m-Monochlorobenzotrifluoride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
o-Monochlorobenzotrifluoride	µg/L	1.0 U	1.0 U	1.0 U	0.48 J	1.0 U	1.0 U	1.0 U
o-Xylene	µg/L	1.0 U	1.0 U	1.0 U	0.43 J	1.0 U	1.0 U	1.0 U
p-Monochlorobenzotrifluoride	µg/L	1.0 U	1.0 U	1.0 U	0.58 J	1.0 U	1.0 U	1.0 U
Styrene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	µg/L	1.0 U	1.0 U	1.0 U	0.66 J	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U	0.25 J	0.23 J	1.0 U	0.28 J
Trichlorofluoromethane (CFC-11)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl acetate	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Vinyl chloride	µg/L	160	140	160	130	130	140	150
Xylenes (total)	µg/L	3.0 U	3.0 U	3.0 U	1.0 J	3.0 U	3.0 U	3.0 U
General Chemistry								
Phenolics (total)	mg/L	0.0157	0.0146	0.0143	0.0399	0.0374	0.0234	0.0434

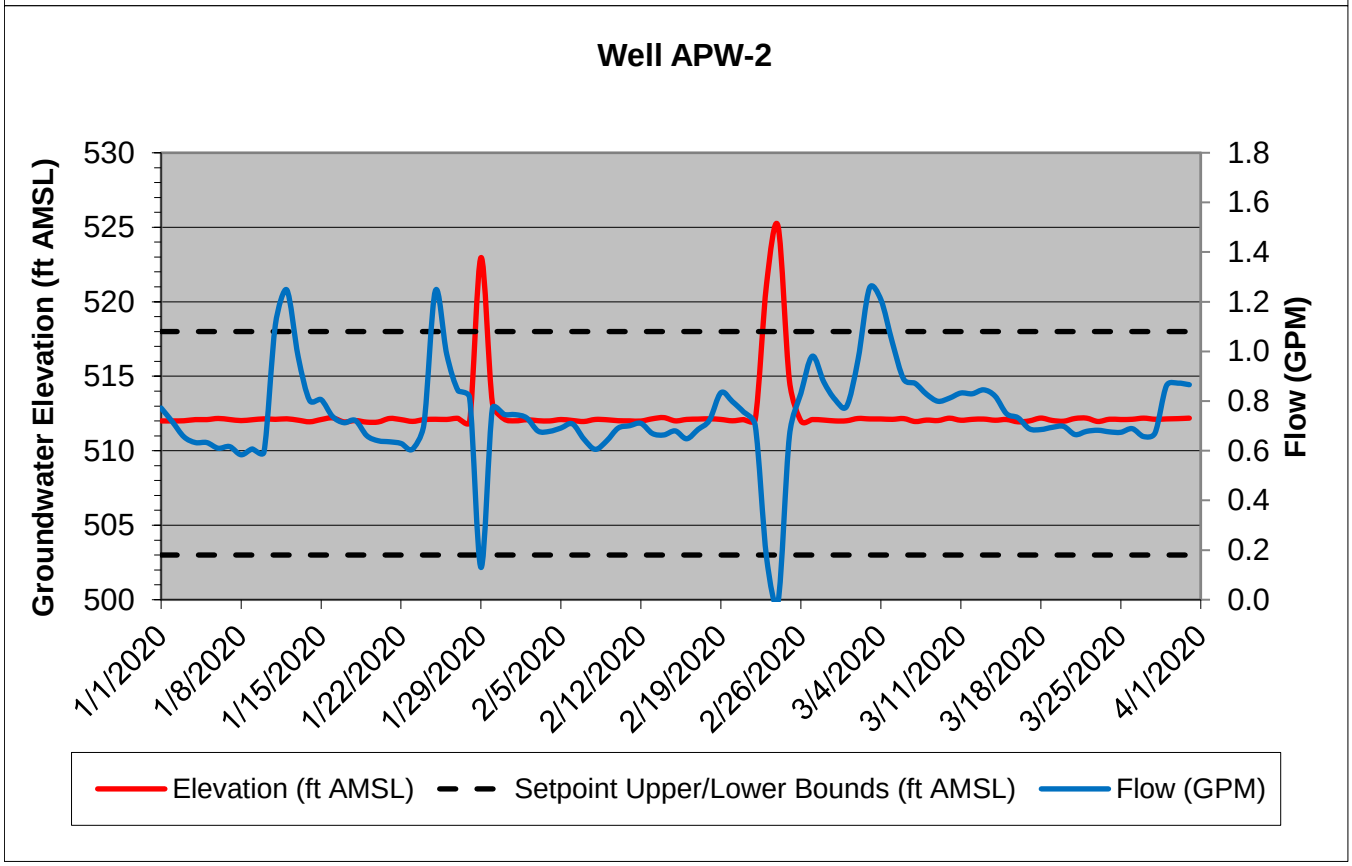
Notes:

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

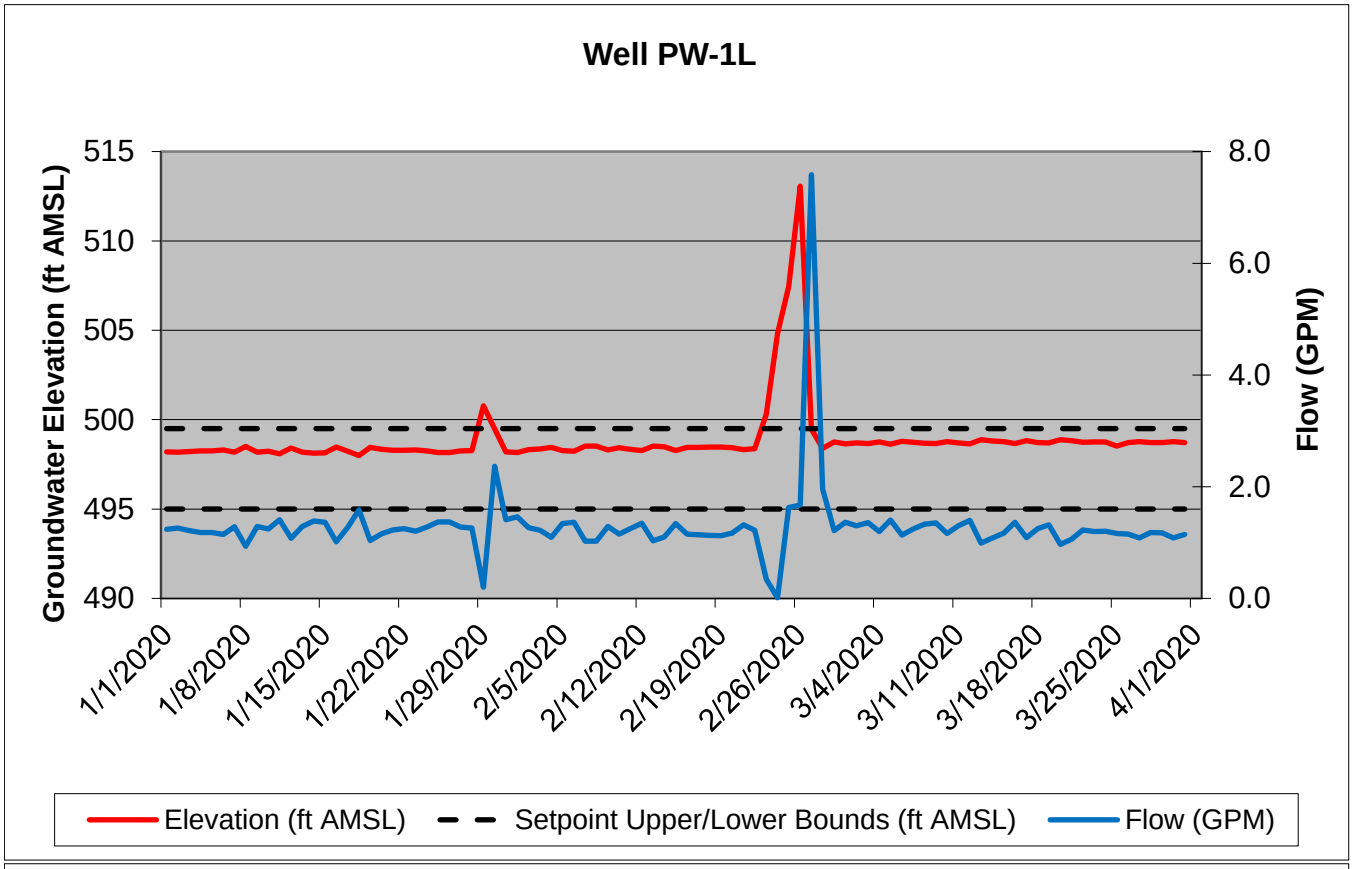
Attachment A
First Quarter 2020
Pumping Well Performance Graphs

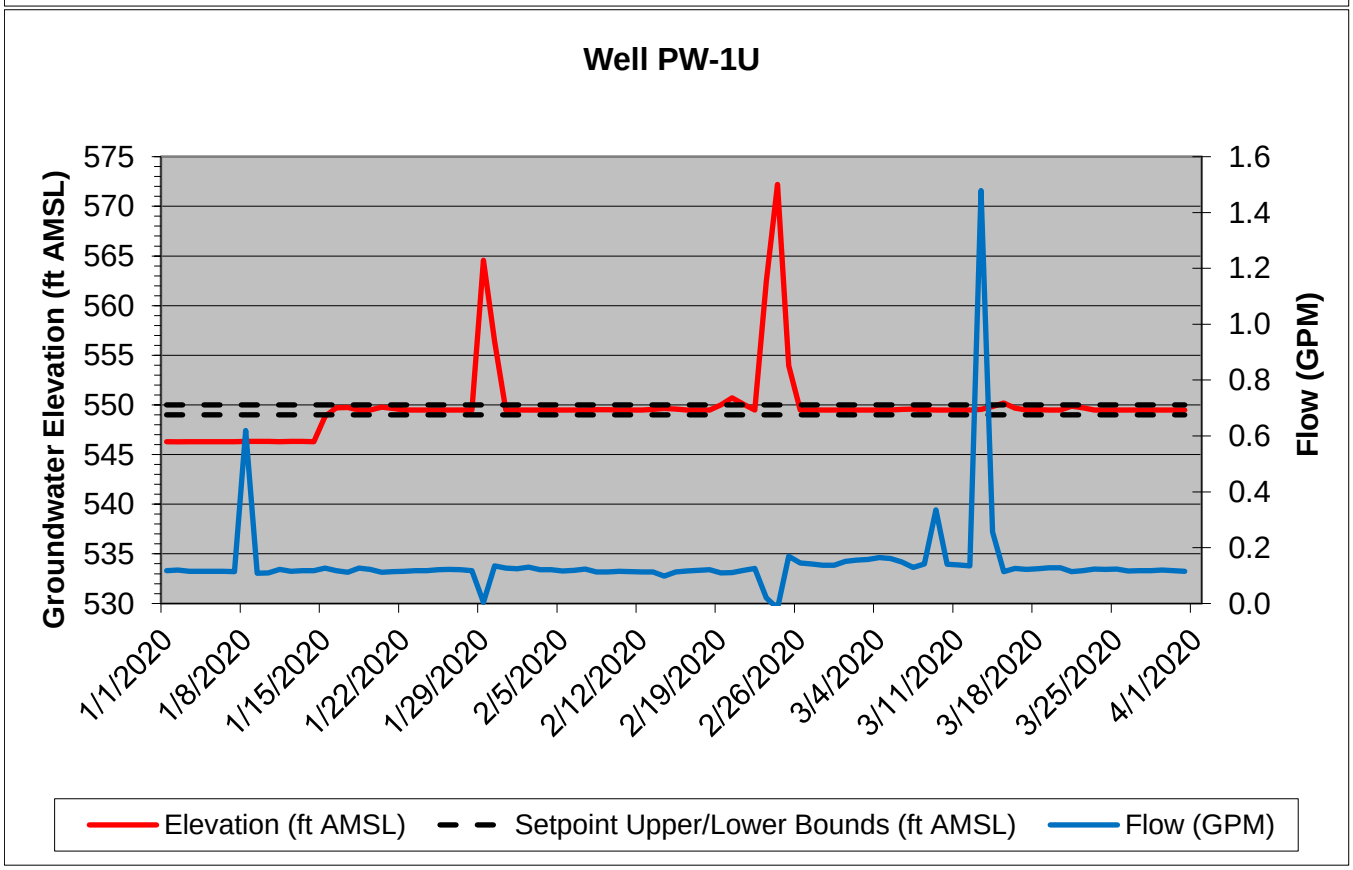
FIRST QUARTER 2020 - PUMPING WELL PERFORMANCE GRAPHS
HYDE PARK



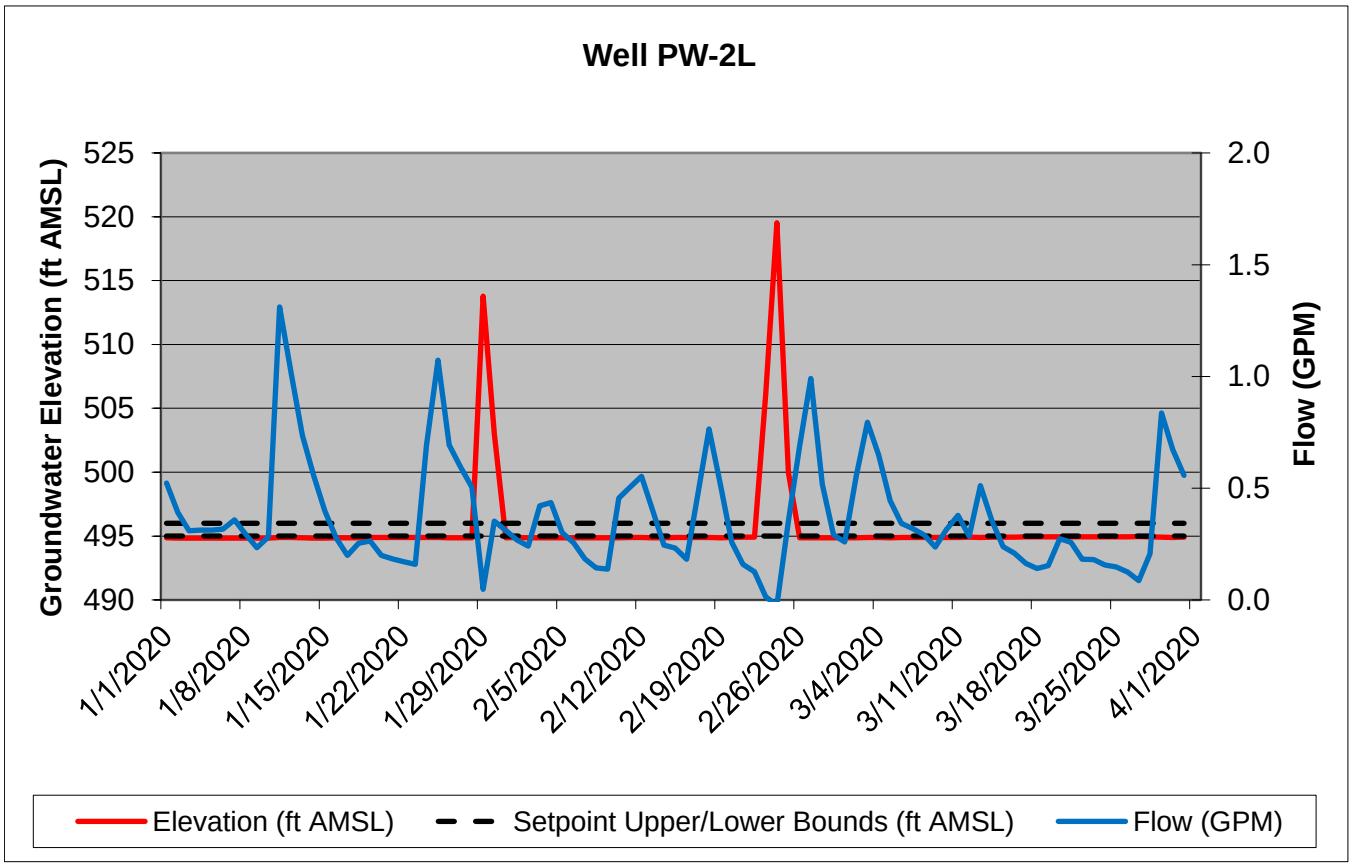


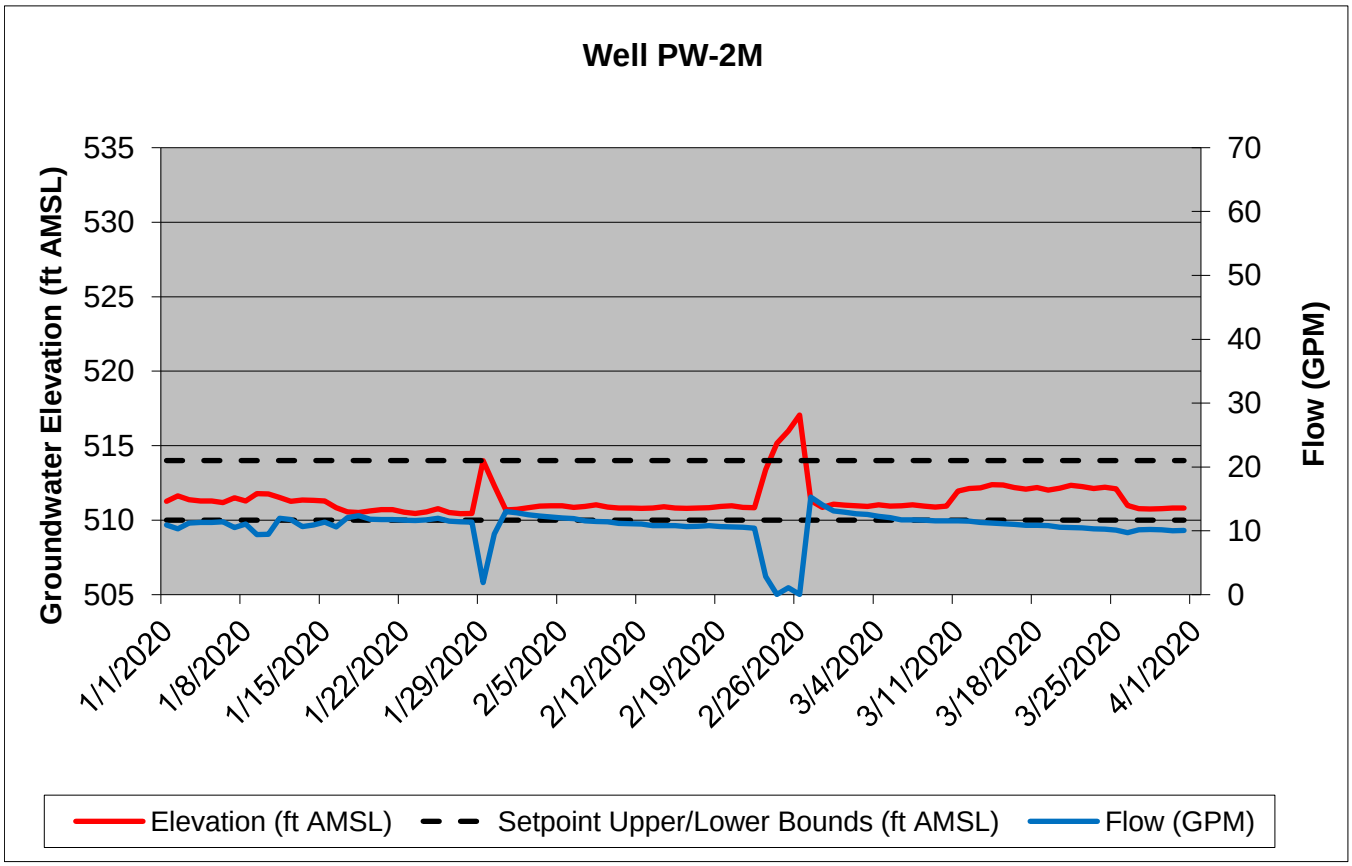
FIRST QUARTER 2020 - PUMPING WELL PERFORMANCE GRAPHS
HYDE PARK



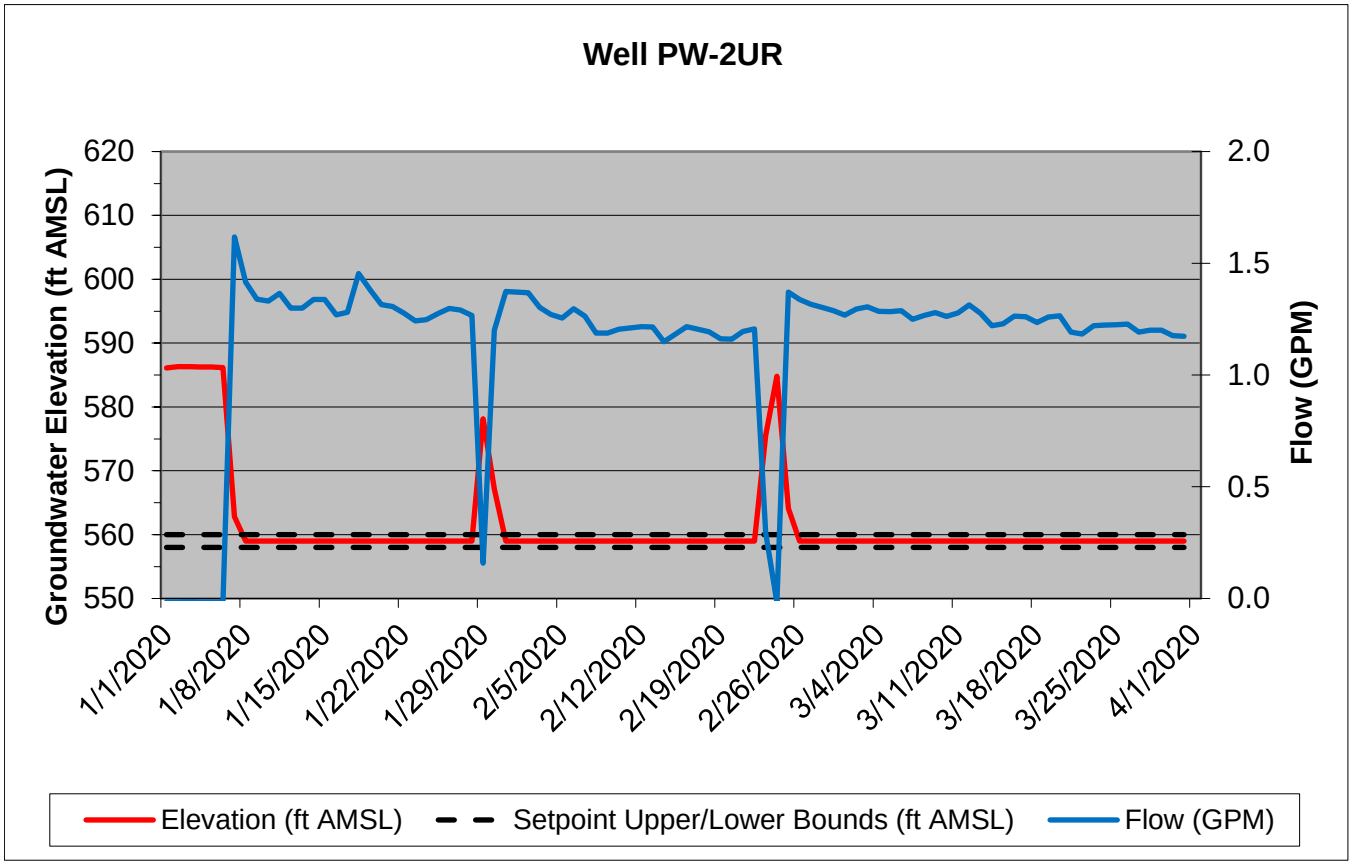


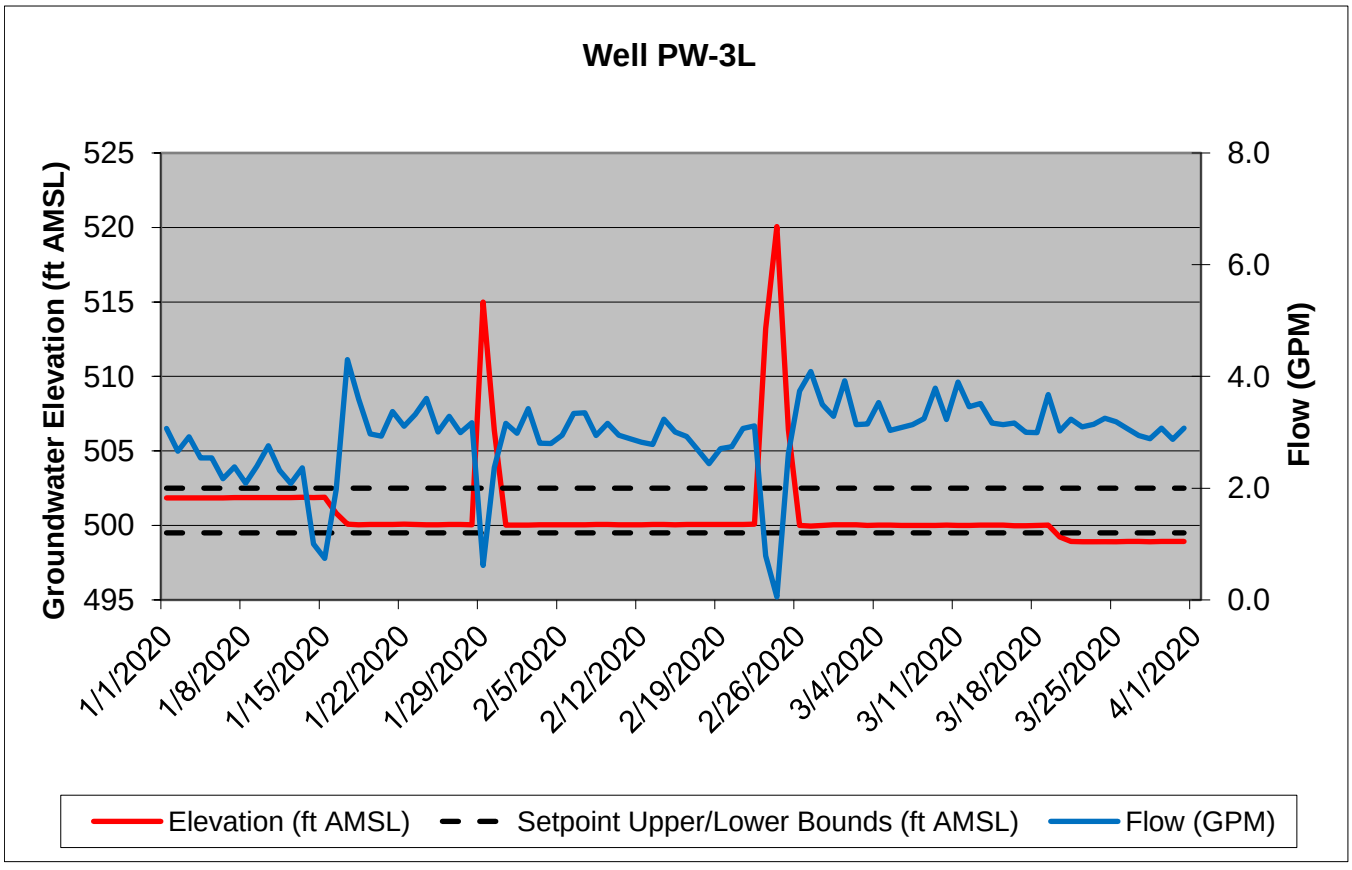
FIRST QUARTER 2020 - PUMPING WELL PERFORMANCE GRAPHS
HYDE PARK



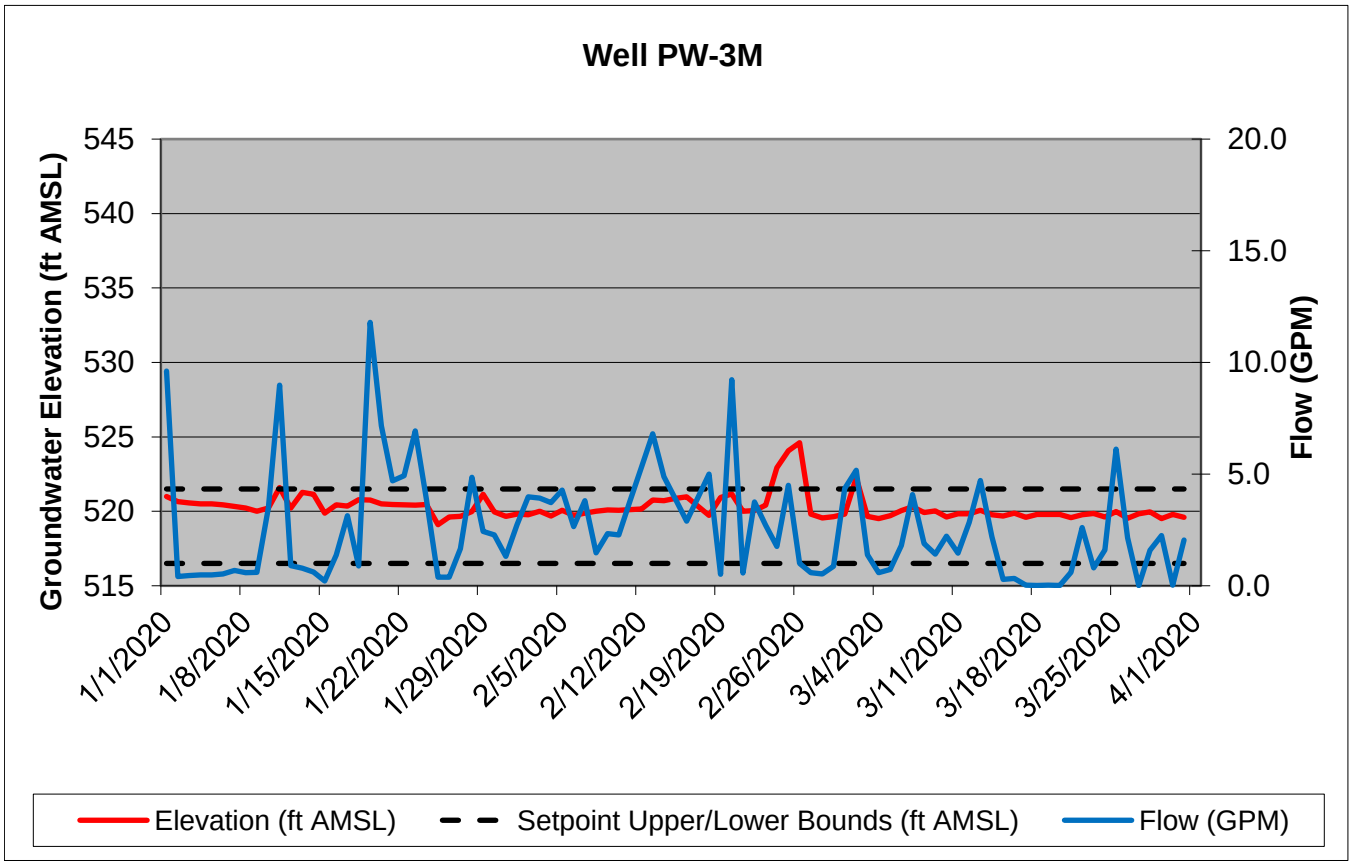


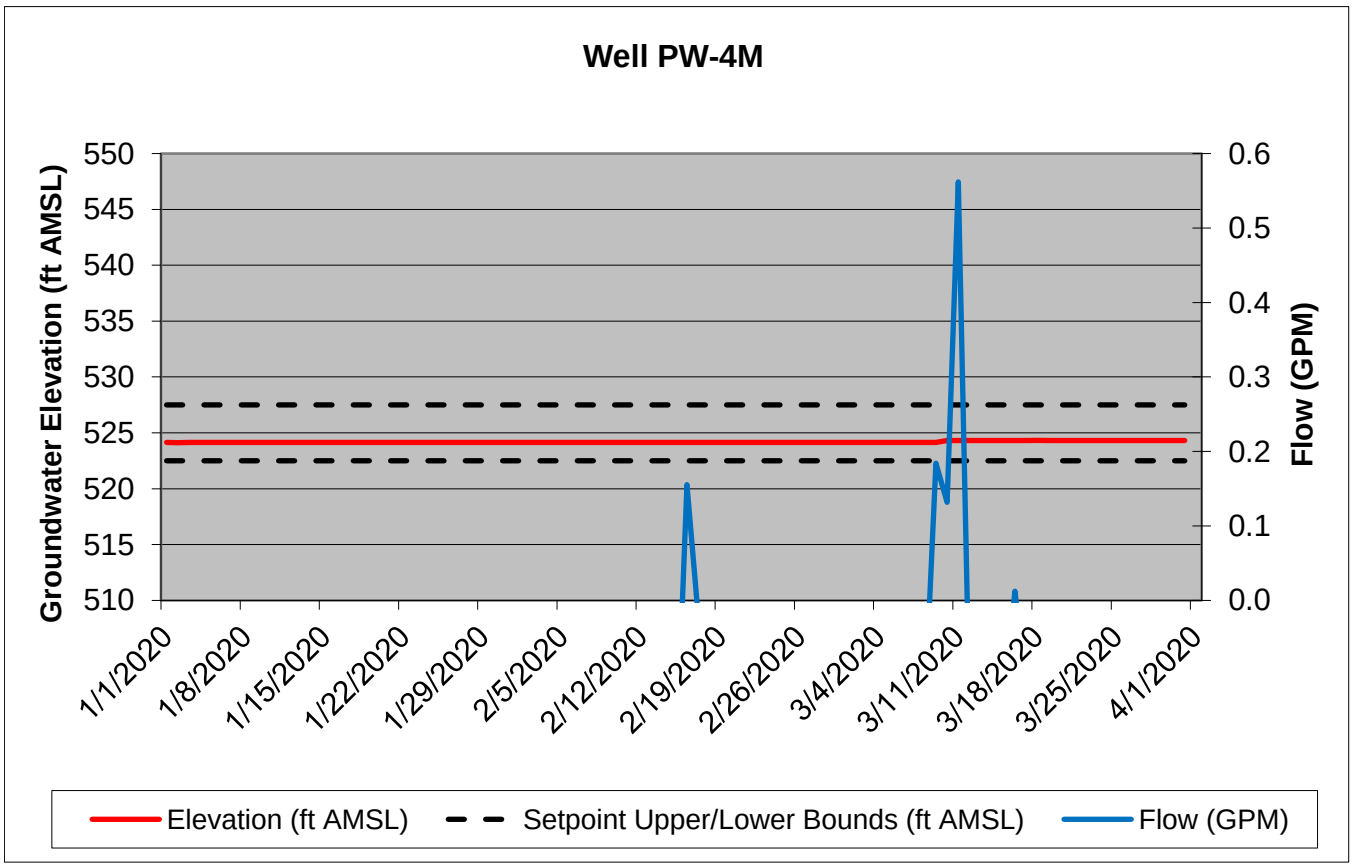
FIRST QUARTER 2020 - PUMPING WELL PERFORMANCE GRAPHS
HYDE PARK



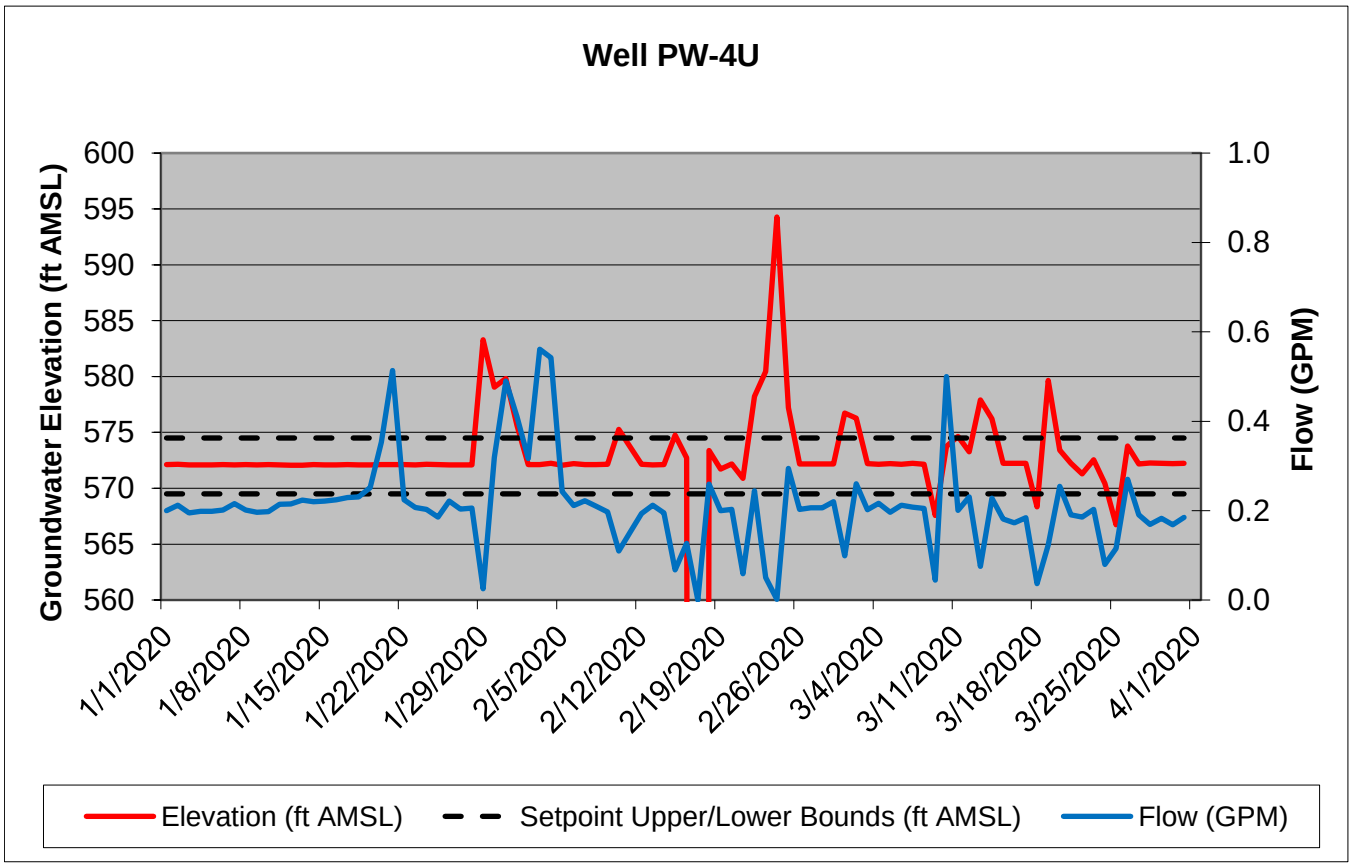


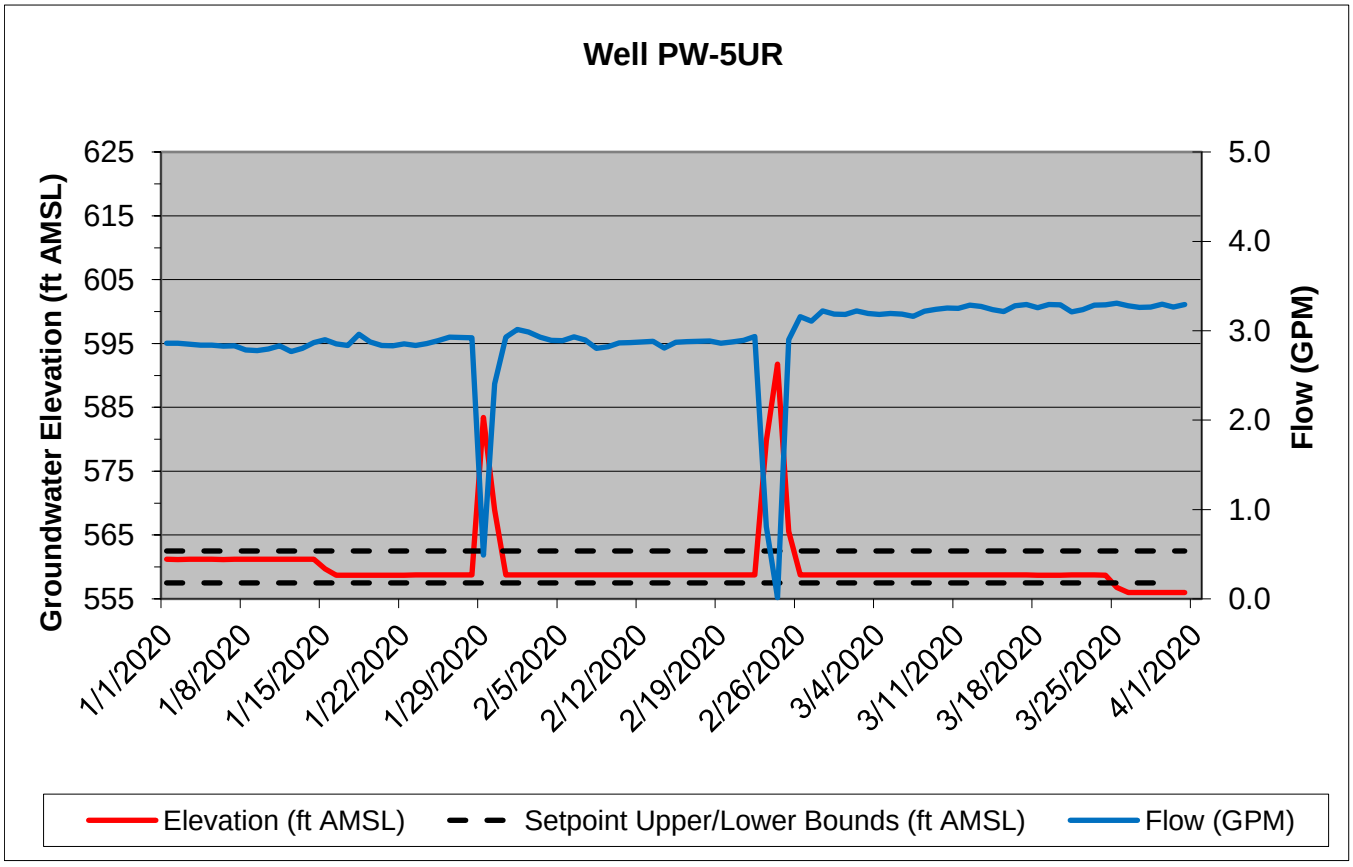
FIRST QUARTER 2020 - PUMPING WELL PERFORMANCE GRAPHS
HYDE PARK



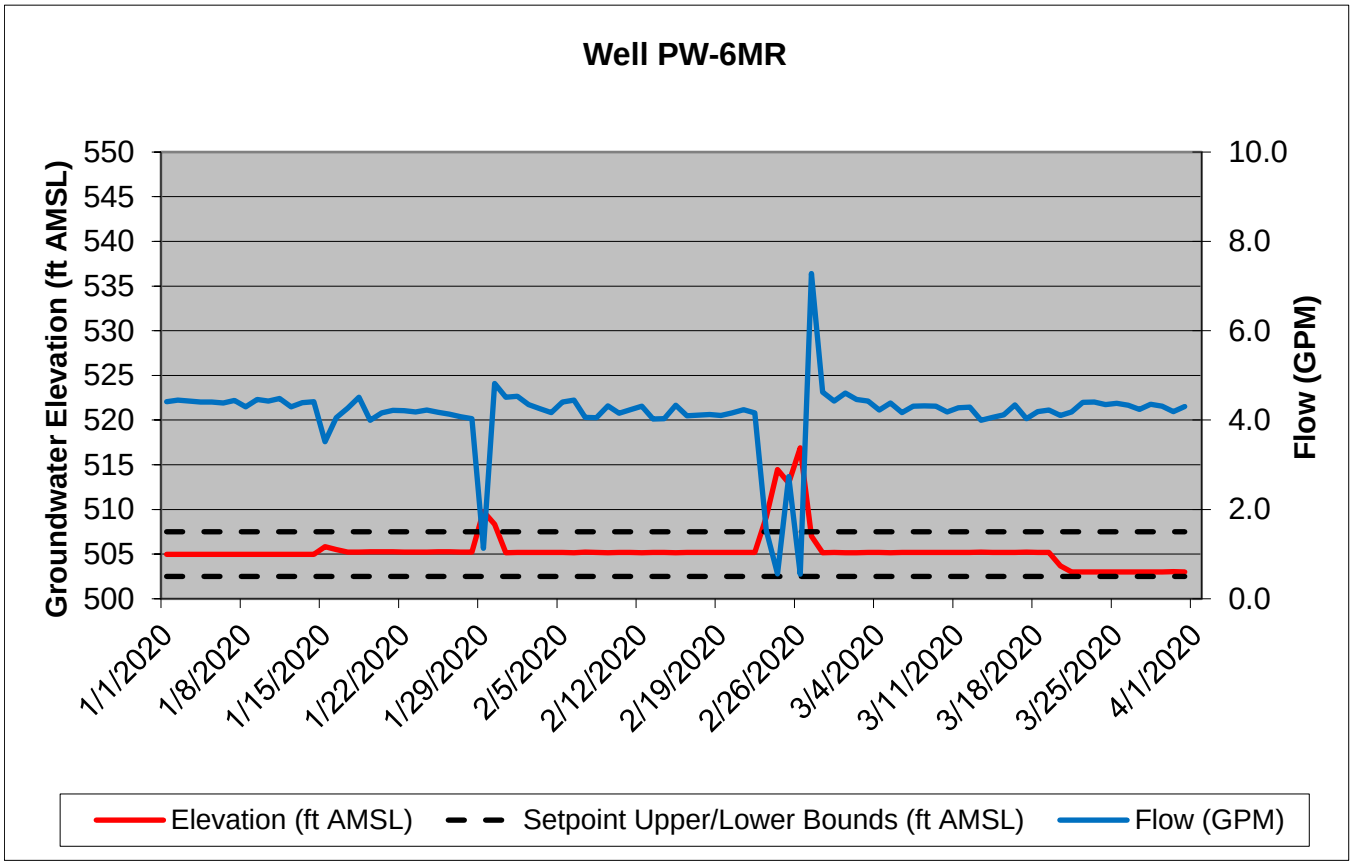


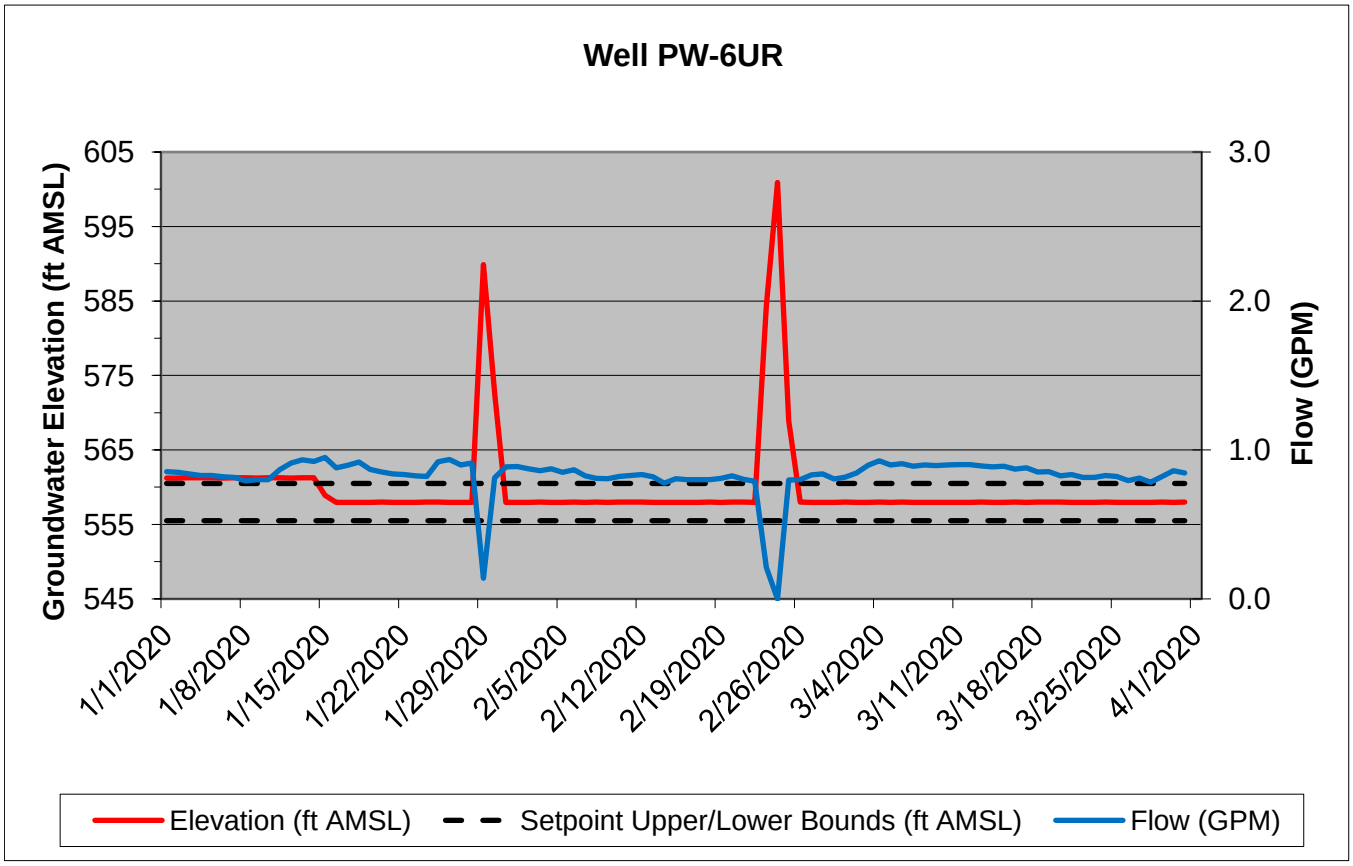
FIRST QUARTER 2020 - PUMPING WELL PERFORMANCE GRAPHS
HYDE PARK



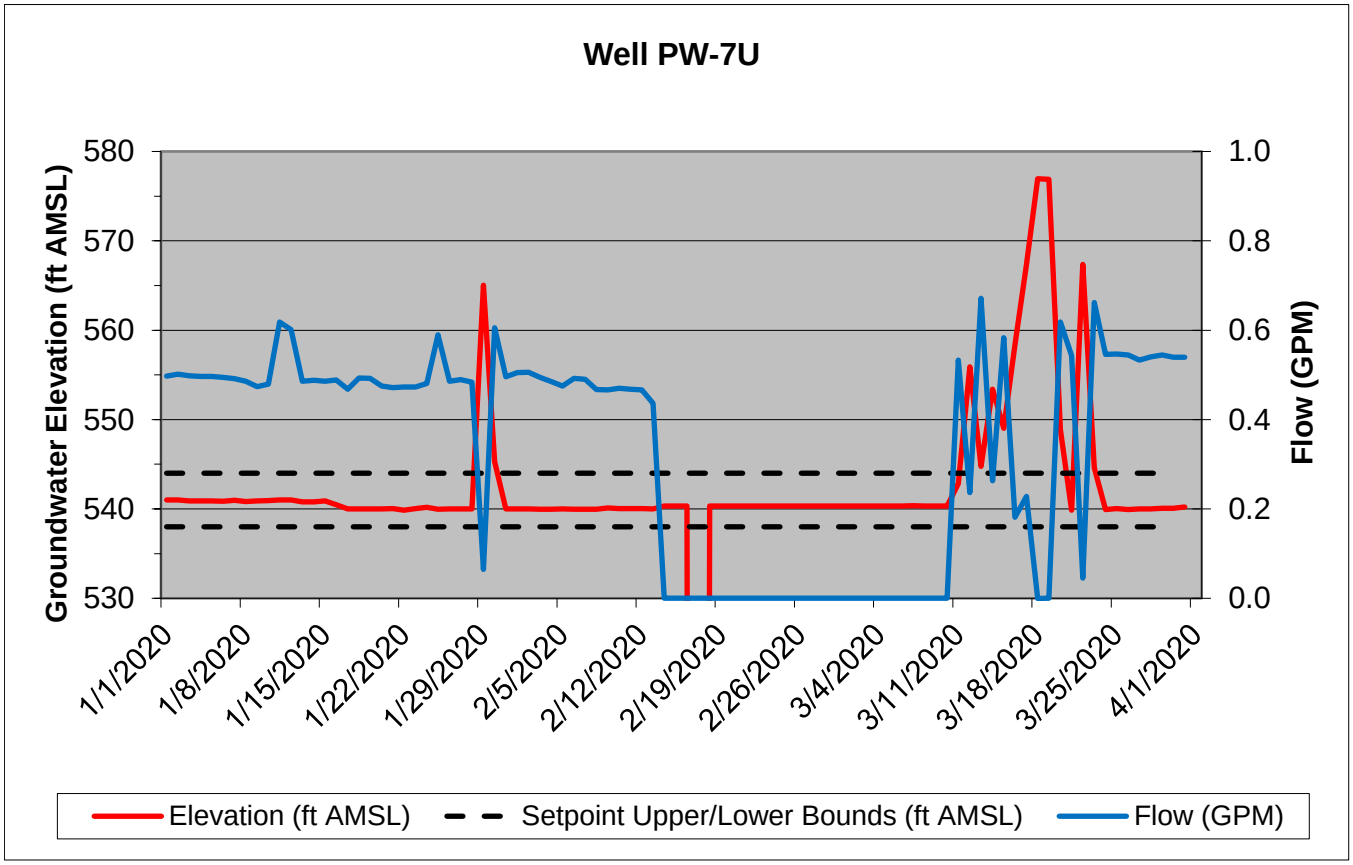


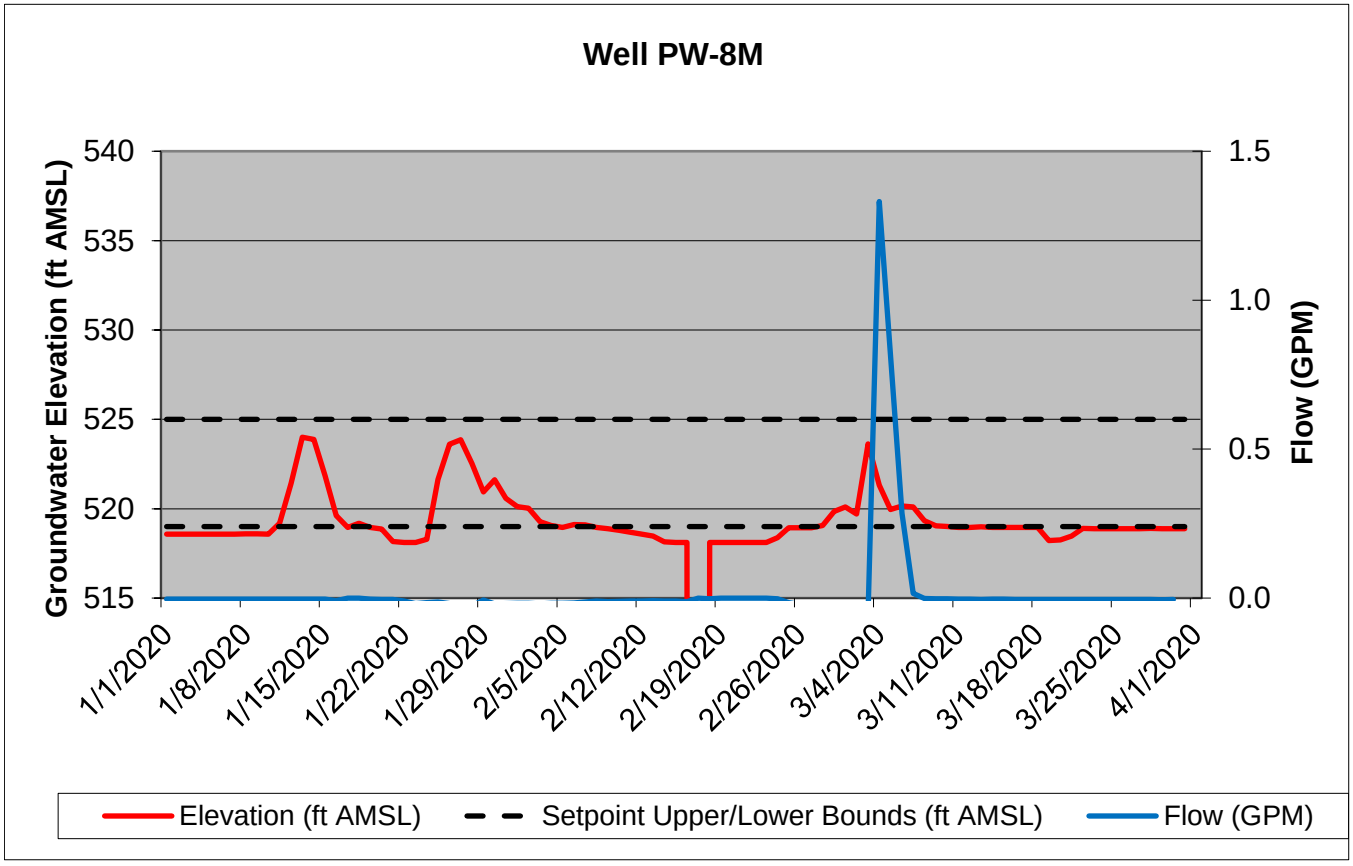
FIRST QUARTER 2020 - PUMPING WELL PERFORMANCE GRAPHS
HYDE PARK



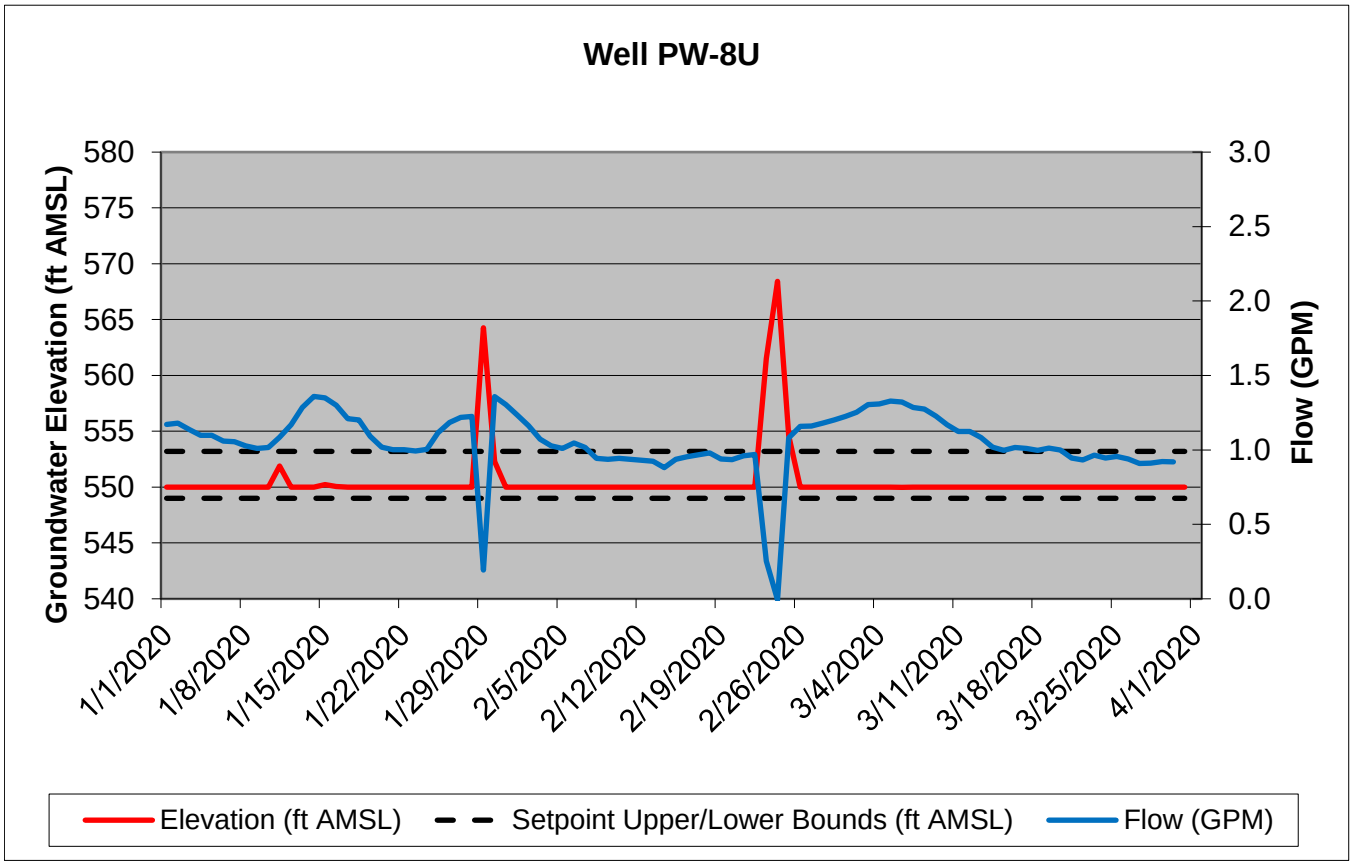


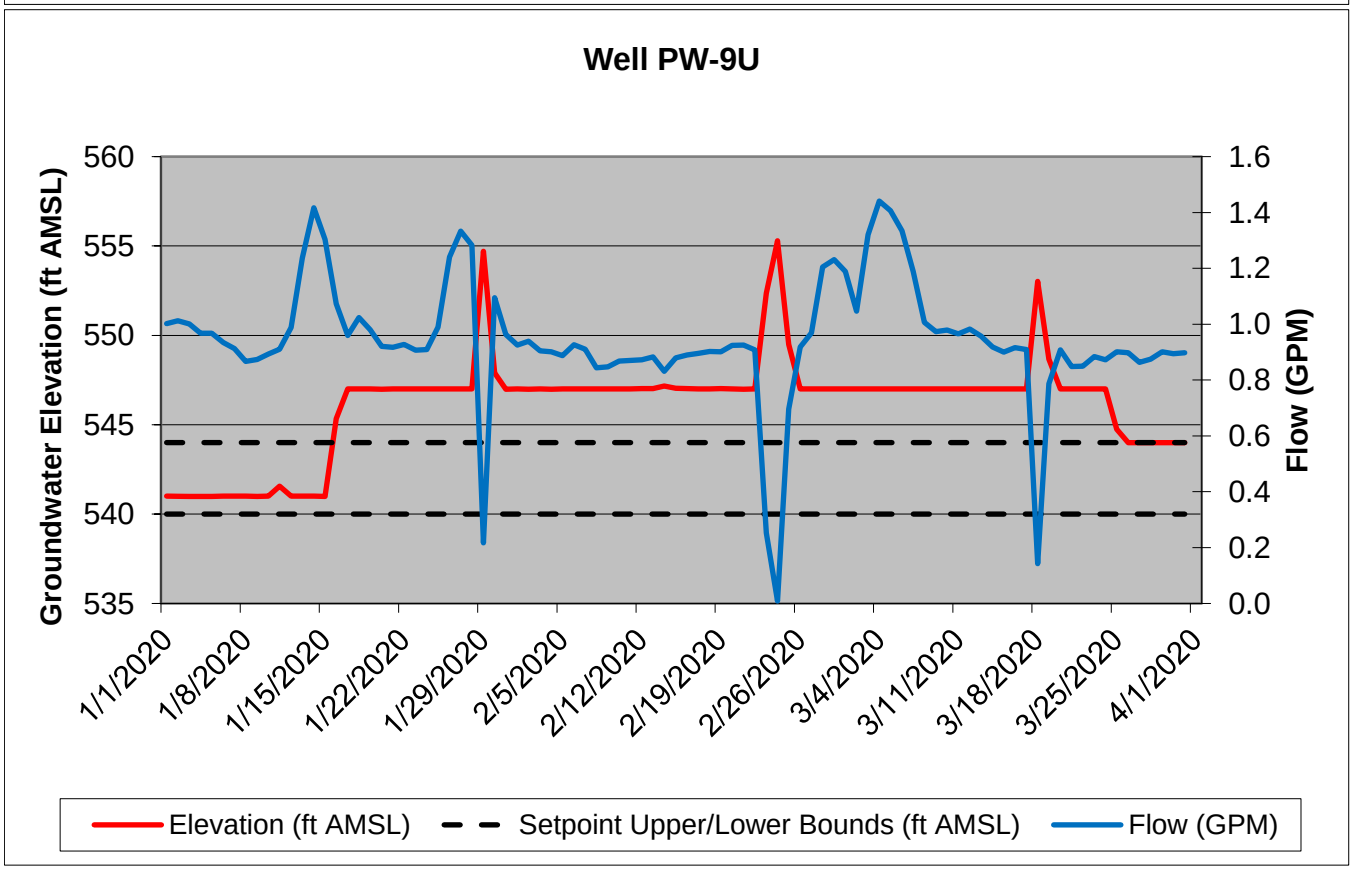
FIRST QUARTER 2020 - PUMPING WELL PERFORMANCE GRAPHS
HYDE PARK





FIRST QUARTER 2020 - PUMPING WELL PERFORMANCE GRAPHS
HYDE PARK





FIRST QUARTER 2020 - PUMPING WELL PERFORMANCE GRAPHS
HYDE PARK