

APPENDIX F
MONITORING WELL PURGE
& SAMPLE LOGS

2015 SAMPLING EVENT

SITE NAME: HIGHLAND PLAZA

POINT ID: MW - 1

LOCATION: TONAWANDA, NY

FIELD REPRESENTATIVE: E&GMS / ES&S

SAMPLE MATRIX: GROUNDWATER

LAB SAMPLE / PROJECT #: 48012783

EVACUATION INFORMATION

INITIAL WATER LEVEL (FT) 12.76

DEPTH TO BOTTOM (FT) 23.57

ELEV., MEAS. PT. (MSL): _____

ELEVATION, G/W (MSL): _____

DATE 12-22-15

TIME: START/FINISH 8:28 / 8:38

METHOD OF EVACUATION:

EVACUATION EQUIPMENT DEDICATED:

- PVC BAILER S.S. BAILER GRUNDFOS PUMP YES NO
- S.S. BAILER QED PUMP OTHER - PERISTALTIC PUMP

WELL RISER DIAMETER (IN.): 1 2 3 4 6

ONE (1) RISER VOLUME (GAL) 0.43

WAS WELL PURGED TO DRYNESS YES NO

TOTAL VOL. EVACUATED (GAL) 0.25

WATER LEVEL END PURGE (FT) 19.10

TURBIDITY OF PURGINGS: START TURBID - TAN

FINISH CLEAR - TAN TINT

EVACUATION STABILIZATION DATA

| TIME | PURGE RATE (ml/min) | DTW (FT) | CUMULATIVE VOL (GAL) | TEMP. (F) | pH (Std.Units) | CONDUCT. (umhos/cm) | TURBIDITY (NTU) | OTHER [eh (mV)] |
|------|---------------------|----------|----------------------|-----------|----------------|---------------------|-----------------|-----------------|
| 8:28 | 100 | 12.76 | 0 | 14.5 | 7.31 | 2500 | >200 | -10.2 |
| 8:33 | 100 | 16.02 | 0.125 | 15.2 | 7.36 | 2360 | 9.03 | -12.6 |
| 8:38 | 100 | 19.10 | 0.25 | 15.3 | 7.38 | 2340 | 8.81 | -13.7 |
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SAMPLING INFORMATION

DATE / TIME 12.22-15 / 8:38

DEPTH TO GROUNDWATER (FT) 19.10

METHOD OF SAMPLING:

SAMPLING EQUIPMENT DEDICATED:

- PVC BAILER S.S. BAILER GRUNDFOS PUMP YES NO
- S.S. BAILER QED PUMP OTHER - PERISTALTIC PUMP

GENERAL INFORMATION

WEATHER CONDITIONS AT TIME OF SAMPLING: CLOUDY. 50°

SAMPLE CHARACTERISTICS: CLEAR - TAN TINT

COMMENTS: _____

SAMPLE COLLECTION NUMBER 1

SITE NAME: HIGHLAND PLAZA

POINT ID: MW - 2

LOCATION: TONAWANDA, NY

FIELD REPRESENTATIVE: E&GMS / ES&S

SAMPLE MATRIX: GROUNDWATER

LAB SAMPLE / PROJECT #: 48012783

EVACUATION INFORMATION

INITIAL WATER LEVEL (FT) 8.60

DEPTH TO BOTTOM (FT) 23.55

ELEV., MEAS. PT. (MSL): _____

ELEVATION, GW (MSL): _____

DATE 12-22-15

TIME: START/FINISH 8:58 / 9:08

METHOD OF EVACUATION:

EVACUATION EQUIPMENT DEDICATED:

- PVC BAILER S.S. BAILER GRUNDFOS PUMP YES NO
- S.S. BAILER QED PUMP OTHER - PERISTALTIC PUMP

WELL RISER DIAMETER (IN.): 1 2 3 4 6

ONE (1) RISER VOLUME (GAL) 0.60

WAS WELL PURGED TO DRYNESS YES NO

TOTAL VOL. EVACUATED (GAL) 0.25

WATER LEVEL END PURGE (FT) 15.09

TURBIDITY OF PURGINGS: START TURBID - TAN

FINISH SL. TURBID - TAN

EVACUATION STABILIZATION DATA

| TIME | PURGE RATE (ml/min) | DTW (FT) | CUMULATIVE VOL (GAL) | TEMP. (F) | pH (Std.Units) | CONDUCT. (umhos/cm) | TURBIDITY (NTU) | OTHER [eh (mV)] |
|------|---------------------|----------|----------------------|-----------|----------------|---------------------|-----------------|-----------------|
| 8:58 | 100 | 8.60 | 0 | 14.8 | 7.54 | 1359 | 7200 | -23.0 |
| 9:03 | 100 | 12.70 | 0.125 | 15.1 | 7.46 | 1390 | 162.00 | -18.5 |
| 9:08 | 100 | 15.09 | 0.25 | 15.1 | 7.45 | 1396 | 138.00 | -18.0 |
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SAMPLING INFORMATION

DATE / TIME 12-22-15 / 9:08 + 9:09

DEPTH TO GROUNDWATER (FT) 15.09

METHOD OF SAMPLING:

SAMPLING EQUIPMENT DEDICATED:

- PVC BAILER S.S. BAILER GRUNDFOS PUMP YES NO
- S.S. BAILER QED PUMP OTHER - PERISTALTIC PUMP

GENERAL INFORMATION

WEATHER CONDITIONS AT TIME OF SAMPLING: cloudy, 50°F

SAMPLE CHARACTERISTICS: SL. TURBID - TAN

COMMENTS: DUP TAKEN (#3 @ 9:09)

SAMPLE COLLECTION NUMBER 2+3

SITE NAME: HIGHLAND PLAZA

POINT ID: MW - 3

LOCATION: TONAWANDA, NY

FIELD REPRESENTATIVE: E&GMS / ES&S

SAMPLE MATRIX: GROUNDWATER

LAB SAMPLE / PROJECT #: 48012783

EVACUATION INFORMATION

INITIAL WATER LEVEL (FT) 11.05

DEPTH TO BOTTOM (FT) 23.52

ELEV., MEAS. PT. (MSL): _____

ELEVATION, GW (MSL): _____

DATE 12-22-15

TIME: START/FINISH 9:26 / 9:36

METHOD OF EVACUATION:

- PVC BAILER S.S. BAILER GRUNDFOS PUMP
- S.S. BAILER QED PUMP OTHER - PERISTALTIC PUMP

EVACUATION EQUIPMENT DEDICATED:

- YES NO

WELL RISER DIAMETER (IN.): 1 2 3 4 6

ONE (1) RISER VOLUME (GAL) 0.50

WAS WELL PURGED TO DRYNESS YES NO

TOTAL VOL. EVACUATED (GAL) 0.25

WATER LEVEL END PURGE (FT) 18.22

TURBIDITY OF PURGINGS: START TURBID-TAN

FINISH SI. TURBID-TAN

EVACUATION STABILIZATION DATA

| TIME | PURGE RATE (ml/min) | DTW (FT) | CUMULATIVE VOL (GAL) | TEMP. (F) | pH (Std.Units) | CONDUCT. (umhos/cm) | TURBIDITY (NTU) | OTHER [eh (mV)] |
|------|---------------------|----------|----------------------|-----------|----------------|---------------------|-----------------|-----------------|
| 9:26 | 100 | 11.05 | 0 | 14.9 | 7.44 | 1604 | 7200 | -17.1 |
| 9:31 | 100 | 15.10 | 0.125 | 14.9 | 7.35 | 1660 | 180.00 | -11.6 |
| 9:36 | 100 | 18.22 | 0.25 | 15.0 | 7.31 | 1675 | 148.00 | -9.7 |
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SAMPLING INFORMATION

DATE / TIME 12-22-15 / 9:36

DEPTH TO GROUNDWATER (FT) 18.22

METHOD OF SAMPLING:

- PVC BAILER S.S. BAILER GRUNDFOS PUMP
- S.S. BAILER QED PUMP OTHER - PERISTALTIC PUMP

SAMPLING EQUIPMENT DEDICATED:

- YES NO

GENERAL INFORMATION

WEATHER CONDITIONS AT TIME OF SAMPLING: CLOUDY, 50°

SAMPLE CHARACTERISTICS: SI. TURBID-TAN

COMMENTS: MS/MSD TAKEN

SAMPLE COLLECTION NUMBER 4

SITE NAME: HIGHLAND PLAZA

POINT ID: MW - 4

LOCATION: TONAWANDA, NY

FIELD REPRESENTATIVE: E&GMS / ES&S

SAMPLE MATRIX: GROUNDWATER

LAB SAMPLE / PROJECT #: 48012783

EVACUATION INFORMATION

INITIAL WATER LEVEL (FT) 8.42

DEPTH TO BOTTOM (FT) 23.72

ELEV., MEAS. PT. (MSL): _____

ELEVATION, GW (MSL): _____

DATE 12-22-15

TIME: START/FINISH 9:56 / 10:06

METHOD OF EVACUATION:

- PVC BAILER
- S.S. BAILER
- S.S. BAILER
- QED PUMP

- GRUNDFOS PUMP
- OTHER - PERISTALTIC PUMP

EVACUATION EQUIPMENT DEDICATED:

- YES
- NO

WELL RISER DIAMETER (IN.): 1 2 3 4 6

ONE (1) RISER VOLUME (GAL) 0.61

WAS WELL PURGED TO DRYNESS YES NO

TOTAL VOL. EVACUATED (GAL) 0.25

WATER LEVEL END PURGE (FT) 15.26

TURBIDITY OF PURGINGS: START SI. TURBID-TAN

FINISH SI. TURBID-TAN

EVACUATION STABILIZATION DATA

| TIME | PURGE RATE (ml/min) | DTW (FT) | CUMULATIVE VOL (GAL) | TEMP. (F) | pH (Std.Units) | CONDUCT. (umhos/cm) | TURBIDITY (NTU) | OTHER [eh (mV)] |
|-------|---------------------|----------|----------------------|-----------|----------------|---------------------|-----------------|-----------------|
| 9:56 | 100 | 8.42 | 0 | 12.9 | 7.37 | 1409 | 51.10 | -13.1 |
| 10:01 | 100 | 12.55 | 0.125 | 12.9 | 7.38 | 1442 | 42.20 | -13.5 |
| 10:06 | 100 | 15.26 | 0.25 | 12.9 | 7.38 | 1451 | 36.20 | -13.6 |
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SAMPLING INFORMATION

DATE / TIME 12-22-15 / 10:06

DEPTH TO GROUNDWATER (FT) 15.26

METHOD OF SAMPLING:

- PVC BAILER
- S.S. BAILER
- S.S. BAILER
- QED PUMP

- GRUNDFOS PUMP
- OTHER - PERISTALTIC PUMP

SAMPLING EQUIPMENT DEDICATED:

- YES
- NO

GENERAL INFORMATION

WEATHER CONDITIONS AT TIME OF SAMPLING: CLOUDY, 50^{OF}

SAMPLE CHARACTERISTICS: SI. TURBID-TAN

COMMENTS: _____

SAMPLE COLLECTION NUMBER 5

SITE NAME: HIGHLAND PLAZA

POINT ID: MW - 5

LOCATION: TONAWANDA, NY

FIELD REPRESENTATIVE: E&GMS / ES&S

SAMPLE MATRIX: GROUNDWATER

LAB SAMPLE / PROJECT #: 48012783

EVACUATION INFORMATION

INITIAL WATER LEVEL (FT) 4.18

DEPTH TO BOTTOM (FT) 23.68

ELEV., MEAS. PT. (MSL): _____

ELEVATION, G/W (MSL): _____

DATE 12-22-15

TIME: START/FINISH 10:30 / 10:40

METHOD OF EVACUATION:

- PVC BAILER S.S. BAILER GRUNDFOS PUMP
- S.S. BAILER QED PUMP OTHER - PERISTALTIC PUMP

EVACUATION EQUIPMENT DEDICATED:

- YES NO

WELL RISER DIAMETER (IN.): 1 2 3 4 6

ONE (1) RISER VOLUME (GAL) 0.78

WAS WELL PURGED TO DRYNESS YES NO

TOTAL VOL. EVACUATED (GAL) 0.25

WATER LEVEL END PURGE (FT) 10.99

TURBIDITY OF PURGINGS: START TURBID-TAN

FINISH TURBID-TAN

EVACUATION STABILIZATION DATA

| TIME | PURGE RATE (ml/min) | DTW (FT) | CUMULATIVE VOL (GAL) | TEMP. (F) | pH (Std.Units) | CONDUCT. (umhos/cm) | TURBIDITY (NTU) | OTHER [eh (mV)] |
|-------|---------------------|----------|----------------------|-----------|----------------|---------------------|-----------------|-----------------|
| 10:30 | 100 | 4.18 | 0 | 13.1 | 7.28 | 1389 | 7200 | -8.5 |
| 10:35 | 100 | 10.60 | 0.125 | 13.3 | 7.26 | 1530 | 7200 | -6.8 |
| 10:40 | 100 | 10.99 | 0.25 | 13.3 | 7.25 | 1542 | 7200 | -6.4 |
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SAMPLING INFORMATION

DATE / TIME 12-22-15 / 10:40

DEPTH TO GROUNDWATER (FT) 10.99

METHOD OF SAMPLING:

- PVC BAILER S.S. BAILER GRUNDFOS PUMP
- S.S. BAILER QED PUMP OTHER - PERISTALTIC PUMP

SAMPLING EQUIPMENT DEDICATED:

- YES NO

GENERAL INFORMATION

WEATHER CONDITIONS AT TIME OF SAMPLING: CLOUDY, 50°F

SAMPLE CHARACTERISTICS: TURBID-TAN

COMMENTS: _____

SAMPLE COLLECTION NUMBER 6

2017 SAMPLING EVENT

2019 SAMPLING EVENT

2021 SAMPLING EVENT

2023 WELL DEVELOPMENT

WELL PURGE LOG

LiRo Engineers, Inc.

Project Title: NYSDEC I&R - Highland Plaza

Well Number: MW-1

Site Name: Highland Plaza - C915293A

Date: 10/5/2023

Staff: Jason Kryszak

Time: No Sample Collected

A). Total casing and screen length in feet: 23.45

B). Water level below top of casing in feet: 3.97

C). Number of feet standing water [A-B]: 19.48

D). Volume of water/foot of casing (gal.): 0.04

E). Volume of water in casing (gal. [Cx D]): 0.78

F). Volume of water to remove (gal.) [Ex3]: 2.34

G). Volume of water actually removed (gal.): 1.35

H). Explanation/Reason if F ≠ G: The monitoring well was purged dry.

I). Pumping/Extraction Method: Bailer Peristaltic Whale Grundfos Other _____

J). Purge/Sampling Flow/Extraction Rates: 0.01 gpm Sampling Flow/Extraction Rate: 0.01 gpm
(Average) (Average)

| Well ID | Volume (gal/ft) |
|---------|-----------------|
| 1" | 0.04 |
| 2" | 0.17 |
| 3" | 0.38 |
| 4" | 0.66 |
| 5" | 1.04 |
| 6" | 1.50 |
| 8" | 2.60 |

PURGE DATA

| Time | Cumulative Volume Removed (gal) | Temperature (°C) | pH | ORP (mV) | Conductivity (ms/cm) | Turbidity (NTU) | Dissolved Oxygen (mg/L) | Dissolved Oxygen % | Appearance |
|-------|---------------------------------|------------------|------|----------|----------------------|-----------------|-------------------------|--------------------|-------------------|
| 12:40 | Initial Observed | | | | | Very High | | | Black |
| 12:44 | 0.35 | 21.90 | 7.81 | -59 | 3.51 | 164 | 0.00 | - | Clear/light black |
| 13:00 | 0.95 | 22.71 | 7.92 | -63 | 2.37 | >1000 | 4.78 | - | Black |
| 13:21 | 1.35 | 22.69 | 7.9 | -64 | 2.47 | >1000 | 0.00 | - | Black |
| | | | | | | | | | |

Note: prior to cleaning out sediment from the protective casing, the slip cap was on its side on top of the inner casing. the slip cap did not create a seal from surface water and sediments from the parking lot. The well may be influenced by surface conditions from rain runoff and cars in the parking lot.

Comments: Removed sediment from insite flush mount protective casing. The plug did not appear on the well securely and could explain black color to water. Flush mount casing is in poor condition and does not seal or bolt down properly.

Sampling ID: Not Sampled

Sampling Parameters: (check one) PFAs Other (list parameters below)
 PFAs & 1,4-Dioxane
 TCL VOCs, SVOCs, Pesticides, Herbicides, PCBs, TAL Metals, Cyanide, PFAs & 1,4-Dioxane

WELL PURGE LOG

LiRo Engineers, Inc.

Project Title: NYSDEC I&R - Highland Plaza

Well Number: MW-2

Site Name: Highland Plaza - C915293A

Date: 10/5/2023

Staff: Jason Kryszak

Time: No Sample Collected

- A). Total casing and screen length in feet: 23.50
- B). Water level below top of casing in feet: 4.1
- C). Number of feet standing water [A-B]: 19.4
- D). Volume of water/foot of casing (gal.): 0.04
- E). Volume of water in casing (gal. [Cx D]): 0.78
- F). Volume of water to remove (gal.) [Ex3]: 2.33
- G). Volume of water actually removed (gal.): 1.35
- H). Explanation/Reason if F ≠ G: The monitoring well was purged dry.
- I). Pumping/Extraction Method: Bailer Peristaltic Whale Grundfos Other _____
- J). Purge/Sampling Flow/Extraction Rates: 0.01 gpm Sampling Flow/Extraction Rate: 0.01 gpm
(Average) (Average)
- | Well ID | Volume (gal/ft) |
|---------|-----------------|
| 1" | 0.04 |
| 2" | 0.17 |
| 3" | 0.38 |
| 4" | 0.66 |
| 5" | 1.04 |
| 6" | 1.50 |
| 8" | 2.60 |

PURGE DATA

| Time | Cumulative Volume Removed (gal) | Temperature (°C) | pH | ORP (mV) | Conductivity (ms/cm) | Turbidity (NTU) | Dissolved Oxygen (mg/L) | Dissolved Oxygen % | Appearance |
|-------|---------------------------------|------------------|------|----------|----------------------|-----------------|-------------------------|--------------------|-----------------|
| 10:30 | Initial Observed | | | | | High | | | Brownish Tan |
| 10:35 | 0.35 | 20.75 | 7.24 | -28 | 1.52 | 79.5 | 0.00 | - | Slightly Opaque |
| 11:08 | 0.95 | 20.99 | 7.47 | -39 | 1.45 | 850 | 0.03 | - | Brownish Tan |
| 11:17 | 1.35 | 20.76 | 7.49 | -40 | 1.35 | 518 | 2.60 | - | Brownish Tan |
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Comments: The surface flush mount casing was repaired/replaced recently on MW-2.

Sampling ID: Not Sampled

Sampling Parameters: (check one) PFAs Other (list parameters below)
 PFAs & 1,4-Dioxane
 TCL VOCs, SVOCs, Pesticides, Herbicides, PCBs, TAL Metals, Cyanide, PFAs & 1,4-Dioxane

WELL PURGE LOG

LiRo Engineers, Inc.

Project Title: NYSDEC I&R - Highland Plaza

Well Number: MW-3

Site Name: Highland Plaza - C915293A

Date: 10/5/2023

Staff: Jason Kryszak

Time: No Sample Collected

- A). Total casing and screen length in feet: 23.45
- B). Water level below top of casing in feet: 6.22
- C). Number of feet standing water [A-B]: 17.23
- D). Volume of water/foot of casing (gal.): 0.04
- E). Volume of water in casing (gal. [Cx D]): 0.69
- F). Volume of water to remove (gal.) [Ex3]: 2.07
- G). Volume of water actually removed (gal.): 2.00
- H). Explanation/Reason if F ≠ G: The monitoring well was purged dry.
- I). Pumping/Extraction Method: Bailer Peristaltic Whale Grundfos Other _____
- J). Purge/Sampling Flow/Extraction Rates: 0.01 gpm Sampling Flow/Extraction Rate: 0.01 gpm
(Average) (Average)
- | Well ID | Volume (gal/ft) |
|---------|-----------------|
| 1" | 0.04 |
| 2" | 0.17 |
| 3" | 0.38 |
| 4" | 0.66 |
| 5" | 1.04 |
| 6" | 1.50 |
| 8" | 2.60 |

PURGE DATA

| Time | Cumulative Volume Removed (gal) | Temperature (°C) | pH | ORP (mV) | Conductivity (ms/cm) | Turbidity (NTU) | Dissolved Oxygen (mg/L) | Dissolved Oxygen % | Appearance |
|-------|---------------------------------|------------------|------|----------|----------------------|-----------------|-------------------------|--------------------|-----------------|
| 11:35 | Initial Observed | | | | | Med | | | Slightly Opaque |
| 11:40 | 0.4 | 19.99 | 7.50 | -43 | 1.39 | 43.6 | 0.00 | - | Slightly Opaque |
| 11:45 | 1.0 | 19.94 | 7.68 | -50 | 1.40 | 59.4 | 7.49 | - | Slightly Opaque |
| 12:02 | 2.0 | 21.04 | 7.77 | -53 | 1.45 | >1000 | 3.03 | - | Tan / Opaque |
| | | | | | | | | | |
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Comments: Flush mount casing is in poor condition and does not seal or bolt down properly.

Sampling ID: Not Sampled

Sampling Parameters: (check one) PFAs Other (list parameters below)
 PFAs & 1,4-Dioxane
 TCL VOCs, SVOCs, Pesticides, Herbicides, PCBs, TAL Metals, Cyanide, PFAs & 1,4-Dioxane

WELL PURGE LOG

LiRo Engineers, Inc.

Project Title: NYSDEC I&R - Highland Plaza

Well Number: MW-4

Site Name: Highland Plaza - C915293A

Date: 10/5/2023

Staff: Jason Kryszak

Time: No Sample Collected

A). Total casing and screen length in feet: 20.56

B). Water level below top of casing in feet: 5.81

C). Number of feet standing water [A-B]: 14.75

D). Volume of water/foot of casing (gal.): 0.04

E). Volume of water in casing (gal. [Cx D]): 0.59

F). Volume of water to remove (gal.) [Ex3]: 1.77

G). Volume of water actually removed (gal.): 1.30

H). Explanation/Reason if F ≠ G: The monitoring well was purged dry.

I). Pumping/Extraction Method: Bailer Peristaltic Whale Grundfos Other _____

J). Purge/Sampling Flow/Extraction Rates: 0.01 gpm Sampling Flow/Extraction Rate: 0.01 gpm
 (Average) (Average)

| Well ID | Volume (gal/ft) |
|---------|-----------------|
| 1" | 0.04 |
| 2" | 0.17 |
| 3" | 0.38 |
| 4" | 0.66 |
| 5" | 1.04 |
| 6" | 1.50 |
| 8" | 2.60 |

PURGE DATA

| Time | Cumulative Volume Removed (gal) | Temperature (°C) | pH | ORP (mV) | Conductivity (ms/cm) | Turbidity (NTU) | Dissolved Oxygen (mg/L) | Dissolved Oxygen % | Appearance |
|-------|---------------------------------|------------------|----|----------|----------------------|-----------------|-------------------------|--------------------|-----------------|
| 13:30 | Initial Observed | | | | | | | | Slightly Opaque |
| 13:38 | 0.4 | - | - | - | - | - | - | - | Slightly Opaque |
| 13:45 | 0.9 | - | - | - | - | - | - | - | Slightly Opaque |
| 13:58 | 1.3 | - | - | - | - | - | - | - | Opaque |
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Comments: Did not utilize Horiba parameter sampler due to suspectedly high levels of TCE in water.

Sampling ID: Not Sampled

Sampling Parameters: (check one) PFAs Other (list parameters below)
 PFAs & 1,4-Dioxane
 TCL VOCs, SVOCs, Pesticides, Herbicides, PCBs, TAL Metals, Cyanide, PFAs & 1,4-Dioxane

WELL PURGE LOG

LiRo Engineers, Inc.

Project Title: NYSDEC I&R - Highland Plaza

Well Number: MW-6

Site Name: Highland Plaza - C915293A

Date: 10/4/2023

Staff: Jason Kryszak

Time: No Sample Collected

| | | | |
|--|---|--------------------------------|-------------------------|
| A). Total casing and screen length in feet: | <u>21.90</u> | Well ID | Volume (gal/ft) |
| B). Water level below top of casing in feet: | <u>3.9</u> | 1" | 0.04 |
| C). Number of feet standing water [A-B]: | <u>18</u> | 2" | 0.17 |
| D). Volume of water/foot of casing (gal.): | <u>0.04</u> | 3" | 0.38 |
| E). Volume of water in casing (gal. [Cx D]): | <u>0.72</u> | 4" | 0.66 |
| F). Volume of water to remove (gal.) [Ex3]: | <u>2.16</u> | 5" | 1.04 |
| G). Volume of water actually removed (gal.): | <u>1.20</u> | 6" | 1.50 |
| H). Explanation/Reason if F ≠ G: | <u>Bailer broke off in well when it was close to dry.</u> | | |
| I). Pumping/Extraction Method: | <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Peristaltic <input type="checkbox"/> Whale <input type="checkbox"/> Grundfos <input type="checkbox"/> Other _____ | | |
| J). Purge/Sampling Flow/Extraction Rates: | <u>N/A</u> (Average) | Sampling Flow/Extraction Rate: | <u>N/A</u> (Average) |

PURGE DATA

| Time | Cumulative Volume Removed (gal) | Temperature (°C) | pH | ORP (mV) | Conductivity (ms/cm) | Turbidity (NTU) | Dissolved Oxygen (mg/L) | Dissolved Oxygen % | Appearance |
|------|---------------------------------|------------------|----|----------|----------------------|-----------------|-------------------------|--------------------|-----------------|
| | 1.0 | - | - | - | - | - | - | - | Slightly Opaque |
| | 1.2 | - | - | - | - | - | - | - | Opaque / Black |
| | | | | | | | | | |
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Comments: Did not have the Horiba or peristaltic pump for the day/ used small bailer to purge.
Bailer broke (not string) and is currently in bottom of well.

Sampling ID: Not Sampled

Sampling Parameters: (check one) PFAs Other (list parameters below)
 PFAs & 1,4-Dioxane
 TCL VOCs, SVOCs, Pesticides, Herbicides, PCBs, TAL Metals, Cyanide, PFAs & 1,4-Dioxane

2024 WELL DEVELOPMENT

WELL DEVELOPMENT LOG



TASK : **Well Development**

PSID **WD # 2845**

| | | | |
|----------------------------------|-------------------------------------|---------------|-------------------------------------|
| Project Name: | NYSDEC Highland Plaza - Off-Site | Date: | 5/21/24 and 5/22/24 |
| Project Address: | 215 Highland Parkway, Tonawanda, NY | Developer(s): | Jessica Paterson |
| Project #/Phase/Task/Org: | 0924016 / 06 / 206 // 1109 | Method | 1" surge block and peristaltic pump |

| | |
|--|---|
| Well ID: MW-1 | Initial Depth to Water (ft): 4.67 / 4.69 |
| Well Diameter: 1" | Depth to Bottom (ft): 23.41 |
| Total Well Volume (gallons): 0.76 | Texture of Bottom: Firm |

| Clock Time (24 Hour) | Cumulative Volume Purged (Gallons) | Color | Turbidity | Odor | Comments (Sheen, Well Dry) |
|-------------------------|---------------------------------------|-------|-----------|------|--|
| 6:30 | 0.0 | NA | NA | NA | Agitated and surged length of well screen |
| 6:50 | 0.25 | Brown | Turbid | No | Gently moved the surge block along sections of screen while purging, moving top down |
| 7:10 | 0.75 | Brown | Turbid | No | Surge block removed, purge continues |
| 7:15 | 0.75 | Brown | Turbid | No | Purge volume dropped off, had to lower height of peri pump to restore flow |
| 7:25 | 1.25 | Brown | Turbid | No | Constant flow |
| 7:35 | 2.10 | Brown | Turbid | No | Dry |
| | | | | | |
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Well Condition Notes: white cap (not j-plug)
0/2 bolts and 1/2 ears
TOC is at grade with soil

Additional Comments: Reconfirmed depth to water from 5/21 before starting development on 5/22
Well ran dry at 0735, almost 3 well volumes purged (3 well volumes = 2.28 gallons)
Construction log says DTB = 24'

WELL DEVELOPMENT LOG



TASK : **Well Development**

PSID **WD # 2845**

| | | | |
|----------------------------------|-------------------------------------|---------------|-------------------------------------|
| Project Name: | NYSDEC Highland Plaza - Off-Site | Date: | 5/21/24 and 5/22/24 |
| Project Address: | 215 Highland Parkway, Tonawanda, NY | Developer(s): | Jessica Paterson |
| Project #/Phase/Task/Org: | 0924016 / 06 / 206 // 1109 | Method | 1" surge block and peristaltic pump |

| | |
|---|--|
| Well ID: <u> MW-2 </u> | Initial Depth to Water (ft): <u> 4.37 / 4.42 </u> |
| Well Diameter: <u> 1" </u> | Depth to Bottom (ft): <u> 23.5 </u> |
| Total Well Volume (gallons): <u> 0.78 </u> | Texture of Bottom: <u> Firm </u> |

| Clock Time (24 Hour) | Cumulative Volume Purged (Gallons) | Color | Turbidity | Odor | Comments (Sheen, Well Dry) |
|-------------------------|---------------------------------------|-------|-----------|------|--|
| 8:00 | 0.0 | NA | NA | NA | Agitated and surged length of well screen |
| 8:15 | 0.0 | NA | NA | No | Gently moved the surge block along sections of screen while purging, moving top down |
| 8:25 | 0.75 | Brown | Turbid | No | |
| 8:30 | 1.0 | Brown | Turbid | No | Surge block removed, purge continues |
| 8:40 | 1.75 | Brown | Turbid | No | Continued purging |
| 8:45 | 2.0 | Brown | Turbid | No | Dry |
| | | | | | |
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Well Condition Notes: white cap (no j-plug)
 2/2 bolts
 2/2 ears

Additional Comments: Reconfirmed depth to water from 5/21 before starting development on 5/22
 3 well volumes = 2.34 gallons
 0830 - moved to series drive 2 on peristaltic pump
 Well ran dry at 0845
 Construction log says DTB = 24'

WELL DEVELOPMENT LOG



TASK : **Well Development**

PSID

WD # 2845

| | | | |
|----------------------------------|-------------------------------------|---------------|------------------------------|
| Project Name: | NYSDEC Highland Plaza - Off-Site | Date: | 5/21/24 |
| Project Address: | 215 Highland Parkway, Tonawanda, NY | Developer(s): | Jessica Paterson |
| Project #/Phase/Task/Org: | 0924016 / 06 / 206 // 1109 | Method | 2" surge block and 2" bailer |

| | |
|---|---|
| Well ID: <u> MW-7 </u> | Initial Depth to Water (ft): <u> 3.48 </u> |
| Well Diameter: <u> 2" </u> | Depth to Bottom (ft): <u> 23.75 </u> |
| Total Well Volume (gallons): <u> 3.31 </u> | Texture of Bottom: <u> Hard </u> |

| Clock Time (24 Hour) | Cumulative Volume Purged (Gallons) | Color | Turbidity | Odor | Comments (Sheen, Well Dry) |
|-------------------------|---------------------------------------|------------------------------|---------------|------|--|
| 11:45 | 0.0 | NA | NA | NA | Agitated and surged length of well screen, valve closed |
| 11:55 | 0.0 | NA | NA | NA | Started purging with bailer |
| 12:00 | 0.25 | Mostly clear, somewhat brown | Mildly Turbid | No | Color change from clear to brown, getting darker as water column drops |
| 12:05 | 1.5 | Murky brown | Turbid | No | |
| 12:35 | 8.0 | Murky brown | Turbid | No | Continued purging with bailer |
| 12:40 | 8.0 | NA | NA | No | Agitated and surged length of well screen, valve closed |
| 13:00 | 10.0 | Brown | Brown | No | Bailed dry |
| | | | | | |
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| | | | | | |

Well Condition Notes: j-plug in good condition
 2/2 bolts
 no ballard

Additional Comments: **3 well volumes purged (9.93 gallons)**
 Well ran dry at 1300, purged to 23.33 ft, unable to capture more
 Construction log says DTB = 24'
 5/22/24 @1130: DTW = 21.25' (2.5 ft of overnight recharge)

2024 SAMPLING EVENT

WELL SAMPLING LOG



TASK : **Groundwater Monitoring & Sampling** PSID : **1038449**

| | | | |
|----------------------------------|-------------------------------------|-------------------------|------------------|
| Project Name: | NYSDEC Tonawanda Highland Pkwy215 | Date: | 8/6/24 - 8/7/24 |
| Project Address: | 215 Highland Parkway, Tonawanda, NY | Sampler(s): | Jessica Paterson |
| Project #/Phase/Task/Org: | 0924016///1109 | Sampling Method: | Low Flow |

| Well ID <small>(sys_loc_code)</small> | Well Diameter (inches) | Depth to LNAPL (ft btoc) | Depth to Water (ft btoc) | LNAPL Thickness (ft) | Depth to DNAPL (ft btoc) | Depth to Bottom (ft btoc) | Purge Volumes | | | Comments <small>(clear/turbid, sheen, color)</small> | Sample Time (24 hr) |
|--|--|-----------------------------|-----------------------------|-------------------------|-----------------------------|------------------------------|--------------------------------|---------------------------------|--------------------------------|---|------------------------|
| | | | | | | | Water Column Thickness (ft) | Minimum Purge Vol. (gallons) | Actual Purge Vol. (gallons) | | |
| MW-1 | 1 | | 2.29 | | | 23.42 | 21.13 | 2.58 | 1.50 | 8/6/2024 | 0903 |
| MW-2 | 1 | | 3.93 | | | 23.50 | 19.57 | 2.39 | 0.75 | 8/7/2024 | 0730 |
| MW-3 | 1 | | 5.82 | | | 23.50 | 17.68 | 2.16 | 0.75 | 8/7/2024 | 0840 |
| MW-4 | 1 | | 3.49 | | | 21.97 | 18.48 | 2.26 | 1.0 | 8/7/2024 | 1000 |
| MW-5R | 2 | | 4.65 | | | 23.75 | 19.10 | 9.35 | 1.0 | 8/7/2024 | 1130 |
| MW-6 | 1 | | 4.91 | | | 20.55 | 15.64 | 1.91 | 0.50 | 8/7/2024 | 1235 |
| MW-7 | 2 | | 4.18 | | | 23.80 | 19.62 | 9.60 | 1.25 | 8/7/2024 | 1335 |
| Drum | 55-gallon, steel, open-top drum containing soil cuttings and purge water | | | | | | | | | 8/7/2024 | 1400 |

Notes:

- ft = feet;
- DNAPL= Dense non-aqueous phase liquids
- LNAPL= Light non-aqueous phase liquids
- btoc = below top of casing
- Sheen = Less than 0.01 ft of NAPL

Comments: Due to limited well volume, some samples were taken prior to stabilization

Purge Calculations:

Water Column Thickness (ft) = DTB - DTW
 Purge Volume (gallons) = [Water Column Thickness (ft)] x [Well Volume Coefficient] x [3 Well Volumes]

| Well Diameter | Well Volume Coefficients |
|---------------|--------------------------|
| 1" | 0.04 |
| 2" | 0.16 |
| 4" | 0.65 |
| 6" | 1.65 |

LOW FLOW SAMPLING LOG



TASK : **Groundwater Monitoring & Sampling**

PSID : **1038449**

Project Name: NYSDEC Tonawanda Highland Pkwy215
 Project Address: 215 Highland Parkway, Tonawanda, NY
 Project #/Phase/Task/Org: 0924016///1109

Date: 8/6/24
 Sampler(s): Jessica Paterson
 Sampling Method: Low Flow

Well ID: MW-1
 Well Diameter: 1"
 Initial Depth to Water (ft): 2.29
 Depth to Bottom (ft): 23.42

Pump Type/Model: Pine Peristaltic Pump (SN # 33386)
 Water Quality Meter Model/SN: Pine Horiba (SN # 047387)
 Date Meter Calibrated: 8/1/2024

| Clock Time (24 Hour) | Depth to Water (ft) | Purge Rate (ml/min) | Cumulative Volume Purged (Gallons) | Temp. (°C) | Specific Conductivity (mS/cm) | pH | ORP/Eh (mV) | DO (mg/L) | Turbidity (NTU) | Comments (Clear/Turbid, Sheen, Color, Well Dry) |
|----------------------|---------------------|---------------------|------------------------------------|------------|-------------------------------|------|-------------|-----------|-----------------|---|
| 8:32 | 8.90 | 125 | 0.25 | 22.98 | 3.70 | 7.66 | 74 | 0.87 | 926 | Murky brown |
| 8:35 | 11.06 | 125 | 0.50 | 22.85 | 3.50 | 7.61 | 83 | 0.82 | 749 | Clearing up, slightly murky brown |
| 8:38 | 12.55 | 125 | <0.75 | 22.72 | 2.97 | 7.63 | 81 | 0.94 | 621 | Somewhat brown |
| 8:41 | 13.12 | 125 | 0.75 | 21.99 | 2.69 | 7.97 | 34 | 0.88 | 488 | Somewhat brown |
| 8:44 | 14.04 | 125 | <1 | 22.06 | 2.42 | 7.84 | 73 | 1.00 | 651 | Somewhat brown |
| 8:52 | 14.23 | 75 | 1 | 21.97 | 1.78 | 7.76 | 83 | 1.36 | 268 | Somewhat brown |
| 8:55 | 14.27 | 75 | <1.25 | 21.91 | 1.69 | 7.80 | 79 | 1.12 | 215 | Somewhat brown |
| 8:58 | 14.41 | 75 | 1.25 | 21.83 | 1.69 | 7.79 | 79 | 1.15 | 181 | Somewhat brown |
| 9:01 | 15.27 | 75 | <1.5 | 21.77 | 1.69 | 7.80 | 77 | 1.21 | 162 | Somewhat brown |

Stabilization Target Ranges: Target Range Achieved? (Y/N)

Temp: +/- 3% Yes

Specific Conductivity: +/- 3% Yes

pH: +/- 0.1 units Yes

ORP/EH: +/- 10 mv Yes

DO: +/- 10% Yes

Turbidity: +/- 10% for >1 NTU X No

Comments: Purge started at 0827, pump adjusted at 0845
Sample taken at 0903 due to rapidly decreasing water column

LOW FLOW SAMPLING LOG



TASK : **Groundwater Monitoring & Sampling**

PSID : **1038449**

Project Name: NYSDEC Tonawanda Highland Pkwy215
 Project Address: 215 Highland Parkway, Tonawanda, NY
 Project #/Phase/Task/Org: 0924016///1109

Date: 8/6/24 / 8/7/24
 Sampler(s): Jessica Paterson
 Sampling Method: Low Flow

Well ID: MW-2
 Well Diameter: 1"
 Initial Depth to Water (ft): 3.93 / 8.98
 Depth to Bottom (ft): 23.50

Pump Type/Model: Pine Peristaltic Pump (SN # 33386 / 210302)
 Water Quality Meter Model/SN: Pine Horiba (SN # 047387)
 Date Meter Calibrated: 8/1/2024

| Clock Time (24 Hour) | Depth to Water (ft) | Purge Rate (ml/min) | Cumulative Volume Purged (Gallons) | Temp. (°C) | Specific Conductivity (mS/cm) | pH | ORP/Eh (mV) | DO (mg/L) | Turbidity (NTU) | Comments (Clear/Turbid, Sheen, Color, Well Dry) |
|----------------------|---------------------|---------------------|------------------------------------|------------|-------------------------------|------|-------------|-----------|-----------------|---|
| 8/6/24 10:00 | 13.68 | 150 | 0.25 | 21.04 | 1.01 | 7.99 | 103 | 9.47 | 172 | Mostly clear |
| Stopped | | | | | | | | | | |
| 8/7/24 7:10 | 14.60 | 100 | <0.5 | 18.21 | 1.52 | 7.70 | 52 | 1.89 | 337 | Somewhat cloudy brown |
| 7:13 | 15.45 | 100 | <0.5 | 18.15 | 1.53 | 7.71 | 63 | 1.51 | 303 | Somewhat cloudy brown |
| 7:16 | 16.32 | 100 | 0.50 | 18.10 | 1.54 | 7.71 | 71 | 1.46 | 278 | Somewhat cloudy brown |
| 7:19 | 17.38 | 100 | <0.75 | 18.03 | 1.54 | 7.72 | 78 | 1.34 | 271 | Somewhat cloudy brown |
| 7:22 | 18.25 | 100 | <0.75 | 17.97 | 1.54 | 7.72 | 82 | 1.38 | 268 | Somewhat cloudy brown |

Stabilization Target Ranges:

Temp: +/- 3% Yes
 Specific Conductivity: +/- 3% Yes
 pH: +/- 0.1 units Yes
 ORP/EH: +/- 10 mv Yes
 DO: +/- 10% Yes
 Turbidity: +/- 10% for >1 NTU Yes

Comments: **8/6/24 - purge started at 0948**
10:00 couldn't stabilize purge rate due to pump issues. Pump speed dial stopped working, notified Pine that a new one is needed. Purging will resume tomorrow.
8/7/24 - DTW confirmed and purge started at 0702
Samples collected at 0730

LOW FLOW SAMPLING LOG



TASK : **Groundwater Monitoring & Sampling**

PSID : **1038449**

Project Name: NYSDEC Tonawanda Highland Pkwy215
 Project Address: 215 Highland Parkway, Tonawanda, NY
 Project #/Phase/Task/Org: 0924016///1109

Date: 8/7/24
 Sampler(s): Jessica Paterson
 Sampling Method: Low Flow

Well ID: MW-3
 Well Diameter: 1"
 Initial Depth to Water (ft): 5.82
 Depth to Bottom (ft): 23.50

Pump Type/Model: Pine Peristaltic Pump (SN # 210302)
 Water Quality Meter Model/SN: Pine Horiba (SN # 047387)
 Date Meter Calibrated: 8/1/2024

| Clock Time (24 Hour) | Depth to Water (ft) | Purge Rate (ml/min) | Cumulative Volume Purged (Gallons) | Temp. (°C) | Specific Conductivity (mS/cm) | pH | ORP/Eh (mV) | DO (mg/L) | Turbidity (NTU) | Comments (Clear/Turbid, Sheen, Color, Well Dry) |
|----------------------|---------------------|---------------------|------------------------------------|------------|-------------------------------|------|-------------|-----------|-----------------|---|
| 8:18 | 11.10 | 100 | 0.25 | 17.93 | 1.57 | 7.88 | 63 | 1.76 | 962 | Cloudy brown |
| 8:21 | 12.60 | 100 | <0.5 | 17.95 | 1.58 | 7.90 | 62 | 1.17 | 983 | Cloudy brown |
| 8:24 | 13.93 | 100 | 0.50 | 17.99 | 1.58 | 7.91 | 63 | 0.91 | 1000 | Cloudy brown |
| 8:27 | 14.84 | 100 | <0.75 | 18.03 | 1.59 | 7.92 | 66 | 0.79 | 784 | Cloudy brown |
| 8:30 | 15.97 | 100 | <0.75 | 18.06 | 1.59 | 7.93 | 70 | 0.74 | 603 | Cloudy brown |
| 8:33 | 17.19 | 100 | 0.75 | 18.08 | 1.59 | 7.94 | 73 | 0.73 | 560 | Cloudy brown |

Stabilization Target Ranges:

Temp: +/- 3% Yes
 Specific Conductivity: +/- 3% Yes
 pH: +/- 0.1 units Yes
 ORP/EH: +/- 10 mv Yes
 DO: +/- 10% Yes
 Turbidity: +/- 10% for >1 NTU No

Comments: Purge started @ 0810
Samples taken @ 0840

LOW FLOW SAMPLING LOG



TASK : **Groundwater Monitoring & Sampling**

PSID : **1038449**

Project Name: NYSDEC Tonawanda Highland Pkwy215
 Project Address: 215 Highland Parkway, Tonawanda, NY
 Project #/Phase/Task/Org: 0924016///1109

Date: 8/7/24
 Sampler(s): Jessica Paterson
 Sampling Method: Low Flow

Well ID: MW-4
 Well Diameter: 1"
 Initial Depth to Water (ft): 4.91
 Depth to Bottom (ft): 20.55

Pump Type/Model: Pine Peristaltic Pump (SN # 210302)
 Water Quality Meter Model/SN: Pine Horiba (SN # 047387)
 Date Meter Calibrated: 8/1/2024

| Clock Time (24 Hour) | Depth to Water (ft) | Purge Rate (ml/min) | Cumulative Volume Purged (Gallons) | Temp. (°C) | Specific Conductivity (mS/cm) | pH | ORP/Eh (mV) | DO (mg/L) | Turbidity (NTU) | Comments (Clear/Turbid, Sheen, Color, Well Dry) |
|----------------------|---------------------|---------------------|------------------------------------|------------|-------------------------------|------|-------------|-----------|-----------------|---|
| 12:24 | 9.95 | 100.00 | 0.25 | 23.38 | 0.747 | 8.14 | -14.00 | 1.33 | *** | Murky brown, heavy sediment |
| 12:27 | 11.27 | 100.00 | <0.5 | 23.37 | 0.747 | 8.21 | 6.00 | 1.24 | *** | Cleared somewhat, still cloudy brown |
| | | | | | | | | | | |
| | | | | | | | | | | |

| Stabilization Target Ranges: | Target Range Achieved? (Y/N) |
|-------------------------------|------------------------------|
| Temp: +/- 3% | Yes |
| Specific Conductivity: +/- 3% | Yes |
| pH: +/- 0.1 units | Yes |
| ORP/EH: +/- 10 mv | Yes |
| DO: +/- 10% | Yes |
| Turbidity: +/- 10% for >1 NTU | Too much sediment |

Comments: **Purge started @1215**
*****Too much sediment in water for turbidity probe to collect readings**
Purge stopped @1227 due to rapidly decreasing water column
Samples taken @1235

LOW FLOW SAMPLING LOG



TASK : **Groundwater Monitoring & Sampling**

PSID : **1038449**

Project Name: **NYSDEC Tonawanda Highland Pkwy215**
 Project Address: **215 Highland Parkway, Tonawanda, NY**
 Project #/Phase/Task/Org: **0924016///1109**

Date: **8/7/24**
 Sampler(s): **Jessica Paterson**
 Sampling Method: **Low Flow**

Well ID: **MW-5R**
 Well Diameter: **2"**
 Initial Depth to Water (ft): **4.65**
 Depth to Bottom (ft): **23.75**

Pump Type/Model: **Pine Peristaltic Pump (SN # 210302)**
 Water Quality Meter Model/SN: **Pine Horiba (SN # 047387)**
 Date Meter Calibrated: **8/1/2024**

| Clock Time (24 Hour) | Depth to Water (ft) | Purge Rate (ml/min) | Cumulative Volume Purged (Gallons) | Temp. (°C) | Specific Conductivity (mS/cm) | pH | ORP/Eh (mV) | DO (mg/L) | Turbidity (NTU) | Comments (Clear/Turbid, Sheen, Color, Well Dry) |
|----------------------|---------------------|---------------------|------------------------------------|------------|-------------------------------|------|-------------|-----------|-----------------|---|
| 11:07 | 6.36 | 150 | 0.25 | 19.61 | 1.24 | 7.52 | 74 | 1.54 | 305 | Somewhat cloudy |
| 11:10 | 6.79 | 150 | <0.50 | 19.57 | 1.24 | 7.51 | 78 | 1.31 | 282 | Mostly clear |
| 11:13 | 7.24 | 150 | 0.50 | 19.59 | 1.24 | 7.51 | 80 | 1.20 | 168 | Mostly clear |
| 11:16 | 7.71 | 150 | <0.75 | 19.67 | 1.24 | 7.51 | 82 | 1.11 | 137 | Mostly clear |
| 11:19 | 8.14 | 150 | 0.75 | 19.72 | 1.24 | 7.51 | 83 | 1.08 | 127 | Mostly clear |
| 11:22 | 8.63 | 150 | <1 | 19.78 | 1.24 | 7.51 | 84 | 1.04 | 114 | Mostly clear |

Stabilization Target Ranges:

Temp: +/- 3% Yes
 Specific Conductivity: +/- 3% Yes
 pH: +/- 0.1 units Yes
 ORP/EH: +/- 10 mv Yes
 DO: +/- 10% Yes
 Turbidity: +/- 10% for >1 NTU Yes

Comments: Purge started @1058
Samples taken @1130
Collected MS/MSD

LOW FLOW SAMPLING LOG



TASK : **Groundwater Monitoring & Sampling**

PSID : **1038449**

Project Name: NYSDEC Tonawanda Highland Pkwy215
 Project Address: 215 Highland Parkway, Tonawanda, NY
 Project #/Phase/Task/Org: 0924016///1109

Date: 8/7/24
 Sampler(s): Jessica Paterson
 Sampling Method: Low Flow and 2" Bailer

Well ID: MW-6
 Well Diameter: 1"
 Initial Depth to Water (ft): 3.49
 Depth to Bottom (ft): 21.97

Pump Type/Model: Pine Peristaltic Pump (SN # 210302)
 Water Quality Meter Model/SN: Pine Horiba (SN # 047387)
 Date Meter Calibrated: 8/1/2024

| Clock Time (24 Hour) | Depth to Water (ft) | Purge Rate (ml/min) | Cumulative Volume Purged (Gallons) | Temp. (°C) | Specific Conductivity (mS/cm) | pH | ORP/Eh (mV) | DO (mg/L) | Turbidity (NTU) | Comments (Clear/Turbid, Sheen, Color, Well Dry) |
|----------------------|---------------------|---------------------|------------------------------------|------------|-------------------------------|------|-------------|-----------|-----------------|---|
| 9:27 | 8.87 | 100 | <0.25 | 19.10 | 2.21 | 8.33 | -17 | 0.61 | 0* | Cloudy brown, heavy sediment |
| 9:30 | 10.04 | 100 | 0.25 | 18.98 | 2.17 | 8.47 | -41 | 0.64 | 0* | Mostly cloudy brown |
| 9:33 | 11.48 | 100 | <0.50 | 18.89 | 2.17 | 8.58 | -20 | 0.85 | 0* | Mostly cloudy brown |
| 9:36 | 12.68 | 100 | 0.50 | 18.83 | 2.17 | 8.63 | 10 | 0.95 | 0* | Slightly cloudy brown |
| 9:39 | 13.20 | 100 | <0.75 | 18.78 | 2.17 | 8.67 | 24 | 0.99 | 0* | Slightly cloudy brown |
| 9:43 | 14.35 | 100 | 0.75 | 18.73 | 2.16 | 8.69 | 7 | 1.03 | 0* | Slightly cloudy brown |
| 9:46 | 14.80 | 100 | <1 | 18.69 | 2.17 | 8.69 | -4 | 0.90 | 0* | Slightly cloudy brown |
| 9:49 | 15.36 | 100 | <1 | 18.66 | 2.17 | 8.70 | -7 | 1.19 | 0* | Slightly cloudy brown |
| 9:52 | 16.39 | 100 | 1.0 | 18.64 | 2.18 | 8.71 | -13 | 0.83 | 0* | Slightly cloudy brown |

Stabilization Target Ranges: Target Range Achieved? (Y/N)

Temp: +/- 3% Yes

Specific Conductivity: +/- 3% Yes

pH: +/- 0.1 units Yes

ORP/EH: +/- 10 mv Yes

DO: +/- 10% X No

Turbidity: +/- 10% for >1 NTU Not measured - sediment blocking turbidity sensor

Comments: Purge started @0918

*Turbidity - too much sediment blocking turbidity sensor. Rinsed thoroughly before next well to remove stuck sediment.

Purge stopped @ 0953 due to rapidly decreasing water column, DO not stabilized

Samples taken @ 1000

DUPLICATE sample collected -- well ran dry while collecting DUP, will return at EOD to finish sampling

At EOD, returned w/ bailer to complete sampling. When tubing was pulled it became apparent that the well was not dry but the tubing was clogged. Enough volume to finish collecting sample.

LOW FLOW SAMPLING LOG



TASK : **Groundwater Monitoring & Sampling**

PSID : **1038449**

Project Name: **NYSDEC Tonawanda Highland Pkwy215**
 Project Address: **215 Highland Parkway, Tonawanda, NY**
 Project #/Phase/Task/Org: **0924016///1109**

Date: **8/7/24**
 Sampler(s): **Jessica Paterson**
 Sampling Method: **Low Flow**

Well ID: **MW-7**
 Well Diameter: **2"**
 Initial Depth to Water (ft): **4.18**
 Depth to Bottom (ft): **23.80**

Pump Type/Model: **Pine Peristaltic Pump (SN # 210302)**
 Water Quality Meter Model/SN: **Pine Horiba (SN # 047387)**
 Date Meter Calibrated: **8/1/2024**

| Clock Time (24 Hour) | Depth to Water (ft) | Purge Rate (ml/min) | Cumulative Volume Purged (Gallons) | Temp. (°C) | Specific Conductivity (mS/cm) | pH | ORP/Eh (mV) | DO (mg/L) | Turbidity (NTU) | Comments (Clear/Turbid, Sheen, Color, Well Dry) |
|----------------------|---------------------|---------------------|------------------------------------|------------|-------------------------------|------|-------------|-----------|-----------------|---|
| 13:10 | 5.63 | 130 | 0.25 | 24.70 | 1.47 | 7.75 | 81 | 1.31 | 327 | Slightly cloudy brown |
| 13:13 | 6.12 | 130 | <0.50 | 24.45 | 1.48 | 7.73 | 89 | 1.13 | 234 | Mostly clear |
| 13:16 | 6.60 | 130 | 0.50 | 24.35 | 1.47 | 7.63 | 86 | 1.05 | 193 | Mostly clear |
| 13:19 | 7.09 | 130 | <0.75 | 24.33 | 1.47 | 7.71 | 83 | 1.01 | 174 | Clear |
| 13:22 | 7.58 | 130 | 0.75 | 24.36 | 1.47 | 7.72 | 80 | 0.98 | 153 | Clear |
| 13:25 | 8.02 | 130 | 1.0 | 24.42 | 1.46 | 7.68 | 84 | 0.97 | 119 | Clear |
| 13:28 | 8.50 | 130 | 1.25 | 24.50 | 1.46 | 7.71 | 83 | 0.97 | 132 | Clear |
| | | | | | | | | | | |

Stabilization Target Ranges:

Temp: +/- 3% Yes

Specific Conductivity: +/- 3% Yes

pH: +/- 0.1 units Yes

ORP/EH: +/- 10 mv Yes

DO: +/- 10% Yes

Turbidity: +/- 10% for >1 NTU Yes

Comments: **Purge started @1301**

Samples taken @1335

SAMPLING LOG



TASK : **Groundwater Monitoring & Sampling**

PSID : **1038449**

Project Name: NYSDEC Tonawanda Highland Pkwy215

Date: **8/7/24**

Project Address: 215 Highland Parkway, Tonawanda, NY

Sampler(s): **Jessica Paterson**

Project #/Phase/Task/Org: 0924016///1109

Sampling Method: **2" Bailer**

Well ID: **Drum**

Type: **55-gallon, steel, open top**

Contents: **Soil cuttings and Purge Water**

Sampled: **Water**

| Clock Time (24 Hour) | Depth to Water (ft) | Purge Rate (ml/min) | Cumulative Volume Purged (Gallons) | Temp. (°C) | Specific Conductivity (mS/cm) | pH | ORP/Eh (mV) | DO (mg/L) | Turbidity (NTU) | Comments (Clear/Turbid, Sheen, Color, Well Dry) |
|----------------------|---------------------|---------------------|------------------------------------|------------|-------------------------------|----|-------------|-----------|-----------------|---|
| | | | | | | | | | | |
| | | | | | | | | | | |

| | |
|-------------------------------------|-------------------------------------|
| Stabilization Target Ranges: | Target Range Achieved? (Y/N) |
| Temp: +/- 3% | NA |
| Specific Conductivity: +/- 3% | NA |
| pH: +/- 0.1 units | NA |
| ORP/EH: +/- 10 mv | NA |
| DO: +/- 10% | NA |
| Turbidity: +/- 10% for >1 NTU | NA |

Comments: **Sample taken @ 1400, only being analyzed for VOC's**
Sampled water in drum, not sediment