`

Glenn Springs Holdings, Inc.

A subsidiary of Occidental Petroleum

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

7601 Old Channel Trail
Montague, MI 49437

April 28, 2017

Reference No. 001069

Ms. Gloria M. Sosa
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. Sosa and Mr. Sadowski:

Re: Quarterly Operations Report – First Quarter 2017
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, 2017 through March 31, 2017. A total of 7.8 million gallons of aqueous phase liquid (APL) was collected, treated, and discharged in compliance with the Site's City of Niagara Falls Publicly Owned Treatment Works (POTW) Significant Industrial Users Wastewater Discharge Permit #49. No non-aqueous phase liquid (NAPL) was 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, 3, and 4: Daily, weekly, and quarterly treatment system effluent monitoring data
- Attachment A: Purge well performance graphs indicating daily level and flow information

Due to a malfunctioning transducer at piezometer PMW-1M-09, the continuous water levels at PMW-1M-09 for the fourth quarter of 2016 were not able to be retrieved. The transducer was replaced on January 28, 2017. The new transducer began recording continuous water level data at PMW-1M-09 starting on January 28, 2017.

The pumping wells are operational and functioning as designed. 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 2017:

- The water level in APW-1 exceeded setpoint range on March 31 due to heavy rain.
- The water level in PW-1U was above setpoint range from March 7 to March 9 due to a pump issue. The pump and motor were replaced on March 8 and the water level returned to within setpoint on March 10.
- The water levels in PW-4U and PW-6UR were above setpoint range from February 9 to February 12 due to multiple communications faults with the pump. The wells were repaired on February 12and returned to within setpoint range on February 13.
- The water level in PW-3L was above setpoint range from January 1 to January 3 due to low flow. The pump was repaired on January 3 and the water level returned to within setpoint range on January 4.
- The water level in PW-3L was above setpoint range from January 19 to February 9 due to low flow. PW-3L was taken out of service on January 19 and was repaired on February 7. The water level returned to within setpoint range on February 10.
- On February 22, the water level in PW-3L dropped below setpoint range due to a NAPL accumulation. NAPL was flushed from the well to the extent possible using a drilling subcontractor from March 3 to March 8. The well resumed operation on March 10 and the water level returned to within setpoint range on March 12.

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

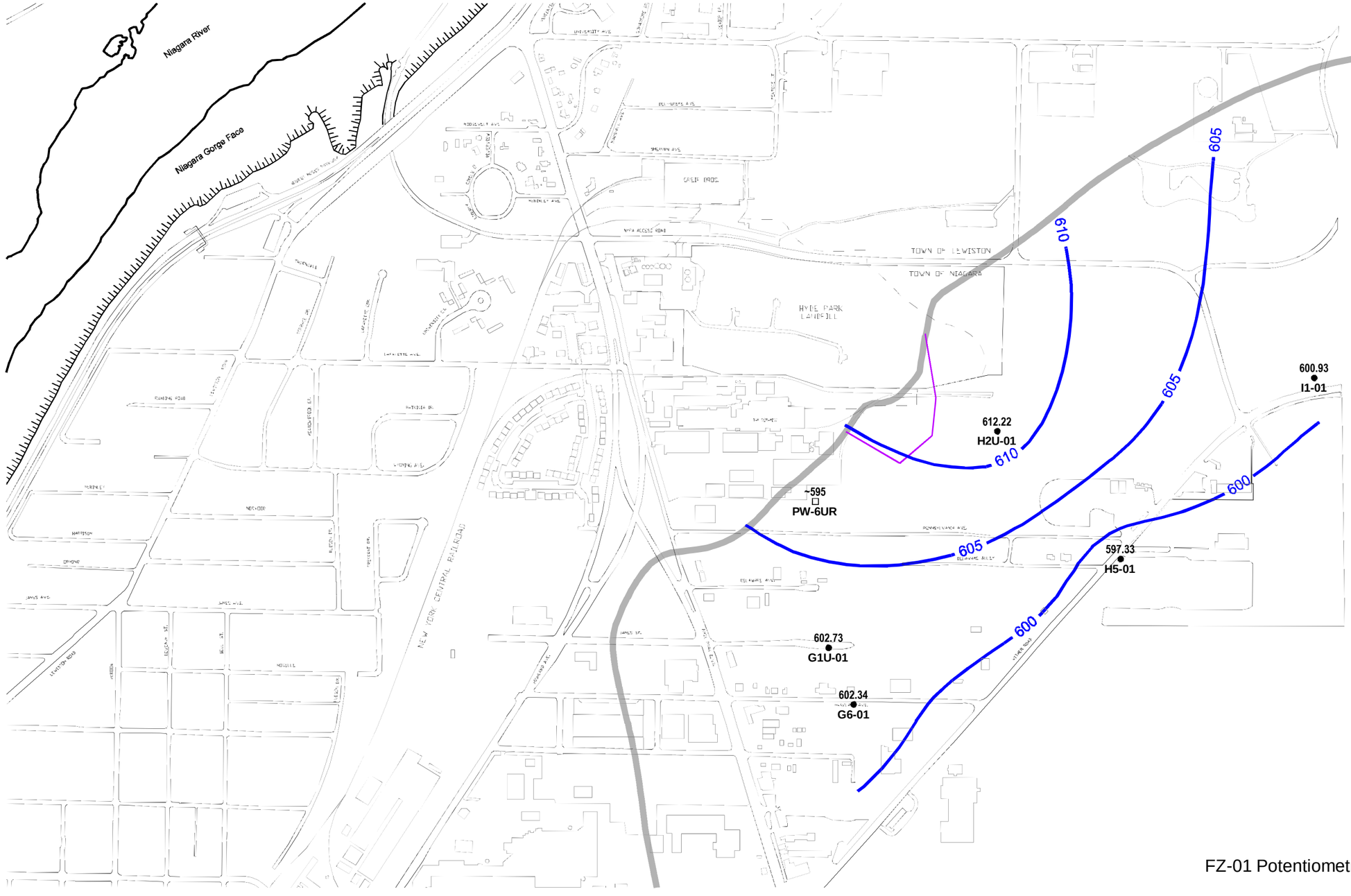
Very truly yours,

GLENN SPRINGS HOLDINGS, INC.

Joe Branch
Site Manager
231-670-6809 Cell

JB/eew/27
Encl.
cc: C. Babcock, GSH
M. Forcucci, NYSDOH
J. Pentilchuk, GHD
G. May, NYSDEC
D. Hoyt, GHD

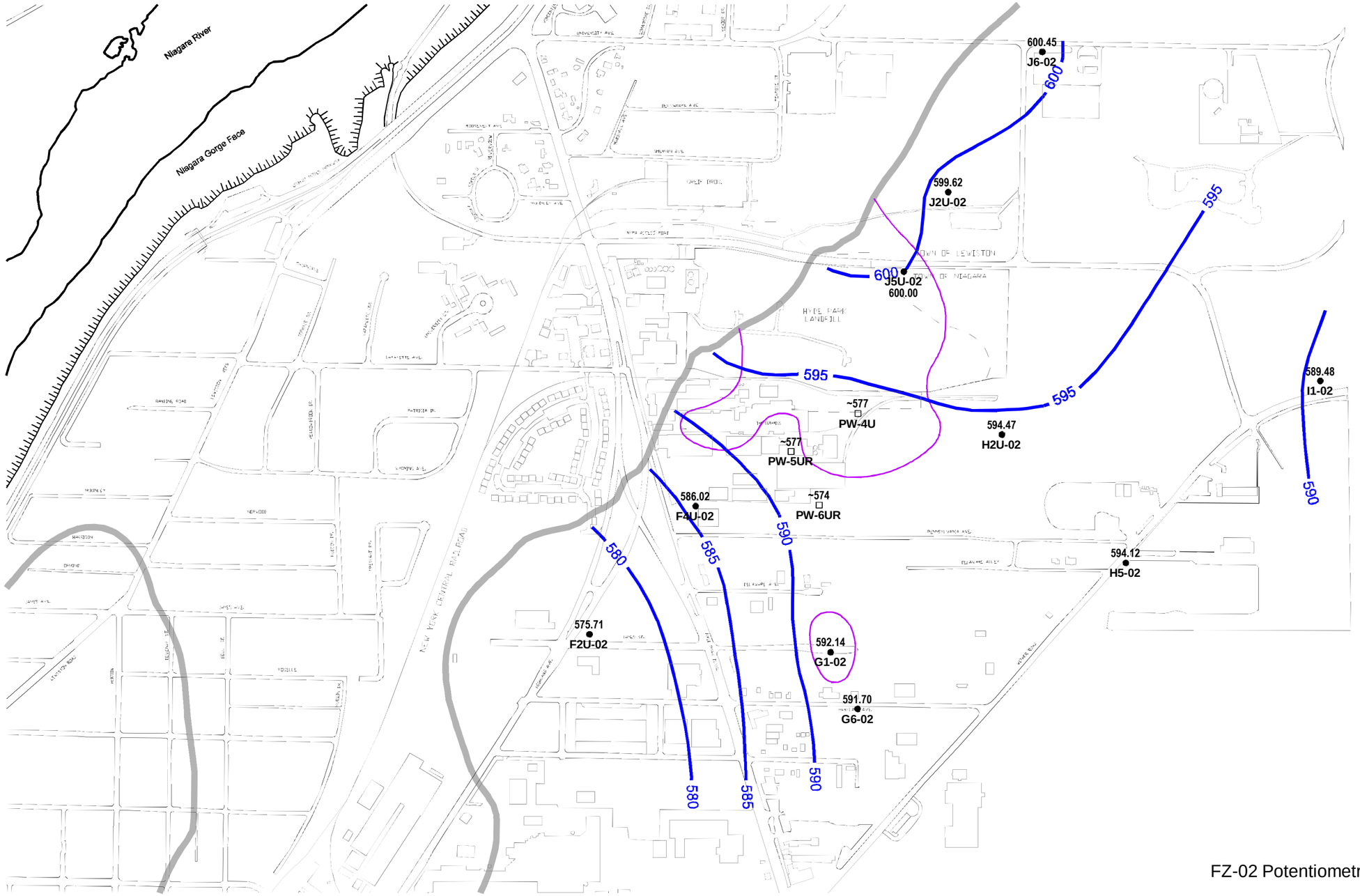
Figures



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.

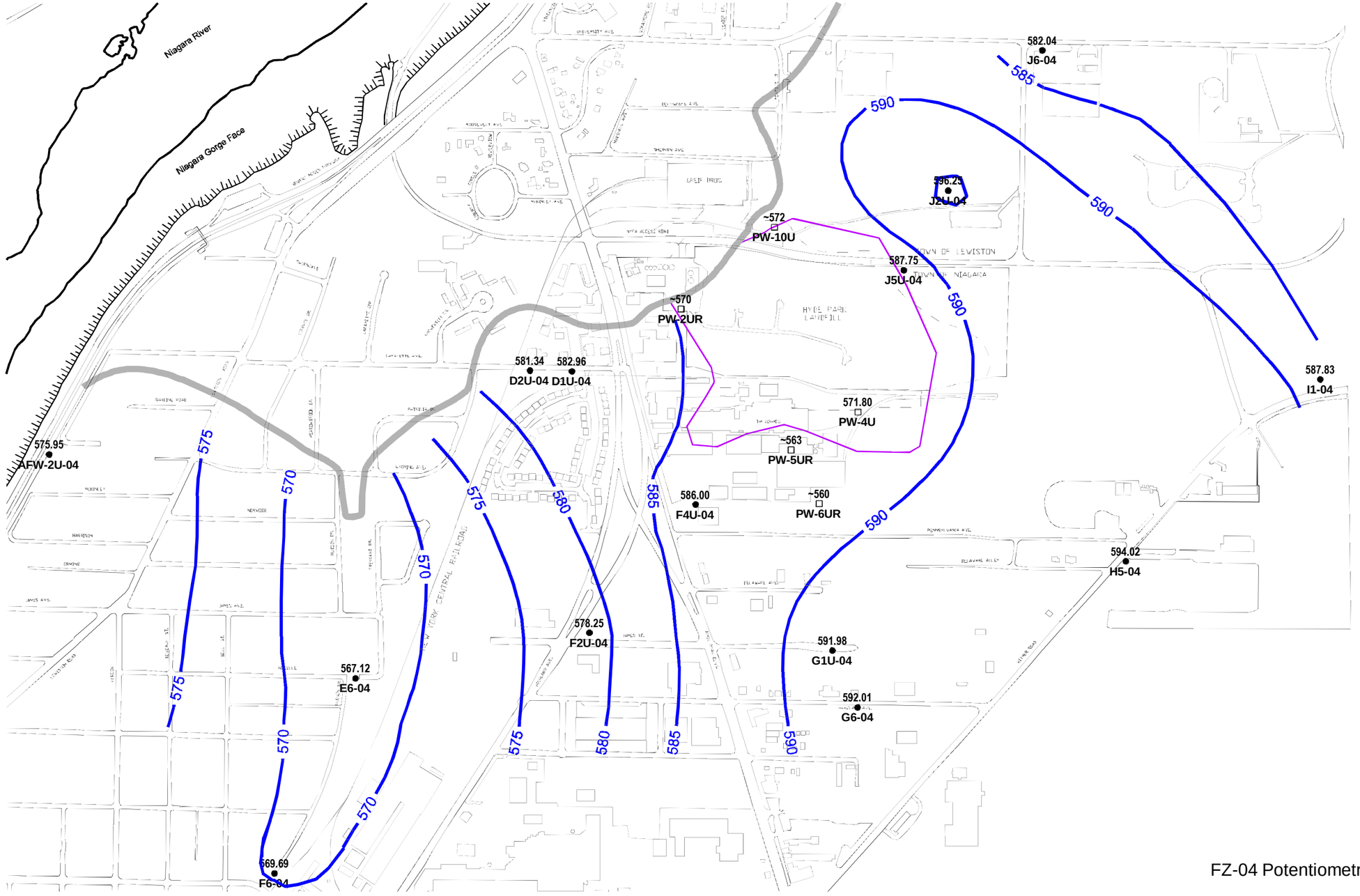
figure 1
FZ-01 Potentiometric Surface March 2017
1st Quarter Report
Hyde Park Landfill Site
Glenn Springs Holdings, Inc.
Niagara Falls, New York



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 2
FZ-02 Potentiometric Surface March 2017
1st Quarter Report
Hyde Park Landfill Site
Glenn Springs Holdings, Inc.
Niagara Falls, New York

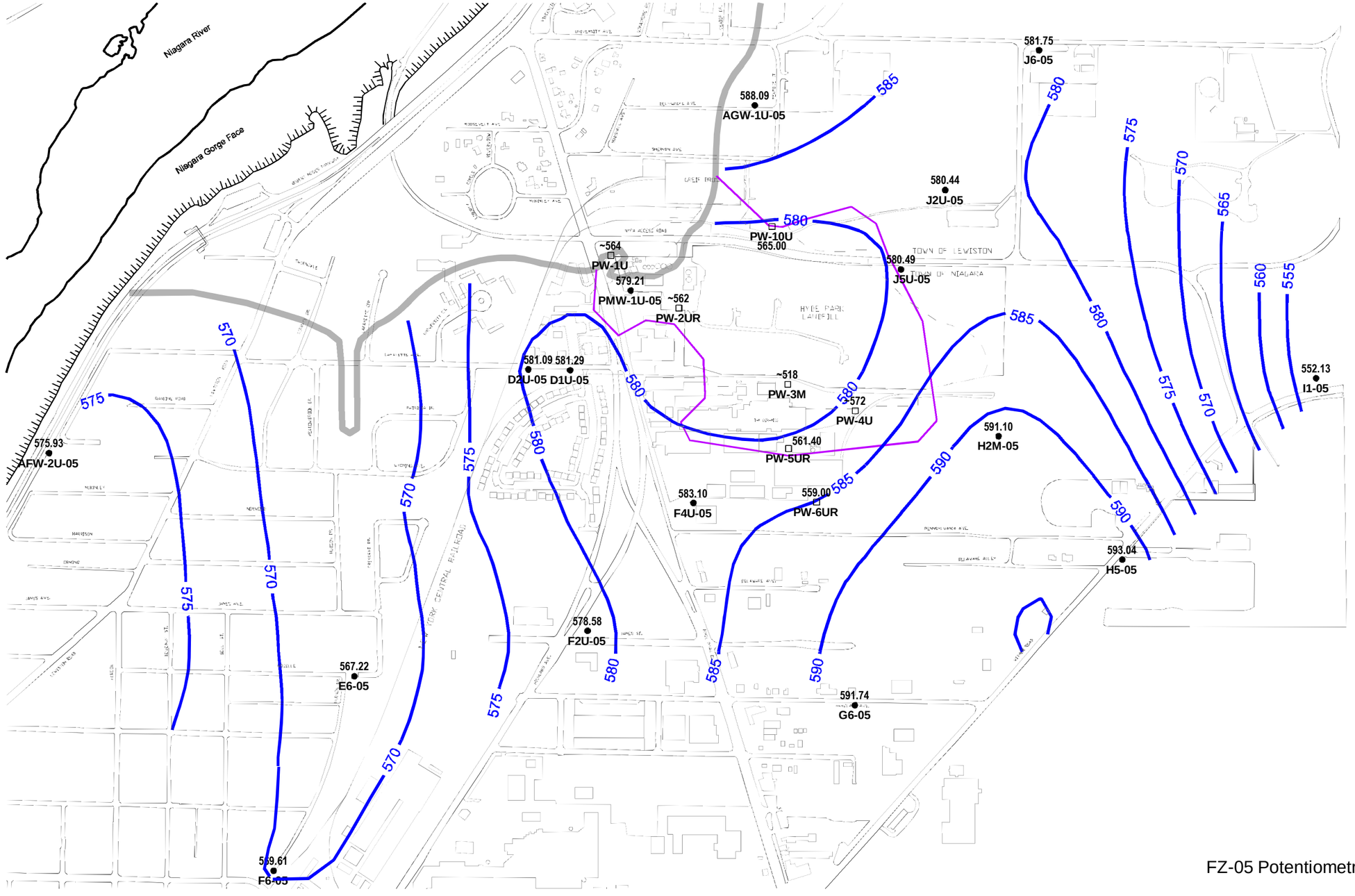


Legend

- 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 2017
1st Quarter Report
Hyde Park Landfill Site
Glenn Springs Holdings, Inc.
Niagara Falls, New York

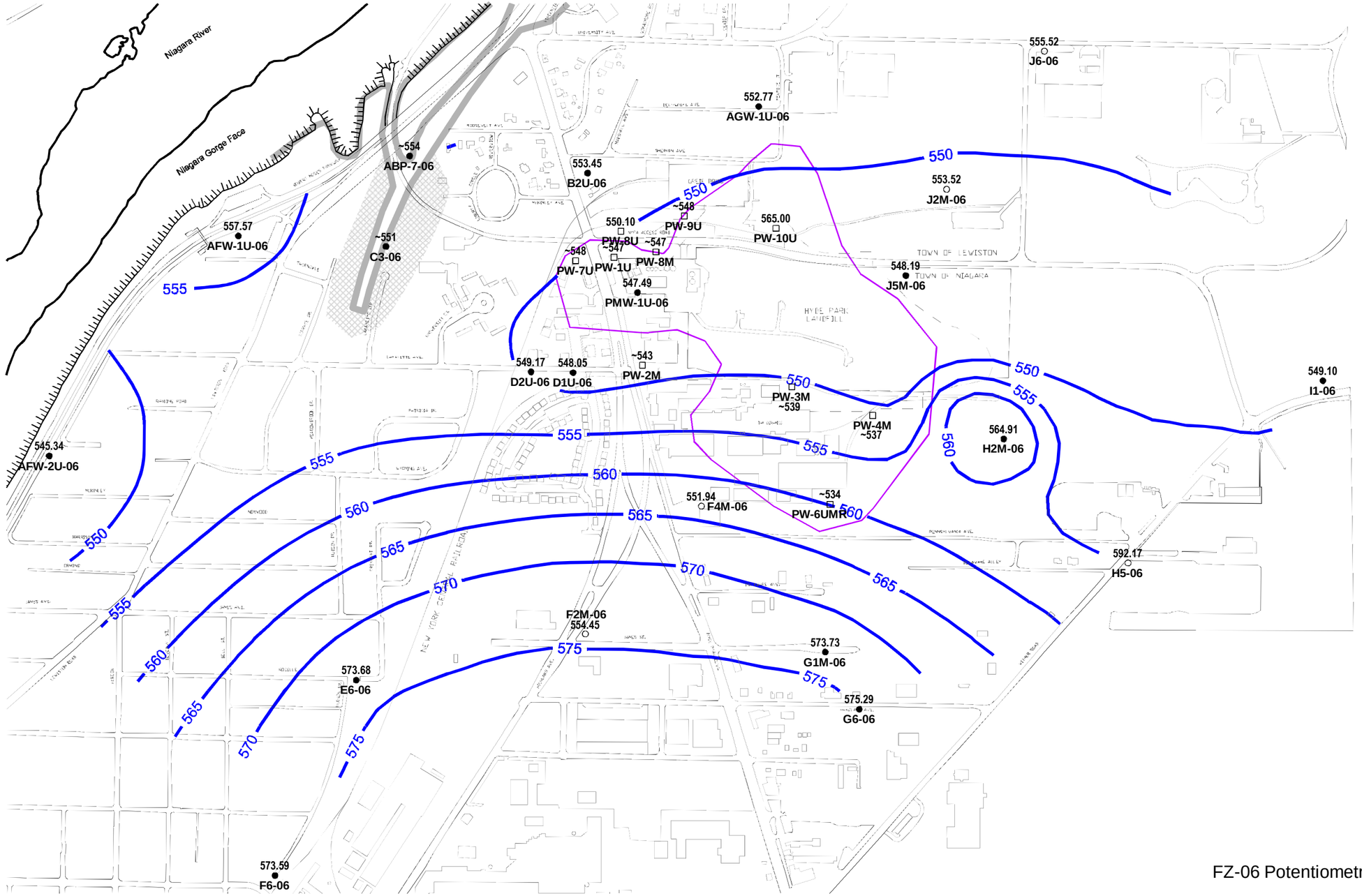
Glenn Springs Holdings, Inc.



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.

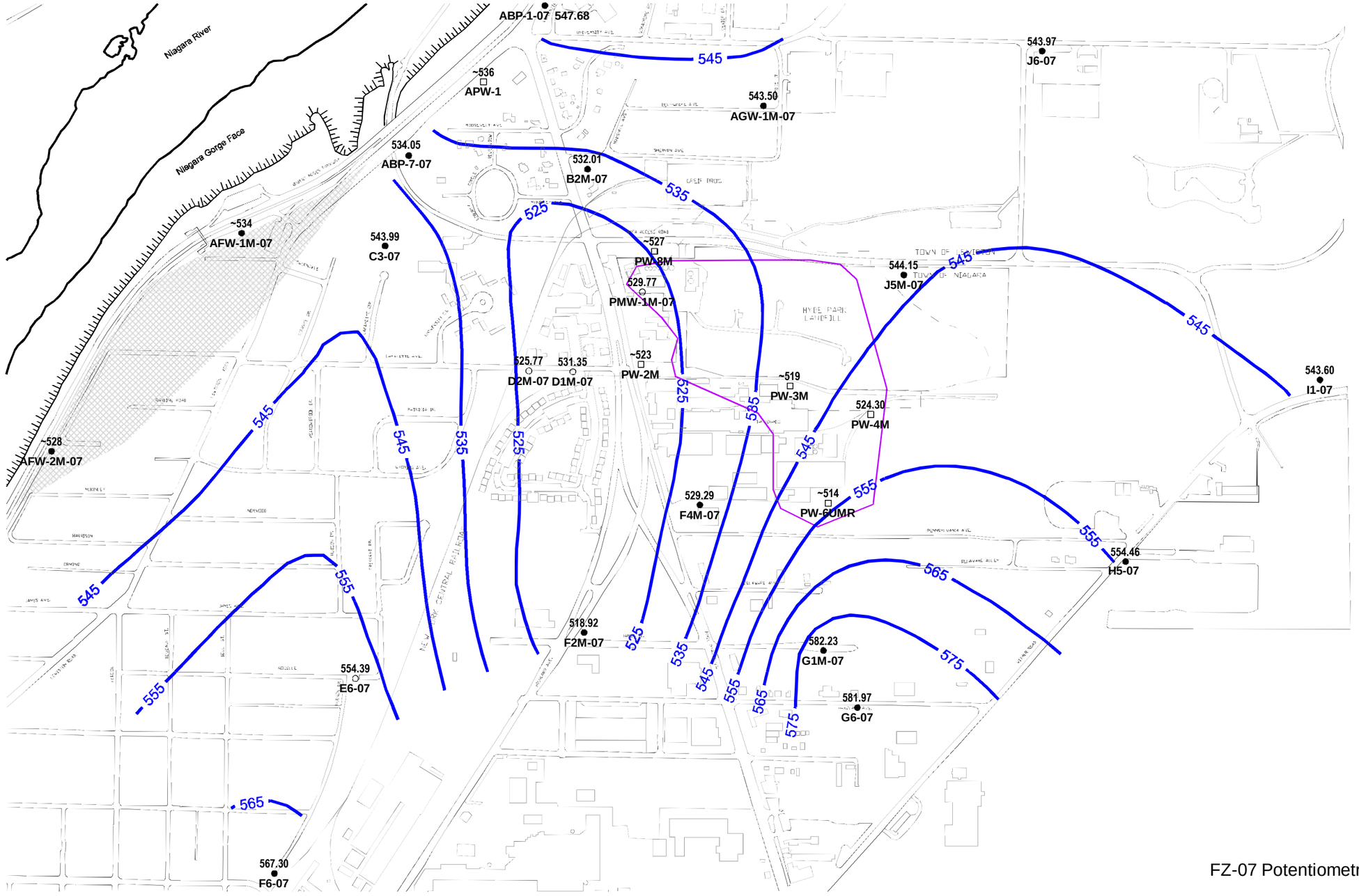
figure 4
FZ-05 Potentiometric Surface March 2017
1st Quarter Report
Hyde Park Landfill Site
Glenn Springs Holdings, Inc.
Niagara Falls, New York



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.

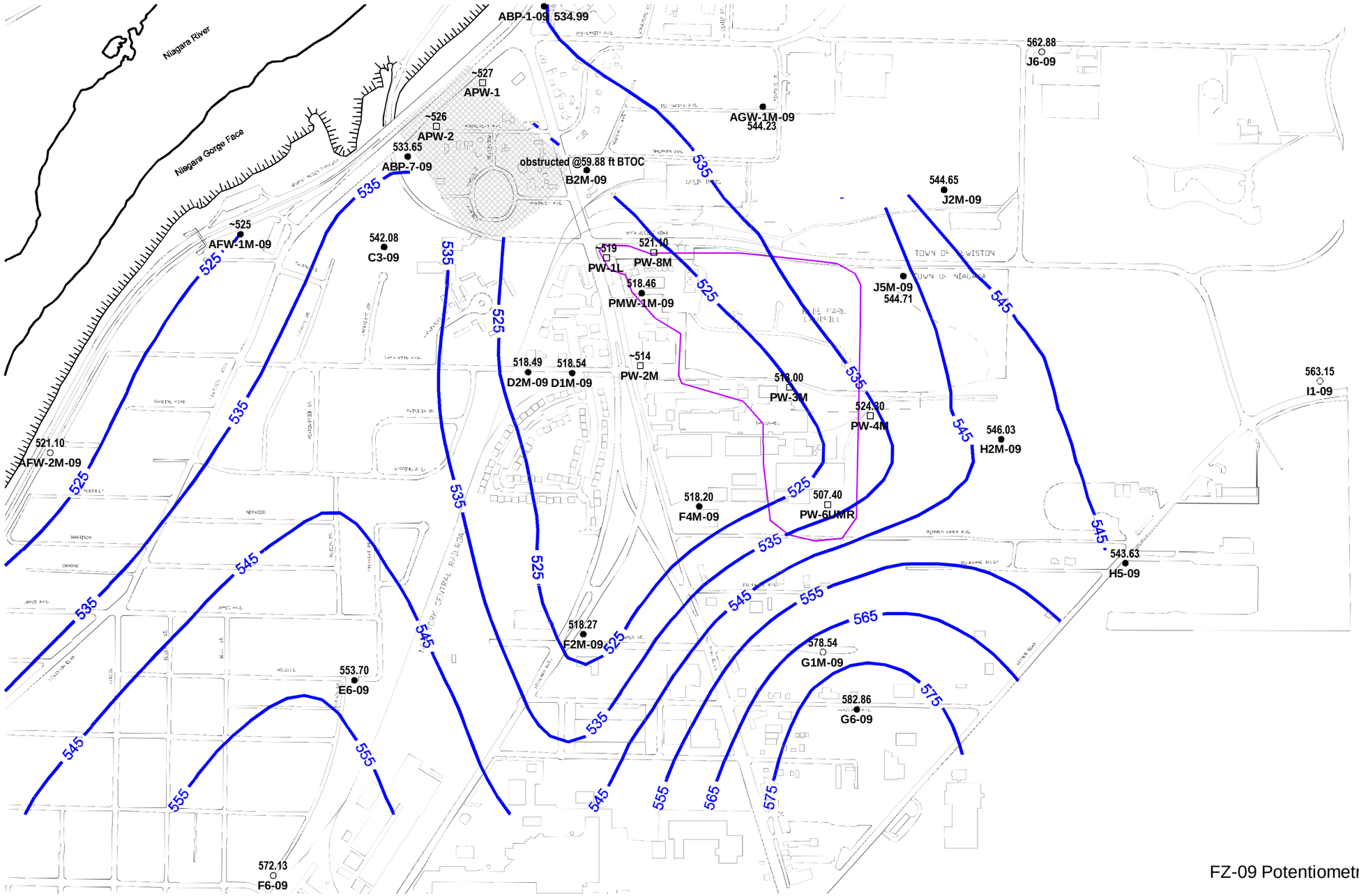
figure 5
FZ-06 Potentiometric Surface March 2017
1st Quarter Report
Hyde Park Landfill Site
Glenn Springs Holdings, Inc.
Niagara Falls, New York



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.

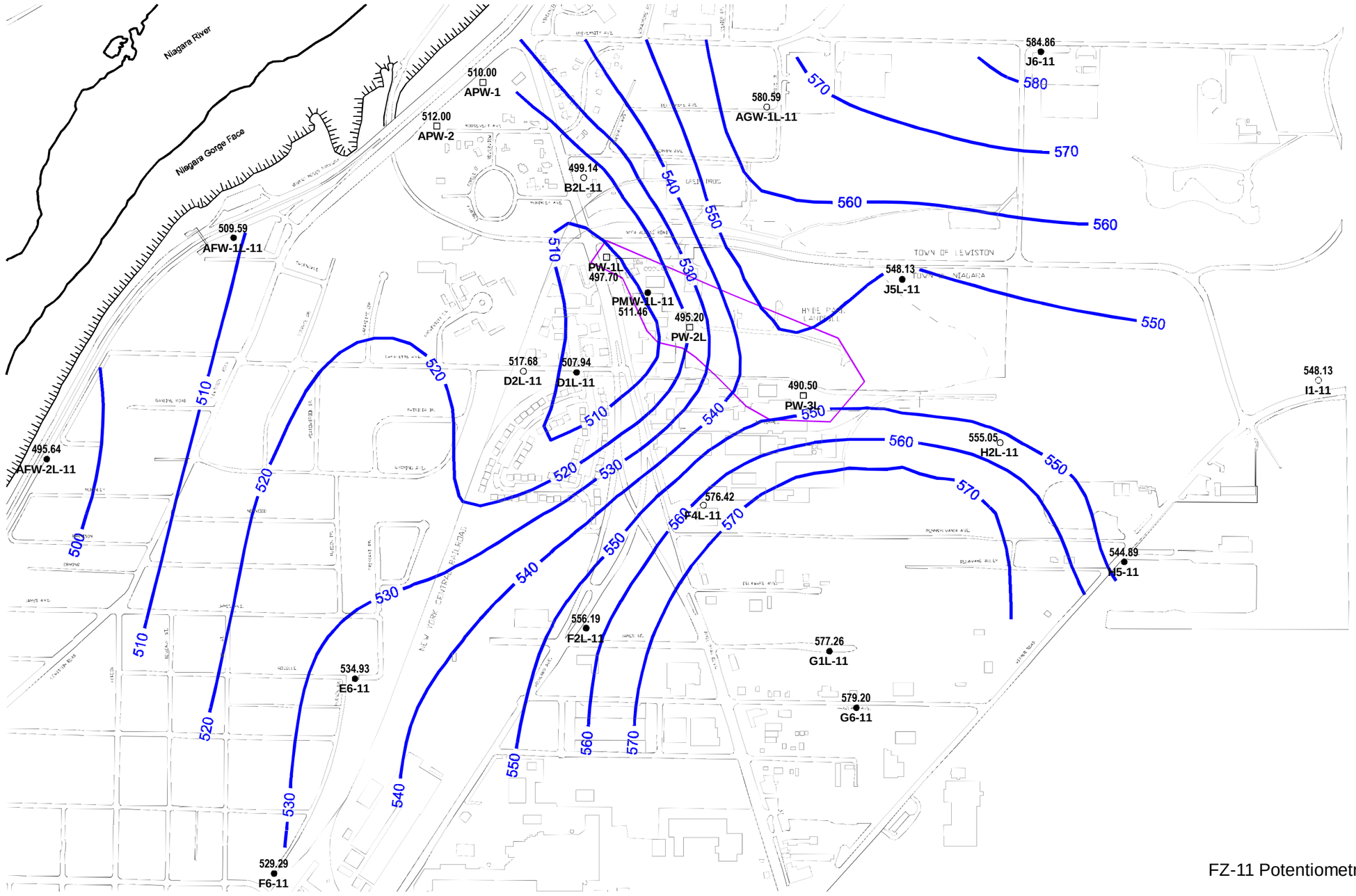
figure 6
FZ-07 Potentiometric Surface March 2017
1st Quarter Report
Hyde Park Landfill Site
Glenn Springs Holdings, Inc.
Niagara Falls, New York



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 7
FZ-09 Potentiometric Surface March 2017
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 2017
1st Quarter Report
Hyde Park Landfill Site
Glenn Springs Holdings, Inc.
Niagara Falls, New York

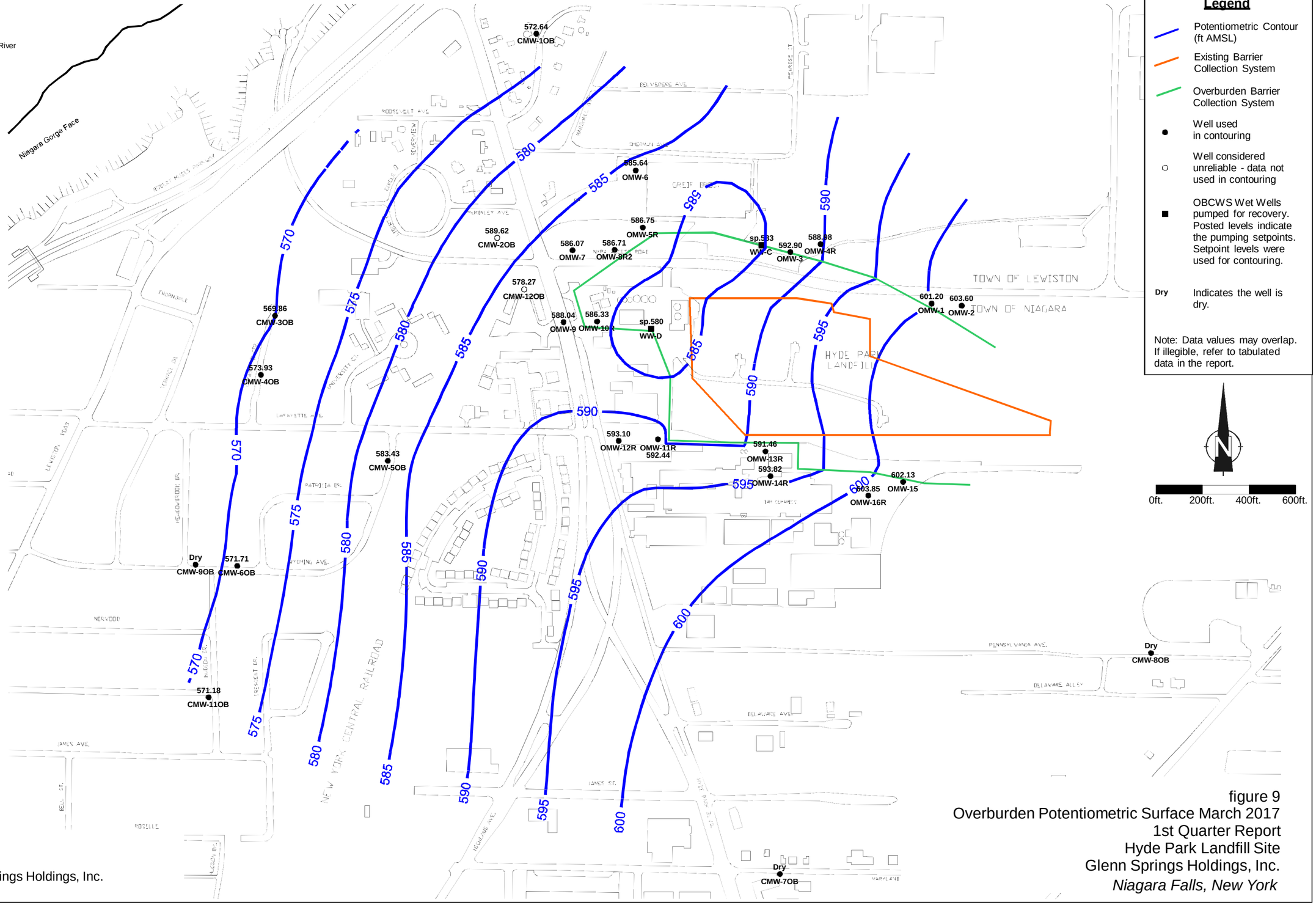


figure 9
Overburden Potentiometric Surface March 2017
1st Quarter Report
Hyde Park Landfill Site
Glenn Springs Holdings, Inc.
Niagara Falls, New York

Glenn Springs Holdings, Inc.

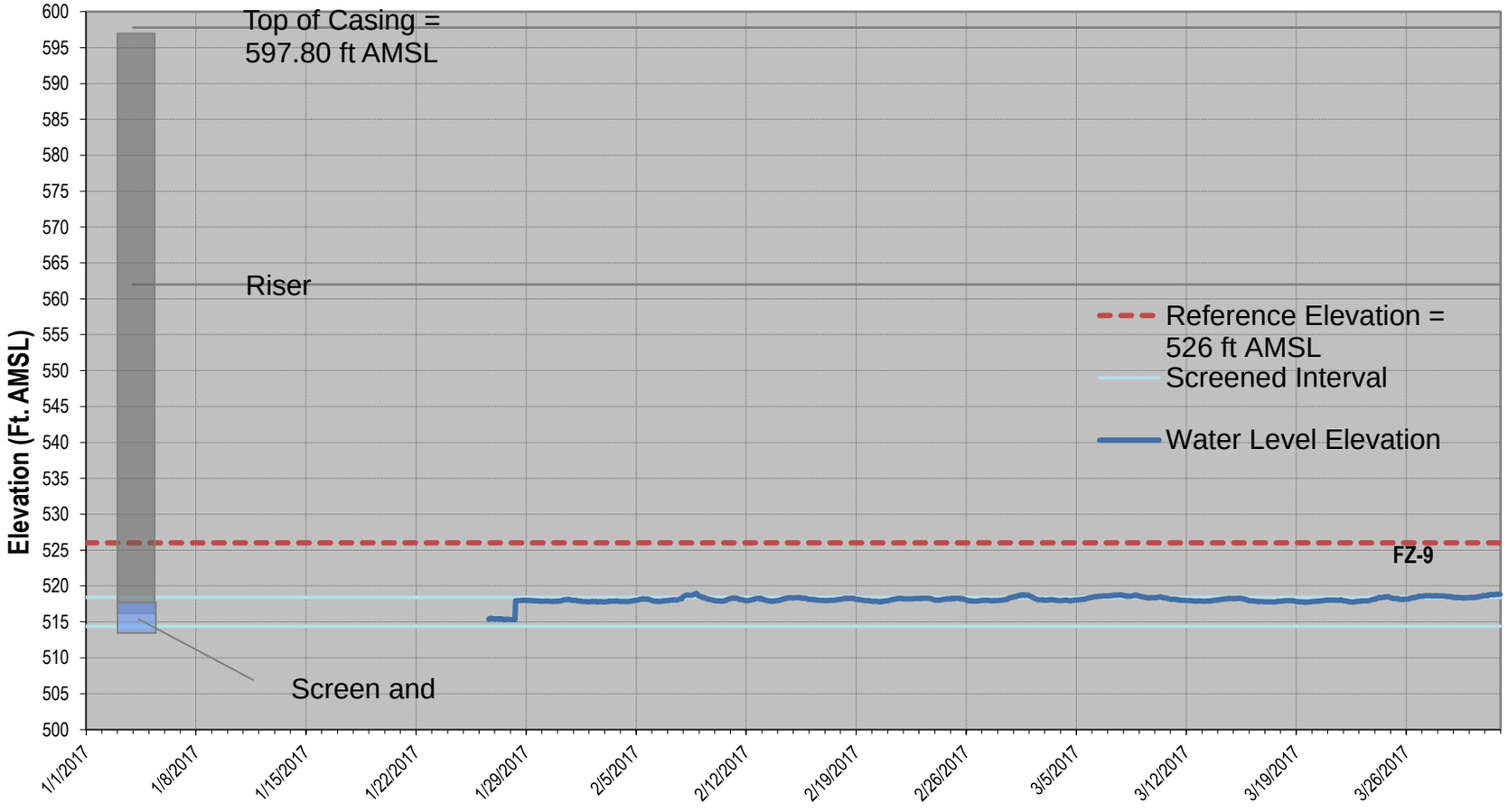


figure 10

PMW-1M-09 1st Quarter 2017 - Hourly Water Level Elevation
1st Quarter Report
Hyde Park Landfill Site
Glenn Springs Holdings, Inc.

Glenn Springs Holdings, Inc.
A subsidiary of Occidental Petroleum

Tables

Table 1

Water Level Elevation Summary
First Quarter - 2017
Hyde Park RRT Program

Well	Reference Elevation (ft AMSL)	Depth to Water (ft)	Water Level Elevation (ft AMSL)
Overburden			
CMW-2OB	590.79	1.17	589.62
CMW-3OB	582.13	12.27	569.86
CMW-4OB	574.28	0.35	573.93
CMW-5OB	583.43	Surcharged	583.43
CMW-6OB	571.89	0.18	571.71
CMW-7OB	611.00	Dry	Dry
CMW-8OB	616.11	Dry	Dry
CMW-9OB	571.76	Dry	Dry
CMW-1OB	576.80	4.16	572.64
CMW-11OB	572.85	1.67	571.18
CMW-12OB	594.74	16.47	578.27
MH20	605.87	4.67	601.20
MH21	599.77	6.10	593.67
MH22	593.37	6.66	586.71
MH23	587.05	12.04	575.01
MH24	582.57	5.65	576.92
MH25	583.82	5.33	578.49
MH26	584.48	6.94	577.54
MH27	586.12	10.36	575.76
MH28	585.23	12.65	572.58
MH29	604.58	14.81	589.77
MH30	599.49	10.00	589.49
MH31	590.10	9.47	580.63
MH32	592.01	9.63	582.38
MH33	592.51	8.68	583.83
MH34	598.34	7.12	591.22
MH35	605.69	6.53	599.16
MH35A	605.69	7.12	598.57
OMW-1	605.28	4.08	601.20
OMW-2	605.99	2.39	603.60
OMW-3	598.63	5.73	592.90
OMW-4R	601.17	12.19	588.98
OMW-5R	591.31	4.56	586.75
OMW-6	587.62	1.98	585.64
OMW-7	592.74	6.67	586.07
OMW-8R2	594.67	7.96	586.71
OMW-9	595.27	7.23	588.04
OMW-10R	595.13	8.80	586.33
OMW-11R	597.52	5.08	592.44
OMW-12R	597.20	4.10	593.10
OMW-13R	601.50	10.04	591.46
OMW-14R	599.64	5.82	593.82
OMW-15	607.48	5.35	602.13
OMW-16R	607.62	3.77	603.85
SC-2	625.61	47.31	578.30
SC-3	638.72	59.82	578.90
SC-4	639.35	61.85	577.50
SC-5	634.07	44.87	589.20
SC-6	631.15	52.95	578.20

Table 1

Water Level Elevation Summary
First Quarter - 2017
Hyde Park RRT Program

Well	Reference Elevation (ft AMSL)	Depth to Water (ft)	Water Level Elevation (ft AMSL)
Shallow Bedrock			
CMW-1SH	576.11	11.20	564.91
CMW-2SH	590.51	17.41	573.10
CMW-3SH	581.91	32.79	549.12
CMW-4SH	574.16	6.29	567.87
CMW-5SH	583.36	6.70	576.66
CMW-6SH	572.05	9.29	562.76
CMW-7SH	610.58	11.31	599.27
CMW-8SH	615.95	6.90	609.05
CMW-9SH	571.96	11.28	560.68
CMW-11SH	573.21	7.83	565.38
CMW-12SH	597.02	25.19	571.83
Flow Zone 1			
G1U-01	617.08	14.35	602.73
G6-01	609.24	6.90	602.34
H2U-01	620.92	8.70	612.22
H5-01	617.61	20.28	597.33
I1-01	625.58	24.65	600.93
Flow Zone 2			
F2U-02	599.89	24.18	575.71
F4U-02	602.32	16.30	586.02
G1-02	616.86	24.72	592.14
G6-02	608.65	16.95	591.70
H2U-02	620.88	26.41	594.47
H5-02	617.47	23.35	594.12
I1-02	625.47	35.99	589.48
J2U-02	609.66	10.04	599.62
J5U-02	606.21	6.21	600.00
J6-02	609.23	8.78	600.45
Flow Zone 4			
AFW-2U-04	593.48	17.53	575.95
D1U-04	593.77	10.81	582.96
D2U-04	590.65	9.31	581.34
E6-04	578.23	11.11	567.12
F2U-04	599.76	21.51	578.25
F4U-04	602.19	16.19	586.00
F6-04	588.06	18.37	569.69
G1U-04	616.96	24.98	591.98
G6-04	609.15	17.14	592.01
H5-04	617.40	23.38	594.02
I1-04	625.30	37.47	587.83
J2U-04	609.42	13.17	596.25
J5U-04	606.05	18.30	587.75
J6-04	609.12	27.08	582.04

Table 1

Water Level Elevation Summary
First Quarter - 2017
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	17.40	575.93
AGW-1U-05	591.80	3.71	588.09
D1U-05	593.51	12.22	581.29
D2U-05	590.56	9.47	581.09
E6-05	578.04	10.82	567.22
F2U-05	599.64	21.06	578.58
F4U-05	602.06	18.96	583.10
F6-05	587.85	18.24	569.61
G6-05	609.13	17.39	591.74
H2M-05	621.59	30.49	591.10
H5-05	617.31	24.27	593.04
I1-05	625.25	73.12	552.13
J2U-05	609.30	28.86	580.44
J5U-05	605.87	25.38	580.49
J6-05	609.02	27.27	581.75
PMW-1U-05	598.00	18.79	579.21
Flow Zone 6			
ABP-7-06	575.78	Dry	Dry
AFW-1U-06	571.83	14.26	557.57
AFW-2U-06	593.22	47.88	545.34
AGW-1U-06	591.66	38.89	552.77
B2U-06	589.29	35.84	553.45
C3-06	585.78	Dry	Dry
D1U-06	593.25	45.20	548.05
D2U-06	590.38	41.21	549.17
E6-06	577.99	4.31	573.68
F2M-06	599.06	44.61	554.45
F4M-06	602.05	50.11	551.94
F6-06	587.84	14.25	573.59
G1M-06	616.75	43.02	573.73
G6-06	609.09	33.80	575.29
H2M-06	621.42	56.51	564.91
H5-06	617.17	25.00	592.17
I1-06	625.15	76.05	549.10
J2M-06	608.94	55.42	553.52
J5M-06	606.22	58.03	548.19
J6-06	608.93	53.41	555.52
PMW-1U-06	597.92	50.43	547.49

Table 1

Water Level Elevation Summary
First Quarter - 2017
Hyde Park RRT Program

Well	Reference Elevation (ft AMSL)	Depth to Water (ft)	Water Level Elevation (ft AMSL)
Flow Zone 7			
ABP-1-07	576.44	28.76	547.68
ABP-7-07	575.73	41.28	534.45
AFW-1M-07	571.41	Dry	Dry
AFW-2M-07	593.44	66.79	526.65
AGW-1M-07	592.91	49.41	543.50
B2M-07	589.52	57.51	532.01
C3-07	585.62	41.63	543.99
D1M-07	594.15	62.80	531.35
D2M-07	590.77	65.00	525.77
E6-07	577.91	23.52	554.39
F2M-07	598.91	79.99	518.92
F4M-07	601.91	72.62	529.29
F6-07	587.68	20.38	567.30
G1M-07	616.68	34.45	582.23
G6-07	609.06	27.09	581.97
H5-07	617.05	62.59	554.46
I1-07	625.14	81.54	543.60
J5M-07	606.07	61.92	544.15
J6-07	608.85	64.88	543.97
PMW-1M-07	598.50	68.73	529.77
Flow Zone 9			
ABP-1-09	575.49	40.50	534.99
ABP-7-09	575.67	42.02	533.65
AFW-1M-09	571.12	46.46	524.66
AFW-2M-09	593.32	72.22	521.10
AGW-1M-09	592.75	48.52	544.23
B2M-09	589.34	Obstructed	Obstructed
C3-09	585.00	42.92	542.08
D1M-09	594.02	75.48	518.54
D2M-09	590.66	72.17	518.49
E6-09	577.82	24.12	553.70
F2M-09	598.71	80.44	518.27
F4M-09	601.79	83.59	518.20
F6-09	587.53	15.40	572.13
G1M-09	616.58	38.04	578.54
G6-09	608.98	26.12	582.86
H2M-09	621.32	75.29	546.03
H5-09	616.93	73.30	543.63
I1-09	624.91	61.76	563.15
J2M-09	608.77	64.12	544.65
J5M-09	605.82	61.11	544.71
J6-09	608.76	45.88	562.88
PMW-1M-09	598.34	79.88	518.46

Table 1

Water Level Elevation Summary
First Quarter - 2017
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	62.51	509.59
AFW-2L-11	593.43	97.79	495.64
AGW-1L-11	592.71	12.12	580.59
B2L-11	589.65	90.51	499.14
D1L-11	593.80	85.86	507.94
D2L-11	590.21	72.53	517.68
E6-11	577.72	42.79	534.93
F2L-11	598.94	42.75	556.19
F4L-11	602.22	25.80	576.42
F6-11	587.40	58.11	529.29
G1L-11	616.84	39.58	577.26
G6-11	608.89	29.69	579.20
H2L-11	620.73	65.68	555.05
H5-11	616.81	71.92	544.89
I1-11	624.75	76.62	548.13
J5L-11	607.20	59.07	548.13
J6-11	608.68	23.82	584.86
PMW-1L-11	598.84	87.38	511.46
Purge Wells			
APW-1	564.98	57.18	507.80
APW-2	569.89	57.79	512.10
PW-1L	593.16	84.71	511.90
PW-1U	593.16	46.46	546.70
PW-2L	597.29	101.29	496.00
PW-2M	596.61	94.06	499.10
PW-2UR	594.75	35.75	559.00
PW-3L	599.05	96.65	502.40
PW-3M	597.79	80.89	516.90
PW-4M	606.93	82.63	524.30
PW-4U	604.85	31.75	573.10
PW-5UR	601.31	39.91	561.40
PW-6UMR	609.31	101.81	507.50
PW-6UR	608.47	49.77	558.70
PW-7U	592.47	49.57	542.90
PW-8M	592.67	72.87	519.80
PW-8U	589.27	39.27	550.00
PW-9U	587.47	48.07	539.40
PW-10U	593.54	28.54	565.00

Notes:

ft AMSL	- Feet above mean sea level
Dry	- No water present at the time of measurement
Obstructed	- Well obstructed at 59.90 ft below top of well
*	- Instrument sensor error

Table 2

Leachate Treatment System Daily Effluent Monitoring Data
First Quarter - 2017
Hyde Park RRT Program

	Effluent	
Date	**pH**	**Flow**
	(su)	(gal)
01/01/17	--	--
01/02/17	--	--
01/03/17	7.0	122,000
01/04/17	7.1	325,000
01/05/17	--	--
01/06/17	--	--
01/07/17	--	--
01/08/17	--	--
01/09/17	7.5	110,000
01/10/17	7.0	118,000
01/11/17	7.0	109,000
01/12/17	--	--
01/13/17	7.0	87,000
01/14/17	--	--
01/15/17	--	--
01/16/17	7.1	114,000
01/17/17	7.1	124,000
01/18/17	7.0	118,000
01/19/17	7.0	287,000
01/20/17	--	--
01/21/17	--	--
01/22/17	--	--
01/23/17	7.7	123,000
01/24/17	7.5	116,000
01/25/17	7.4	79,000
01/26/17	7.1	102,000
01/27/17		--
01/28/17	--	--
01/29/17	--	--
01/30/17	7.7	113,000
01/31/17	7.6	164,000
02/01/17	7.6	115,000
02/02/17	7.2	81,000
02/03/17	--	--
02/04/17	--	--
02/05/17	--	--
02/06/17	7.4	112,000
02/07/17	7.1	112,000

Table 2

Leachate Treatment System Daily Effluent Monitoring Data
First Quarter - 2017
Hyde Park RRT Program

	Effluent	
Date	**pH**	**Flow**
	(su)	(gal)
02/08/17	--	--
02/09/17	7.1	85,000
02/10/17	--	--
02/11/17	--	--
02/12/17	--	--
02/13/17	7.1	116,000
02/14/17	7.1	302,000
02/15/17	7.1	54,000
02/16/17	7.0	72,000
02/17/17	--	--
02/18/17	--	--
02/19/17	--	--
02/20/17	--	--
02/21/17	7.1	442,000
02/22/17	7.1	28,000
02/23/17	7.0	75,000
02/24/17	7.0	97,000
02/25/17	--	--
02/26/17	--	--
02/27/17	7.1	400,000
02/28/17	7.1	48,000
03/01/17	7.1	99,000
03/02/17	7.0	117,000
03/03/17	7.3	98,000
03/04/17	--	--
03/05/17	--	--
03/06/17	7.1	330,000
03/07/17	7.0	71,000
03/08/17	7.0	104,000
03/09/17	7.0	116,000
03/10/17	7.0	68,000
03/11/17	--	--
03/12/17	--	--
03/13/17	6.4	362,000
03/14/17	--	--
03/15/17	--	--
03/16/17	7.0	79,000
03/17/17	7.0	16,000
03/18/17	--	--

Table 2

Leachate Treatment System Daily Effluent Monitoring Data
First Quarter - 2017
Hyde Park RRT Program

	Effluent	
Date	**pH**	**Flow**
	(su)	(gal)
03/19/17	--	--
03/20/17	7.0	398,000
03/21/17	7.0	102,000
03/22/17	7.0	95,000
03/23/17	7.0	132,000
03/24/17	7.1	101,000
03/25/17	--	--
03/26/17	7.0	354,000
03/27/17	7.0	109,000
03/28/17	7.0	92,000
03/29/17	7.0	110,000
03/30/17	7.0	153,000
03/31/17	7.0	349,000

Notes:

"--" - Not measured-no flow
su - Standard Unit
gal - Gallons

Table 3

Analytical Results Summary
Weekly Sampling - Leachate Treatment System
First Quarter - 2017
Hyde Park RRT Program

Effluent

Parameter	Units	1/4/2017	1/11/2017	1/18/2017	1/25/2017	2/1/2017	2/8/2017	2/15/2017
Volatiles								
1,1,1-Trichloroethane	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,1,2,2-Tetrachloroethane	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,1,2-Trichloroethane	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,1-Dichloroethane	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,1-Dichloroethene	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,2,4-Trichlorobenzene	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,2-Dichlorobenzene	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,2-Dichloroethane	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,2-Dichloropropane	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,3-Dichlorobenzene	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,4-Dichlorobenzene	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
2-Chlorotoluene	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
3-Chlorotoluene	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
4-Chlorotoluene	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Benzene	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Bromodichloromethane	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Bromoform	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Bromomethane (Methyl bromide)	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Carbon disulfide	µg/L	0.46 J	7.8	9.0	9.8	11	13	9.7
Carbon tetrachloride	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Chlorobenzene	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Chloroethane	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Chloroform (Trichloromethane)	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Chloromethane (Methyl chloride)	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
cis-1,2-Dichloroethene	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
cis-1,3-Dichloropropene	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Dichlorodifluoromethane (CFC-12)	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Ethylbenzene	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
m&p-Xylenes	µg/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Methylene chloride	µg/L	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	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
o-Monochlorobenzotrifluoride	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
o-Xylene	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
p-Monochlorobenzotrifluoride	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Styrene	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Tetrachloroethene	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Toluene	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
trans-1,2-Dichloroethene	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
trans-1,3-Dichloropropene	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Trichloroethene	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Trichlorofluoromethane (CFC-11)	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Vinyl acetate	µg/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Vinyl chloride	µg/L	320	350	300	350	320	350	330
Xylenes (total)	µg/L	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U
General Chemistry								
Phenolics (total)	mg/L	0.0139	0.0226	0.0163	0.0119	0.0104	0.0106	0.0116

Analytical Results Summary
Weekly Sampling - Leachate Treatment System
First Quarter - 2017
Hyde Park RRT Program

Effluent

Parameter	Units	2/22/2017	3/1/2017	3/8/2017	3/15/2017	3/22/2017	3/29/2017
Volatiles							
1,1,1-Trichloroethane	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,1,2,2-Tetrachloroethane	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,1,2-Trichloroethane	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,1-Dichloroethane	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,1-Dichloroethene	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,2,4-Trichlorobenzene	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,2-Dichlorobenzene	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,2-Dichloroethane	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,2-Dichloropropane	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,3-Dichlorobenzene	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,4-Dichlorobenzene	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
2-Chlorotoluene	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
3-Chlorotoluene	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
4-Chlorotoluene	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Benzene	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Bromodichloromethane	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Bromoform	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Bromomethane (Methyl bromide)	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Carbon disulfide	µg/L	0.88 J	0.52 J	0.54 J	8.5	5.2	9.0
Carbon tetrachloride	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Chlorobenzene	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Chloroethane	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Chloroform (Trichloromethane)	µg/L	0.50 J	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Chloromethane (Methyl chloride)	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
cis-1,2-Dichloroethene	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
cis-1,3-Dichloropropene	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Dichlorodifluoromethane (CFC-12)	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Ethylbenzene	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
m&p-Xylenes	µg/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Methylene chloride	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
m-Monochlorobenzotrifluoride	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
o-Monochlorobenzotrifluoride	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
o-Xylene	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
p-Monochlorobenzotrifluoride	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Styrene	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Tetrachloroethene	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Toluene	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
trans-1,2-Dichloroethene	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
trans-1,3-Dichloropropene	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Trichloroethene	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Trichlorofluoromethane (CFC-11)	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Vinyl acetate	µg/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Vinyl chloride	µg/L	320	330	300	350	360	350
Xylenes (total)	µg/L	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U
General Chemistry							
Phenolics (total)	mg/L	0.0122	0.0098	0.0096	0.0174	0.0110	0.0104

Notes:

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

Table 4

Analytical Results Summary
Quarterly Sampling - Leachate Treatment System
First Quarter - 2017
Hyde Park RRT Program

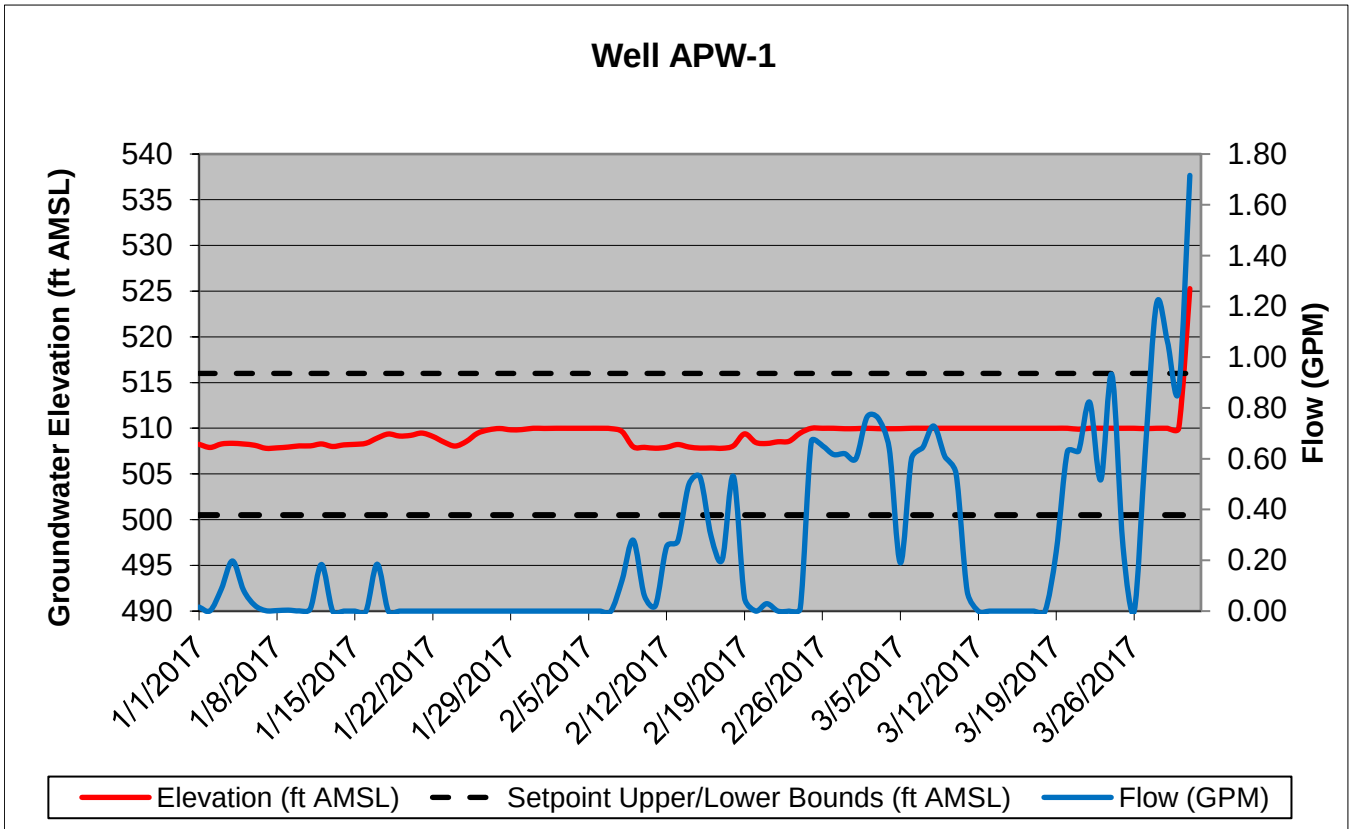
Sample Location:		**EFFLUENT**	**EFFLUENT**
Sample ID:		**HP32217 EFF**	**HP32217 EFF**
Sample Date:		**3/22/2017**	**3/22/2017**
Parameters	**Units**		
Volatile Organic Compounds			
Vinyl chloride	µg/L	250	--
General Chemistry			
Phosphorus	mg/L	--	0.138

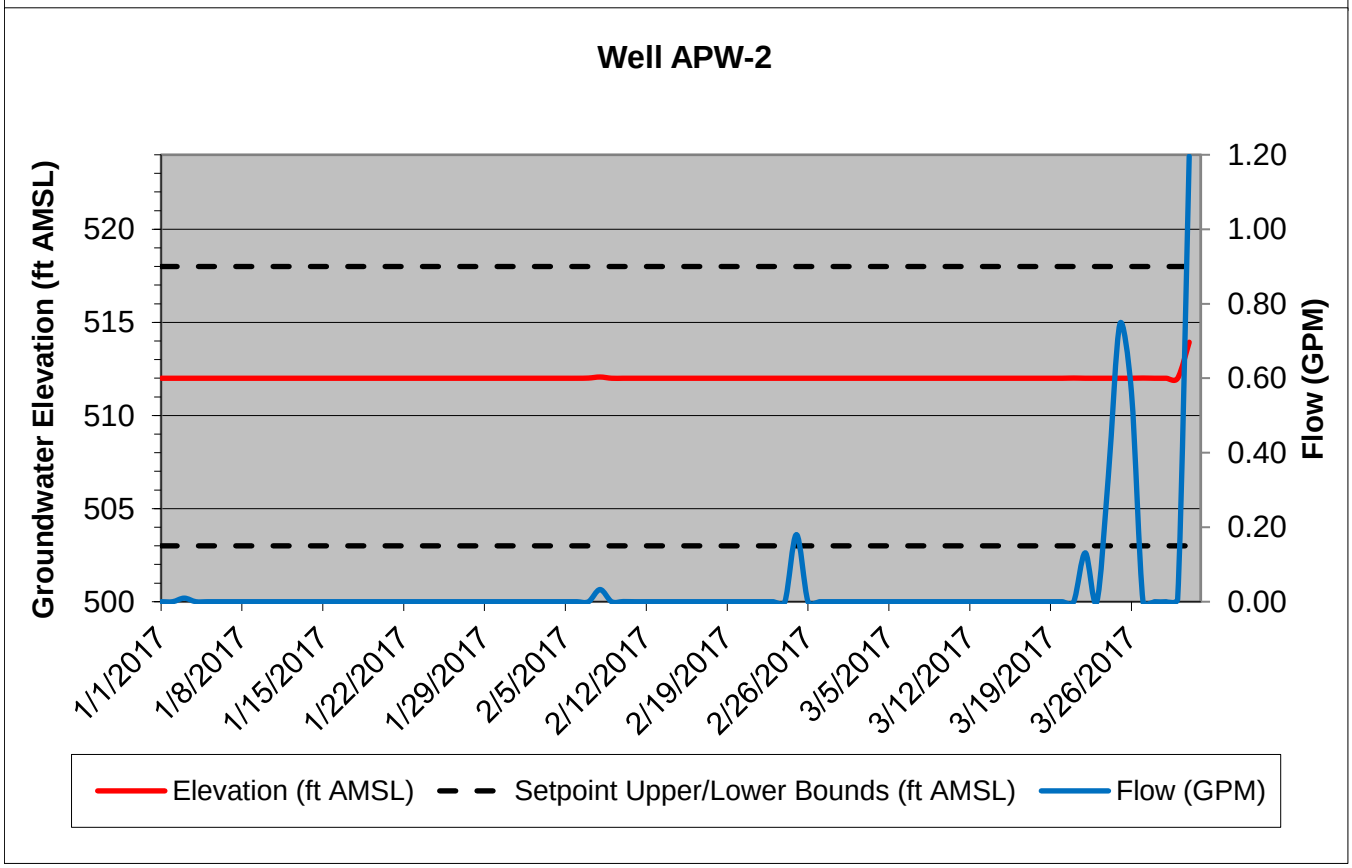
Notes:

"--" - Not applicable

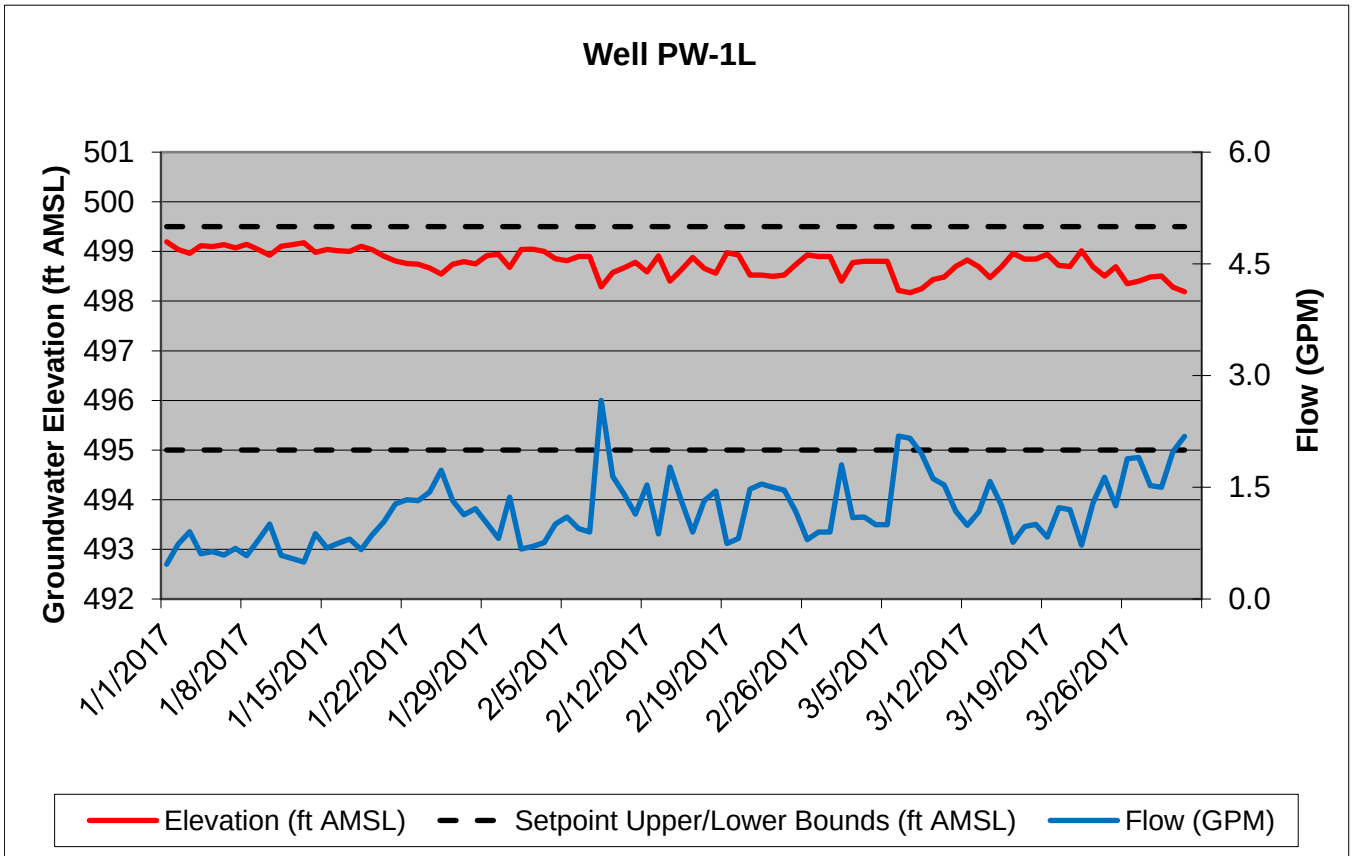
Attachment A

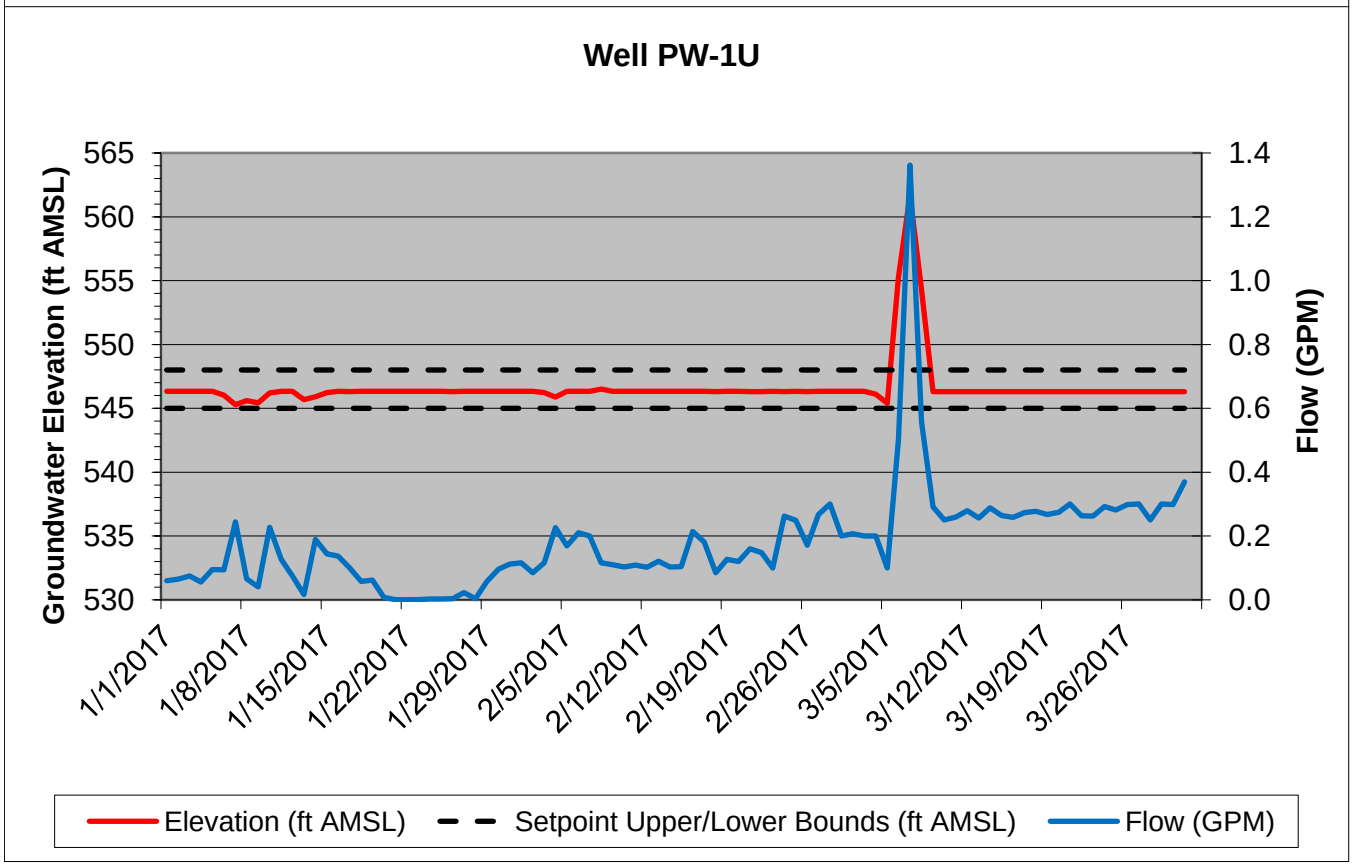
FIRST QUARTER 2017 - PUMPING WELL PERFORMANCE GRAPHS
HYDE PARK



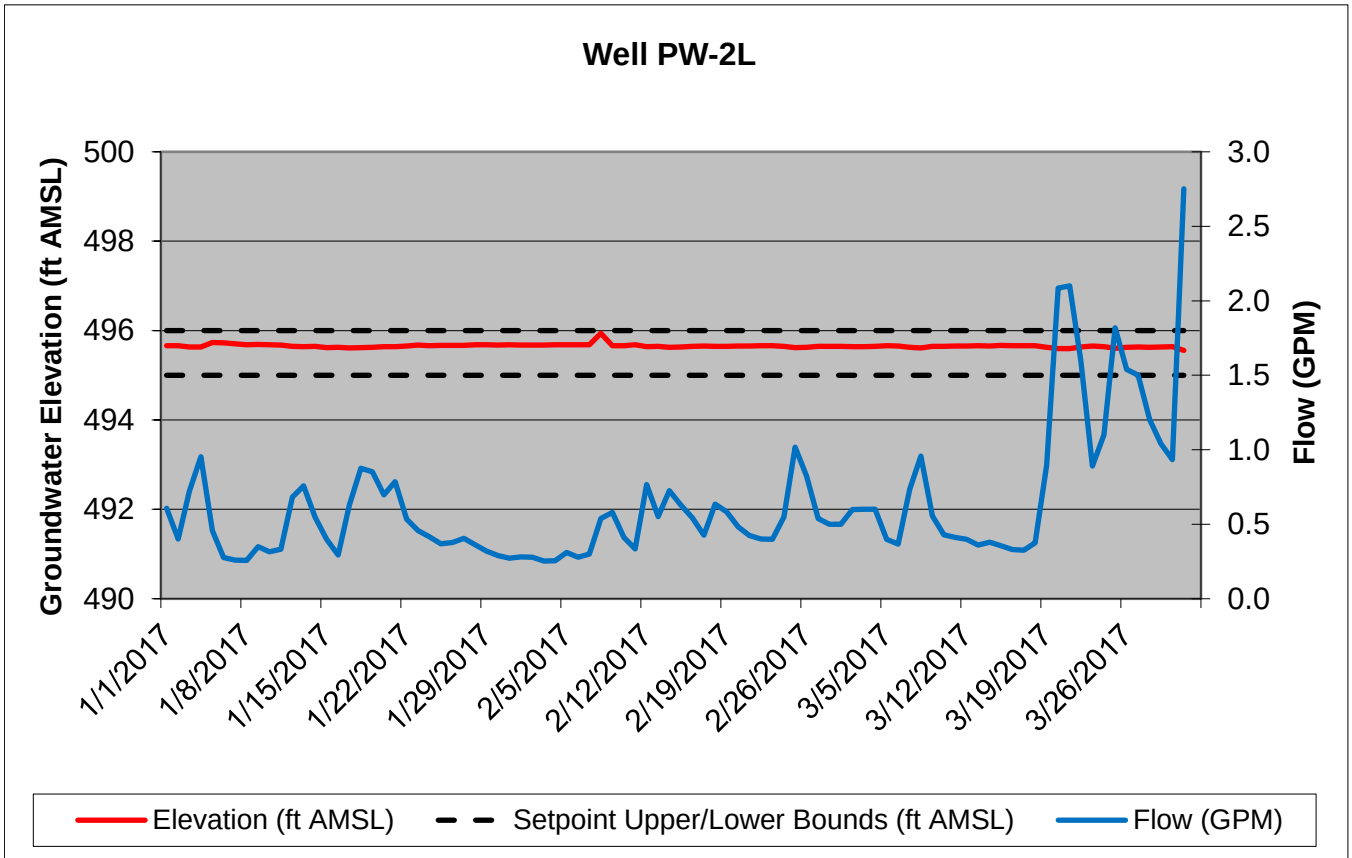


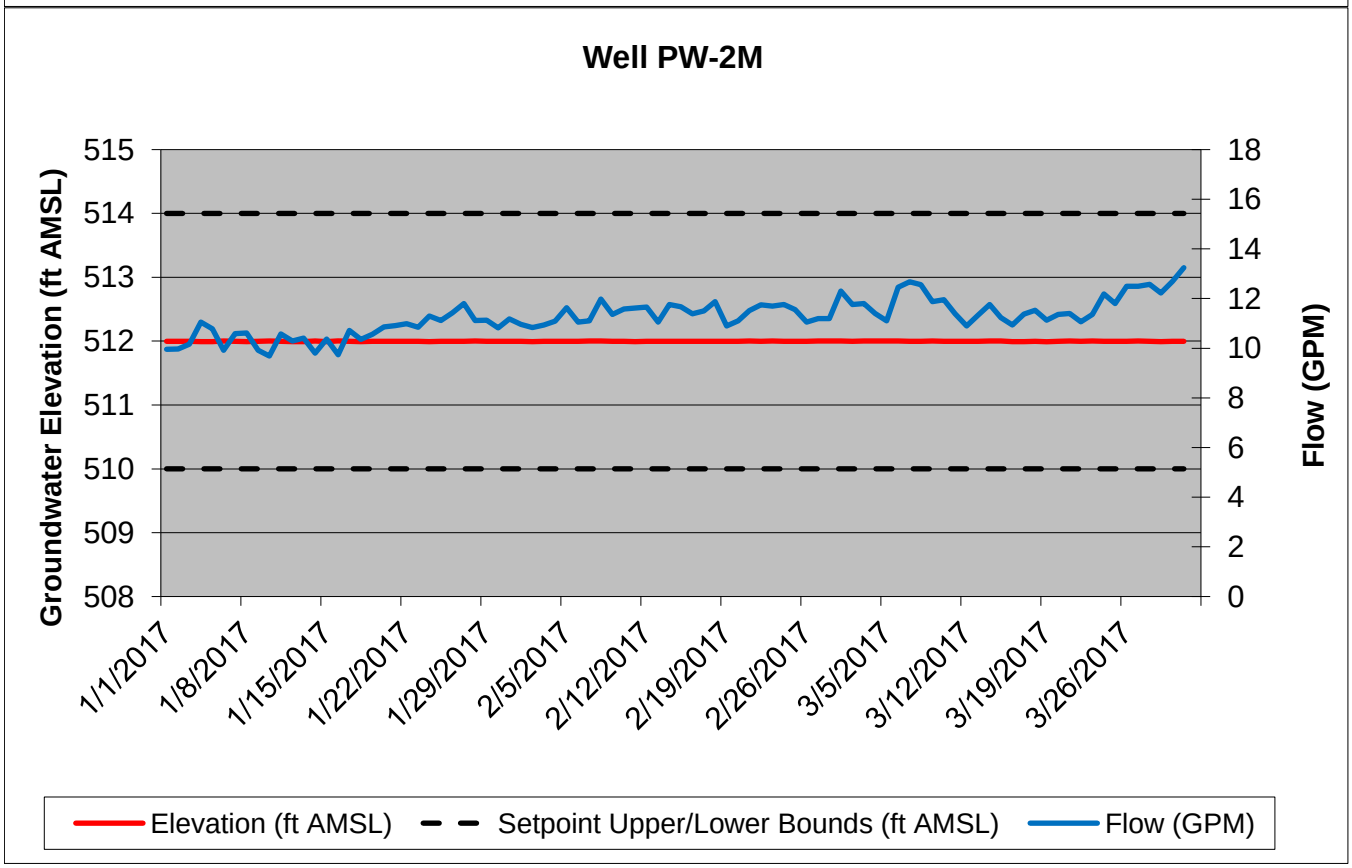
FIRST QUARTER 2017 - PUMPING WELL PERFORMANCE GRAPHS
HYDE PARK



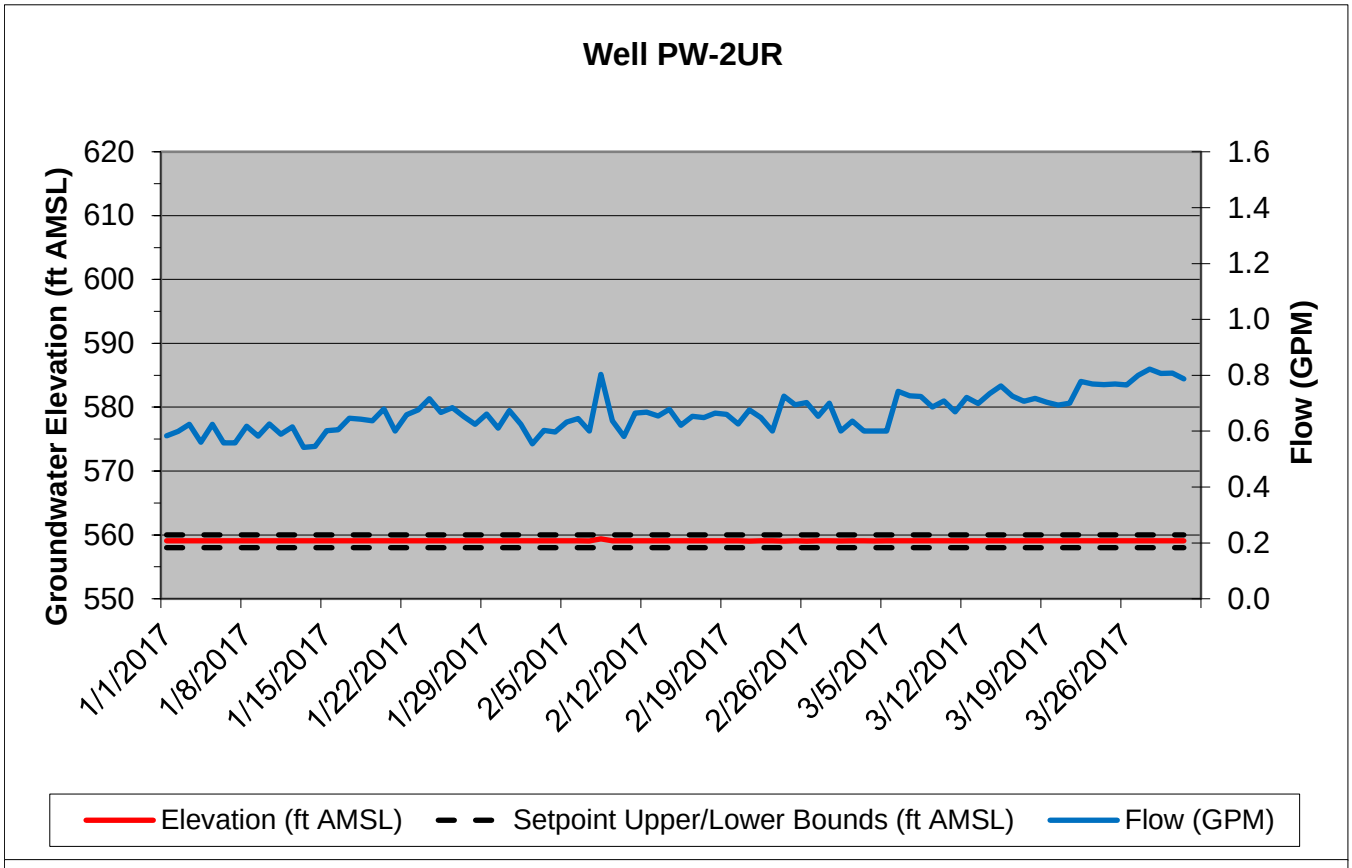


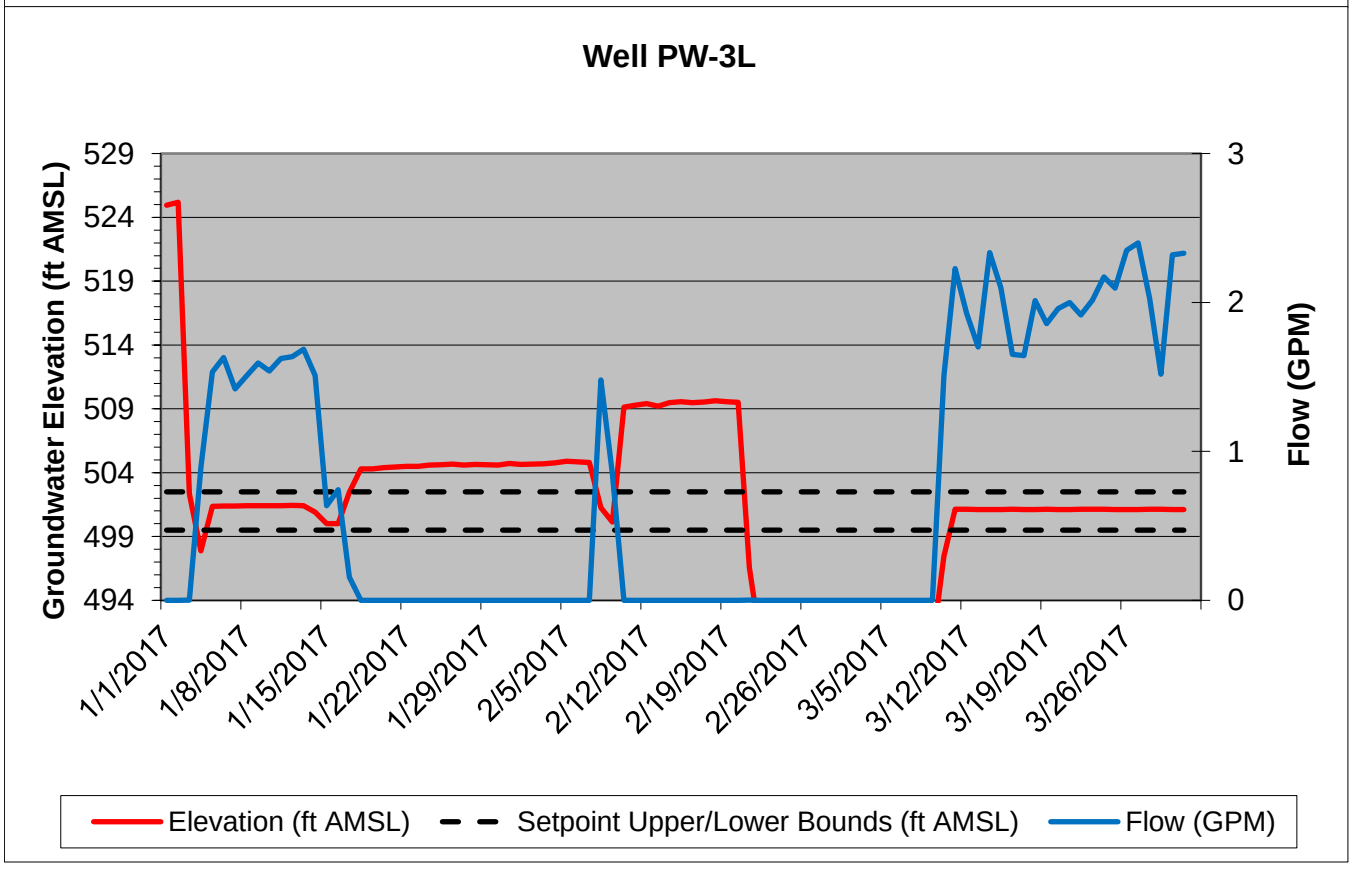
FIRST QUARTER 2017 - PUMPING WELL PERFORMANCE GRAPHS
HYDE PARK



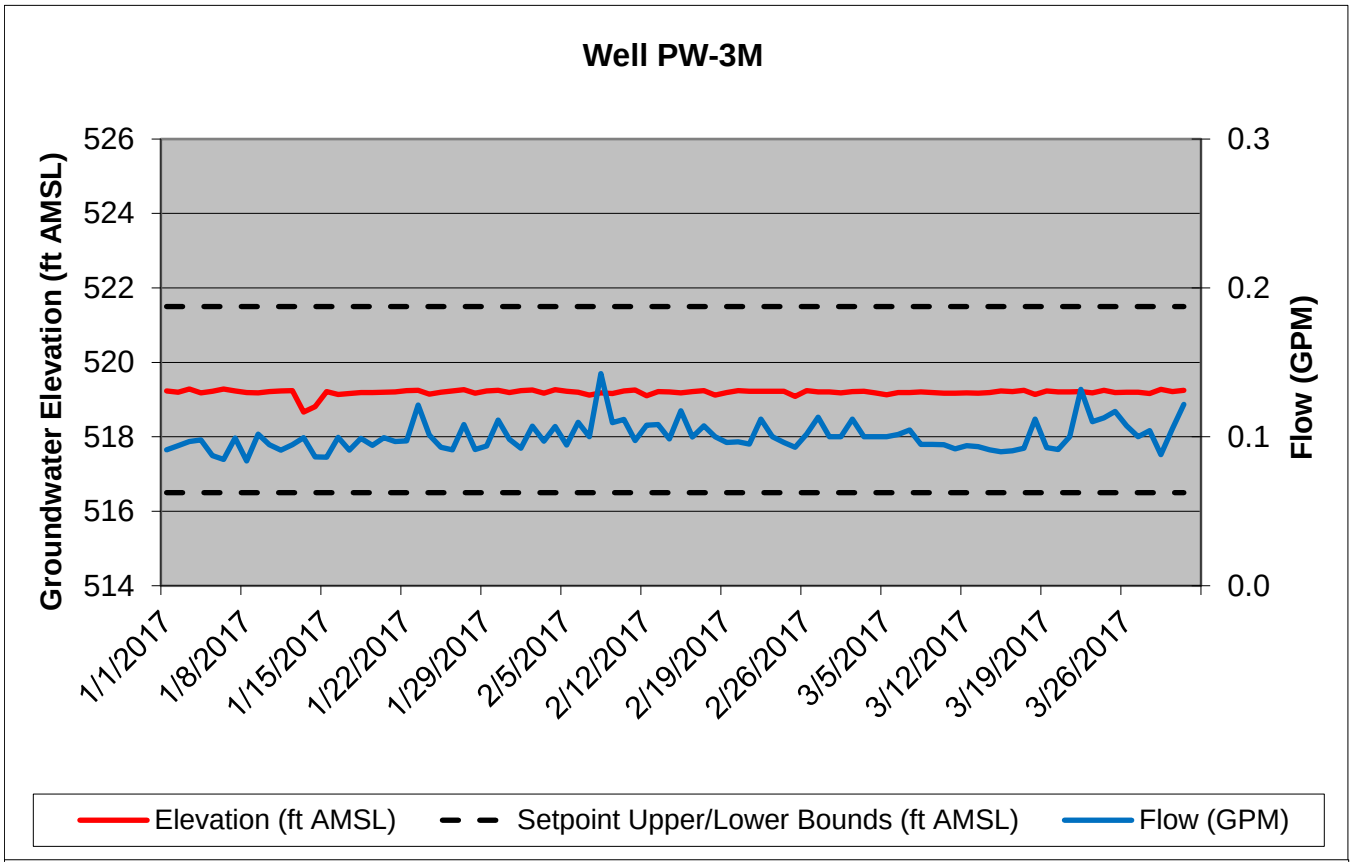


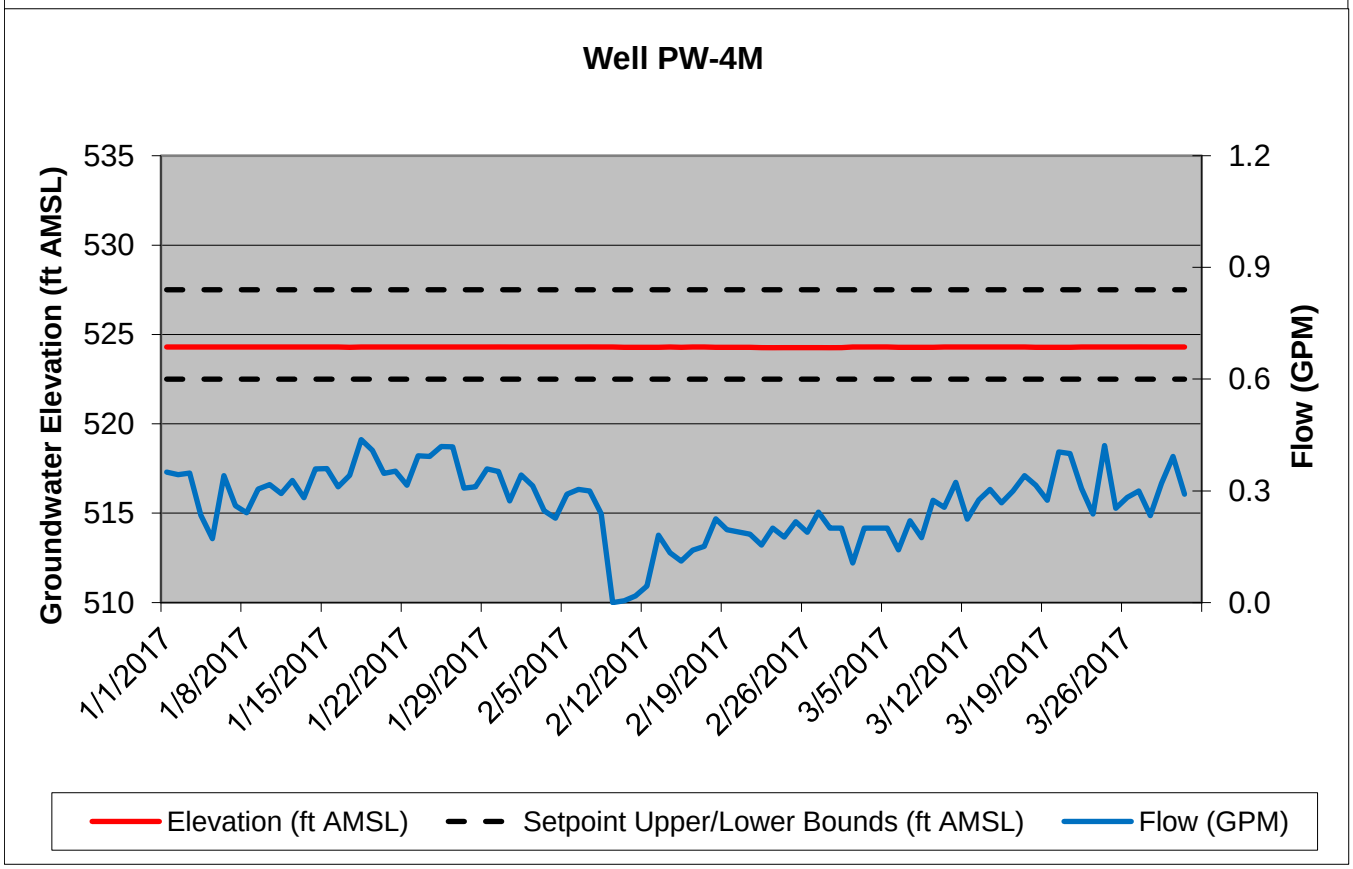
FIRST QUARTER 2017 - PUMPING WELL PERFORMANCE GRAPHS
HYDE PARK



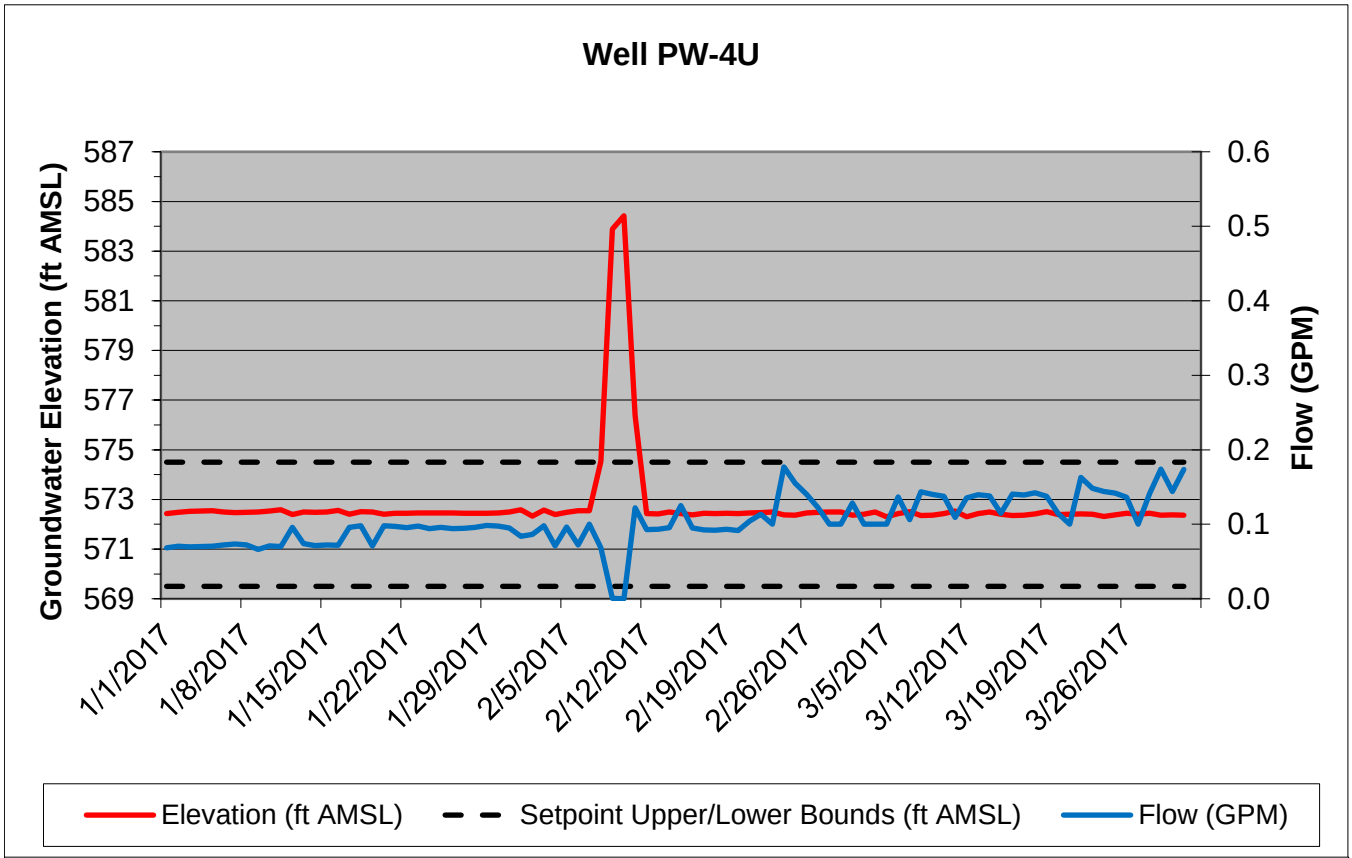


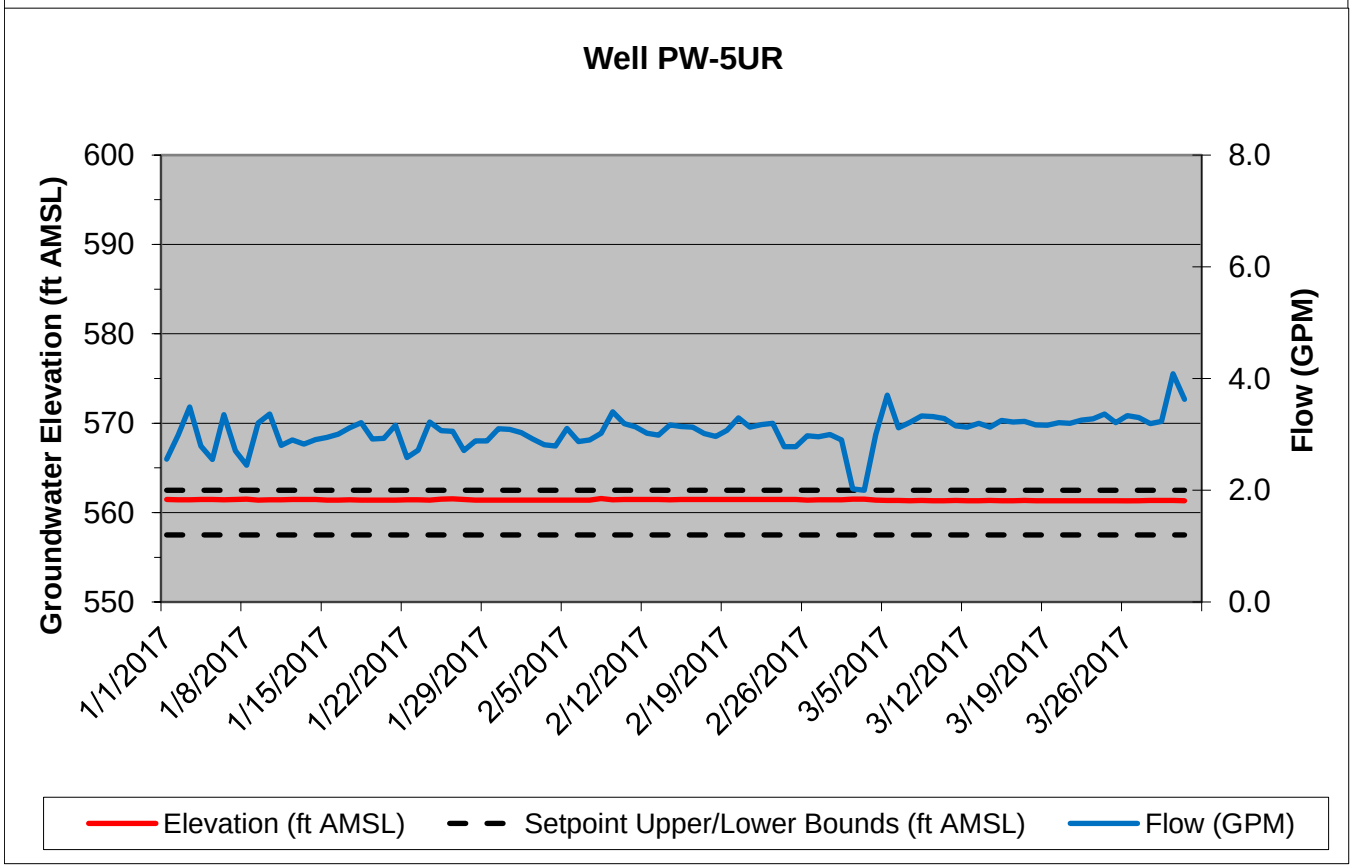
FIRST QUARTER 2017 - PUMPING WELL PERFORMANCE GRAPHS
HYDE PARK



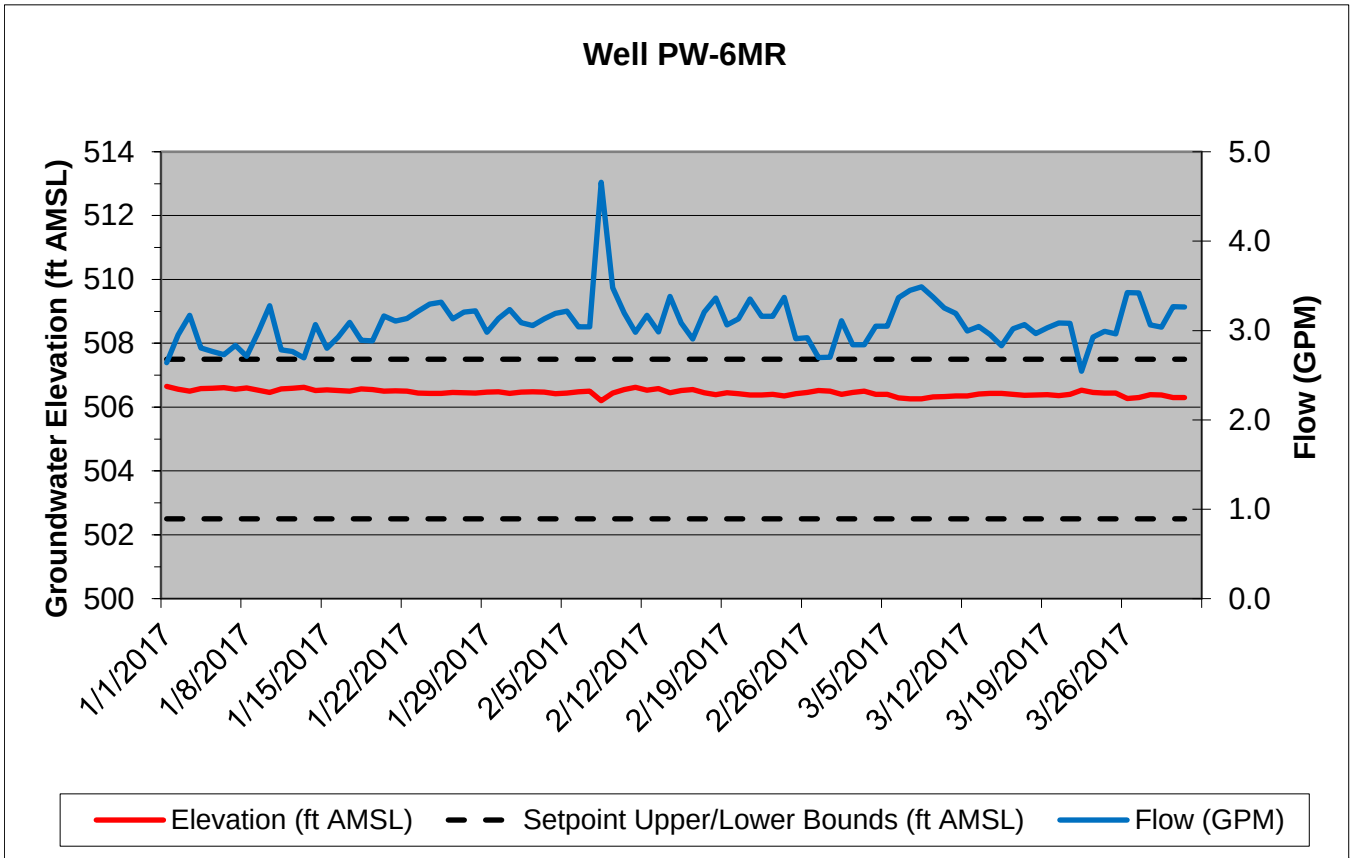


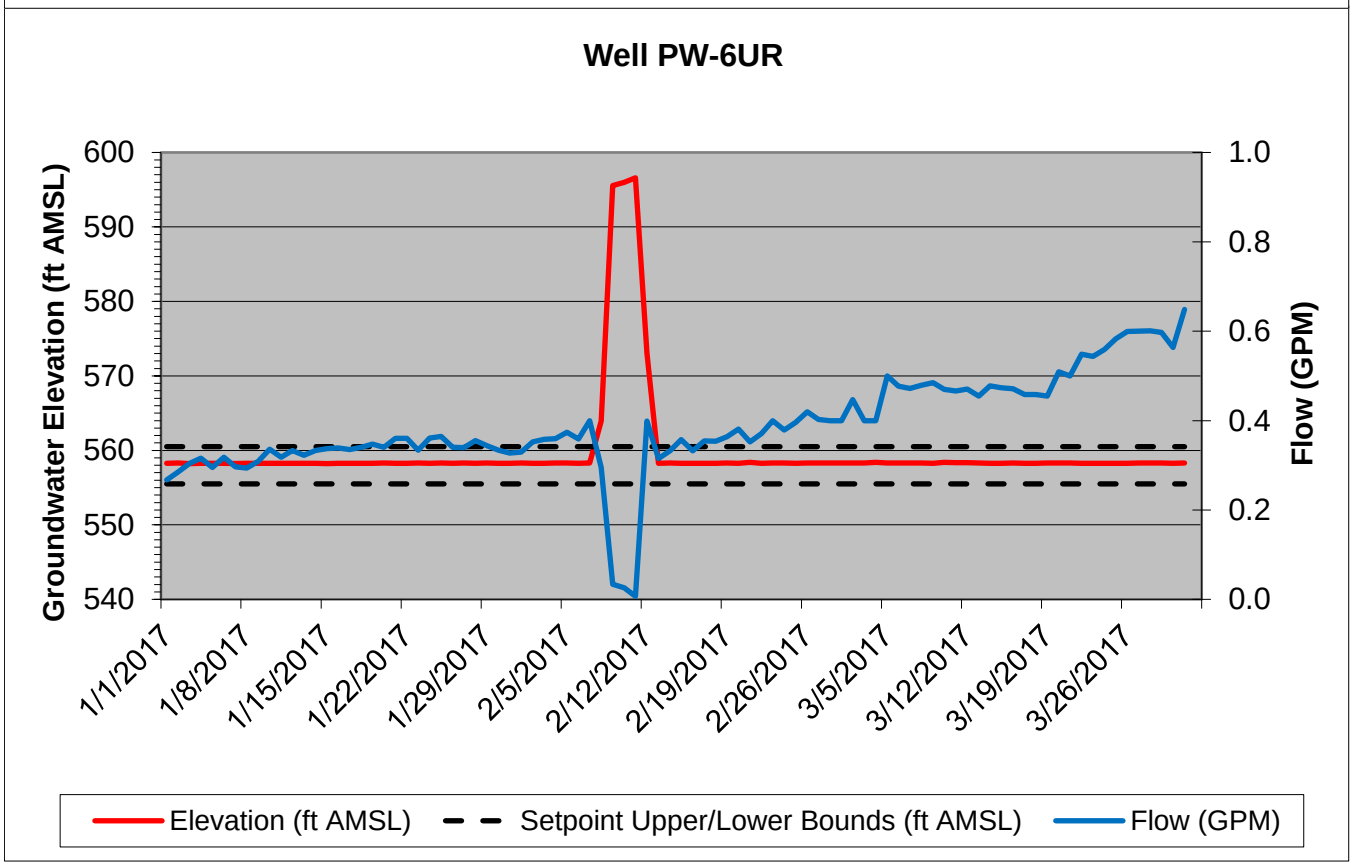
FIRST QUARTER 2017 - PUMPING WELL PERFORMANCE GRAPHS
HYDE PARK



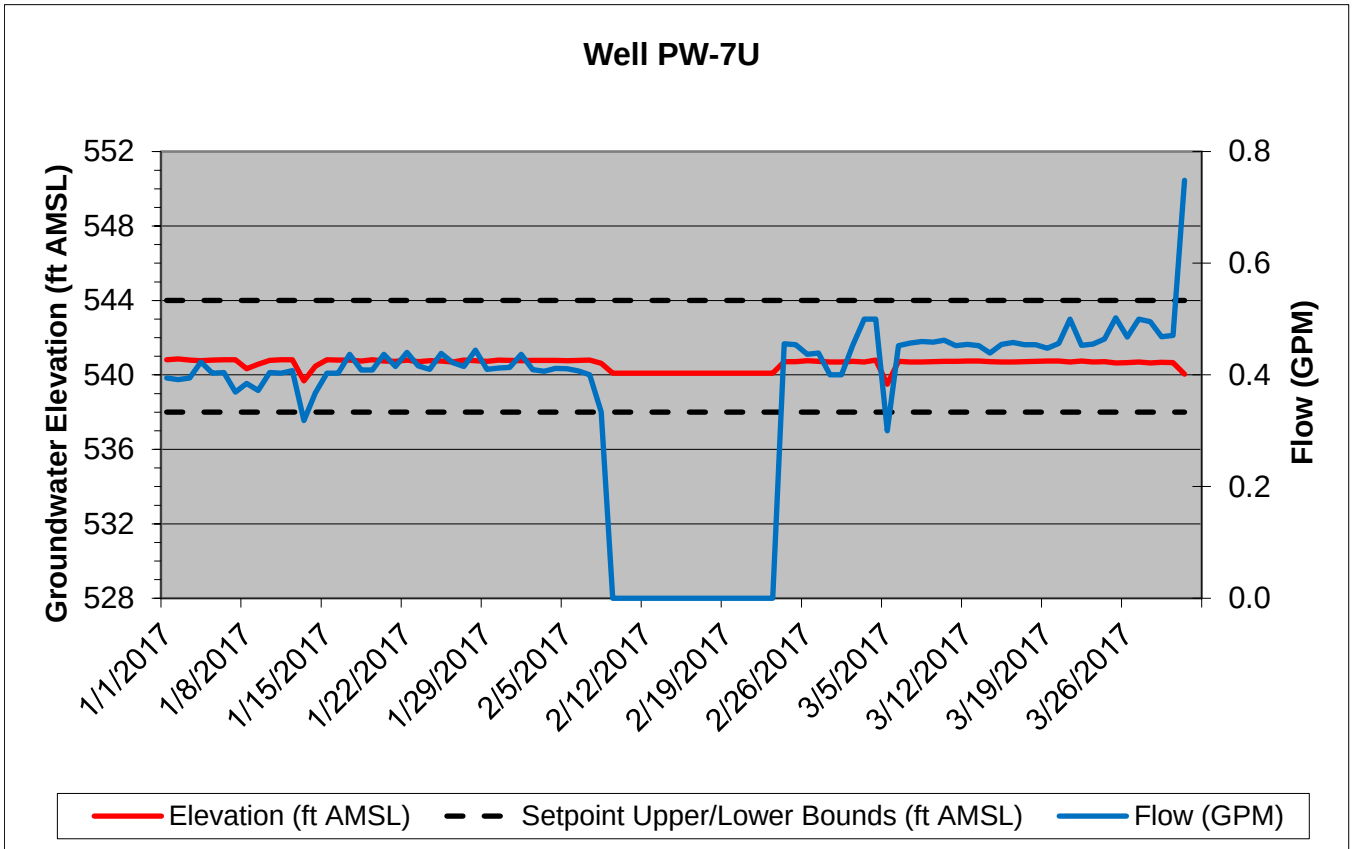


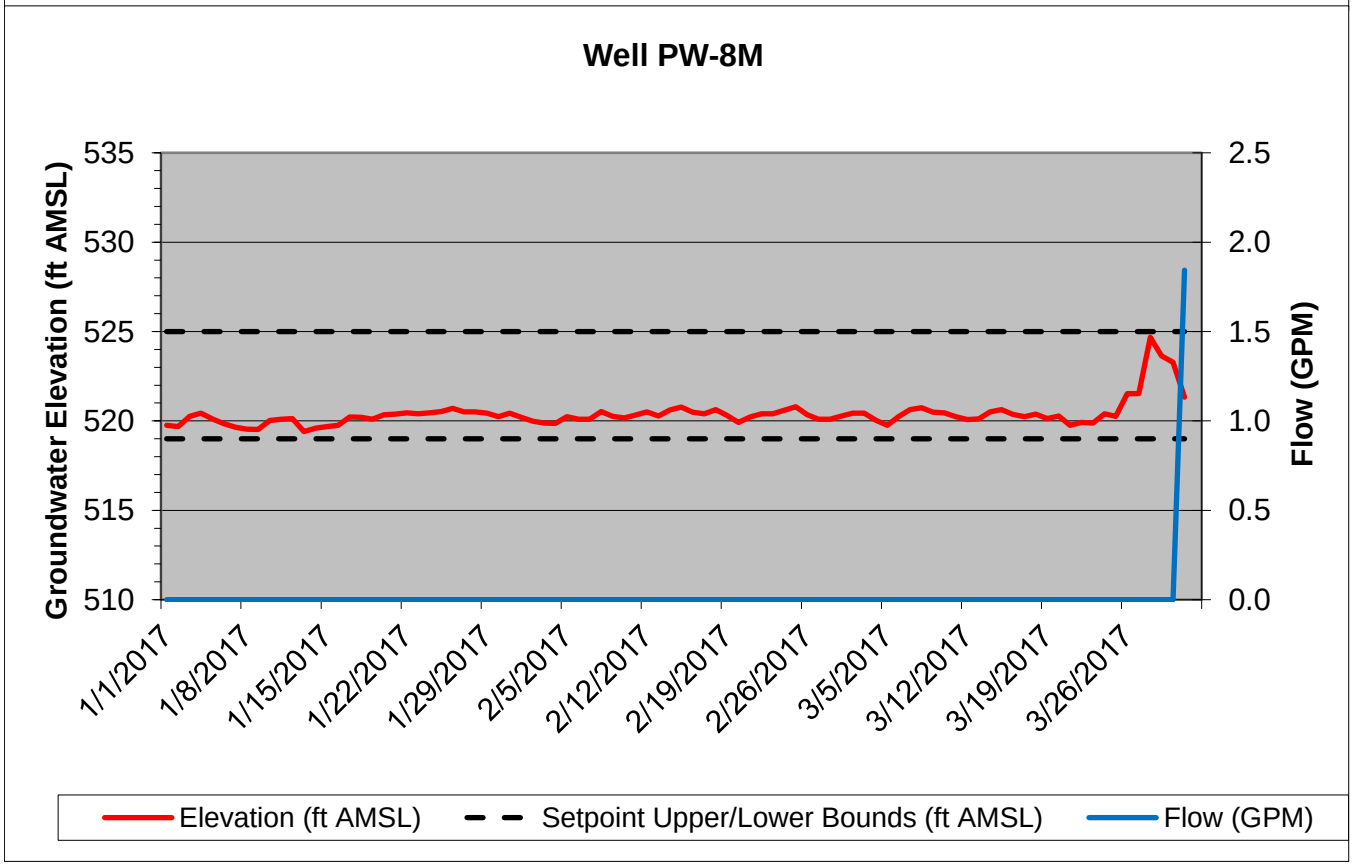
FIRST QUARTER 2017 - PUMPING WELL PERFORMANCE GRAPHS
HYDE PARK



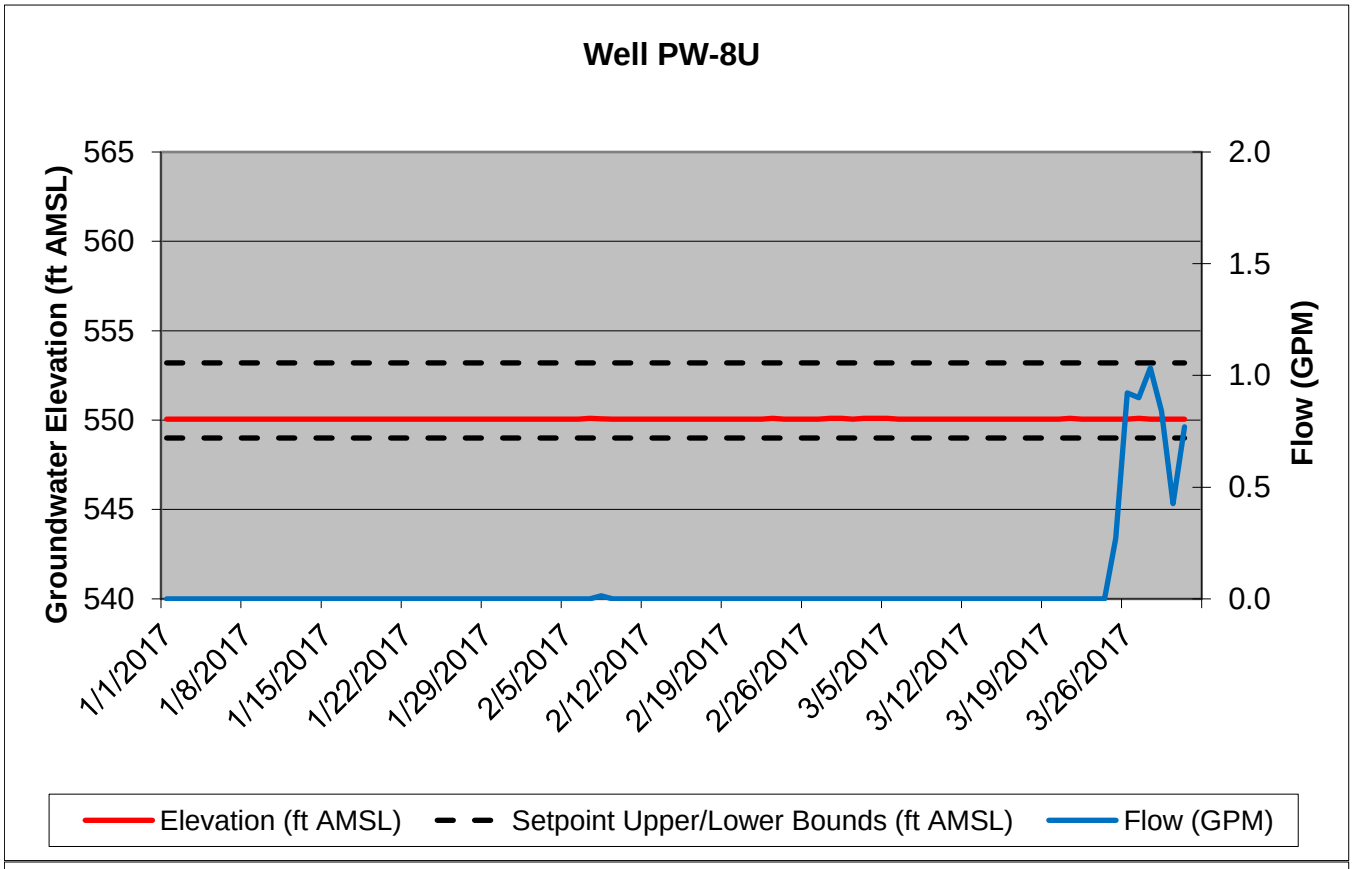


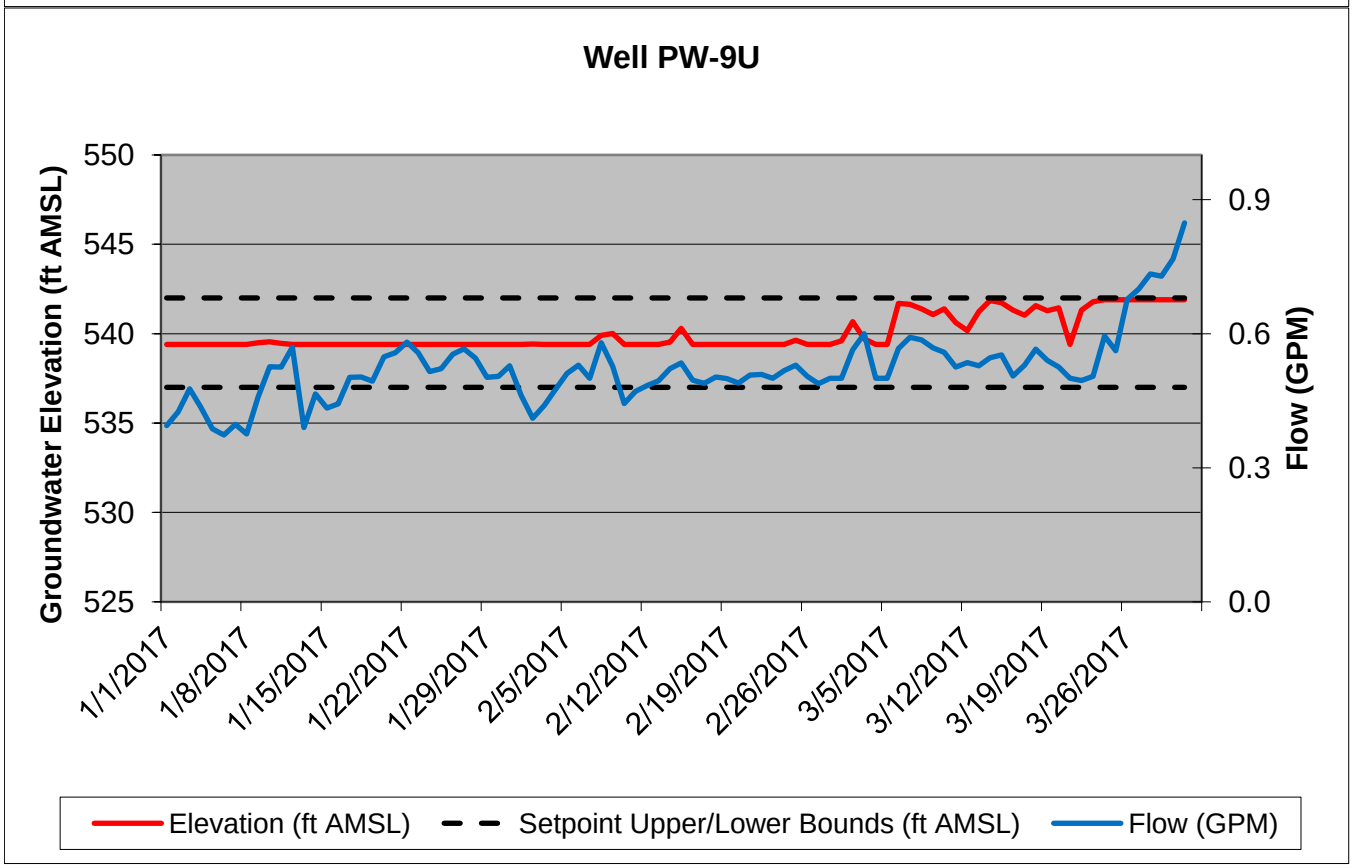
FIRST QUARTER 2017 - PUMPING WELL PERFORMANCE GRAPHS
HYDE PARK





FIRST QUARTER 2017 - PUMPING WELL PERFORMANCE GRAPHS
HYDE PARK





FIRST QUARTER 2017 - PUMPING WELL PERFORMANCE GRAPHS
HYDE PARK