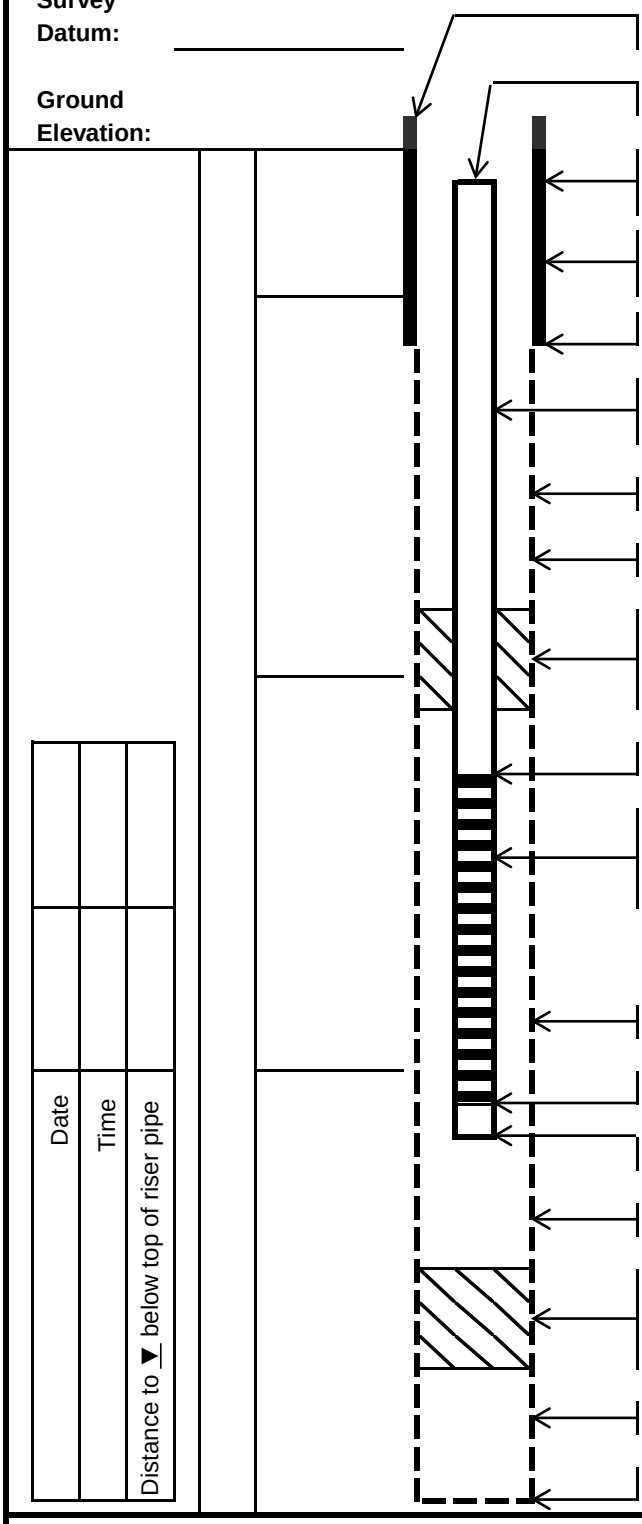
Groundwater Well Installation Log

Well ID: MW-P1

Project	30th Street Redevelopment Site	**GEI Proj. No.**	1800522
City / Town	Long Island City, NY	**Location**	30th Street Sidewalk
Client	Park Construction		
Contractor	AARCO		
Driller	Tom Seickel	**GEI Rep.** Bill Fitchett	**Install Date** 11/17/20

Survey Datum:

Ground Elevation:



Length of Surface Casing above Ground	Flush/NA
Dist. Top of Surf. Casing to Top of Riser Pipe	NA
Type and Thickness of Seal around Surface Casing	Concrete/6-inches
ID of Surface Casing	4" Flush Mount
Type of Surface Casing	Manhole
Depth Bottom of Surface Casing	0.5-feet
ID and OD of Riser Pipe	2-inches (OD)
Type of Riser Pipe	SCH-40 PVC
Type of Backfill around Riser Pipe	Morie #2 sand pack
Diameter of Borehole	2 1/4-inches
Depth Top of Seal	22-feet
Type of Seal	Wetted bentonite pellets
Depth Bottom of Seal	24-feet
Depth Top of Screened Section	25-feet
Type of Screen	SCH-40 PVC
Description of Screen Openings	0.020-inch slotted screen
ID and OD of Screened Section	2-inches (OD)
Type of Filter Material	Morie #2 sand pack
Depth Bottom of Screened Section	35-feet
Depth Bottom of Silt Trap	35.5-feet
Depth Bottom of Filter Material	NA
Depth Top of Seal	NA
Type of Seal	NA
Depth Bottom of Seal	NA
Type of Backfill below Filter Material	NA
Bottom of Borehole	36-feet

Notes:

GEI Consultants

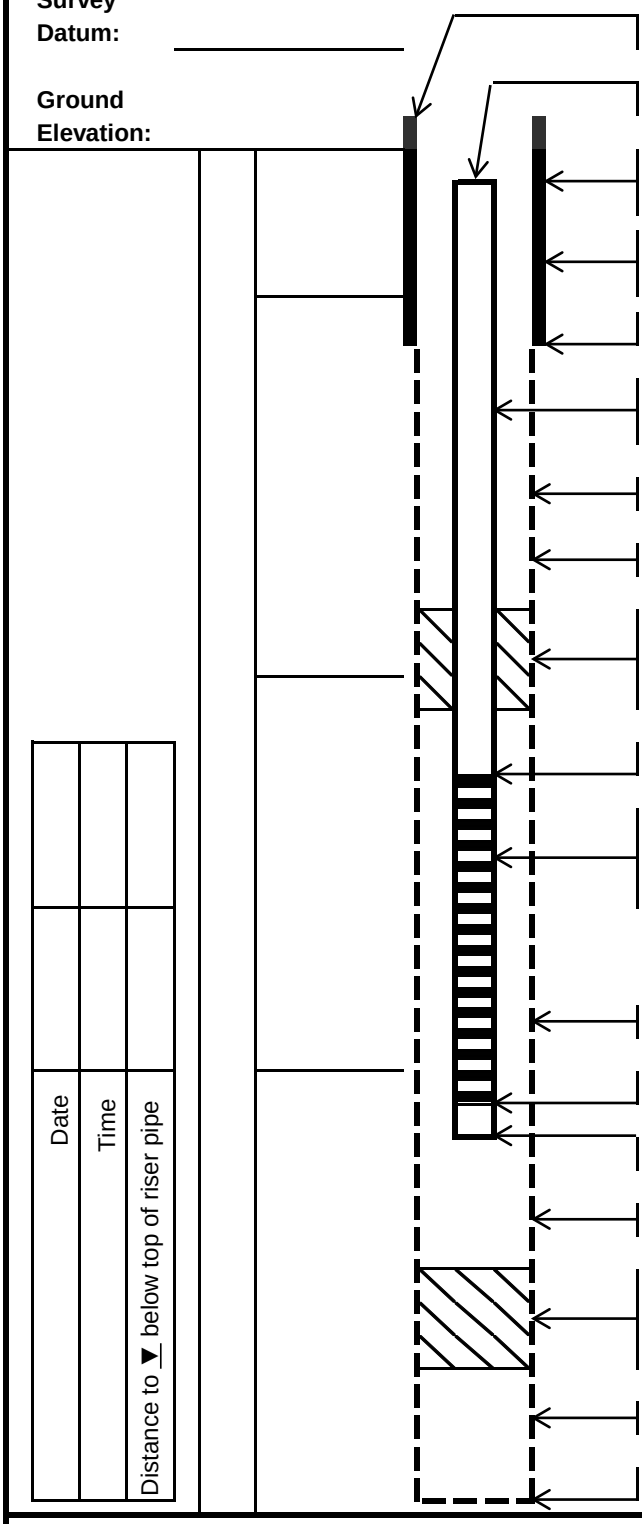
Groundwater Well Installation Log

Well ID: MW-P2

Project	30th Street Redevelopment Site	**GEI Proj. No.**	1800522
City / Town	Long Island City, NY	**Location**	30th Street Sidewalk
Client	Park Construction		
Contractor	AARCO		
Driller	Tom Seickel	**GEI Rep.** Bill Fitchett	**Install Date** 11/17/20

Survey Datum:

Ground Elevation:



Length of Surface Casing above Ground	Flush/NA
Dist. Top of Surf. Casing to Top of Riser Pipe	NA
Type and Thickness of Seal around Surface Casing	Concrete/6-inches
ID of Surface Casing	4" Flush Mount
Type of Surface Casing	Manhole
Depth Bottom of Surface Casing	0.5-feet
ID and OD of Riser Pipe	2-inches (OD)
Type of Riser Pipe	SCH-40 PVC
Type of Backfill around Riser Pipe	Morie #2 sand pack
Diameter of Borehole	2 1/4-inches
Depth Top of Seal	22-feet
Type of Seal	Wetted bentonite pellets
Depth Bottom of Seal	24-feet
Depth Top of Screened Section	25-feet
Type of Screen	SCH-40 PVC
Description of Screen Openings	0.020-inch slotted screen
ID and OD of Screened Section	2-inches (OD)
Type of Filter Material	Morie #2 sand pack
Depth Bottom of Screened Section	35-feet
Depth Bottom of Silt Trap	35.5-feet
Depth Bottom of Filter Material	NA
Depth Top of Seal	NA
Type of Seal	NA
Depth Bottom of Seal	NA
Type of Backfill below Filter Material	NA
Bottom of Borehole	36-feet

Notes:

GEI Consultants

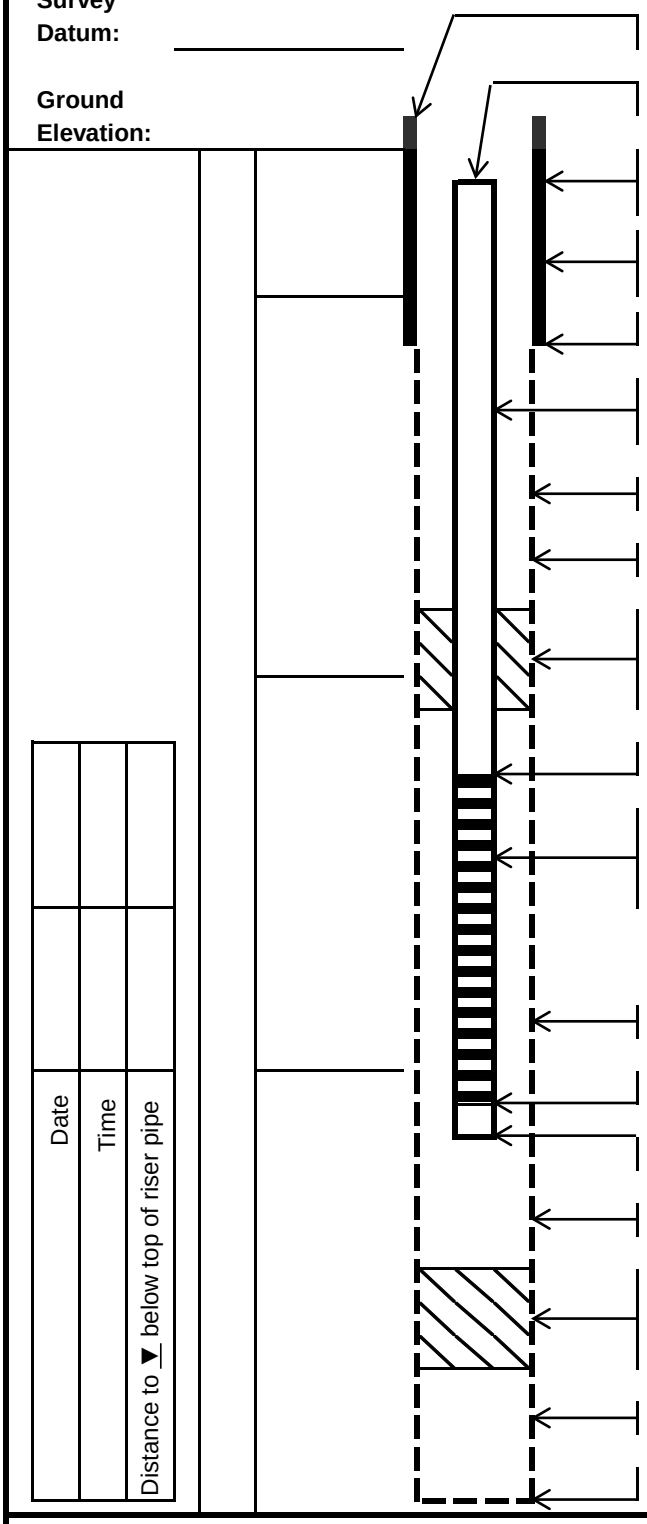
Groundwater Well Installation Log

Well ID: MW-P3

Project	30th Street Redevelopment Site	**GEI Proj. No.**	1800522
City / Town	Long Island City, NY	**Location**	Old Bridge Road
Client	Park Construction		
Contractor	AARCO		
Driller	Tom Seickel	**GEI Rep.** Bill Fitchett	**Install Date** 11/17/20

Survey Datum:

Ground Elevation:



Length of Surface Casing above Ground	Flush/NA
Dist. Top of Surf. Casing to Top of Riser Pipe	NA
Type and Thickness of Seal around Surface Casing	Concrete/6-inches
ID of Surface Casing	4" Flush Mount
Type of Surface Casing	Manhole
Depth Bottom of Surface Casing	0.5-feet
ID and OD of Riser Pipe	2-inches (OD)
Type of Riser Pipe	SCH-40 PVC
Type of Backfill around Riser Pipe	Morie #2 sand pack
Diameter of Borehole	2 1/4-inches
Depth Top of Seal	22-feet
Type of Seal	Wetted bentonite pellets
Depth Bottom of Seal	24-feet
Depth Top of Screened Section	25-feet
Type of Screen	SCH-40 PVC
Description of Screen Openings	0.020-inch slotted screen
ID and OD of Screened Section	2-inches (OD)
Type of Filter Material	Morie #2 sand pack
Depth Bottom of Screened Section	35-feet
Depth Bottom of Silt Trap	35.5-feet
Depth Bottom of Filter Material	NA
Depth Top of Seal	NA
Type of Seal	NA
Depth Bottom of Seal	NA
Type of Backfill below Filter Material	NA
Bottom of Borehole	36-feet

Notes:

GEI Consultants

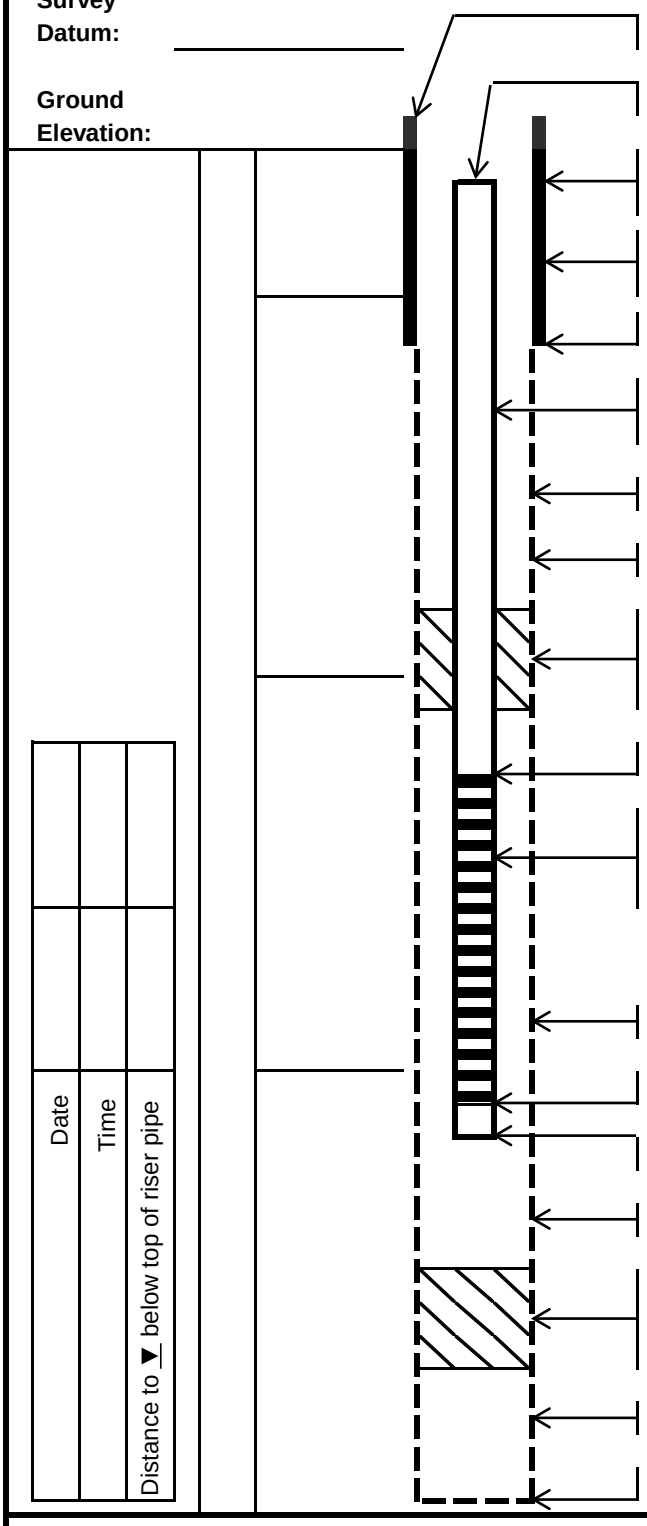
Groundwater Well Installation Log

Well ID: MW-P4

Project	30th Street Redevelopment Site	**GEI Proj. No.**	1800522
City / Town	Long Island City, NY	**Location**	Old Bridge Road
Client	Park Construction		
Contractor	AARCO		
Driller	Tom Seickel	**GEI Rep.** Bill Fitchett	**Install Date** 11/17/20

Survey Datum:

Ground Elevation:



Length of Surface Casing above Ground	Flush/NA
Dist. Top of Surf. Casing to Top of Riser Pipe	NA
Type and Thickness of Seal around Surface Casing	Concrete/6-inches
ID of Surface Casing	4" Flush Mount
Type of Surface Casing	Manhole
Depth Bottom of Surface Casing	0.5-feet
ID and OD of Riser Pipe	2-inches (OD)
Type of Riser Pipe	SCH-40 PVC
Type of Backfill around Riser Pipe	Morie #2 sand pack
Diameter of Borehole	2 1/4-inches
Depth Top of Seal	22-feet
Type of Seal	Wetted bentonite pellets
Depth Bottom of Seal	24-feet
Depth Top of Screened Section	25-feet
Type of Screen	SCH-40 PVC
Description of Screen Openings	0.020-inch slotted screen
ID and OD of Screened Section	2-inches (OD)
Type of Filter Material	Morie #2 sand pack
Depth Bottom of Screened Section	35-feet
Depth Bottom of Silt Trap	35.5-feet
Depth Bottom of Filter Material	NA
Depth Top of Seal	NA
Type of Seal	NA
Depth Bottom of Seal	NA
Type of Backfill below Filter Material	NA
Bottom of Borehole	36-feet

Notes:

GEI Consultants

Low-Flow Groundwater Sampling Form

Project number and name: 30th St | Sampling personnel: B. Fitchett | Sample date: 12/15/20 | Well ID: MW-P1

Well location description: 30th St

Well Construction

Well diameter:
Well measurement point:
Roadbox condition:
Well screen interval:
Well depth:

Sampling Information

Initial depth to water: 24.81 Time: 730
Sample intake depth: ~26'
Pump type and ID: Pine
Stabilized flow rate:

Stabilized flow rate = flow rate with no further drawdown

Samples Collected

VOCs 8260	
SVOCs 8270	
VPH	
EPH	
Metals	
PCBs	
Other	

Field values at time of sample collection:

Time: Depth to water:
Sp.Cond. mS/cm
DO mg/L
ORP mV
pH s.u.
Temp. °C
Turb. NTU

Cumulative Time (min.)	Volume (gal)	Water depth (ft)	Temp. (°C)	Sp.Cond. (mS/cm)	D.O. (mg/L)	pH (s.u.)	ORP (mV)	Turb. (NTU)
Typical Groundwater Values			5 to 15	0.05 to 5	0 to 4	5 to 7	-100 to +500	aim for <10
825			17.2	1.07	4.32	8.22	199	392
730			17.22	1.09	4.07	8.22	204	329
835			17.06	1.23	3.43	8.18	211	247
840			16.99	1.36	3.60	8.09	213	190
845			17.17	1.66	3.25	7.99	215	139
850			17.10	1.35	2.96	7.94	216	149
855			17.07	2.00	2.70	7.91	215	139
900			17.08	2.12	2.98	7.89	215	127
905			16.77	2.23	2.95	7.86	215	97.3
910			16.89	2.27	2.88	7.85	215	79.7
915			16.76	2.34	2.87	7.82	215	62.5
920			16.96	2.40	3.04	7.92	215	49.8

Notes:

Sample Information:

Sample ID: MW-P1
Sample Time: 920
Color:
Turbidity:
Field Filtered YES / NO Analyses:
Filter type:
Odor/Sheen/NAPL
Duplicate Collected YES / NO
If yes, duplicate ID:
Purge water disposal? to ground drummed other:

Well Volume Conversion:

Diam. (in)	Factor (gal/ft)
1	0.04
1.5	0.09
2	0.16
4	0.65
6	1.50

well volume =
3.14 x (r)^2 x 7.48 gal/ft
where r = 1/2 diameter in ft

Stabilization Criteria:

Sp.Cond. +/- 3%
DO +/- 10%
ORP +/- 10 mV
pH +/- 0.1 Std Units
Temp. +/- 3%
Turb. +/- 10% if values >1 NTU

Guidance:

1 Position tubing at midpoint of saturated screened interval
2 Minimize drop in water level and purge until parameters are stable
3 Disconnect flow thru cell during sampling
4 Call Project Manager if issues arise (e.g. stabilization takes more than 2 hrs, well goes dry, odd data).
5 For VPH and VOC samples, if stabilization flow rate is less than 200 ml/min, contact PM

Low-Flow Groundwater Sampling Form

4 EB @ 1310
4 FB14 @ 0800

Project number and name: 30th Street Rec Stk | Sampling personnel: B. Fitchett | Sample date: 12/15/20 | Well ID: MW-P2

Well location description: 30A St

Well Construction
- Well diameter: 2"
- Well measurement point: Top of PVC
- Roadbox condition: ok
- Well screen interval: 25-35
- Well depth:

Sampling Information
- Initial depth to water: 23.75 Time: 1015
- Sample intake depth: ~25'
- Pump type and ID: Pine Peri
- Stabilized flow rate:

Stabilized flow rate = flow rate with no further drawdown

Samples Collected
- VOCs 8260
- SVOCs 8270
- VPH
- EPH
- Metals
- PCBs
- Other

Field values at time of sample collection:
- Time:
- Depth to water:
- Sp.Cond. mS/cm
- DO mg/L
- ORP mV
- pH s.u.
- Temp. °C
- Turb. NTU

Cumulative Time (min.)	Volume (gal)	Water depth (ft)	Temp. (°C)	Sp.Cond. (mS/cm)	D.O. (mg/L)	pH (s.u.)	ORP (mV)	Turb. (NTU)
Typical Groundwater Values			5 to 15	0.05 to 5	0 to 4	5 to 7	-100 to +500	aim for <10
1035		no chage	16.49	1.18	6.60	7.99	209	235
1040			16.76	1.13	6.63	8.01	196	476
1045			16.89	1.17	6.59	8.03	188	0.0
1050			17.05	1.17	6.58	8.06	187	0.0
1055			17.10	1.24	6.55	8.07	190	0.0
1100			17.19	1.25	6.60	8.08	194	0.0
1105			17.19	1.25	6.71	8.08	201	488
1110			17.16	1.26	6.70	8.09	210	8004
1115			17.15	1.27	6.59	8.09	45	746
1120			17.13	1.26	6.63	8.09	221	590
1125			17.23	1.26	6.01	8.09	226	461
1130			17.22	1.27	6.76	8.09	230	391
1135			17.21	1.25	6.71	8.10	233	305
1140			17.37	1.25	6.83	8.10	234	270
1145			17.22	1.26	6.83	8.12	236	284
1150	5-gal		17.23	1.26	6.82	8.11	233	209

Sample Information:
- Sample ID: MW-P2
- Sample Time: 1150
- Color: clear
- Turbidity:
- Field Filtered YES / NO Analyses:
- Filter type:
- Odor/Sheen/NAPL
- Duplicate Collected YES / (NO) 4 MS/MSD
- If yes, duplicate ID:
- Purge water disposal? to ground (drummed) other:

Well Volume Conversion:

Diam. (in)	Factor (gal/ft)
1	0.04
1.5	0.09
2	0.16
4	0.65
6	1.50

well volume = 3.14 x (r)^2 x 7.48 gal/ft where r = 1/2 diameter in ft

Stabilization Criteria:
- Sp.Cond. +/- 3%
- DO +/- 10%
- ORP +/- 10 mV
- pH +/- 0.1 Std Units
- Temp. +/- 3%
- Turb. +/- 10% if values >1 NTU

Guidance:
1. Position tubing at midpoint of saturated screened interval
2. Minimize drop in water level and purge until parameters are stable
3. Disconnect flow thru cell during sampling
4. Call Project Manager if issues arise (e.g. stabilization takes more than 2 hrs, well goes dry, odd data).
5. For VPH and VOC samples, if stabilization flow rate is less than 200 ml/min, contact PM

Notes:

Low-Flow Groundwater Sampling Form

Project number and name: 1800522 37-24/28 30th St | Sampling personnel: Michael Bohnski | Sample date: 12/9/20 | Well ID: MW-P3

Well location description: Soil area along Old Ridge Road

Well Construction

Well diameter: 2"
Well measurement point:
Roadbox condition: Good
Well screen interval: 25'-35'
Well depth: 33.9'

Sampling Information

Initial depth to water: 29.40 Time: 0838
Sample intake depth: ~31'
Pump type and ID: Pine #42852 Peristaltic
Stabilized flow rate:
Stabilized flow rate = flow rate with no further drawdown

Samples Collected

VOCs 8260	X
SVOCs 8270	X
VPH	
EPH	
Metals	X
PCBs	X
Other	X

Field values at time of sample collection:

Time:
Depth to water: 29.30'
Sp.Cond. mS/cm
DO mg/L
ORP mV
pH s.u.
Temp. °C
Turb. NTU

3 well Volumes = 2.16 gal

Cumulative Time (min.)	Volume (gal)	Water depth (ft)	Temp. (°C)	Sp.Cond. (mS/cm)	D.O. (mg/L)	pH (s.u.)	ORP (mV)	Turb. (NTU)
Typical Groundwater Values			5 to 15	0.05 to 5	0 to 4	5 to 7	-100 to +500	aim for <10
0855	0.5	29.28	16.11	1.37	8.32	7.39	288	19.2
0900	0.75	~~28.70~~	16.33	1.35	8.32	7.42	280	23.0
0905	1	29.30	16.22	1.36	8.29	7.45	277	51.0
0910	1.5	29.30	16.52	1.34	8.14	7.40	274	42.4
0915	2	29.30	16.45	1.35	8.20	7.45	272	10.9
0920	2.5	29.30	16.29	1.35	8.30	7.39	274	8.0

Notes:

Sample Information:

Sample ID: MW-P3
Sample Time: 0920
Color: Clear
Turbidity: 8.0 NTU
Field Filtered YES / (NO) Analyses:
Filter type:
Odor/Sheen/NAPL
Duplicate Collected (YES) / NO
If yes, duplicate ID: DUP20201209
Purge water disposal? to ground (drummed) other:

Well Volume Conversion:

Diam. (in)	Factor (gal/ft)
1	0.04
1.5	0.09
2	0.16
4	0.65
6	1.50

well volume = 3.14 x (r)^2 x 7.48 gal/ft where r = 1/2 diameter in ft

Stabilization Criteria:

Sp.Cond. +/- 3%
DO +/- 10%
ORP +/- 10 mV
pH +/- 0.1 Std Units
Temp. +/- 3%
Turb. +/- 10% if values >1 NTU

Guidance:

1 Position tubing at midpoint of saturated screened interval
2 Minimize drop in water level and purge until parameters are stable
3 Disconnect flow thru cell during sampling
4 Call Project Manager if issues arise (e.g. stabilization takes more than 2 hrs, well goes dry, odd data).
5 For VPH and VOC samples, if stabilization flow rate is less than 200 ml/min, contact PM

Low-Flow Groundwater Sampling Form

Project number and name: 180052 / 37-24/28 30th St Sampling personnel: Michael Bohuski Sample date: 12/9/20 Well ID: MW-P4

Well location description: Soil area along Old Ridge Rd

Well Construction

Well diameter: 2"
Well measurement point:
Roadbox condition: Soil eroded
Well screen interval: 25'-35'
Well depth: 32.70

Sampling Information

Initial depth to water: 26.90 Time: 1140
Sample intake depth:
Pump type and ID: Peristaltic
Stabilized flow rate:
Stabilized flow rate = flow rate with no further drawdown

Samples Collected	
VOCs 8260	X
SVOCs 8270	X
VPH	
EPH	
Metals	X
PCBs	X
Other	X

Field values at time of sample collection:

Time: Depth to water:
Sp.Cond. mS/cm
DO mg/L
ORP mV
pH s.u.
Temp. °C
Turb. NTU

Cumulative Time (min.)	Volume (gal)	Water depth (ft)	Temp. (°C)	Sp.Cond. (mS/cm)	D.O. (mg/L)	pH (s.u.)	ORP (mV)	Turb. (NTU)
Typical Groundwater Values			5 to 15	0.05 to 5	0 to 4	5 to 7	-100 to +500	aim for <10
1205	1-gal	28.35	16.35	0.885	5.53	7.77	249	800+
1210	1.5	28.90	17.08	0.914	5.45	7.71	253	88.6
1215	2	28.95	17.11	0.939	5.51	7.71	256	36.9
1220	2.25	28.97	17.17	0.969	5.65	7.69	258	16.4
1225	2.5	28.99	17.16	0.992	5.17	7.69	258	12.1
1230	3.5	29.03	17.12	0.998	5.04	7.63	259	9.9

Notes:

Sample Information:

Sample ID: MW-P4
Sample Time: 1236
Color: Clear
Turbidity: 9.9
Field Filtered YES / (NO) Analyses:
Filter type:
Odor/Sheen/NAPL
Duplicate Collected YES / (NO)
If yes, duplicate ID:
Purge water disposal? to ground (drummed) other:

Well Volume Conversion:

Diam. (in)	Factor (gal/ft)
1	0.04
1.5	0.09
(2)	(0.16)
4	0.65
6	1.50

well volume =
3.14 x (r)^2 x 7.48 gal/ft
where r = 1/2 diameter in ft

Stabilization Criteria:

Sp.Cond. +/- 3%
DO +/- 10%
ORP +/- 10 mV
pH +/- 0.1 Std Units
Temp. +/- 3%
Turb. +/- 10% if values >1 NTU

Guidance:

1 Position tubing at midpoint of saturated screened interval
2 Minimize drop in water level and purge until parameters are stable
3 Disconnect flow thru cell during sampling
4 Call Project Manager if issues arise (e.g. stabilization takes more than 2 hrs, well goes dry, odd data).
5 For VPH and VOC samples, if stabilization flow rate is less than 200 ml/min, contact PM