Appendix H

FLUTe Documentation

Table H-1
FLUTe Multiport System Installation Summary
Addendum to Groundwater Remedial Investigation Report and Groundwater Remedial Action Work Plan
Garfield Avenue Group Sites
PPG, Jersey City, New Jersey

Well ID	Casing Type	Targeted Water Bearing Zone	Depth to Top of FLUTe Port (ft btwc)	Depth to Bottom of FLUTe Port (ft btwc)
114-MW-66D	6" Steel	Bedrock (Lockatong Formation)	91	97
			107	111
			118	123
			124	129
			137	140
114-MW-52D	6" Steel	Bedrock (Lockatong Formation)	80	83
			87	90
			102	105
114-MW-72D	6" Steel	Bedrock (Lockatong Formation)	102	106
			110	114
			116	119
			123	126
114-MW57D	6" Steel	Bedrock (Lockatong Formation)	87.5	91.5
			96.5	100.5
			104	108
			109	113
114-MW4D	6" Steel	Bedrock (Diabase & Lockatong Formation)	90	94
			98	102
			111	115
			121	125

Abbreviations:

btwc	below top of well casing
ft	feet

114-MW66D-91-97-20220513
Sample Log Unavailable

Well ID: 114-MW52D
Recommended Purge Pressure: 51 PSI
Recommended Sampling Pressure: 36 PSI

PPG Garfield Avenue Group Sites
FLUTe GW Sample Collection Record
Bedrock GW Investigation Addendum - 60667926

AECOM

Well ID: 114-MW52D

Recommended Purge Pressure: 55 PSI

Recommended Sampling Pressure: 36 PSI

Start Time (24 Hr): ___8:15_____

End Time (24 Hr): __8:55_____

Date: ___6/3/22_____

Weather Conditions: ____Overcast 70's_____

AECOM Personnel: _____E Acs T Miller_____

Project Manager: Shannon Gleason

Equipment Used:
Water Level Meter - Pine Environmental - Heron Skinny Dipper 801049
Multimeter - Pine Environmental YSI 11450
Turbidimeter - Pine Environmental - Hach 2100Q 047510

Pre-Sampling GW Level Measurements:

Date	Time	Port Number	Sampling Interval (ft btSC)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total amount purged from each port at 114-MW52D 3/16/22-4/19/22* prior to sampling
6/3/2022	**8:19**	TAG LINE	Water level inside FLUTE liner	0.95	
6/3/2022	**8:18**	1	80-83	65.05	**FINAL PURGE VOLUME= 30.75**
6/3/2022	**8:17**	2	87-90	64.95	**FINAL PURGE VOLUME= 30.75**
6/3/2022	**8:16**	3	102-105	64.58	**FINAL PURGE VOLUME= 30.50**

**Note: the final purge volumes supplied by FLUTe for MW52D may be low, purge more than 15 liters per port. Purge data on another sheet (FLUTe Tracking*

Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo**	SAMPLE ID
1	80-83	1.96	16.51	13.09	26.49	-262.9	**0.27**	Yellow/ Odorous	y	114-MW-52D-80-83-20220603
2	87-90	1.61	16.67	12.28	3.776	-204.4	0.79	Slight Yellow	y	114-MW52D-87-90-20220603
3	102-105	1.52	17.19	11.96	1.839	-75.8	1.24	Slight Yellow	y	114-MW-52D-102-105-20220603

*** Take photo and identify port number, turbidity and date.*

Other Comments or Observations/Time sample collected:

Odor on Port 1 sample Specfic conductance high for port one

Port 1 8:40; Port 2 8:35; Port 3 8:30

Signature of AECOM Personnel: ____E Acs T Miller_____

Date: ___6/3/22_____

Well ID: 114-MW66D
Recommended Purge Pressure: 56 PSI
Recommended Sampling Pressure: 40 PSI

PPG Garfield Avenue Group Sites
FLUTe GW Sample Collection Record
Bedrock GW Investigation Addendum - 60667926

AECOM

Well ID: 114-MW66D

Recommended Purge Pressure: 56 PSI

Recommended Sampling Pressure: 40 PSI

Start Time (24 Hr): __9:10_____

End Time (24 Hr): ___10:15_____

Date: ____6/3/22_____

Weather Conditions: ____Overcast 70's_____

AECOM Personnel: _E.Acs T. Miller_____

Project Manager: Shannon Gleason

Equipment Used:
Water Level Meter - Pine Environmental - Heron Skinny Dipper 801049
Multimeter - Pine Environmental # YSI 11450
Turbidimeter - Pine Environmental - Hach 2100Q 047510

Pre-Sampling GW Level Measurements:

Date	Time	Port Number	Sampling Interval (ft bgs)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total amount purged from each port at 114-MW66D 3/16/22-4/19/22* prior to sampling
6/3/2022	**9.:06**	TAG LINE	Water level inside FLUTE liner	0.79	
6/3/2022	**9:05**	1	91-97	10.62	**FINAL PURGE VOLUME= 67.5**
6/3/2022	**9:05**	2	107-111	10.56	**FINAL PURGE VOLUME= 68.7**
6/3/2022	**9:04**	3	118-123	10.53	**FINAL PURGE VOLUME= 81.5**
6/3/2022	**9:03**	4	124-129	10.65	**FINAL PURGE VOLUME= 68.75**
6/3/2022	**9:03**	5	137-140	10.57	**FINAL PURGE VOLUME= 71.25**

**Note: Purge data on another sheet (FLUTe Tracking log)*

Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo**	SAMPLE ID
1	91.97	7.38	17.21	9.4	0.749	-110	**1.24**	Yellow/ Odorous	y	114-MW-66D-91-97-20220603
2	107-111	0.69	16.38	8.21	0.65	-121.6	1.52	Clear Odorous	y	114-MW-66D-107-111-20220603
3	118-123	2.74	16.41	8.43	0.615	-121.9	2.31	Clear Odorous	y	114-MW-66D-118-123-20220603
4	124-129	1.73	16.21	9.08	0.541	-133.4	2.02	Clear	y	114-MW-66D-124-129-20220603

5	137-140	1.11	16.55	10.65	1.478	-150.7	1.26	Clear	y	114-MW-66D-137-140-20220603

Odor on Port 1 sample - Specfic conductance high for port one

Signature of AECOM Personnel: ____E Acs T Miller_____ **Date: ___6/3/22_____**

[2] *Collect Field Duplicate, MS/MSD samples from Port 1 (88.8-94.8)*

Other Comments or Observations/Time sample collected:

Port 1 9:55; Port 1 Dup 10:00; Por1 ! MS/MSD 9:55; Port 2 9:30; Port 3 9:25 ; Port 4 9:20 ; Port 5 9:15

Signature of AECOM Personnel: ____E Acs T Miller_____ **Date: ___6/3/22_____**

Well ID: 114-MW72D
Recommended Purge Pressure: 55 PSI
Recommended Sampling Pressure: 39 PSI

PPG Garfield Avenue Group Sites
FLUTe GW Sample Collection Record
Bedrock GW Investigation Addendum - 60667926

AECOM

Well ID: 114-MW72D

Recommended Purge Pressure: 55 PSI

Recommended Sampling Pressure: 39 PSI

Start Time (24 Hr): __10:25_____

End Time (24 Hr): __11:00_____

Date: __6/3/22_____

Weather Conditions: ____Overcast 70's_____

AECOM Personnel: ____E Acs T Miller_____

Project Manager: Shannon Gleason

Equipment Used:
Water Level Meter - Pine Environmental - Heron Skinny Dipper 801049
Multimeter - Pine Environmental # YSI11450
Turbidimeter - Pine Environmental - Hach 2100Q 047510

Pre-Sampling GW Level Measurements:

Date	Time	Port Number	Sampling Interval (ft btSC)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total amount purged from each port at 114-MW72D 3/16/22-4/19/22* prior to sampling
		TAG LINE	Water level inside FLUTE liner		
		1	102-106		FINAL PURGE VOLUME= 55.75
		2	110-114		FINAL PURGE VOLUME= 60.25
		3	116-119		FINAL PURGE VOLUME= 70.00
		4	123-126		FINAL PURGE VOLUME= 70,25

Note: Purge data on another sheet (FLUTe Tracking log)

Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo**	SAMPLE ID
1	102-106	0.96	18.83	13.15	7.133	-217.1	**0.27**	Clear	y	114-MW-72D-110-114-20220603
2	110-114	4.13	17.16	13.22	7.501	-203.4	0.18	Clear	y	114-MW-72D-102-106-20220603
3	116-119	3.2	17.15	13,77	7.092	-207	0.16	Clear	y	114-MW-72D-116-119-20220603
4	123-126	2.52	20.65	9.48	0.013	-123.8	1.35	Clear	y	114-MW-72D-123-126-20220603

*** Take photo and identify port number, turbidity and date.*

Other Comments or Observations/Time sample collected: Port 1 10:50; Port 2 10.45; Port 3 10:40; Port 4 10:35

*** Take photo and identify port number, turbidity and date.*

Other Comments or Observations/Time sample collected:

Well ID: 114-MW52D
Recommended Purge Pressure: 51 PSI
Recommended Sampling Pressure: 36 PSI

PPG Garfield Avenue Group Sites
FLUTe GW Sample Collection Record
Bedrock GW Investigation Addendum - 60667926

AECOM

Well ID: 114-MW52D

Recommended Purge Pressure: 55 PSI

Recommended Sampling Pressure: 36 PSI

Start Time (24 Hr): 1008

End Time (24 Hr): 1055

Date: 7/5/22

Weather Conditions: 81°F Sunny

AECOM Personnel: E. Acs S. Reps

Project Manager: Shannon Gleason

Equipment Used:

Water Level Meter - Pine Environmental #

Multimeter (YSI) - Pine Environmental # p:2635 m:509980

Turbidity Meter - Pine Environmental # 039560

Pre-Sampling GW Level Measurements:

Date	Time	Port Number	Sampling Interval (ft btSC)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total amount purged from each port at 114-MW52D 3/16/22-4/12/22* prior to sampling
7/5/22	1011	TAG LINE	Water level inside FLUTE liner	1.05	
7/5/22	1013	1	80-83	64.88	FINAL PURGE VOLUME=
7/5/22	1014	2	87-90	64.56	FINAL PURGE VOLUME=
7/5/22	1015	3	102-105	64.16	FINAL PURGE VOLUME=

*Note: the final purge volumes supplied by FLUTe for MW52D may be low, purge more than 15 liters per port. Purge data on another sheet (FLUTe Tre

Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo**	SAMPLE ID	
1	80-83	6.94	20.88	12.04	16.30	3.1	0.78	Yellow	✓	114-MW52D-80-83-20220705	@1030
2	87-90	4.79	19.37	12.00	2.801	-82.9	0.52	clear	✓	114-MW52D-87-90-20220705	@1035
3	102-105	1.23	19.99	11.39	1.614	-70.0	0.68	CLEAR	✓	114-MW52D-102-105-20220705	@1040

** Take photo and identify port number, turbidity and date.

Other Comments or Observations/Time sample collected:

Photos uploaded to server; Sample times listed next to SAMPLE ID column

Signature of AECOM Personnel:

Date: 7/5/22

Well ID: 114-MW66D
Recommended Purge Pressure: 56 PSI
Recommended Sampling Pressure: 40 PSI

PPG Garfield Avenue Group Sites
FLUTe GW Sample Collection Record
Bedrock GW Investigation Addendum - 60667926

AECOM

Well ID: 114-MW66D
Recommended Purge Pressure: 56 PSI
Recommended Sampling Pressure: 40 PSI

Date: 7/05/22
Weather Conditions: 75°F Mostly Sunny
AECOM Personnel: E Acs S Reyes

Start Time (24 Hr): 0835
End Time (24 Hr): 1000

Project Manager: Shannon Gleason

Equipment Used:
Water Level Meter - Pine Environmental - Heron Skinny Dipper
Multimeter - Pine Environmental # YSI p: 2635 m: 50990
Turbidimeter - Pine Environmental - Hach 2100Q 039560

Pre-Sampling GW Level Measurements:

Date	Time	Port Number	Sampling Interval (ft bgs)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total amount purged from each port at 114-MW66D 3/16/22-4/19/22* prior to sampling
7/5/22	0839	TAG LINE	Water level inside FLUTE liner	0.67'	
7/5/22	0840	1	91-97	11.40	FINAL PURGE VOLUME=
7/5/22	0841	2	107-111	9.28	FINAL PURGE VOLUME=
7/5/22	0841	3	118-123	11.38	FINAL PURGE VOLUME=
7/5/22	0842	4	124-129	11.02	FINAL PURGE VOLUME=
7/5/22	0843	5	137-140	11.02	FINAL PURGE VOLUME=

*Note: Purge data on another sheet (FLUTe Tracking log)

Well ID: 114-MW66D
Recommended Purge Pressure: 56 PSI
Recommended Sampling Pressure: 40 PSI

PPG Garfield Avenue Group Sites
FLUTe GW Sample Collection Record
Bedrock GW Investigation Addendum - 60667926

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Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo[1]	SAMPLE ID
1[2]	91-97	8.07	22.02	10.95	0.775	-1.5	1.39	clear	✓	114-MW66D-91-97-20220705
2	107-111	2.17	20.59	9.88	0.628	17.3	1.31	clear	✓	114-MW66D-107-111-20220705
3	118-123	0.96	19.88	9.59	0.578	20.0	1.00	clear	✓	114-MW66D-118-123-20220705
4	124-129	1.58	20.43	9.08	0.477	26.8	0.85	clear	✓	114-MW66D-124129-20220705
5	137-140	0.47	21.34	9.10	0.439	27.2	1.12	clear	✓	114-MW66D-137140-20220705

[1] Take photo and identify port number, turbidity and date.

[2] Collect Field Duplicate, MS/MSD samples from Port 1 (88.8-94.8)

Other Comments or Observations/Time sample collected:

Photos uploaded to server
Port 1 @ 0920 Port 2 @ 0930 Dupe @ 0925 Port 3 @ 0935 Port 4 @ 0945
Port 5 @ 0950

Signature of AECOM Personnel: [signature]

Date: 7/5/22

Well ID: 114-MW72D
Recommended Purge Pressure: 55 PSI
Recommended Sampling Pressure: 39 PSI

PPG Garfield Avenue Group Sites
FLUTe GW Sample Collection Record
Bedrock GW Investigation Addendum - 60667926

AECOM

Well ID: 114-MW72D

Recommended Purge Pressure: 55 PSI

Recommended Sampling Pressure: 39 PSI

Start Time (24 Hr): 0730

End Time (24 Hr): 0830

Date: 7/5/22

Weather Conditions: Cloudy 72°F

AECOM Personnel: E. Acs, S. Reyes

Project Manager: Shannon Gleason

Equipment Used:

Water Level Meter - Pine Environmental #

Multimeter (YSI) - Pine Environmental # P: 21635 m: 50990

Turbidity Meter - Pine Environmental # 039560

Pre-Sampling GW Level Measurements:

Date	Time	Port Number	Sampling Interval (ft btSC)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total amount purged from each port at 114-MW72D 3/16/22-4/12/22* prior to sampling
7-5-22	0735	TAG LINE	Water level inside FLUTE liner	0.40	
7-5-22	0736	1	102-106	9.78	FINAL PURGE VOLUME=
7-5-22	0736	2	110-114	9.64	FINAL PURGE VOLUME=
7-5-22	0737	3	116-119	9.44	FINAL PURGE VOLUME=
7-5-22	0737	4	123-126	9.80	FINAL PURGE VOLUME=

*Note: Purge data on another sheet (FLUTe Tracking log)

Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo**	SAMPLE ID
1	102-106	4.42	17.98	12.48	6.574	7.2	-0.14	CLEAR	✓	114-MW72D-102-106-20220705
2	110-114	2.04	17.55	12.69	6.950	8.2	-0.52	CLEAR	✓	114-MW72D-110-114-20220705
3	116-119	4.20	17.57	12.69	6.636	3.2	-0.97	CLEAR	✓	114-MW72D-116-119-20220705
4	123-126	0.64	17.24	12.72	6.658	-7.4	-0.58	CLEAR	✓	114-MW72D-123-126-20220705

** Take photo and identify port number, turbidity and date.

Other Comments or Observations/Time sample collected:

Photos uploaded to Sensei

Signature of AECOM Personnel:

Date: 7/5/22

Well ID: 114-MW66D
Recommended Purge Pressure: 56 PSI
Recommended Sampling Pressure: 40 PSI

PPG Garfield Avenue Group Sites
FLUTe GW Sample Collection Record
Bedrock GW Investigation Addendum - 60667926

AECOM

Well ID: **114-MW66D**

Recommended Purge Pressure: 56 PSI

Recommended Sampling Pressure: 40 PSI

Start Time (24 Hr): 855
End Time (24 Hr): 905

Date: 8/4/22
Weather Conditions: Sunny, 80's
AECOM Personnel: Janine Hlavaty

Project Manager: Shannon Gleason

Equipment Used:

Water Level Meter - Pine Environmental #	416406
Multimeter (YSI) - Pine Environmental #	6404
Turbidity Meter - Pine Environmental #	494498

Pre-Sampling GW Level Measurements:

Date	Time	Port Number	Sampling Interval (ft btSC)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total amount purged from each port at 114-MW66D 3/16/22-4/12/22* prior to sampling
		TAG LINE	Water level inside FLUTE liner	0.93	
		1	91-97	12.20	FINAL PURGE VOLUME= ~~4 liters~~ 67.5
		2	107-111		FINAL PURGE VOLUME=
		3	118-123		FINAL PURGE VOLUME=
		4	124-129		FINAL PURGE VOLUME=
		5	137-140		FINAL PURGE VOLUME=

Note: Purge data on another sheet (FLUTe Tracking log)

Well ID: 114-MW66D
Recommended Purge Pressure: 56 PSI
Recommended Sampling Pressure: 40 PSI

PPG Garfield Avenue Group Sites
FLUTe GW Sample Collection Record
Bedrock GW Investigation Addendum - 60667926

AECOM

Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo[1]	SAMPLE ID
1[2]	91-97	5.38	23.64	8.53	1.116	-24.9	0.22	~~straw~~ ~~yellow~~ clear	yes	114-MW66D-91-97-20220804
2	107-111									
3	118-123									
4	124-129									
5	137-140									

[1] *Take photo and identify port number, turbidity and date.*

[2] *Collect Field Duplicate, MS/MSD samples from Port 1 (88.8-94.8)*

Other Comments or Observations/Time sample collected:

114-MW66D-91-97-20220804 @ 905 MS/MSD
114-MW66D-91-97-20220804-X @ 910

Signature of AECOM Personnel: _____ **Date:** 8/4/22

Well ID: 114-MW72D
Recommended Purge Pressure: 55 PSI
Recommended Sampling Pressure: 39 PSI

PPG Garfield Avenue Group Sites
FLUTe GW Sample Collection Record
Bedrock GW Investigation Addendum - 60667926

AECOM

Well ID: 114-MW72D
Recommended Purge Pressure: 55 PSI
Recommended Sampling Pressure: 39 PSI

Start Time (24 Hr): 955
End Time (24 Hr): 1630

Date: 8/4/22
Weather Conditions: Sunny, 80's
AECOM Personnel: Janine Hlavaty
Project Manager: Shannon Gleason

Equipment Used:
Water Level Meter - Pine Environmental # 41606
Multimeter (YSI) - Pine Environmental # 6494
Turbidity Meter - Pine Environmental # 49498

Pre-Sampling GW Level Measurements:

Date	Time	Port Number	Sampling Interval (ft btSC)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total amount purged from each port at 114-MW72D 3/16/22-4/12/22* prior to sampling
		TAG LINE	Water level inside FLUTE liner	0.70	
		1	102-106	9.72	FINAL PURGE VOLUME= ~~4 liters~~ 91.75
		2	110-114	9.49	FINAL PURGE VOLUME= ~~4 liters~~ 76.5
		3	116-119		FINAL PURGE VOLUME=
		4	123-126		FINAL PURGE VOLUME=

Note: Purge data on another sheet (FLUTe Tracking log)

Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo**	SAMPLE ID
1	102-106	16.5	25.50	12.65	8.492	-46.0	0.15	clear	yes	114-MW72D-102-106-20220804
2	110-114	12.5	26.26	12.51	9.035	-77.5	0.20	clear	yes	114-MW72D-110-114-20220804
3	116-119									
4	123-126									

*** Take photo and identify port number, turbidity and date.*

Other Comments or Observations/Time sample collected:
114-MW72D-102-106-20220804 @ 1010
114-MW72D-110-114-20220804 @ 1030

Signature of AECOM Personnel: [signature]

Date: 8/4/22

PPG Garfield Avenue Group Sites
Bedrock Groundwater Monitoring Program
FLUTe Sample Collection Record

AECOM

Well ID: 114-MW4D
Recommended Purge Pressure: PSI 57
Recommended Sampling Pressure: PSI 41

Start Time (24 Hr): 1314
End Time (24 Hr): 1324

Date: 6/27/23
Weather Conditions: Cloudy humid 80°
AECOM Personnel: Christine DeAmbrogio & Julissa Cardiello

Project Manager: Shannon Gleason

Equipment Used: Heron Dipper
Water Level Meter - Skinny Serial # 04-0763
Multimeter (YSI) - 600XL Serial # 03F0321AD for handheld and 10578 for probe
Turbidity Meter - Model: 2100Q Serial #: 3010D000463
HACH

Pre-Sampling GW Level Measurements:

Date	Time	Port Number	Sampling Interval (ft btSC)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total volume purged from each port prior to sampling (liters)
6/27/23		TAG LINE	Water level inside FLUTE liner	0.75	
6/27/23		1	90-94	9.40	FINAL PURGE VOLUME= 4 L
6/27/23		2	98-102	9.50	FINAL PURGE VOLUME= 4 L
6/27/23		3	111-115	10.68	FINAL PURGE VOLUME= 4 L
6/27/23		4	121-125	11.17	FINAL PURGE VOLUME= 4 L

Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo[1]	SAMPLE ID
1	90-94	1.14	18.60	11.21	0.841	-102.5	2.70	Clear	yes	114-MW4D-90-94-20230627
2	98-102	1.59	19.30	12.27	5.659	-205.5	4.05	Clear	yes	114-MW4D-98-102-20230627
3	111-115	1.78	20.39	12.32	6.683	-303.9	4.31	Faint yellow	yes	114-MW4D-~~98-102~~ 111-115 CD-20230627
4	121-125	0.73	20.64	12.34	21.77	-209.1	1.83	Clear	yes	114-MW4D-121-125-20230627

[1] *Take photo and identify port number, turbidity and date.*

Other Comments or Observations/Time sample collected:

Signature of AECOM Personnel: _____ Date: _____

PPG Garfield Avenue Group Sites
Bedrock Groundwater Monitoring Program
FLUTe Sample Collection Record

AECOM

Well ID: 114-MW52D
Recommended Purge Pressure: 55 PSI
Recommended Sampling Pressure: 36 PSI

Start Time (24 Hr): 1255
End Time (24 Hr): 1303

Date: 6/29/23
Weather Conditions: 79° sunny
AECOM Personnel: J. Cardiello

Project Manager: Shannon Gleason

Equipment Used:
Water Level Meter - Solinst Sunny Dipper Serial # 3010-1329 / 104-0763
Multimeter (YSI) - Serial #
Turbidity Meter - Model: Hach 2100Q Serial #: 216551

Pre-Sampling GW Level Measurements:

Date	Time	Port Number	Sampling Interval (ft btSC)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total volume purged from each port prior to sampling (liters)
6/29/23	1245	TAG LINE	Water level inside FLUTE liner	1.50	~~1 liter~~
		1	80-83	60.38	FINAL PURGE VOLUME= 1 liter
		2	87-90	60.15	FINAL PURGE VOLUME= 1 liter
		3	102-105	60.35	FINAL PURGE VOLUME= 1.00 liters

	Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo**	SAMPLE ID
1320	1	80-83	1.10	insufficient volume for			YSI reading		yellow tint	✓	114-MW52D-80-83-20230629
1330	2	87-90	insufficient volume for turbidity or				YSI readings		clear	✓	114-MW52D-87-90-20230629
1340	3	102-105	2.78	insufficient volume for			YSI readings		clear	✓	114-MW52D-102-105-20230629

** Take photo and identify port number, turbidity and date.

Other Comments or Observations/Time sample collected:

Signature of AECOM Personnel: Jessica Cardiello

Date: 6/29/23

PPG Garfield Avenue Group Sites
Bedrock Groundwater Monitoring Program
FLUTe Sample Collection Record

AECOM

Well ID: 114-MW57D
Recommended Purge Pressure: PSI
Recommended Sampling Pressure: PSI

Start Time (24 Hr): 0908
End Time (24 Hr): 0917

Date: 6/28/23
Weather Conditions: sunny 70°F
AECOM Personnel: J. Cardiello

Project Manager: Shannon Gleason

Equipment Used: Heron Diver
Water Level Meter - Skinny Serial # 3010-1329
Multimeter (YSI) - 650MDS Serial # 3914 / 02243
Turbidity Meter - Model: 2165Q Serial #:
2100Q

Pre-Sampling GW Level Measurements

Date	Time	Port Number	Sampling Interval (ft btSC)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total volume purged from each port prior to sampling (liters)
6/28/23	0850	TAG LINE	Water level inside FLUTE liner	0.20	—
↓	↓	1	87-5-91.5	8.00	FINAL PURGE VOLUME= 3 liters
↓	↓	2	96.5-100.5	8.04	FINAL PURGE VOLUME= 3 liters
↓	↓	3	104-108	7.98	FINAL PURGE VOLUME= 3 liters
↓	↓	4	109-113	8.05	FINAL PURGE VOLUME= 3 liters

Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo[1]	SAMPLE ID
0935 1	87-5-91.5	1.15	25.0	9.10	0.924	-4.1	0.81	Clear	✓	114-MW57D-87.5-91.5-20230628
0950 2	96.5-100.5	0.97	21.05	8.44	0.799	-3.3	3.00	Clear	✓	114-MW57D-96.5-100.5-20230628
0955 3	104-108	2.21	21.37	8.11	0.761	-13.2	3.10	Clear	✓	114-MW57D-104-108-20230628
1005 4	109-113	1.34	21.08	8.02	0.770	3.0	3.06	Clear	✓	114-MW57D-109-113-20230628

[1] Take photo and identify port number, turbidity and date.

Other Comments or Observations/Time sample collected:

Signature of AECOM Personnel: _____ Date: _____

AECOM

PPG Garfield Avenue Group Sites
Bedrock Groundwater Monitoring Program
FLUTe Sample Collection Record

AECOM

Well ID: 114-MW66D
Recommended Purge Pressure: 56 PSI
Recommended Sampling Pressure: 40 PSI

Start Time (24 Hr): 1132
End Time (24 Hr): 1145

Date: 6/28/23
Weather Conditions: Partly Cloudy 80's humid
AECOM Personnel: Christine DeAmbroglio and Julissa Cardiello

Project Manager: Shannon Gleason

Equipment Used:
Water Level Meter - Heron Skinny dipper Serial # 3010-1329
Multimeter (YSI) - 650MDS Serial # 3914/02243
Turbidity Meter - Model: 2100Q Serial #: 21655 2

Pre-Sampling GW Level Measurements:

Date	Time	Port Number	Sampling Interval (ft btSC)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total volume purged from each port prior to sampling (liters)
6/28/23	1132 ~~0.75~~ 0.00	TAG LINE	Water level inside FLUTE liner	0.75	
6/28/23	1123	1	91-97	9.70	FINAL PURGE VOLUME- 1 L
6/28/23	1123	2	107-111	9.75	FINAL PURGE VOLUME- 1 L
6/28/23	1124	3	118-123	9.85	FINAL PURGE VOLUME- 2 L
6/28/23	1125	4	124-129	9.75	FINAL PURGE VOLUME- 1 L
6/28/23	1125	5	137-140	9.69	FINAL PURGE VOLUME- 1 L

Sample Time

Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo[1]	SAMPLE ID
1215 1[2]	91-97	NOT ENOUGH FOR Field Parameters						Yellow	yes	114-MW66D-91-97-20230628 ~~114-MW66D-91-97-20230628-XCD~~
1225 2	107-111	1.78	26.94	8.25	0.696	57.2	5.03	Clear	Yes	114-MW66D-107-111-20230628
1235 3	118-123	1.37	26.6	8.19	0.643	8.6	4.66	clear	yes	114-MW66D-118-123-20230628
1250 4	124-129	0.68	27.59	8.15	0.613	-40.0	2.99	Clear	Yes	114-MW66D-124-129-20230628
1300 5	137-140	3.68	31.86	8.05	0.612	2.4	5.26	clear	yes	114-MW66D-137-140-20230628

[1] Take photo and identify port number, turbidity and date.

[2] Collect Field Duplicate, MS/MSD samples from Port 1

Other Comments or Observations/Time sample collected:

No Dup or MS/MSD collected per plan due to low purge volume

Signature of AECOM Personnel: _____ Date: _____

PPG Garfield Avenue Group Sites
Bedrock Groundwater Monitoring Program
FLUTe Sample Collection Record

AECOM

Well ID: 114-MW72D

Recommended Purge Pressure: 55 PSI

Recommended Sampling Pressure: 39 PSI

Start Time (24 Hr): Set up purge start 1143

End Time (24 Hr): Purge end and sample 1205

Date: 6/27/2023

Weather Conditions: 70s Humid, Cloudy

AECOM Personnel: Christine DeAmbrogio & Julissa Cardello

Project Manager: Shannon Gleason

Equipment Used: Heron Dipper

Water Level Meter - Skinny Serial # 04-0763

Multimeter (YSI) - 600XL Serial # 03F0321AD for HHand 10578 for Probe

Turbidity Meter - Model: 2100Q Serial #: 3010D000463 HACH

Pre-Sampling GW Level Measurements:

Date	Time	Port Number	Sampling Interval (ft btSC)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total volume purged from each port prior to sampling (liters)
6/27/23	1133	TAG LINE	Water level inside FLUTE liner	0.69	NA
6/27/23	1133	1	102-106	7.88	FINAL PURGE VOLUME= 3 Liters
6/27/23	1134	2	110-114	8.00	FINAL PURGE VOLUME= 3 Liters
6/27/23	1136	3	116-119	7.89	FINAL PURGE VOLUME= 3 Liters
6/27/23	1137	4	123-126	7.95	FINAL PURGE VOLUME= 3 Liters

Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo**	SAMPLE ID
1	102-106	3.21	18.00	12.47	6.784	-53.6	2.24	Clear	yes	114-MW72D-102-106-20230627
2	110-114	1.39	18.81	12.55	7.543	-54.2	2.18	Clear	yes	114-MW72D-110-114-20230627
3	116-119	0.97	19.14	12.48	7.322	-88.6	1.97	Clear	yes	114-MW72D-116-119-20230627
4	123-126	0.96	19.54	12.46	7.105	-108.9	1.92	Clear	yes	114-MW72D-~~FLE~~ 123-126-20230627

** Take photo and identify port number, turbidity and date.

Other Comments or Observations/Time sample collected:

Signature of AECOM Personnel: _____

PPG Garfield Avenue Group Sites
Bedrock Groundwater Monitoring Program
FLUTe Sample Collection Record

AECOM

Well ID: 114-MW72D

Recommended Purge Pressure: 55 PSI

Recommended Sampling Pressure: 39 PSI

Start Time (24 Hr): 1318
End Time (24 Hr): 1325

Date: 7/26/2023
Weather Conditions: Hazy Hot Humid, High 87
AECOM Personnel: Christine De Ambrogio
Project Manager: Shannon Gleason

Equipment Used:
Water Level Meter - Solinist 102 Serial # 518218
Multimeter (Horiba) - U52 Serial # 20 UGYU5K
Turbidity Meter -HACH Model: 2100Q Serial #: 210500000214

Pre-Sampling GW Level Measurements:

Date	Time	Port Number	Sampling Interval (ft btSC)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total volume purged from each port prior to sampling (liters)
7/26/2023	1258	TAG LINE	Water level inside FLUTE liner	.79	
7/26/2023	1259	1	102-106	8.2	FINAL PURGE VOLUME=
7/26/2023	1301	2	110-114	8.48	FINAL PURGE VOLUME=
7/26/2023	1302	3	116-119	8.55	FINAL PURGE VOLUME=
7/26/2023	1303	4	123-126	8.66	FINAL PURGE VOLUME=

2.5 liters

Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo**	SAMPLE ID	
1	102-106	.90	25.35	12.72	6.98	-132	1.67	Clear		114-MW72D-102-106-20230726	1330
2	110-114	8.85	24.40	12.86	7.73	-108	9.12	Clear		114-MW72D-110-114-20230726	1335
3	116-119	9.60	24.38	12.97	7.70	-156	8.82	Clear		114-MW72D-116-119-20230726	1340
4	123-126	3.10	24.88	12.94	7.57	-176	7.89	Clear		114-MW72D-123-126-20230726	1345

** Take photo and identify port number, turbidity and date.

Other Comments or Observations/Time sample collected:

NA

Signature of AECOM Personnel: C. De

Date: 7/26/23

PPG Garfield Avenue Group Sites
Bedrock Groundwater Monitoring Program
FLUTe Sample Collection Record

AECOM

Well ID: 114-MW4D
Recommended Purge Pressure: PSI
Recommended Sampling Pressure: PSI 41

Start Time (24 Hr): 9:00
End Time (24 Hr): 11:40

Date: 9/26/23
Weather Conditions: Rainy, 60s
AECOM Personnel: Megan Clark

Project Manager: Shannon Gleason

Equipment Used:
Water Level Meter - Heron Sunny dove Serial # 04-0893
Multimeter (YSI) - 650MDS Serial # 07F100603
Turbidity Meter - Model: Hach 2100Q Serial #: 16090C052372

Pre-Sampling GW Level Measurements:

Date	Time	Port Number	Sampling Interval (ft btSC)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total volume purged from each port prior to sampling (liters)
9/26	9:10	TAG LINE	Water level inside FLUTE liner	0.77	
	9:15	1	90-94	8	FINAL PURGE VOLUME= 2.5 L
	9:17	2	98-102	8	FINAL PURGE VOLUME= 2.5 L
	9:19	3	111-115	9.35	FINAL PURGE VOLUME= 2.5 L
	9:21	4	121-125	9.52	FINAL PURGE VOLUME= 2.5 L

Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo[1]	SAMPLE ID
1	90-94	3.09	14.95	12.83	5.685	-23.2	5.35	Clear	See Flute Alert	114-MW4D-90-94-20230926
2	98-102	8.07	15.00	12.87	3,002	-17.1	3.85	Clear		114-MW4D-98-102-20230926
3	111-115	5.35	14.80	12.97	7,846	-30.9	6.30	Clear		114-MW4D-111-115-20230926
4	121-125	1.13	15.08	13.14	12.91	-16.3	4.64	Clear		114-MW4D-121-125-20230926

[1] Take photo and identify port number, turbidity and date.

Other Comments or Observations/Time sample collected:

Port 1: 10:00
Port 2: 10:35
Port 3: 10:40
Port 4: 10:55

Signature of AECOM Personnel: Megan Clark

Date: 9/26/23

PPG Garfield Avenue Group Sites
Bedrock Groundwater Monitoring Program
FLUTe Sample Collection Record

AECOM

Well ID: 114-MW52D

Recommended Purge Pressure: 55 PSI

Recommended Sampling Pressure: 36 PSI

Start Time (24 Hr): ~~12:05~~ 13:00

End Time (24 Hr): ~~14~~ 16:00

Date: 9/27/23

Weather Conditions: Sunny, 60s

AECOM Personnel: Megan Clark

Project Manager: Shannon Gleason

Equipment Used:
Water Level Meter - Heron Sunnydipper Serial # 04-0893
Multimeter (YSI) - 650 MDS Serial # 07F100603
Turbidity Meter - Model: Hach 2100Q Serial #: 16090C052372

Pre-Sampling GW Level Measurements:

Date	Time	Port Number	Sampling Interval (ft btSC)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total volume purged from each port prior to sampling (liters)
9/27/23	13:10	TAG LINE	Water level inside FLUTE liner	2.00	
↓	13:12	1	80-83	51.29	FINAL PURGE VOLUME= ~0.60 L
↓	13:14	2	87-90	51.69	FINAL PURGE VOLUME= ~0.60L
↓	13:16	3	102-105	51.14	FINAL PURGE VOLUME= ~0.60 L

Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo**	SAMPLE ID
1	80-83	1.29	18.96	12.10	0.112	32.1	8.29	Clear	See Flute files	114-MW52D-80-83-20230927
2	87-90	5.78	20.65	12.38	20.62	-23.1	6.89	Clear	↓	114-MW52D-87-90-20230927
3	102-105	2.27	20.95	11.08	5.118	35.9	8.04	Clear	↓	114-MW52D-102-105-20230927

** *Take photo and identify port number, turbidity and date.*

Other Comments or Observations/Time sample collected:

Port 1: 14:15 Port 2: 14:25 Port 3: 14:40

Signature of AECOM Personnel: Megan P Clark

Date: 9/27/23

PPG Garfield Avenue Group Sites
Bedrock Groundwater Monitoring Program
FLUTe Sample Collection Record

AECOM

Well ID: 114-MW57D
Recommended Purge Pressure: PSI
Recommended Sampling Pressure: PSI 38

Start Time (24 Hr): 11:45
End Time (24 Hr): 13:45

Date: 9/26/23
Weather Conditions: Rainy, 60s
AECOM Personnel: Megan Clark

Project Manager: Shannon Gleason

Equipment Used:
Water Level Meter - Heron Skinny dipper Serial # 04-0893
Multimeter (YSI) - 650 MDS Serial # 07F200603
Turbidity Meter - Model: Hach 2100Q Serial #: 16090C052372

Pre-Sampling GW Level Measurements:

Date	Time	Port Number	Sampling Interval (ft btSC)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total volume purged from each port prior to sampling (liters)
9/26	11:50	TAG LINE	Water level inside FLUTE liner	1.96	
↓	11:52	1	87-5-91.5	6.60	FINAL PURGE VOLUME= 2.5L
↓	11:54	2	96.5-100.5	6.56	FINAL PURGE VOLUME= 2.5L
↓	11:56	3	104-108	6.49	FINAL PURGE VOLUME= 2.5L
↓	11:58	4	109-113	6.68	FINAL PURGE VOLUME= 2.5L

Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo[1]	SAMPLE ID
1	87-5-91.5	0.91	15.67	9.17	0.823	17.3	4.19	Clear	See Flute Diet	114-MW57D-87.5-91.5-20230926
2	96.5-100.5	2.15	15.52	8.50	1.020	24.5	5.37	Clear		114-MW57D-96.5-100.5-20230926
3	104-108	3.91	15.35	8.16	0.667	29.8	4.04	Clear		114-MW57D-104-108-20230926
4	109-113	0.86	15.52	8.29	0.662	13.2	3.61	Clear		114-MW57D-109-113-20230926

[1] Take photo and identify port number, turbidity and date.

Other Comments or Observations/Time sample collected:

Port 1 sample time: 12:15
Port 2: 12:25
Port 3: 12:35
Port 4: 12:45

Signature of AECOM Personnel: Megan Clark
Date: 9/26/23

PPG Garfield Avenue Group Sites
Bedrock Groundwater Monitoring Program
FLUTe Sample Collection Record

AECOM

Well ID: 114-MW66D
Recommended Purge Pressure: 56 PSI
Recommended Sampling Pressure: 40 PSI

Start Time (24 Hr): 10:40
End Time (24 Hr): 12:45

Date: 9/27/23
Weather Conditions: Sunny 60s
AECOM Personnel: Megan Clark

Project Manager: Shannon Gleason

Equipment Used:
Water Level Meter - Heron Sunnyclipper Serial # 04-0893
Multimeter (YSI) - 650 MDS Serial # 07F100603
Turbidity Meter - Model: Hach 2200 Serial #: 160900052372

Pre-Sampling GW Level Measurements:

Date	Time	Port Number	Sampling Interval (ft btSC)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total volume purged from each port prior to sampling (liters)
9/27	10:45	TAG LINE	Water level inside FLUTE liner	1.29	
	10:47	1	91-97	8.28	FINAL PURGE VOLUME= ~1.90L
	10:49	2	107-111	8.12	FINAL PURGE VOLUME= ~2.80L
	10:51	3	118-123	8.21	FINAL PURGE VOLUME= ~2.80L
	10:53	4	124-129	8.19	FINAL PURGE VOLUME= ~2.80L
	10:55	5	137-140	8.19	FINAL PURGE VOLUME= ~2.80L

Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo[1]	SAMPLE ID
1[2]	91-97	3.57	20.57	10.28	0.942	37.1	6.62	Yellow	See Flute Filer	114-MW66D-91-97-20230927
2	107-111	—	—	—	—	—	—	Clear		114-MW66D-107-111-20230927
3	118-123	0.93	19.81	8.73	0.731	29.5	3.64	Clear		114-MW66D-118-123-20230927
4	124-129	0.48	20.80	8.55	0.685	9.5	3.01	Clear		114-MW66D-124-129-20230927
5	137-140	0.48	21.38	8.13	0.684	34.7	2.87	Clear	↓	114-MW66D-137-140-20230927

[1] Take photo and identify port number, turbidity and date.

[2] Collect Field Duplicate. MS/MSD samples from Port 1

Other Comments or Observations/Time sample collected:

Port 1: 11:35
Dup collected - 11:45

Port 2: 11:55
MS/MSD collected
*Not enough volume for data collection

Port 3: 12:40

Port: 4 12:45

Port 5: 12:55

Signature of AECOM Personnel: Megan Clark

Date: 9/27/23

PPG Garfield Avenue Group Sites
Bedrock Groundwater Monitoring Program
FLUTe Sample Collection Record

AECOM

Well ID: 114-MW72D

Recommended Purge Pressure: 55 PSI

Recommended Sampling Pressure: 39 PSI

Start Time (24 Hr): 7:45

End Time (24 Hr): 10:00

Date: 9/27/23

Weather Conditions: Sunny, 60s

AECOM Personnel: Megan Clark

Project Manager: Shannon Gleason

Equipment Used: Heron

Water Level Meter - Shinny d.pper Serial # 04-0893

Multimeter (YSI) - 650 MDS Serial # 07F100603

Turbidity Meter - Model: Hach 2200 Serial #: 16090C052372

Pre-Sampling GW Level Measurements:

Date	Time	Port Number	Sampling Interval (ft btSC)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total volume purged from each port prior to sampling (liters)
9/27	7:55	TAG LINE	Water level inside FLUTE liner	1.03	
	7:57	1	102-106	6.07	FINAL PURGE VOLUME= 2.50 L
	8:00	2	110-114	6.13	FINAL PURGE VOLUME= 2.50 L
	8:02	3	116-119	6.05	FINAL PURGE VOLUME= 2.50 L
	8:04	4	123-126	6.20	FINAL PURGE VOLUME= 2.80 L

* FF samples taken upon request in scope of work

Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo**	SAMPLE ID
1	102-106	0.37	17.41	12.70	8.959	3.30	3.13	Clear	See Flute Files	114-MW72D-102-106-20230927
2	110-114	0.62	16.20	12.79	8.060	13.8	4.59	Clear		114-MW72D-110-114-20230927
3	116-119	1.52	15.86	12.75	8.058	-9.90	4.66	Clear		114-MW72D-116-119-20230927
4	123-126	1.04	16.25	12.72	7.720	-36.2	4.22	Clear		114-MW72D-123-126-20230927

** *Take photo and identify port number, turbidity and date.*

Other Comments or Observations/Time sample collected:

Port 1: 8:25

Port 2: 8:45

Port 3: 9:00

Port 4: 9:20

Signature of AECOM Personnel: Megan P. Clark

Date: 9/27/23

PPG Garfield Avenue Group Sites
Bedrock Groundwater Monitoring Program
FLUTe Sample Collection Record

AECOM

Well ID: 114-MW4D

Recommended Purge Pressure: PSI

Recommended Sampling Pressure: 41 PSI

Date: 12/19/2023

Weather Conditions: Sunny, windy, low 40s

AECOM Personnel: Megan Clark

Start Time (24 Hr): 10:00

End Time (24 Hr): 11:50

Project Manager: Shannon Gleason

Equipment Used:

Water Level Meter - Serial # 40893

Multimeter (YSI) - Serial # 21K103659

Turbidity Meter - Model: Serial #: 22090D00058

Pre-Sampling GW Level Measurements:

Date	Time	Port Number	Sampling Interval (ft btSC)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total volume purged from each port prior to sampling (liters)
12/19/2023	10:05	TAG LINE	Water level inside FLUTE liner	0.7	
12/19/2023	10:05	1	90-94	7.67	FINAL PURGE VOLUME= 2.84
12/19/2023	10:05	2	98-102	7.59	FINAL PURGE VOLUME= 2.84
12/19/2023	10:05	3	111-115	8.8	FINAL PURGE VOLUME= 2.27
12/19/2023	10:05	4	121-125	9.1	FINAL PURGE VOLUME= 2.84

Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo[1]	SAMPLE ID	Sample Time
1	90-94	1.77	11.9	12.18	7.2	-258.6	1.39	Clear	Y	114-MW4D-90-94-20231219	10:40
2	98-102	0.66	11.4	12.18	4.417	-295.5	0.84	Clear	Y	114-MW4D-98-102-20231219	11:00
3	111-115	0.5	10.9	12.07	3.496	-261.6	1.51	Clear	Y	114-MW4D-111-115-20231219	11:15
4	121-125	2.29	12.1	12.47	18.51	-257.8	1.14	Clear	Y	114-MW4D-121-125-20231219	11:30

[1] *Take photo and identify port number, turbidity and date.*

Other Comments or Observations/Time sample collected:

Megan Clark

Signature of AECOM Personnel: _____

Date: 12/19/2023

PPG Garfield Avenue Group Sites
Bedrock Groundwater Monitoring Program
FLUTe Sample Collection Record

AECOM

Well ID: **114-MW52D**

Recommended Purge Pressure: 55 PSI

Recommended Sampling Pressure: 36 PSI

Start Time (24 8:15

End Time (24 Hr): _____ 10:15

Date: _____ 12/27/2023

Weather Conditions: _____ Cloudy, rainy

AECOM Personnel: _____ MPC, ZB, JF

Project Manager: Shannon Gleason

Equipment Used:

Water Level Meter - Serial #04-0893

Multimeter (YSI) - Serial # 21K103641

Turbidity Meter - Model: Serial #:14100C0360

Pre-Sampling GW Level Measurements:

Date	Time	Port Number	Sampling Interval (ft btSC)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total volume purged from each port prior to sampling (liters)
12/27/2023	**8:30**	TAG LINE	Water level inside FLUTE liner	2.42	
12/27/2023	**8:30**	1	80-83	49.3	**FINAL PURGE VOLUME=.95**
12/27/2023	**8:30**	2	87-90	49.22	**FINAL PURGE VOLUME= .95**
12/27/2023	**8:30**	3	102-105	48.95	**FINAL PURGE VOLUME= .95**

Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo**	SAMPLE ID	Sample Time
1	80-83	N/A	N/A	N/A	N/A	N/A	**N/A**	Slight yellow	Y	114-MW52D-80-83-20231227	9:40
2	87-90	N/A	N/A	N/A	N/A	N/A	N/A	Clear	Y	114-MW52D-87-90-20231227	9:45
3	102-105	N/A	N/A	N/A	N/A	N/A	N/A	Clear	Y	114-MW52D-102-105-20231227	9:55

*** Take photo and identify port number, turbidity and date.*

Other Comments or Observations/Time sample collected:

Unsuffient volume. Abandoned till next week to recharge 12/20/23

Only enough volume to fill Cr6 and Total Chrome

Signature of AECOM Personnel: _____ **Megan Clark, Zachary Bartram**

Date: ____ 12/27/2023

PPG Garfield Avenue Group Sites
Bedrock Groundwater Monitoring Program
FLUTe Sample Collection Record

AECOM

Well ID: 114-MW57D

Recommended Purge Pressure: PSI

Recommended Sampling Pressure:38 PSI 38

Start Time (24 Hr) 12:00

End Time (24 Hr): 14:00

Date: 12/19/2023

Weather Conditions: Sunny, windy, low 40s

AECOM Personnel: Megan Clark

Project Manager: Shannon Gleason

Equipment Used:

Water Level Meter - Serial # 40893

Multimeter (YSI) - Serial # 21K103659

Turbidity Meter - Model: Serial #: 22090D00058

Pre-Sampling GW Level Measurements:

Date	Time	Port Number	Sampling Interval (ft btSC)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total volume purged from each port prior to sampling (liters)
12/19/2023	**12:05**	TAG LINE	Water level inside FLUTE liner	2.4	
12/19/2023	**12:05**	1	87-5-91.5	6.4	**FINAL PURGE VOLUME= 1.89 L**
12/19/2023	**12:05**	2	96.5-100.5	6.16	**FINAL PURGE VOLUME= 1.89 L**
12/19/2023	**12:05**	3	104-108	6.31	**FINAL PURGE VOLUME= 1.89 L**
12/19/2023	**12:05**	4	109-113	7.34	**FINAL PURGE VOLUME= 1.89 L**

Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo[1]	SAMPLE ID	Sample Time
1	87-5-91.5	3.62	N/A	N/A	N/A	N/A	N/A	Clear	Y	114-MW57D-87.5-91.5-20231219	12:50
2	96.5-100.5	6.52	N/A	N/A	N/A	N/A	N/A	Clear	Y	114-MW57D-96.5-100.5-20231219	13:00
3	104-108	3.47	N/A	N/A	N/A	N/A	N/A	Clear	Y	114-MW57D-104-108-20231219	13:10
4	109-113	N/A	N/A	N/A	N/A	N/A	N/A	Clear	Y	114-MW57D-109-113-20231219	13:30

[1] *Take photo and identify port number, turbidity and date.*

Other Comments or Observations/Time sample collected:

Not enough volume after sample collection to perform YSI readings.

Signature of AECOM Personnel: Megan Clark **Date:** 12/19/2023

PPG Garfield Avenue Group Sites
Bedrock Groundwater Monitoring Program
FLUTe Sample Collection Record

AECOM

Well ID: **114-MW66D**

Recommended Purge Pressure: 56 PSI

Recommended Sampling Pressure: 40 PSI

Start Time (24 Hr): _____ 8:15

End Time (24 Hr): _____ 10:45

Date: _____ 12/15/2023

Weather Conditions: _____ Clear 35F

AECOM Person M Clark . J Franco

Project Manager: Shannon Gleason

Equipment Used:

Water Level Meter - Serial # 40893

Multimeter (YSI) - Serial # 21K103659

Turbidity Meter - Model: Serial #: 22090D00058

Pre-Sampling GW Level Measurements:

Date	Time	Port Number	Sampling Interval (ft btSC)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total volume purged from each port prior to sampling (liters)
12/15/2023	**8:40**	TAG LINE	Water level inside FLUTE liner	1.76	
12/15/2023	**8:44**	1	91-97	8.02	**FINAL PURGE VOLUME= 2.84**
12/15/2023	**8:46**	2	107-111	8.1	**FINAL PURGE VOLUME= 2.84**
12/15/2023	**8:47**	3	118-123	8.1	**FINAL PURGE VOLUME= 2.84**
12/15/2023	**8:48**	4	124-129	8.1	**FINAL PURGE VOLUME= 2.84**
12/15/2023	**8:50**	5	137-140	8.08	**FINAL PURGE VOLUME= 2.84**

Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo[1]	SAMPLE ID	Time
1[2]	91-97	4.94	12.1	10.57	0.995	-50.4	**2.58**	Light yellow	Y	114-MW66D-91-92-20231215	9:40
2	107-111	2.42	12.1	9.03	0.753	-113.5	1.71	Clear	Y	114-MW66D-107-111-20231215	9:50
3	118-123	0.74	11.9	8.91	0.755	-185.4	1.64	Clear	Y	114-MW66D-118-123-20231215	10:00
4	124-129	0.61	11.6	9.08	0.72	-208.9	1.8	Clear	Y	114-MW66D-124-129-20231215	10:10
5	137-140	0.44	11.8	8.62	0.696	-252.7	2.19	Clear	Y	114-MW66D-137-140-20231215	10:15

[1] *Take photo and identify port number, turbidity and date.*

[2] *Collect Field Duplicate, MS/MSD samples from Port 1*

Other Comments or Observations/Time sample collected:

JF

Signature of AECOM Personnel: _____

Date: _____ 12/15/2023

PPG Garfield Avenue Group Sites
Bedrock Groundwater Monitoring Program
FLUTe Sample Collection Record

AECOM

Well ID: **114-MW72D**

Recommended Purge Pressure: 55 PSI

Recommended Sampling Pressure: 39 PSI

Start Time (24 Hr): _____ 8:00

End Time (24 Hr): _____ 10:45

Date: _____ 12/20/2023

Weather Conditions: _____ Partly cloudy, windy, low 40s

AECOM Personnel: _____ Megan Clark

Project Manager: Shannon Gleason

Equipment Used:

Water Level Meter -	Serial #	40893
Multimeter (YSI) -	Serial #	21K103659
Turbidity Meter - Model:	Serial #:	22090D00058

Pre-Sampling GW Level Measurements:

Date	Time	Port Number	Sampling Interval (ft btSC)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total volume purged from each port prior to sampling (liters)
12/20/2023	**8:08**	TAG LINE	Water level inside FLUTE liner	1.4	
12/20/2023	**8:08**	1	102-106	5.15	**FINAL PURGE VOLUME= 2.84**
12/20/2023	**8:08**	2	110-114	5.35	**FINAL PURGE VOLUME= 2.84**
12/20/2023	**8:08**	3	116-119	5.25	**FINAL PURGE VOLUME= 2.84**
12/20/2023	**8:08**	4	123-126	5.34	**FINAL PURGE VOLUME= 2.84**

Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo**	SAMPLE ID	
1	102-106	16.9	4.4	12.88	8.24	-221.3	**5.68**	Clear	Y	114-MW72D-102-106-20231220	8:50
2	110-114	15.7	4	12.94	8.82	-219.4	6.54	Clear	Y	114-MW72D-110-114-20231220	9:10
3	116-119	20.2	4.5	12.99	8.46	-240.1	5.74	Clear	Y	114-MW72D-116-119-20231220	9:35
4	123-126	24.5	4.6	12.92	8.36	-255.6	3.83	Clear	Y	114-MW72D-123-126-20231220	9:55

*** Take photo and identify port number, turbidity and date.*

Other Comments or Observations/Time sample collected:

FF SAMPLES COLLECTED

Signature of AECOM Personnel: _____ **MPC**

Date: ____ 12/20/2023

PPG Garfield Avenue Group Sites
Bedrock Groundwater Monitoring Program
FLUTe Sample Collection Record

AECOM

Well ID: 114-MW4D

Recommended Purge Pressure: 57 PSI

Recommended Sampling Pressure: 41 PSI

Start Time (24 Hr): _____ 11:10

End Time (24 Hr): _____ 13:00

Date: _____ 3/19/2024

Weather Conditions: _____ Mostly cloudy, 40s

AECOM Personnel: _____ Megan Clark

Project Manager: Shannon Gleason

Equipment Used:

Water Level Meter - Heron skinny dipper Serial # 13FF2204218ML

Multimeter (YSI) - Pro Quatro Serial # 21K103649

Turbidity Meter - Model: HACH 2100Q Serial #: 22070D000117

Pre-Sampling GW Level Measurements:

Date	Time	Port Number	Sampling Interval (ft btSC)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total volume purged from each port prior to sampling (liters)
3/19/2024	**11:12**	TAG LINE	Water level inside FLUTE liner	2.1	
3/19/2024	**11:13**	1	90-94	8.05	FINAL PURGE VOLUME= 1.89
3/19/2024	**11:14**	2	98-102	7.96	FINAL PURGE VOLUME= 1.89
3/19/2024	**11:15**	3	111-115	8.67	FINAL PURGE VOLUME= 1.13
3/19/2024	**11:16**	4	121-125	8.82	FINAL PURGE VOLUME= 1.89

Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo[1]	SAMPLE ID	Sample Time
1	90-94	1.77	13.8	12.75	11.77	-252.5	1.19	Clear	Y	114-MW4D-90-94-20240319	11:50
2	98-102	0.75	12.3	12.44	4.207	-241.4	1.61	Clear	Y	114-MW4D-98-102-20240319	12:10
3	111-115	1.93	Not Enough Volume					Clear	Y	114-MW4D-111-115-20240319	12:30
4	121-125	0.84	11.7	12.97	21.93	-224.6	1.5	Clear	Y	114-MW4D-121-125-20240319	12:45

[1] *Take photo and identify port number, turbidity and date.*

Other Comments or Observations:

Megan Clark

Signature of AECOM Personnel: _____ **Date:** ____ 3/19/2024

PPG Garfield Avenue Group Sites
Bedrock Groundwater Monitoring Program
FLUTe Sample Collection Record

AECOM

Well ID: **114-MW52D**

Recommended Purge Pressure: 55 PSI

Recommended Sampling Pressure: 36 PSI

Start Time (24 Hr): _____ 11:10

End Time (24 Hr): _____ 13:00

Date: _____**3/29/24**

Weather Conditions: _____ Partly cloudy, mid 50 F

AECOM Person Megan Clark

Project Manager: Shannon Gleason

Equipment Used:

Water Level Meter - Heron Skinny Dipper Serial # 040893

Multimeter (YSI) - YSI Pro Quatro Serial # 21E103530

Turbidity Meter - Model: Hach 2100Q Serial #: 23080D000064

Pre-Sampling GW Level Measurements:

Date	Time	Port Number	Sampling Interval (ft btSC)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total volume purged from each port prior to sampling (liters)
3/29/2024	**11:15**	TAG LINE	Water level inside FLUTE liner	2.66	
3/28/2024	**12:00**	1	80-83	33.14	FINAL PURGE VOLUME= 0.35
3/28/2024	**11:35**	2	87-90	33.05	FINAL PURGE VOLUME= 0.30
3/28/2024	**11:30**	3	102-105	32.78	FINAL PURGE VOLUME= 0.35

Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo**	SAMPLE ID
1	80-83	Not enough volume for readings						Clear	Y	114-MW52D-80-83-20240329
2	87-90	Not enough volume for readings						Clear	Y	114-MW52D-87-90-20240329
3	102-105	Not enough volume for readings						Clear	Y	114-MW52D-102-105-20240329

*** Take photo and identify port number, turbidity and date.*

Other Comments or Observations:

Sampling delayed due to faulty nitrogen tank on 3/22. Plan to sample on 3/28 but nitrogen was not delivered in time. Sampled 3/29

Had difficulty getting the skinny dipper down the ports, causing a 45 minute delay in sampling. This is normal for this well.

114-MW52D-87-90-20240329 - I was only able to fill half of the FF Ferrous Iron bottle.

Signature of AECOM Personnel: ___Megan Clark_____

Date: ____ 3/29/2024

PPG Garfield Avenue Group Sites
Bedrock Groundwater Monitoring Program
FLUTe Sample Collection Record

AECOM

Well ID: 114-MW57D

Recommended Purge Pressure: 54 PSI

Recommended Sampling Pressure: 38 PSI

Start Time (24 Hr) 8:45

End Time (24 Hr): 11:00

Date: 3/29/24

Weather Conditions: Partly cloudy, mid 50 F

AECOM Personnel: Megan Clark

Project Manager: Shannon Gleason

Equipment Used:

Water Level Meter - Heron Skinny Dipper Serial # 040893

Multimeter (YSI) - YSI Pro Quatro Serial # 21E103530

Turbidity Meter - Model: Hach 2100Q Serial #: 23080D000064

Pre-Sampling GW Level Measurements:

Date	Time	Port Number	Sampling Interval (ft btSC)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total volume purged from each port prior to sampling (liters)
3/29/2024	**8:49**	TAG LINE	Water level inside FLUTE liner	2.73	
3/29/2024	**8:50**	1	87.5-91.5	5.85	FINAL PURGE VOLUME= 3.78
3/29/2024	**8:51**	2	96.5-100.5	5.9	FINAL PURGE VOLUME= 3.60
3/29/2024	**8:52**	3	104-108	5.83	FINAL PURGE VOLUME= 3.78
3/29/2024	**8:53**	4	109-113	5.83	FINAL PURGE VOLUME= 3.40

Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo[1]	SAMPLE ID
1	87.5-91.5	1.16	10.7	8.16	1.718	-306.6	0.63	Clear	Y	114-MW57D-87.5-91.5-20240329
2	96.5-100.5	1.02	11.1	8.21	1.68	-316.3	0.74	Clear	Y	114-MW57D-96.5-100.5-20240329
3	104-108	0.93	10	8.17	1.398	-344.5	0.71	Clear	Y	114-MW57D-104-108-20240329
4	109-113	0.8	11.7	8.25	1.321	-348.4	0.35	Clear	Y	114-MW57D-109-113-20240329

[1] *Take photo and identify port number, turbidity and date.*

Other Comments or Observations:

Sampling delayed due to faulty nitrogen tank on 3/22. Plan to sample on 3/28 but nitrogen was not delivered in time. Sampled 3/29

Signature of AECOM Personnel: Megan Clark

Date: 3/29/24

PPG Garfield Avenue Group Sites
Bedrock Groundwater Monitoring Program
FLUTe Sample Collection Record

AECOM

Well ID: **114-MW66D**

Recommended Purge Pressure: 56 PSI

Recommended Sampling Pressure: 40 PSI

Start Time (24 Hr): _____ 8:35

End Time (24 Hr): _____ 11:00

Date: _____ 3/19/2024

Weather Conditions: _____ Mostly cloudy, 40s

AECOM Personnel: _____ Megan Clark

Project Manager: Shannon Gleason

Equipment Used:

Water Level Meter - Heron skinny dipper Serial # 13FF2204218ML

Multimeter (YSI) - Pro Quatro Serial # 21K103649

Turbidity Meter - Model: HACH 2100Q Serial #: 22070D000117

Pre-Sampling GW Level Measurements:

Date	Time	Port Number	Sampling Interval (ft btSC)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total volume purged from each port prior to sampling (liters)
3/19/2024	**8:40**	TAG LINE	Water level inside FLUTE liner	1.76	
3/19/2024	**8:41**	1	91-97	7.95	FINAL PURGE VOLUME= 1.89
3/19/2024	**8:42**	2	107-111	7.97	FINAL PURGE VOLUME= 1.89
3/19/2024	**8:43**	3	118-123	8.04	FINAL PURGE VOLUME= 1.89
3/19/2024	**8:44**	4	124-129	7.71	FINAL PURGE VOLUME= 2.27
3/19/2024	**8:45**	5	137-140	7.79	FINAL PURGE VOLUME= 2.27

Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo[1]	SAMPLE ID
1[2]	91-97	9.12	8.9	10.76	1.077	-88.7	**2.2**	Slight green tint	Y	114-MW66D-91-97-20240319
2	107-111	2.71	8.3	8.72	0.789	-87.5	2.75	Clear	Y	114-MW66D-107-111-20240319
3	118-123	1.21	7.3	8.67	0.794	-157.9	2.32	Clear	Y	114-MW66D-118-123-20240319
4	124-129	1.58	7.8	8.55	0.686	-169.5	2.21	Clear	Y	114-MW66D-124-129-20240319
5	137-140	1.18	7.6	8.46	0.713	-174.8	1.53	Clear	Y	114-MW66D-137-140-20240319

[1] *Take photo and identify port number, turbidity and date.*

[2] *Collect Field Duplicate, MS/MSD samples from Port 1*

Other Comments or Observations:

Megan Clark

Signature of AECOM Personnel: _____ **Date:** _____**3/19/24**

PPG Garfield Avenue Group Sites
Bedrock Groundwater Monitoring Program
FLUTe Sample Collection Record

AECOM

Well ID: **114-MW72D**

Recommended Purge Pressure: 55 PSI

Recommended Sampling Pressure: 39 PSI

Start Time (24 Hr): _____ 13:25

End Time (24 Hr): _____ 14:50

Date: _____ 3/19/2024

Weather Conditions: _____ Mostly cloudy, 40s

AECOM Personnel: _____ Megan Clark

Project Manager: Shannon Gleason

Equipment Used:

Water Level Meter - Heron skinny dipper Serial # 13FF2204218ML

Multimeter (YSI) - Pro Quatro Serial # 21K103649

Turbidity Meter - Model: HACH 2100Q Serial #: 22070D000117

Pre-Sampling GW Level Measurements:

Date	Time	Port Number	Sampling Interval (ft btSC)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total volume purged from each port prior to sampling (liters)
3/19/2024	**13:30**	TAG LINE	Water level inside FLUTE liner	1.69	
3/19/2024	**13:31**	1	102-106	6.15	FINAL PURGE VOLUME= 1.89
3/19/2024	**13:32**	2	110-114	6.28	FINAL PURGE VOLUME= 1.89
3/19/2024	**13:33**	3	116-119	6.16	FINAL PURGE VOLUME= 1.89
3/19/2024	**13:34**	4	123-126	6.21	FINAL PURGE VOLUME= 1.89

Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo**	SAMPLE ID
1	102-106	0.55	15.3	12.73	9.52	-180.8	**1.49**	Clear	Y	114-MW72D-102-106-20240319
2	110-114	2.21	13.7	12.78	9.83	-173.2	2.2	Clear	Y	114-MW72D-110-114-20240319
3	116-119	1.05	13.7	12.77	9.38	-182.9	1.84	Clear	Y	114-MW72D-116-119-20240319
4	123-126	3.02	13.7	12.77	5.25	-195.8	2.37	Clear	Y	114-MW72D-123-126-20240319

*** Take photo and identify port number, turbidity and date.*

Other Comments or Observations:

Signature of AECOM Personnel: _____ **Megan Clark**

Date: ____ 3/19/2024

PPG Garfield Avenue Group Sites
Bedrock Groundwater Monitoring Program
FLUTe Sample Collection Record

AECOM

Well ID: 114-MW4D

Recommended Purge Pressure: 57 PSI

Recommended Sampling Pressure: 41 PSI

Start Time (24 Hr): 12:35

End Time (24 Hr): 14:40

Date: 6/17/24

Weather Conditions: Clear, 80 - 90 F

AECOM Personnel: Megan Clark

Project Manager: Shannon Gleason

Equipment Used:

Water Level Meter - Heron Dipper-T Serial # 34912

Multimeter (YSI) - Pro Quatro Serial # 23K104281 Probe # 21M100505

Turbidity Meter - Model: HACH 2100Q Serial #: 23020D000214

Pre-Sampling GW Level Measurements:

Date	Time	Port Number	Sampling Interval (ft btSC)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total volume purged from each port prior to sampling (liters)
6/17/2024	**12:47**	TAG LINE	Water level inside FLUTE liner	0.72	
6/17/2024	**12:48**	1	90-94	9.49	**FINAL PURGE VOLUME= 2.84 L**
6/17/2024	**12:49**	2	98-102	9.43	**FINAL PURGE VOLUME= 2.84 L**
6/17/2024	**12:50**	3	111-115	9.86	**FINAL PURGE VOLUME= 1.89 L**
6/17/2024	**12:51**	4	121-125	10.17	**FINAL PURGE VOLUME= 2.84 L**

Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo[1]	SAMPLE ID	Sample Time
1	90-94	1.62	28.7	12.26	8.4	-199.6	0.71	Clear	Y	114-MW4D-90-94-20240617	13:40
2	98-102	0.37	27.5	11.74	2.817	-161.3	1.52	Clear	Y	114-MW4D-98-102-20240617	13:50
3	111-115	0.61	29.4	11.97	5.03	-180.8	2.34	Clear	Y	114-MW4D-111-115-20240617	14:00
4	121-125	0.62	28	12.62	18.81	-199.3	0.93	Clear	Y	114-MW4D-121-125-20240617	14:10

[1] *Take photo and identify port number, turbidity and date.*

Other Comments or Observations:

Signature of AECOM Personnel: Megan Clark

Date: 6/17/2024

PPG Garfield Avenue Group Sites
Bedrock Groundwater Monitoring Program
FLUTe Sample Collection Record

AECOM

Well ID: **114-MW52D**

Recommended Purge Pressure: 55 PSI

Recommended Sampling Pressure: 36 PSI

Start Time (24 Hr): 13:20

End Time (24 Hr):15:00

Date: 6/21/24

Weather Conditions: Clear, 94 F

AECOM Personnel: Megan Clark

Project Manager: Shannon Gleason

Equipment Used:
Water Level Meter - Heron T-dipper Serial # 34912
Multimeter (YSI) - Pro Quatro Serial # 21K103649 Probe # 21M100505
Turbidity Meter - Model: HACH 2100Q Serial #: 23080D000040

Pre-Sampling GW Level Measurements:

Date	Time	Port Number	Sampling Interval (ft btSC)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total volume purged from each port prior to sampling (liters)
6/21/2024	**13:33**	TAG LINE	Water level inside FLUTE liner	2.9	
6/21/2024	**13:35**	1	80-83	41.6	FINAL PURGE VOLUME= 0.95 L
6/21/2024	**13:37**	2	87-90	41.8	FINAL PURGE VOLUME= 0.95 L
6/21/2024	**13:39**	3	102-105	41.5	FINAL PURGE VOLUME= 0.95 L

Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo**	SAMPLE ID
1	80-83	Not Enough Volume Available						Clear	Yes	114-MW52D-80-83-2024
2	87-90	Not Enough Volume Available						Clear	Yes	114-MW52D-87-90-2024
3	102-105	Not Enough Volume Available						Clear	Yes	114-MW52D-102-105-2024

*** Take photo and identify port number, turbidity and date.*

Other Comments or Observations:

This well was purged on 6/11/24, with 11 days of recharge before sampling. This well is known to have very slow recharge. Only had enough voulume in each interval to fill total Cr, hex Cr, TOC, and half of sulfate. Not enough volume for field-filtered ferrous iron.

Signature of AECOM Personnel: Megan Clark

Date: 6/21/2024

PPG Garfield Avenue Group Sites
Bedrock Groundwater Monitoring Program
FLUTe Sample Collection Record

AECOM

Well ID: **114-MW57D**

Recommended Purge Pressure: 54 PSI

Recommended Sampling Pressure: 38 PSI

Start Time (24 Hr): 8:34

End Time (24 Hr): 10:15

Date: 6/21/24

Weather Conditions: Clear, 80 - 90 F

AECOM Personnel: Megan Clark

Project Manager: Shannon Gleason

Equipment Used:
Water Level Meter - Heron T-dipper Serial # 34912

Multimeter (YSI) - Pro Quatro Serial # 21K103649 Probe # 21M100505

Turbidity Meter - Model: HACH 2100Q Serial #: 23080D000040

Pre-Sampling GW Level Measurements:

Date	Time	Port Number	Sampling Interval (ft btSC)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total volume purged from each port prior to sampling (liters)
6/21/2024	**8:35**	TAG LINE	Water level inside FLUTE liner	2.98	
6/21/2024	**8:36**	1	87.5-91.5	7.74	FINAL PURGE VOLUME= 1.89 L
6/21/2024	**8:37**	2	96.5-100.5	7.79	FINAL PURGE VOLUME= 1.89 L
6/21/2024	**8:38**	3	104-108	7.85	FINAL PURGE VOLUME= 1.89 L
6/21/2024	**8:39**	4	109-113	7.88	FINAL PURGE VOLUME= 1.89 L

Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo[1]	SAMPLE ID
1	87.5-91.5	2.79	28.7	8.28	1.876	-195.3	1.16	Clear	Y	114-MW57D-87.5-91.5-20240621
2	96.5-100.5	1.89	27.8	8.27	1.621	-169.4	1.34	Clear	Y	114-MW57D-96.5-100.5-20240621
3	104-108	0.77	31.6	8.1	1.201	-149.2	1.63	Clear	Y	114-MW57D-104-108-20240621
4	109-113	0.71	30.7	8.12	1.207	-179.3	0.97	Clear	Y	114-MW57D-109-113-20240621

[1] *Take photo and identify port number, turbidity and date.*

Other Comments or Observations:

Signature of AECOM Personnel: Megan Clark

Date: 6/21/2024

PPG Garfield Avenue Group Sites
Bedrock Groundwater Monitoring Program
FLUTe Sample Collection Record

AECOM

Well ID: 114-MW66D

Recommended Purge Pressure: 56 PSI

Recommended Sampling Pressure: 40 PSI

Start Time (24 Hr): 9:35

End Time (24 Hr): 12:30

Date: 6/17/24

Weather Conditions: Clear, 80 - 90 F

AECOM Personnel: Megan Clark

Project Manager: Shannon Gleason

Equipment Used:
Water Level Meter - Heron Dipper-T Serial # 34912

Multimeter (YSI) - Pro Quatro Serial # 23K104281 Probe # 21M100505

Turbidity Meter - Model: HACH 2100Q Serial #: 23020D000214

Pre-Sampling GW Level Measurements:

Date	Time	Port Number	Sampling Interval (ft btSC)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total volume purged from each port prior to sampling (liters)
6/17/2024	**9:50**	TAG LINE	Water level inside FLUTE liner	2.2	
6/17/2024	**9:51**	1	91-97	9.8	**FINAL PURGE VOLUME= 2.27 L**
6/17/2024	**9:52**	2	107-111	9.76	**FINAL PURGE VOLUME= 1.89 L**
6/17/2024	**9:53**	3	118-123	9.85	**FINAL PURGE VOLUME= 2.27 L**
6/17/2024	**9:54**	4	124-129	9.69	**FINAL PURGE VOLUME= 2.65 L**
6/17/2024	**9:55**	5	137-140	9.53	**FINAL PURGE VOLUME= 2.65 L**

Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo[1]	SAMPLE ID
1	91-97	5.16	27.7	10.62	1.176	-73.3	0.92	CLEAR	Y	114-MW66D-91-97-20240617
2	107-111	2.81	28.5	8.34	0.701	-61.2	2.25	CLEAR	Y	114-MW66D-107-111-20240617
3	118-123	0.82	30.3	8.64	0.707	-126.9	0.99	CLEAR	Y	114-MW66D-118-123-20240617
4	124-129	0.46	29.5	8.47	0.66	-140.8	0.73	CLEAR	Y	114-MW66D-124-129-20240617
5	137-140	0.35	30.1	8.17	0.663	-164.9	0.54	CLEAR	Y	114-MW66D-137-140-20240617

[1] *Take photo and identify port number, turbidity and date.*

Other Comments or Observations:

Signature of AECOM Personnel: Megan Clark

Date: 6/17/2024

PPG Garfield Avenue Group Sites
Bedrock Groundwater Monitoring Program
FLUTe Sample Collection Record

AECOM

Well ID: **114-MW72D**

Recommended Purge Pressure: 55 PSI

Recommended Sampling Pressure: 39 PSI

Start Time (24 Hr): 10:30

End Time (24 Hr): 13:00

Date: 6/21/24

Weather Conditions: Clear, 87 F

AECOM Personnel: Megan Clark

Project Manager: Shannon Gleason

Equipment Used:
Water Level Meter - Heron T-dipper Serial # 34912
Multimeter (YSI) - Pro Quatro Serial # 21K103649 Probe # 21M100505
Turbidity Meter - Model: HACH 2100Q Serial #: 23080D000040

Pre-Sampling GW Level Measurements:

Date	Time	Port Number	Sampling Interval (ft btSC)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total volume purged from each port prior to sampling (liters)
6/21/2024	**10:36**	TAG LINE	Water level inside FLUTE liner	0.72	
6/21/2024	**10:37**	1	102-106	9.6	**FINAL PURGE VOLUME= 2.27 L**
6/21/2024	**10:38**	2	110-114	9.73	**FINAL PURGE VOLUME= 2.27 L**
6/21/2024	**10:39**	3	116-119	9.71	**FINAL PURGE VOLUME= 2.27 L**
6/21/2024	**10:40**	4	123-126	13.03	**FINAL PURGE VOLUME= 2.27 L**

Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo**	SAMPLE ID
1	102-106	34.5	Not enough volume available					Slightly hazy, small white flecks	Yes	114-MW72D-102-106-20240621
2	110-114	Not enough volume available						Slightly hazy, small white flecks	Yes	114-MW72D-110-114-20240621
3	116-119	Not enough volume available						Slightly hazy, small white flecks	Yes	114-MW72D-116-119-20240621
4	123-126	Not enough volume available						Slightly hazy, small white flecks	Yes	114-MW72D-123-126-20240621

*** Take photo and identify port number, turbidity and date.*

Other Comments or Observations:
This well was purge by Zachary Bartram sometime in late May/early June 2024. Transducers were added in which may have disrupted some sediments and/or trace injection material. Turbidity was above 10 NTU, so Frederik Schuele advised that we take samples for dissolved total Cr and dissolved hex Cr. Due to limited volume available, dissolved total Cr was filled half for all ports.

Signature of AECOM Personnel: Megan Clark

Date: 6/21/2024

PPG Garfield Avenue Group Sites
Bedrock Groundwater Monitoring Program
FLUTe Sample Collection Record

AECOM

Well ID: **114-MW72D**

Recommended Purge Pressure: 55 PSI

Recommended Sampling Pressure: 39 PSI

Start Time (24 Hr): 8:00

End Time (24 Hr): 10:00

Date: 8/13/24

Weather Conditions: Clear, 68 - 81F

AECOM Personnel: Megan Clark, Mike Collins

Project Manager: Shannon Gleason

Equipment Used:
Water Level Meter - Heron T-dipper Serial # 13FF2204222ML
Multimeter (YSI) - Pro Quatro Serial # 21K103649 Probe # 21M100505
Turbidity Meter - Model: HACH 2100Q Serial #: 23080D000040

Pre-Sampling GW Level Measurements:

Date	Time	Port Number	Sampling Interval (ft btSC)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total volume purged from each port prior to sampling (liters)
8/13/2024	**8:23**	TAG LINE	Water level inside FLUTE liner	1.09	
8/13/2024	**8:24**	1	102-106	6.17	**FINAL PURGE VOLUME= 2.5 L**
8/13/2024	**8:25**	2	110-114	6.27	**FINAL PURGE VOLUME= 2.5 L**
8/13/2024	**8:26**	3	116-119	6.2	**FINAL PURGE VOLUME= 2.5 L**
8/13/2024	**8:27**	4	123-126	6.28	**FINAL PURGE VOLUME= 2.5 L**

Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo**	SAMPLE ID	Sample Time
1	102-106	2.5	19.8	12.42	7.45	-134.8	2.36	Clear	Yes	114-MW72D-102-106-20240813	9:10
2	110-114	1.82	20	12.56	8.34	-161.9	1.67	Clear	Yes	114-MW72D-110-114-20240813	9:25
3	116-119	4.05	19.9	12.56	8.32	-160.8	1.55	Clear	Yes	114-MW72D-116-119-20240813	9:30
4	123-126	9.96	19.9	12.59	8.36	-166	1.43	Clear	Yes	114-MW72D-123-126-20240813	9:35

*** Take photo and identify port number, turbidity and date.*

Other Comments or Observations:

Signature of AECOM Personnel: Megan Clark & Mike Collins

Date: 8/13/2024

PPG Garfield Avenue Group Sites
Bedrock Groundwater Monitoring Program
FLUTe Sample Collection Record

AECOM

Well ID: **114-MW4D**

Recommended Purge Pressure: 57 PSI

Recommended Sampling Pressure: 41 PSI

Start Time (24 Hr): 12:15

End Time (24 Hr): 14:15

Date: 9/18/24

Weather Conditions: Overcast, 75 F

AECOM Personnel: Megan Clark

Project Manager: Shannon Gleason

Equipment Used:

Water Level Meter - Heron Skinny Dipper Serial #: 04-0763 (3010-1329)

Multimeter (YSI) - Pro Quatro Serial #: 21K103659 (3510-1341), Probe: 23H100216

Turbidity Meter - Model: Hach 2100Q Serial #: 23020D000214

Pre-Sampling GW Level Measurements:

Date	Time	Port Number	Sampling Interval (ft btSC)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total volume purged from each port prior to sampling (liters)
9/18/2024	**12:23**	TAG LINE	Water level inside FLUTE liner	0.82	
9/18/2024	**12:24**	1	90-94	8.59	FINAL PURGE VOLUME= 2.84
9/18/2024	**12:25**	2	98-102	8.53	FINAL PURGE VOLUME= 2.84
9/18/2024	**12:26**	3	111-115	9.46	FINAL PURGE VOLUME= 1.50
9/18/2024	**12:27**	4	121-125	9.76	FINAL PURGE VOLUME= 2.84

Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo[1]	SAMPLE ID	Sample Time
1	90-94	1.15	20.3	12.28	5.7	-333.6	1.42	Clear	Y	114-MW4D-90-94-20240918	13:20
2	98-102	2.14	20.7	12.1	3.081	-317.1	1.34	Clear	Y	114-MW4D-98-102-20240918	13:30
3	111-115	1.02	21.8	12.43	6.72	-332.8	3.9	Clear	Y	114-MW4D-111-115-20240918	13:40
4	121-125	0.51	20.3	12.85	1.285	-363.6	1.95	Clear	Y	114-MW4D-121-125-20240918	13:50

[1] *Take photo and identify port number, turbidity and date.*

Other Comments or Observations:

Signature of AECOM Personnel: Megan Clark **Date: 9/18/24**

PPG Garfield Avenue Group Sites
Bedrock Groundwater Monitoring Program
FLUTe Sample Collection Record

AECOM

Well ID: **114-MW52D**

Recommended Purge Pressure: 55 PSI

Recommended Sampling Pressure: 36 PSI

Start Time (24 Hr): 11:35

End Time (24 Hr): _____

Date: 9/19/2024

Weather Conditions: mostly cloudy, 75 F

AECOM Personnel: Megan Clark

Project Manager: Shannon Gleason

Equipment Used:

Water Level Meter - Heron Skinny Dipper Serial #: 04-0763 (3010-1329)

Multimeter (YSI) - Pro Quatro Serial #: 21K103659 (3510-1341), Probe: 23H100216

Turbidity Meter - Model: Hach 2100Q Serial #: 23020D000214

Pre-Sampling GW Level Measurements:

Date	Time	Port Number	Sampling Interval (ft btSC)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total volume purged from each port prior to sampling (liters)
9/19/2024	**11:44**	TAG LINE	Water level inside FLUTE liner	3.34	
9/19/2024	**11:46**	1	80-83	37.93	**FINAL PURGE VOLUME= 0.94**
9/19/2024	**11:48**	2	87-90	37.96	**FINAL PURGE VOLUME= 0.94**
9/19/2024	**11:50**	3	102-105	37.8	**FINAL PURGE VOLUME= 0.94**

Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo**	SAMPLE ID
1	80-83	Not Enough Volume Available						Dark yellow	Y	114-MW52D-80-83-20240919
2	87-90	Not Enough Volume Available						Light yellow	Y	114-MW52D-87-90-20240919
3	102-105	Not Enough Volume Available						Light yellow	Y	114-MW52D-102-105-20240919

*** Take photo and identify port number, turbidity and date.*

Other Comments or Observations:

Not enough volume available in all ports to collect a sample for ferrous iron. Filled for Total Cr, Hex Cr, TOC, and Sulfate. Lab was asked in COC to aliquote any remaining volume for ferrous iron testing.

Signature of AECOM Personnel: Megan Clark **Date: 9/19/24**

PPG Garfield Avenue Group Sites
Bedrock Groundwater Monitoring Program
FLUTe Sample Collection Record

AECOM

Well ID: **114-MW57D**

Recommended Purge Pressure: 54 PSI

Recommended Sampling Pressure: 38 PSI

Start Time (24 Hr): 10:10

End Time (24 Hr): 11:50

Date: 9/18/24

Weather Conditions: Overcast, 72 F

AECOM Personnel: Megan Clark

Project Manager: Shannon Gleason

Equipment Used:

Water Level Meter - Heron Skinny Dipper Serial #: 04-0763 (3010-1329)

Multimeter (YSI) - Pro Quatro Serial #: 21K103659 (3510-1341), Probe: 23H100216

Turbidity Meter - Model: Hach 2100Q Serial #: 23020D000214

Pre-Sampling GW Level Measurements:

Date	Time	Port Number	Sampling Interval (ft btSC)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total volume purged from each port prior to sampling (liters)
9/18/2024	**10:16**	TAG LINE	Water level inside FLUTE liner	3.56	
9/18/2024	**10:17**	1	87.5-91.5	5.94	**FINAL PURGE VOLUME= 2.65**
9/18/2024	**10:18**	2	96.5-100.5	5.96	**FINAL PURGE VOLUME= 2.65**
9/18/2024	**10:19**	3	104-108	6.07	**FINAL PURGE VOLUME= 2.65**
9/18/2024	**10:20**	4	109-113	5.97	**FINAL PURGE VOLUME= 2.65**

Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo[1]	SAMPLE ID
1	87.5-91.5	1.21	20.6	8.12	1.259	-334.3	0.52	Clear	Y	114-MW57D-87.5-91.5-20240918
2	96.5-100.5	0.65	19.6	8.19	1.247	-346.8	2.37	Clear	Y	114-MW57D-96.5-100.5-20240918
3	104-108	1.06	19.8	8.1	1.088	-341.4	0.79	Clear	Y	114-MW57D-104-108-20240918
4	109-113	1.7	20.5	8.18	1.063	-340.3	2.08	Clear	Y	114-MW57D-109-113-20240918

[1] *Take photo and identify port number, turbidity and date.*

Other Comments or Observations:

Signature of AECOM Personnel: Megan Clark **Date: 9/18/24**

PPG Garfield Avenue Group Sites
Bedrock Groundwater Monitoring Program
FLUTe Sample Collection Record

AECOM

Well ID: **114-MW66D**

Recommended Purge Pressure: 56 PSI

Recommended Sampling Pressure: 40 PSI

Start Time (24 Hr): 8:45

End Time (24 Hr): 11:20

Date: 9/17/24

Weather Conditions: Overcast, 70 F

AECOM Personnel: Megan Clark

Project Manager: Shannon Gleason

Equipment Used:

Water Level Meter - Heron Skinny Dipper Serial #: 04-0763 (3010-1329)

Multimeter (YSI) - Pro Quatro Serial #: 21K103659 (3510-1341), Probe: 23H100216

Turbidity Meter - Model: Hach 2100Q Serial #: 23020D000214

Pre-Sampling GW Level Measurements:

Date	Time	Port Number	Sampling Interval (ft btSC)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total volume purged from each port prior to sampling (liters)
9/17/2024	**8:59**	TAG LINE	Water level inside FLUTE liner	2.79	
9/17/2024	**9:00**	1	91-97	8.29	**FINAL PURGE VOLUME= 2.27**
9/17/2024	**9:01**	2	107-111	8.29	**FINAL PURGE VOLUME= 2.27**
9/17/2024	**9:02**	3	118-123	8.49	**FINAL PURGE VOLUME= 2.27**
9/17/2024	**9:03**	4	124-129	7.99	**FINAL PURGE VOLUME= 2.84**
9/17/2024	**9:04**	5	137-140	7.69	**FINAL PURGE VOLUME= 2.65**

Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo[1]	SAMPLE ID
1[2]	91-97	3.5	19.9	10.92	0.962	-159.5	**1.94**	Pale green	Y	114-MW66D-91-97-20240917
2	107-111	1.68	19.5	8.52	0.7	-193.4	2.26	Clear	Y	114-MW66D-107-111-20240917
3	118-123	0.92	19.9	9.06	0.719	-250.1	1.83	Clear	Y	114-MW66D-118-123-20240917
4	124-129	0.7	20.3	9.36	0.722	-305.2	1.52	Clear	Y	114-MW66D-124-129-20240917
5	137-140	0.46	21.2	9.02	DELETED	DELETED	DELETED	Clear	Y	114-MW66D-137-140-20240917

[1] *Take photo and identify port number, turbidity and date.*

[2] *Collect Field Duplicate, MS/MSD samples from Port 1*

Other Comments or Observations:

Unfortunately, some data was deleted due to excel glitch.
Cannot be found in version history either.

Signature of AECOM Personnel: Megan Clark **Date: 9/17/24**

PPG Garfield Avenue Group Sites
Bedrock Groundwater Monitoring Program
FLUTe Sample Collection Record

AECOM

Well ID: **114-MW72D**

Recommended Purge Pressure: 55 PSI

Recommended Sampling Pressure: 39 PSI

Start Time (24 Hr): 9:00

End Time (24 Hr): 11:00

Date: 9/19/2024

Weather Conditions: mostly cloudy, 68 F

AECOM Personnel: Megan Clark

Project Manager: Shannon Gleason

Equipment Used:

Water Level Meter - Heron Skinny Dipper Serial #: 04-0763 (3010-1329)

Multimeter (YSI) - Pro Quatro Serial #: 21K103659 (3510-1341), Probe: 23H100216

Turbidity Meter - Model: Hach 2100Q Serial #: 23020D000214

Pre-Sampling GW Level Measurements:

Date	Time	Port Number	Sampling Interval (ft btSC)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total volume purged from each port prior to sampling (liters)
9/19/2024	**9:06**	TAG LINE	Water level inside FLUTE liner	1.31	
9/19/2024	**9:07**	1	102-106	7.01	**FINAL PURGE VOLUME= 2.46**
9/19/2024	**9:08**	2	110-114	7.13	**FINAL PURGE VOLUME= 2.27**
9/19/2024	**9:09**	3	116-119	7.11	**FINAL PURGE VOLUME= 2.46**
9/19/2024	**9:10**	4	123-126	7.12	**FINAL PURGE VOLUME= 2.46**

Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo**	SAMPLE ID
1	102-106	0.41	21.1	12.47	6.82	-90.7	**2**	Clear	Y	114-MW72D-102-106-20240919
2	110-114	0.68	20.6	12.61	7.2	-98.6	1.69	Clear	Y	114-MW72D-110-114-20240919
3	116-119	1.1	21.2	12.59	7.81	-127.2	1.21	Clear	Y	114-MW72D-116-119-20240919
4	123-126	0.98	20.8	12.59	7.63	-127.1	1.6	Clear	Y	114-MW72D-123-126-20240919

*** Take photo and identify port number, turbidity and date.*

Other Comments or Observations:

Signature of AECOM Personnel: Megan Clark

Date: 9/19/24

PPG Garfield Avenue Group Sites
Bedrock Groundwater Monitoring Program
FLUTe Sample Collection Record

AECOM

Well ID: 114-MW4D

Recommended Purge Pressure: 57 PSI

Recommended Sampling Pressure: 41 PSI

Start Time (24 Hr): 9:30

End Time (24 Hr): 11:00

Date: 12/18/24

Weather Conditions: 40 – 47 F, partly cloudy, 0 - 7 mph winds

AECOM Personnel: Megan Clark

Project Manager: Shannon Gleason

Equipment Used:

Water Level Meter - Solinst 102 Serial #: 575104

Multimeter (YSI) - Pro Quatro Serial #: 3510-1432, Probe: 22C1003371

Turbidity Meter - Model: Hach 2100Q Serial #: 20100D000888

Pre-Sampling GW Level Measurements:

Date	Time	Port Number	Sampling Interval (ft btSC)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total volume purged from each port prior to sampling (liters)
12/18/2024	9:40	TAG LINE	Water level inside FLUTE liner	0.79	
12/18/2024	9:41	1	90-94	8.02	FINAL PURGE VOLUME= 2.84
12/18/2024	9:42	2	98-102	7.96	FINAL PURGE VOLUME= 2.84
12/18/2024	9:43	3	111-115	10	FINAL PURGE VOLUME= 1.50
12/18/2024	9:44	4	121-125	10.29	FINAL PURGE VOLUME= 2.84

Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo[1]	SAMPLE ID	Sample Time
1	90-94	1.38	14.1	12.2	3.601	-153.9	3.73	Clear	Y	114-MW4D-90-94-20241218	10:10
2	98-102	0.65	14.3	12.03	2.413	-192.6	2.67	Clear	Y	114-MW4D-98-102-20241218	10:20
3	111-115	Not enough volume						Clear	Y	114-MW4D-111-115-20241218	10:25
4	121-125	0.57	13.6	13.01	18.54	-207	3.08	Clear	Y	114-MW4D-121-125-20241218	10:40

[1] *Take photo and identify port number, turbidity and date.*

Other Comments or Observations:

Not enough volume was available after sample collection in port 3 to take parameter readings.

Signature of AECOM Personnel: Megan Clark

Date: 12/18/24

PPG Garfield Avenue Group Sites
Bedrock Groundwater Monitoring Program
FLUTe Sample Collection Record

AECOM

Well ID: 114-MW52D

Recommended Purge Pressure: 55 PSI

Recommended Sampling Pressure: 36 PSI

Start Time (24 Hr): 13:00

End Time (24 Hr): 14:15

Date: 12/18/24

Weather Conditions: 40 – 47 F, partly cloudy, 0 - 7 mph winds

AECOM Personnel: Megan Clark

Project Manager: Shannon Gleason

Equipment Used:
Water Level Meter - Solinst 102 Serial #: 575104
Multimeter (YSI) - Pro Quatro Serial #: 3510-1432, Probe: 22C1003371
Turbidity Meter - Model: Hach 2100Q Serial #: 20100D000888

Pre-Sampling GW Level Measurements:

Date	Time	Port Number	Sampling Interval (ft btSC)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total volume purged from each port prior to sampling (liters)
12/18/2024	13:25	TAG LINE	Water level inside FLUTE liner	3.76	
12/18/2024	13:26	1	80-83	46.24	FINAL PURGE VOLUME= 0.47
12/18/2024	13:27	2	87-90	46.35	FINAL PURGE VOLUME= 0.47
12/18/2024	13:28	3	102-105	46.19	FINAL PURGE VOLUME= 0.47

Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo**	SAMPLE ID	Sample Time
1	80-83	Not Enough Volume Available						Dark yellow	Y	114-MW52D-80-83-20241218	13:50
2	87-90	Not Enough Volume Available						Light yellow	Y	114-MW52D-87-90-20241218	13:55
3	102-105	Not Enough Volume Available						Light yellow	Y	114-MW52D-102-105-20241218	14:00

*** Take photo and identify port number, turbidity and date.*

Other Comments or Observations:
Not enough volume available in ports 1 , 2 , and 3 to collect a sample for Total Cr, TOC, Sulfate, and ferrous iron. Collected half a sample of Total Cr for port 3. Lab was asked in COC to aliquote any remaining volume for missing analysis testing. Yellow water color from mollasses injections in the area. Not enough volume from ports to collect parameter readings.

Signature of AECOM Personnel: Megan Clark

Date: 12/18/24

PPG Garfield Avenue Group Sites
Bedrock Groundwater Monitoring Program
FLUTe Sample Collection Record

AECOM

Well ID: 114-MW57D

Recommended Purge Pressure: 54 PSI

Recommended Sampling Pressure: 38 PSI

Start Time (24 Hr): 11:00

End Time (24 Hr): 12:30

Date: 12/18/24

Weather Conditions: 40 – 47 F, partly cloudy, 0 - 7 mph winds

AECOM Personnel: Megan Clark

Project Manager: Shannon Gleason

Equipment Used:

Water Level Meter - Solinst 102 Serial #: 575104

Multimeter (YSI) - Pro Quatro Serial #: 3510-1432, Probe: 22C1003371

Turbidity Meter - Model: Hach 2100Q Serial #: 20100D000888

Pre-Sampling GW Level Measurements:

Date	Time	Port Number	Sampling Interval (ft btSC)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total volume purged from each port prior to sampling (liters)
12/18/2024	11:00	TAG LINE	Water level inside FLUTE liner	3.93	
12/18/2024	11:01	1	87.5-91.5	5.62	FINAL PURGE VOLUME= 1.89 L
12/18/2024	11:02	2	96.5-100.5	5.62	FINAL PURGE VOLUME= 1.89 L
12/18/2024	11:03	3	104-108	5.63	FINAL PURGE VOLUME= 1.89 L
12/18/2024	11:04	4	109-113	5.6	FINAL PURGE VOLUME= 1.89 L

Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo[1]	SAMPLE ID	Sample Time
1	87.5-91.5	27.8	Not enough volume					Yellow	Y	114-MW57D-87.5-91.5-20241218	11:35
2	96.5-100.5	23.1	Not enough volume					Yellow	Y	114-MW57D-96.5-100.5-20241218	11:40
3	104-108	32.1	Not enough volume					Yellow	Y	114-MW57D-104-108-20241218	11:45
4	109-113	22.5	Not enough volume					Yellow	Y	114-MW57D-109-113-20241218	11:50

[1] *Take photo and identify port number, turbidity and date.*

Other Comments or Observations:

Dissolved hex cr sample collected for ports all ports due to turbidity over 10 NTU. Not enough volume for dissolved total cr or parameter readings.

Yellow water color from molasses injections in the area.

Signature of AECOM Personnel: Megan Clark

Date: 12/18/24

PPG Garfield Avenue Group Sites
Bedrock Groundwater Monitoring Program
FLUTe Sample Collection Record

AECOM

Well ID: 114-MW66D

Recommended Purge Pressure: 56 PSI

Recommended Sampling Pressure: 40 PSI

Start Time (24 Hr): 11:00

End Time (24 Hr): 13:00

Date: 12/17/24

Weather Conditions: 40-57 Overcast/Sunny, 2-10 mph winds W/SW

AECOM Personnel: Megan Clark

Project Manager: Shannon Gleason

Equipment Used:
Water Level Meter - Solinst 102 Serial #: 575104

Multimeter (YSI) - Pro Quatro Serial #: 3510-1432, Probe: 22C1003371

Turbidity Meter - Model: Hach 2100Q Serial #: 20100D000888

Pre-Sampling GW Level Measurements:

Date	Time	Port Number	Sampling Interval (ft btSC)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total volume purged from each port prior to sampling (liters)
12/17/2024	N/A	TAG LINE	Water level inside FLUTE liner	N/A	
12/17/2024	N/A	1	91-97	N/A	FINAL PURGE VOLUME= 2.27
12/17/2024	N/A	2	107-111	N/A	FINAL PURGE VOLUME= 2.27
12/17/2024	N/A	3	118-123	N/A	FINAL PURGE VOLUME= 2.27
12/17/2024	N/A	4	124-129	N/A	FINAL PURGE VOLUME= 2.84
12/17/2024	N/A	5	137-140	N/A	FINAL PURGE VOLUME= 3.03

Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo[1]	SAMPLE ID	Sample Time
					E						
1[2]	91-97	2.25	16.7	10.04	0.931	117.9	5.27	Pale green	Y	114-MW66D-91-97-20241217	11:40
2	107-111	1.57	16.3	8.55	0.712	-2.2	3.34	Clear	Y	114-MW66D-107-111-20241217	11:50
3	118-123	1.12	15.5	9.16	0.719	-63	3.8	Clear	Y	114-MW66D-118-123-20241217	11:55
4	124-129	0.79	15.3	8.28	0.3764	-87	2.43	Clear	Y	114-MW66D-124-129-20241217	12:00
5	137-140	0.87	15.6	9	0.678	-187	1.87	Clear	Y	114-MW66D-137-140-20241217	12:05

Other Comments or Observations:

Signature of AECOM Personnel: Megan Clark

Date: 12/17/24

PPG Garfield Avenue Group Sites
Bedrock Groundwater Monitoring Program
FLUTe Sample Collection Record

AECOM

Well ID: 114-MW72D

Recommended Purge Pressure: 55 PSI

Recommended Sampling Pressure: 39 PSI

Start Time (24 Hr): 13:00

End Time (24 Hr): 14:30

Pre-Sampling GW Level Measurements:

Date: 12/17/24

Weather Conditions: 40-57 Overcast/Sunny, 2-10 mph winds W/SW

AECOM Personnel: Megan Clark

Project Manager: Shannon Gleason

Equipment Used:
Water Level Meter - Solinst 102 Serial #: 575104
Multimeter (YSI) - Pro Quatro Serial #: 3510-1432, Probe: 22C1003371
Turbidity Meter - Model: Hach 2100Q Serial #: 20100D000888

Date	Time	Port Number	Sampling Interval (ft btSC)	Depth to Water Prior to Sampling (ft below swagelok valve)	Total volume purged from each port prior to sampling (liters)
9/19/2024	13:50	TAG LINE	Water level inside FLUTE liner	0.73	
9/19/2024	13:51	1	102-106	7.46	FINAL PURGE VOLUME= 2.46
9/19/2024	13:52	2	110-114	7.33	FINAL PURGE VOLUME= 2.27
9/19/2024	13:53	3	116-119	8.29	FINAL PURGE VOLUME= 2.46
9/19/2024	13:54	4	123-126	7.79	FINAL PURGE VOLUME= 2.46

Port Number	Sampling Interval	Turbidity (NTU)	Temperature °C	pH	Specific Conductivity (mS/cm)	ORP (mV)	DO (mg/L)	Color	Photo**	SAMPLE ID	Sample Time
1	102-106	17.1	Not enough volume					Clear	Y	114-MW72D-102-106-20241217	14:15
2	110-114	4.48	15.3	12.66	7.47	-133	3.5	Clear	Y	114-MW72D-110-114-20241217	14:10
3	116-119	Not enough volume						Clear	Y	114-MW72D-116-119-20241217	14:20
4	123-126	1.49	15.1	12.75	7.38	-137.4	2.73	Clear	Y	114-MW72D-123-126-20241217	14:15

*** Take photo and identify port number, turbidity and date.*

Other Comments or Observations:

Dissolved total cr and hex cr sample collected at 114-MW72D-102-106-20241217.

Not enough volume from port 3 to collect ferrous iron sample for 114-MW72D-116-119-20241217. Lab was asked in COC to aliquote any remaining volume for ferrous iron testing.

Not enough volume from ports 1 and 3 to collect parameter readings.

Signature of AECOM Personnel: Megan Clark

Date: 12/17/24

Well ID: 114-MW4D

AECOM Personnel: GWS Team

Equipment Used:
Water Level Meter - Serial #:

Turbidity Meter - Model: Serial #:

Recommended Purge Pressure: 75 PSI until liner settles then 57 PSI
Recommended Sampling Pressure: 41 PSI

*** Check water level each day of purging and sampling. Note if depth to water in FLUTe Liner is below top of steel casing, add water to liner. If it continues to drop, call FLUTe****

Date	Time	Port Number	Sampling Interval (ft bTSC)	Depth to Water (ft below swagelok valve)	From FLUTe Projected purge volume (liters)	Actual Purge Volume (liters)	Turbidity (NTU)	Color	Photo	Notes
4/26/23	1200	TAG LINE	Water level inside FLUTE liner (take prior to each purging event- measure from top of plastic tube)	8.59	NA	NA	NA	NA	NA	added 9 gallons to liner
4/27/23	1000	TAG LINE		6.41	NA	NA	NA	NA	NA	added 10 gallons to liner
4/28/23	1315	TAG LINE		5.1	NA	NA	NA	NA	NA	added 9.75 gallons to liner
5/1/23	1100	TAG LINE		6.54	NA	NA	NA	NA	NA	added ~11 gallons to liner
5/5/23	1055	TAG LINE	NA	7.07	NA	NA	NA	NA	NA	Added ~8 gallons @ 1107 hours to bring DTW up to 1.5 ft to perform a leak test
5/5/23	1108	TAG LINE	NA	1.75	NA	NA	NA	NA	NA	
5/5/23	1109	TAG LINE	NA	1.79	NA	NA	NA	NA	NA	
5/5/23	1110	TAG LINE	NA	1.81	NA	NA	NA	NA	NA	
5/5/23	1111	TAG LINE	NA	1.85	NA	NA	NA	NA	NA	
5/5/23	1112	TAG LINE	NA	1.88	NA	NA	NA	NA	NA	
5/5/23	1113	TAG LINE	NA	1.89	NA	NA	NA	NA	NA	
5/5/23	1114	TAG LINE	NA	1.90	NA	NA	NA	NA	NA	
5/5/23	1115	TAG LINE	NA	1.90	NA	NA	NA	NA	NA	
5/5/23	1116	TAG LINE	NA	1.90	NA	NA	NA	NA	NA	
5/5/23	1131	TAG LINE	NA	1.95	NA	NA	NA	NA	NA	Added water again to bring DTW to ~1.27 ft
5/5/23	1133	TAG LINE	NA	1.30	NA	NA	NA	NA	NA	
5/5/23	1134	TAG LINE	NA	1.30	NA	NA	NA	NA	NA	
5/5/23	1135	TAG LINE	NA	1.30	NA	NA	NA	NA	NA	
5/5/23	1142	TAG LINE	NA	1.30	NA	NA	NA	NA	NA	
5/5/23	1146	TAG LINE	NA	1.30	NA	NA	NA	NA	NA	Called Frederik @ 1147, DTW holding steady, per discussion decided to let well sit for half hour and will re-check depths

Well ID: 114-MW4D

AECOM Personnel: GWS Team

Equipment Used:
Water Level Meter - Serial #:

Turbidity Meter - Model: Serial #:

Recommended Purge Pressure: 75 PSI until liner settles then 57 PSI
Recommended Sampling Pressure: 41 PSI

*** Check water level each day of purging and sampling. Note if depth to water in FLUTe Liner is below top of steel casing, add water to liner. If it continues to drop, call FLUTe****

Date	Time	Port Number	Sampling Interval (ft bTSC)	Depth to Water (ft below swagelok valve)	From FLUTe Projected purge volume (liters)	Actual Purge Volume (liters)	Turbidity (NTU)	Color	Photo	Notes
5/5/23	1152	TAG LINE	NA	1.34	NA	NA	NA	NA	NA	
5/5/23	1207	TAG LINE	NA	1.34	NA	NA	NA	NA	NA	
5/5/23	1234	TAG LINE	NA	1.40	NA	NA	NA	NA	NA	Take DTW then set up at another well, well DTW is holding steady, will allow well to sit while I purge another well.
5/5/23	1300	TAG LINE	NA	1.46	NA	NA	NA	NA	NA	DTW is relatively steady, purge well.
5/11/2023	1422	TAG LINE	NA	8.09	NA	NA	NA	NA	NA	Added water to 1.5 ft to perform leak test
5/11/2023	1427	TAG LINE	NA	1.50	NA	NA	NA	NA	NA	
5/11/2023	1428	TAG LINE	NA	1.70	NA	NA	NA	NA	NA	
5/11/2023	1429	TAG LINE	NA	1.80	NA	NA	NA	NA	NA	
5/11/2023	1430	TAG LINE	NA	1.85	NA	NA	NA	NA	NA	
5/11/2023	1431	TAG LINE	NA	1.85	NA	NA	NA	NA	NA	
5/11/2023	1432	TAG LINE	NA	1.85	NA	NA	NA	NA	NA	
5/11/2023	1433	TAG LINE	NA	1.88	NA	NA	NA	NA	NA	
5/11/2023	1434	TAG LINE	NA	1.89	NA	NA	NA	NA	NA	
5/11/2023	1435	TAG LINE	NA	1.90	NA	NA	NA	NA	NA	
5/11/2023	1436	TAG LINE	NA	1.90	NA	NA	NA	NA	NA	DTW is relatively steady, purge well.
6/6/2023	1055	TAG LINE	NA	0.55	NA	NA	NA	NA	NA	
6/9/2023	1105	TAG LINE	NA	0.63	NA	NA	NA	NA	NA	
6/14/2023	1015	TAG LINE	NA	0.66	NA	NA	NA	NA	NA	
6/23/2023	1423	TAG LINE	NA	0.69	NA	NA	NA	NA	NA	
9/22/2023	1040	TAG LINE	NA	0.75	NA	NA	NA	NA	NA	
12/15/2023	1210	TAG LINE	NA	0.7	NA	NA	NA	NA	NA	

Well ID: 114-MW4D

AECOM Personnel: GWS Team

Equipment Used:
Water Level Meter - Serial #:

Recommended Purge Pressure: 75 PSI until liner settles then 57 PSI
Recommended Sampling Pressure: 41 PSI

Turbidity Meter - Model: Serial #:

*** Check water level each day of purging and sampling. Note if depth to water in FLUTe Liner is below top of steel casing, add water to liner. If it continues to drop, call FLUTe****

Date	Time	Port Number	Sampling Interval (ft bTSC)	Depth to Water (ft below swagelok valve)	From FLUTe Projected purge volume (liters)	Actual Purge Volume (liters)	Turbidity (NTU)	Color	Photo	Notes
3/15/2024	9:43	TAG LINE	NA	0.68	NA	NA	NA	NA	NA	
6/11/2024	9:55	TAG LINE	NA	0.7	NA	NA	NA	NA	NA	
9/6/2024	10:55	TAG LINE	NA	0.82	NA	NA	NA	NA	NA	
12/9/2024	13:28	TAG LINE	NA	0.68	NA	NA	NA	NA	NA	
4/26/2023	1200	1	90-94	2.66	4.39	5	-	clear	-	
4/27/2023	1000	1	90-94	5.13	4.39	5	-	clear	-	
4/28/2023	1316	1	90-94	2.71	4.39	5	-	clear	Y	
5/1/2023	1100	1	90-94	3.14	4.39	5	-	clear	Y	
5/5/2023	1300	1	90-94	1.3	4.39	5	-	clear	Y	
5/11/2023	1438	1	90-94	1.87	4.39	5.5	-	very light brown	Y	
6/6/2023	1056	1	90-94	2.64	4.39	5.5	2.24	clear	-	
6/9/2023	1105	1	90-94	9.38	4.39	6	1.32	clear	Y	
6/14/2023	1015	1	90-94	9.14	4.39	5	1.00	brown tinge	-	
6/23/2023	1422	1	90-94	9.25	4.39	4.5	1.22	clear	y	
9/22/2023	1040	1	90-94	7.79	4.39	4.5	1.15	clear	y	
12/15/2023	1215	1	90-94	7.72	4.39	4.3	1.22	Clear	Y	
3/15/2024	9:44	1	90-94	7.59	4.39	4.75	2.03	Clear	Y	
6/11/2024	9:56	1	90-94	9.1	4.39	5.25	0.22	Clear	Y	
9/6/2024	10:56	1	90-94	8.21	4.39	4.75	0.5	Clear	Y	
12/9/2024	13:29	1	90-94	8.39	4.39	4.5	0.51	Clear	Y	
						79.55	FINAL PURGE VOLUME			
4/26/2023	1200	2	98-102	8.19	4.46	5.5	-	clear	-	
4/27/2023	1000	2	98-102	4.84	4.46	5	-	clear	-	

Well ID: 114-MW4D

AECOM Personnel: GWS Team

Equipment Used:
Water Level Meter - Serial #:

Recommended Purge Pressure: 75 PSI until liner settles then 57 PSI
Recommended Sampling Pressure: 41 PSI

Turbidity Meter - Model: Serial #:

*** Check water level each day of purging and sampling. Note if depth to water in FLUTe Liner is below top of steel casing, add water to liner. If it continues to drop, call FLUTe****

Date	Time	Port Number	Sampling Interval (ft bTSC)	Depth to Water (ft below swagelok valve)	From FLUTe Projected purge volume (liters)	Actual Purge Volume (liters)	Turbidity (NTU)	Color	Photo	Notes
4/28/2023	1317	2	98-102	2.69	4.46	5	-	clear	Y	
5/1/2023	1100	2	98-102	2.13	4.46	5.5	-	clear	Y	
5/5/2023	1300	2	98-102	1.33	4.46	5.5	-	clear	Y	
5/11/2023	1438	2	98-102	1.83	4.46	5.5	-	V. light brown	Y	
6/6/2023	1058	2	98-102	3.14	4.46	5.5	1.52	clear	-	
6/9/2023	1105	2	98-102	9.61	4.46	5.5	2.08	clear	Y	
6/14/2023	1015	2	98-102	9.3	4.46	5	1.05	clear	Y	
6/23/2023	1422	2	98-102	9.34	4.46	5	2.74	clear	y	
9/22/2023	1040	2	98-102	8.54	4.46	5	1.82	clear	y	
12/15/2023	12:20	2	98-102	7.55	4.46	4.1	2.46	Clear	Y	
3/15/2024	9:46	2	98-102	7.49	4.46	4.25	0.38	clear	Y	
6/11/2024	9:57	2	98-102	9.16	4.46	5	1.09	Clear	Y	
9/6/2024	10:57	2	98-102	8.15	4.46	5	0.8	Clear	Y	
12/9/2024	13:30	2	98-102	9.61	4.46	5	3.84	Clear	Y	
						81.35	FINAL PURGE VOLUME			
4/26/2023	1200	3	111-115	8.18	4.5	5.5	-	clear	Y	
4/27/2023	1000	3	111-115	4.86	4.5	5	-	clear	Y	
4/28/2023	1317	3	111-115	2.62	4.5	5	-	clear	Y	
5/1/2023	1100	3	111-115	2.04	4.5	5	-	clear	Y	
5/5/2023	1300	3	111-115	1.34	4.5	5.5	-	clear	Y	
5/11/2023	1438	3	111-115	1.85	4.5	5.5	-	V. light brown	Y	
6/6/2023	1059	3	111-115	3.75	4.5	5	2.85	clear	-	
6/9/2023	1105	3	111-115	9.11	4.5	5	1.71	clear	Y	
6/14/2023	1015	3	111-115	10.34	4.5	5	0.81	clear	Y	
6/23/2023	1423	3	111-115	10.45	4.5	5	10.3	clear	y	

Well ID: 114-MW4D

AECOM Personnel: GWS Team

Equipment Used:
Water Level Meter - Serial #:

Turbidity Meter - Model: Serial #:

Recommended Purge Pressure: 75 PSI until liner settles then 57 PSI
Recommended Sampling Pressure: 41 PSI

*** Check water level each day of purging and sampling. Note if depth to water in FLUTe Liner is below top of steel casing, add water to liner. If it continues to drop, call FLUTe****

Date	Time	Port Number	Sampling Interval (ft bTSC)	Depth to Water (ft below swagelok valve)	From FLUTe Projected purge volume (liters)	Actual Purge Volume (liters)	Turbidity (NTU)	Color	Photo	Notes
9/22/2023	1040	3	111-115	9.37	4.5	4	2.4	pale brown	y	
12/15/2023	12:25	3	111-115	8.6	4.5	3.5	0.52	Clear	Y	
3/15/2025	9:46	3	111-115	8.04	4.5	5	2.36	Clear	Y	
6/11/2024	9:58	3	111-115	8.46	4.5	3.5	1.74	Clear	Y	
9/6/2024	10:58	3	111-115	8.74	4.5	4	0.32	clear	Y	
12/9/2024	13:31	3	111-115	10.42	4.5	4	0.55	clear	Y	
						75.5	FINAL PURGE VOLUME			
4/26/2023	1200	4	121-125	8.29	4.54	5.5	-	clear	Y	
4/27/2023	1000	4	121-125	4.96	4.54	5.5	-	clear	Y	
4/28/2023	1317	4	121-125	2.85	4.54	5	-	clear	Y	
5/1/2023	1100	4	121-125	2.68	4.54	5.5	-	clear	Y	
5/11/2023	1438	4	121-125	1.82	4.54	5.5	-	V. light brown	Y	
6/6/2023	1100	4	121-125	2.1	4.54	5	9.96	light yellow	-	
6/9/2023	1105	4	121-125	9.7	4.54	5	2.19	light yellow	-	
6/14/2023	1015	4	121-125	10.8	4.54	5	1.00	brown tinge	-	
6/23/2023	1427	4	121-125	10.81	4.54	5	2.71	clear	y	
9/22/2023	1040	4	121-125	9.41	4.54	5	2.71	light brown	-	
12/15/2023	12:30	4	121-125	8.88	4.54	4	2.05	Clear	Y	
3/15/2024	9:48	4	121-125	8.41	4.54	4.5	1.21	clear	Y	
6/11/2024	9:59	4	121-125	9.55	4.54	4	0.16	Clear	Y	
9/6/2024	10:59	4	121-125	9.26	4.54	5	0.31	Clear	Y	
12/9/2024	13:32	4	121-125	10.23	4.54	5	0.35	Clear	Y	
						74.5	FINAL PURGE VOLUME			

Well ID: 114-MW52D
Recommended Purge Pressure: 51 PSI
Recommended Sampling Pressure: 36 PSI

PPG Garfield Avenue Group Sites
FLUTe Tracking Log Field Data Sheet
Bedrock GW Investigation Addendum - 60667926

AECOM

Well ID: 114-MW52D

AECOM Personnel: GWS Team

Equipment Used:
Water Level Meter - Serial #:

Turbidity Meter - Model: Serial #:

Recommended Purge Pressure: 55 PSI
Recommended Sampling Pressure: 36 PSI

*** Check water level each day of purging and sampling. Note if depth to water in FLUTe Liner is below top of steel casing, add water to liner. If it continues to drop, call FLUTe***

Date	Time	Port Number	Sampling Interval (ft bgs)	Depth to Water (ft below swagelok valve)	From FLUTe Projected purge volume (liters)	Actual Purge Volume (liters)	Turbidity (NTU)	Color	Photo	Notes (include additional water level readings here)
3/23/2022	0745	TAG LINE	Water level inside FLUTE liner (take prior to each purging event- measure from top of plastic tube)	0.78	NA	NA	NA	NA	NA	End water level 90.3
3/28/2022	0811	TAG LINE		0.73	NA	NA	NA	NA	NA	
3/31/2022	0920	TAG LINE		1.7	NA	NA	NA	NA	NA	
4/4/2022	0800	TAG LINE	NA	1.08	NA	NA	NA	NA	NA	
4/8/2022	0815	TAG LINE	NA	1.1	NA	NA	NA	NA	NA	
4/11/2022	0740	TAG LINE	NA	1.29	NA	NA	NA	NA	NA	
4/13/2022	0800	TAG LINE	NA	1.35	NA	NA	NA	NA	NA	
4/15/2022	0800	TAG LINE	NA	1.1	NA	NA	NA	NA	NA	
4/18/2022	-	TAG LINE	NA	-	NA	NA	NA	NA	NA	
5/10/2022	10:20	TAG LINE	NA	1.49	NA	NA	NA	NA	NA	Add water
5/13/2022	11:00	TAG LINE	NA	1.19	NA	NA	NA	NA	NA	Add water
5/17/2022	9:15	TAG LINE	NA	0.99	NA	NA	NA	NA	NA	
5/20/2022	9:30	TAG LINE	NA	0.98	NA	NA	NA	NA	NA	Add water
5/24/2022	9:20	TAG LINE	NA	0.94	NA	NA	NA	NA	NA	
5/27/2022	9:55	TAG LINE	NA	0.97	NA	NA	NA	NA	NA	
5/31/2022	11:50	TAG LINE	NA	0.85	NA	NA	NA	NA	NA	
6/7/2022	9:37	TAG LINE	NA	1.08	NA	NA	NA	NA	NA	Added water
6/10/2022	7:30	TAG LINE	NA	0.91	NA	NA	NA	NA	NA	
6/14/2022	12:22	TAG LINE	NA	0.79	NA	NA	NA	NA	NA	Added water
6/17/2022	9:10	TAG LINE	NA	0.92	NA	NA	NA	NA	NA	Added water
6/21/2022	11:11	TAG LINE	NA	0.78	NA	NA	NA	NA	NA	
6/24/2022	9:42	TAG LINE	NA	0.92	NA	NA	NA	NA	NA	
6/28/2022	9:35	TAG LINE	NA	1.1	NA	NA	NA	NA	NA	Added water
7/1/2022	8:25	TAG LINE	NA	1	NA	NA	NA	NA	NA	Added water
7/8/2022	-	TAG LINE	NA	-	NA	NA	NA	NA	NA	
4/21/2023	8:02	TAG LINE	NA	6.08	NA	NA	NA	NA	NA	
5/11/2023	1240	TAG LINE	NA	1.23	NA	NA	NA	NA	NA	
6/1/2023	1250	TAG LINE	NA	1.38	NA	NA	NA	NA	NA	
6/14/2023	1143	TAG LINE	NA	1.5	NA	NA	NA	NA	NA	

Well ID: 114-MW52D

AECOM Personnel: GWS Team

Equipment Used:
Water Level Meter - Serial #:

Recommended Purge Pressure: 55 PSI
Recommended Sampling Pressure: 36 PSI

Turbidity Meter - Model: Serial #:

*** Check water level each day of purging and sampling. Note if depth to water in FLUTe Liner is below top of steel casing, add water to liner. If it continues to drop, call FLUTe***

Date	Time	Port Number	Sampling Interval (ft bgs)	Depth to Water (ft below swagelok valve)	From FLUTe Projected purge volume (liters)	Actual Purge Volume (liters)	Turbidity (NTU)	Color	Photo	Notes (include additional water level readings here)
6/23/2023	1611	TAG LINE	NA	1.49	NA	NA	NA	NA	NA	
9/22/2023	1340	TAG LINE	NA	1.81	NA	NA	NA	NA	NA	
12/15/2023	11:15	TAG LINE	NA	2.2	NA	NA	NA	NA	NA	
3/15/2024	8:09	TAG LINE	NA	2.44	NA	NA	NA	NA	NA	
6/11/2024	9:12	TAG LINE	NA	2.7	NA	NA	NA	NA	NA	
9/6/2024	8:28	TAG LINE	NA	3.15	NA	NA	NA	NA	NA	
12/3/2024	9:10	TAG LINE	NA	3.63	NA	NA	NA	NA	NA	
3/23/2022	0746	1	78.3-81.3	8.1	3.62	4	0.95	lt. yellow	y	
3/28/2022	0811	1	78.3-81.3	13.98	3.62	3	1.25	lt. yellow	y	
3/31/2022	0920	1	78.3-81.3	33.2	3.62	2.75	4.35	lt. yellow	y	
4/4/2022	0800	1	78.3-81.3	34.15	3.62	2	1.36	lt. yellow	-	
4/6/2022	0800	1	78.3-81.3	48.55	3.62	1	3.48	lt. yellow	y	
4/8/2022	0815	1	78.3-81.3	61.72	3.62	1	1.64	lt. yellow	y	
4/11/2022	0740	1	78.3-81.3	54.5	3.62	1.75	2.01	lt. yellow	-	Darkest
4/13/2022	0800	1	78.3-81.3	64.98	3.62	1	1.74	lt. yellow	y	Darkest
4/15/2022	0800	1	78.3-81.3	66.48	3.62	1	1.66	yellow	y	Darkest
4/18/2022	0800	1	78.3-81.3	58.2	3.62	1.75	1.82	lt. yellow	y	
4/21/2022	Sample Date									
5/10/2022	10:20	1	78.3-81.3	8.45	3.62	4	Not Sampled	Yellow	y	
5/13/2022	11:00	1	78.3-81.3	56.24	3.62	1	Not Sampled	Yellow	y	
5/17/2022	9:15	1	78.3-81.3	51.05	3.62	2	Not Sampled	Yellow	-	
5/20/2022	9:35	1	78.3-81.3	59.54	3.62	1	Not Sampled	Yellow	-	
5/24/2022	9:20	1	78.3-81.3	54.35	3.62	1	Not Sampled	Yellow	-	
5/27/2022	9:55	1	78.3-81.3	62.57	3.62	1	Not Sampled	Brown Yellow	-	Darkest Video taped
5/31/2022	11:55	1	78.3-81.3	59.95	3.62	1.5	Not Sampled	Brown Yellow	-	
6/3/2022	Sample Date									
6/7/2022	9:40	1	78.3-81.3	58.72	3.62	1.5	Not Taken	yellow	Y	Darkest/odorous
6/10/2022	7:35	1	78.3-81.3	67.12	3.62	1	Not Taken	slight yellow	Y	Darkest/odorus

Well ID: 114-MW52D

AECOM Personnel: GWS Team

Equipment Used:
Water Level Meter - Serial #:

Turbidity Meter - Model: Serial #:

Recommended Purge Pressure: 55 PSI
Recommended Sampling Pressure: 36 PSI

*** Check water level each day of purging and sampling. Note if depth to water in FLUTe Liner is below top of steel casing, add water to liner. If it continues to drop, call FLUTe***

Date	Time	Port Number	Sampling Interval (ft bgs)	Depth to Water (ft below swagelok valve)	From FLUTe Projected purge volume (liters)	Actual Purge Volume (liters)	Turbidity (NTU)	Color	Photo	Notes (include additional water level readings here)
6/14/2022	12:27	1	78.3-81.3	59.95	3.62	1	Not Taken	slight yellow	Y	Darkest/odorus
6/17/2022	9:15	1	78.3-81.3	67.85	3.62	<1	Not Taken	very slight yellow	Y	slight odor
6/21/2022	11:19	1	78.3-81.3	61.85	3.62	1	Not Taken	very slight yellow	-	Darkest/odorus
6/24/2022	9:47	1	78.3-81.3	69.18	3.62	1	Not Taken	brown-yellow	Y	Darkest/odorous. Placed in bucket #3 in photo
6/28/2022	9:39	1	78.3-81.3	63.24	3.62	1	Not Taken	yellow-brown	Y	Odorous
7/1/2022	8:30	1	78.3-81.3	69.36	3.62	1	Not Taken	yellow-brown	Y	Odorous
7/5/2022	-	1	78.3-81.3	-	3.62	-	Not Taken	-	-	
7/8/2022	-	1	78.3-81.3	-	3.62	-	Not Taken	-	-	
4/21/2023	8:03	1	80-83	5.38	3.62	4.5	3.5	Yellow Brown		Odorous
5/11/2023	1240	1	80-83	18.45	3.62	4	2.3	Yellow Brown	Y	
6/1/2023	1250	1	80-83	20.21	3.62	4	2.49	Yellow Brown	Y	
6/14/2023	1143	1	80-83	35.55	3.62	3	2.8	light yellow	Y	
6/23/2023	1612	1	80-83	47.79	3.62	3	1.06	light yellow	y	Odorous
9/22/2023	1340	1	80-83	6.12	3.62	4	0.8	clear	-	
12/15/2023	11:15	1	80-83	6.31	3.62	4.75	1.98	Pale yellow	Y	
3/15/2024	8:10	1	80-83	5.73	3.62	4.5	3.34	light yellow	Y	Odorous
6/11/2024	9:13	1	80-83	6.59	3.62	4.75	0.56	Clear	Y	
9/6/2024	8:29	1	80-83	6.29	3.62	4.5	0.9	Clear	Y	
12/3/2024	9:11	1	80-83	10.19	3.62	4	28.6	Light yellow/brown	Y	
						83.25	FINAL PURGE VOLUME			
3/23/2022	0746	2	85.3-88.3	7.99	3.68	4	0.58	lt. yellow	y	
3/28/2022	0811	2	85.3-88.3	14.02	3.68	3	1.64	lt. yellow	y	
3/31/2022	0920	2	85.3-88.3	33.29	3.68	2.75	1.65	lt. yellow	y	
4/4/2022	0800	2	85.3-88.3	35.01	3.68	2	0.94	lt. yellow	-	
4/6/2022	0800	2	85.3-88.3	48.48	3.68	1	1.7	lt. yellow	y	
4/8/2022	0815	2	85.3-88.3	61.65	3.68	1	1.8	lt. yellow	y	
4/11/2022	0740	2	85.3-88.3	54.28	3.68	1.75	1.76	lt. yellow	y	
4/13/2022	0820	2	85.3-88.3	65	3.68	1	2.87	lt. yellow	-	
4/15/2022	0800	2	85.3-88.3	66.52	3.68	1	1.89	yellow	y	

Well ID: 114-MW52D

AECOM Personnel: GWS Team

Equipment Used:
Water Level Meter - Serial #:

Turbidity Meter - Model: Serial #:

Recommended Purge Pressure: 55 PSI
Recommended Sampling Pressure: 36 PSI

*** Check water level each day of purging and sampling. Note if depth to water in FLUTe Liner is below top of steel casing, add water to liner. If it continues to drop, call FLUTe***

Date	Time	Port Number	Sampling Interval (ft bgs)	Depth to Water (ft below swagelok valve)	From FLUTe Projected purge volume (liters)	Actual Purge Volume (liters)	Turbidity (NTU)	Color	Photo	Notes (include additional water level readings here)
4/18/2022	0800	2	85.3-88.3	57.97	3.68	1.75	1.92	lt. yellow	y	
4/21/2022	Sample Date									
5/10/2022	10:20	2	85.3-88.3	8.54	3.68	4	Not Sampled	yellow	y	
5/13/2022	11:00	2	85.3-88.3	55.79	3.68	1	Not Sampled	yellow	y	
5/17/2022	9:15	2	85.3-88.3	50.88	3.68	2	Not Sampled	yellow	-	lighter
5/20/2022	9:38	2	85.3-88.3	59.36	3.68	1	Not Sampled	Slight Yellow	-	lighter
5/24/2022	9:20	2	85.3-88.3	54.25	3.68	1	Not Sampled	Slight Yellow	-	lighter
5/27/2022	9:55	2	85.3-88.3	62.51	3.68	1	Not Sampled	Light Yellow	-	
5/31/2022	12:14	2	85.3-88.3	56.04	3.68	1.5	Not Sampled	Light Yellow	-	
6/3/2022	Sample Date									
6/7/2022	9:42	2	85.3-88.3	58.55	3.68	2	Not Taken	yellow	Y	
6/10/2022	7:33	2	85.3-88.3	66.89	3.68	1.5	Not Taken	light yellow	Y	very slight odor
6/14/2022	12:25	2	85.3-88.3	59.85	3.68	1	Not Taken	light yellow	Y	slight odor
6/17/2022	9:13	2	85.3-88.3	67.88	3.68	<1	Not Taken	very light yellow	Y	slight odor
6/21/2022	11:17	2	85.3-88.3	61.82	3.68	1	Not Taken	very light yellow	Y	slight odor
6/24/2022	9:45	2	85.3-88.3	69.13	3.62	1	Not Taken	very slight yellow	Y	
6/28/2022	9:38	2	85.3-88.3	63.3	3.62	1	Not Taken	very slight yellow	Y	
7/1/2022	8:29	2	85.3-88.3	69.3	3.62	1	Not Taken	very slight yellow	Y	
7/5/2022	-	2	85.3-88.3	-	3.62	-	Not Taken	-	-	
7/8/2022	-	2	85.3-88.3	-	3.62	-	Not Taken	-	-	
4/21/2023	8:04	2	85.3-88.3	5.38	3.68	4.5	2.37	V. SlighIt yellow		
5/11/2023	1240	2	85.3-88.3	18.1	3.68	4	1.04	V. SlighIt yellow	Y	
6/1/2023	1250	2	85.3-88.3	19.75	3.68	4	2.29	light yellow	Y	
6/14/2023	1143	2	85.3-88.3	35.65	3.68	3	1.86	light yellow	Y	
6/23/2023	1613	2	85.3-88.3	47.8	3.68	2	0.89	light yellow	y	Odorous
9/22/2023	1340	2	85.3-88.3	5.5	3.68	3.5	0.6	light yellow	y	
12/15/2023	11:15	2	85.3-88.3	5.71	3.68	4.5	1.08	Pale yellow	Y	
3/15/2024	8:11	2	85.3-88.3	5.3	3.68	4	1.26	Clear	Y	Odorous
6/11/2024	9:14	2	85.3-88.3	6.34	3.68	3	0.96	Clear	Y	
9/6/2024	8:30	2	85.3-88.3	5.95	3.68	4	1.27	Clear	Y	

Well ID: 114-MW52D

AECOM Personnel: GWS Team

Equipment Used:
Water Level Meter - Serial #:

Turbidity Meter - Model: Serial #:

Recommended Purge Pressure: 55 PSI
Recommended Sampling Pressure: 36 PSI

*** Check water level each day of purging and sampling. Note if depth to water in FLUTe Liner is below top of steel casing, add water to liner. If it continues to drop, call FLUTe***

Date	Time	Port Number	Sampling Interval (ft bgs)	Depth to Water (ft below swagelok valve)	From FLUTe Projected purge volume (liters)	Actual Purge Volume (liters)	Turbidity (NTU)	Color	Photo	Notes (include additional water level readings here)
12/3/2024	9:12	2	85.3-88.3	9.95	3.68	3.75	3.86	Clear	Y	
						79.5	FINAL PURGE VOLUME			
3/23/2022	0746	3	100.3-103.3	7.61	3.72	4	6.77	lt. yellow	y	
3/28/2022	0811	3	100.3-103.3	13.2	3.72	3	2.88	lt. yellow	y	
3/31/2022	0920	3	100.3-103.3	32.65	3.72	2.5	1.66	lt. yellow	y	
4/4/2022	0800	3	100.3-103.3	34.73	3.72	2	1.5	lt. yellow	-	
4/6/2022	0800	3	100.3-103.3	48.1	3.72	1	2.85	lt. yellow	y	
4/8/2022	0815	3	100.3-103.3	61.13	3.72	1	1.57	lt. yellow	y	
4/11/2022	0740	3	100.3-103.3	53.94	3.72	1.75	1.68	lt. yellow	y	lightest
4/13/2022	0820	3	100.3-103.3	64.72	3.72	1	1.57	lt. yellow	-	lightest
4/15/2022	0800	3	100.3-103.3	66.12	3.72	1	1.29	lt. yellow	y	
4/18/2022	0800	3	100.3-103.3	57.7	3.72	1.75	1.36	lt. yellow	y	
4/21/2022	Sample Date									
5/10/2022	10:20	3	100.3-103.3	8:15	3.72	4	Not Sampled	yellow	y	
5/13/2022	11:00	3	100.3-103.3	55.2	3.72	1	Not Sampled	yellow	y	
5/17/2022	9:15	3	100.3-103.3	50.72	3.72	2	Not Sampled	Light Yellow	y	
5/20/2022	9:40	3	100.3-103.3	59	3.72	1	Not Sampled	Slight yellow	-	
5/24/2022	9:20	3	100.3-103.3	59	3.72	1	Not Sampled	Slight Yellow	-	
5/27/2022	9:53	3	100.3-103.3	62.09	3.72	1	Not Sampled	Light Yellow	-	
5/31/2022	11:50	3	100.3-103.3	55.86	3.72	1.5	Not Sampled	Light Yellow	-	
6/3/2022	Sample Date									
6/7/2022	9:43	3	100.3-103.3	58.25	3.72	2	Not Taken	yellow	Y	
6/10/2022	7:31	3	100.3-103.3	66.91	3.72	1.5	Not Taken	light yellow	Y	lightest-very slight odor
6/14/2022	12:23	3	100.3-103.3	59.51	3.72	1	Not Taken	light yellow	Y	very slight odor
6/17/2022	9:11	3	100.3-103.3	67.44	3.72	<1	Not Taken	very light yellow	Y	slight odor
6/21/2022	11:15	3	100.3-103.3	61.82	3.72	1	Not Taken	very light yellow	Y	slight odor
6/24/2022	9:43	3	100.3-103.3	68.59	3.62	1	Not Taken	very slight yellow	Y	placed in #1 bucket in photo
6/28/2022	9:36	3	100.3-103.3	62.93	3.62	1	Not Taken	very slight yellow	Y	
7/1/2022	8:27	3	100.3-103.3	69.08	3.62	1.75	Not Taken	very slight yellow	Y	
7/5/2022	-	3	100.3-103.3	-	3.62	-	Not Taken	-	-	
7/8/2022	-	3	100.3-103.3	-	3.62	-	Not Taken	-	-	

Well ID: 114-MW52D

AECOM Personnel: GWS Team

Equipment Used:
Water Level Meter - Serial #:

Turbidity Meter - Model: Serial #:

Recommended Purge Pressure: 55 PSI
Recommended Sampling Pressure: 36 PSI

*** Check water level each day of purging and sampling. Note if depth to water in FLUTe Liner is below top of steel casing, add water to liner. If it continues to drop, call FLUTe***

Date	Time	Port Number	Sampling Interval (ft bgs)	Depth to Water (ft below swagelok valve)	From FLUTe Projected purge volume (liters)	Actual Purge Volume (liters)	Turbidity (NTU)	Color	Photo	Notes (include additional water level readings here)
4/21/2023	8:05	3	102-105	NA	3.72	4.5	1.16	V. Slightly yellow		
5/11/2023	12:40	3	102-105	18.05	3.72	4	0.57	V. Slightly yellow	Y	
6/1/2023	12:50	3	102-105	19.8	3.72	4	1.28	light yellow	Y	
6/14/2023	11:43	3	102-105	35.59	3.72	2.5	1.23	light yellow	Y	
6/23/2023	16:14	3	102-105	47.65	3.72	2	26.5	light yellow	y	Odorous
9/22/2023	13:40	3	102-105	5.38	3.72	4	0.55	light yellow	y	
12/15/2023	11:15	3	102-105	5.52	3.72	5.25	1.36	Pale yellow	Y	
3/15/2024	8:12	3	102-105	5.15	3.72	5	2.11	Clear	Y	Odorous
6/11/2024	9:15	3	102-105	6.14	3.72	5	0.43	Clear	Y	
9/6/2024	8:31	3	102-105	5.83	3.72	5	1.1	Clear	Y	
12/3/2024	9:13	3	102-105	9.64	3.72	5	1.2	Clear	Y	
						86	FINAL PURGE VOLUME			

* Take photo and identify port number, turbidity and date during first round and after final purge round*

Other Comments or Observations:

Note: the final purge volumes supplied by FLUTe for MW52D may be low, purge more than 15 liters

Secured tank to MW52 PZ stick up next to molasses totes. On 6/24/22, buckets 1 and 3 are switched, tube from #1 went into bucket #3 on photo

Well ID: 114-MW57D

AECOM Personnel: GWS Team

Equipment Used:

Water Level Meter - Serial #:

Turbidity Meter - Model: Serial #:

Recommended Purge Pressure: 54 PSI

Recommended Sampling Pressure: 38 PSI

*** Check water level each day of purging and sampling. Note if depth to water in FLUTe Liner is below top of steel casing, add water to liner. If it continues to drop, call FLUTe****

Date	Time	Port Number	Sampling Interval (ft bTSC)	Depth to Water (ft below swagelok valve)	From FLUTe Projected purge volume	Actual Purge Volume (liters)	Turbidity (NTU)	Color	Photo	Notes
4/28/2023	1156	TAG LINE	Water level inside FLUTE liner (take prior to each purging event- measure from top of	0.75	NA	NA	NA	NA	NA	
5/5/2023	1215	TAG LINE		0.69	NA	NA	NA	NA	NA	
5/11/2023	1120	TAG LINE		0.81	NA	NA	NA	NA	NA	
5/19/2023	1300	TAG LINE	NA	0.95	NA	NA	NA	NA	NA	
5/25/2023	1200	TAG LINE	NA	1.20	NA	NA	NA	NA	NA	
6/1/2023	1015	TAG LINE	NA	1.27	NA	NA	NA	NA	NA	
6/9/2023	1025	TAG LINE	NA	1.29	NA	NA	NA	NA	NA	
6/14/2023	940	TAG LINE	NA	1.29	NA	NA	NA	NA	NA	
6/23/2023	1347	TAG LINE	NA	1.27	NA	NA	NA	NA	NA	
9/22/2023	1130	TAG LINE	NA	1.91	NA	NA	NA	NA	NA	
12/15/2023	1248	TAG LINE	NA	2.4	NA	NA	NA	NA	NA	
3/15/2024	10:28	TAG LINE	NA	2.59	NA	NA	NA	NA	NA	
6/11/2024	10:48	TAG LINE	NA	3	NA	NA	NA	NA	NA	
9/6/2024	12:11	TAG LINE	NA	3.53	NA	NA	NA	NA	NA	
12/9/2024	12:30	TAG LINE	NA	4.1	NA	NA	NA	NA	NA	
4/28/2023	1204	1	87.5-91.5	7.52	4.23	5	2.17	clear	Y	
5/5/2023	1215	1	87.5-91.5	6.15	4.23	5	1.47	clear	Y	
5/11/2023	1120	1	87.5-91.5	6.5	4.23	5	0.9	clear	Y	
5/19/2023	1300	1	87.5-91.5	6.98	4.23	5	1.06	clear	Y	
5/25/2023	1200	1	87.5-91.5	7.35	4.23	5	41.3	blackish gray	Y	
6/1/2023	1015	1	87.5-91.5	7.6	4.23	4.5	7.56	light gray	Y	
6/9/2023	1025	1	87.5-91.5	7.95	4.23	5	1.57	clear	Y	

Well ID: 114-MW57D

AECOM Personnel: GWS Team

Equipment Used:
Water Level Meter - Serial #:

Turbidity Meter - Model: Serial #:

Recommended Purge Pressure: 54 PSI
Recommended Sampling Pressure: 38 PSI

*** Check water level each day of purging and sampling. Note if depth to water in FLUTe Liner is below top of steel casing, add water to liner. If it continues to drop, call FLUTe****

Date	Time	Port Number	Sampling Interval (ft bTSC)	Depth to Water (ft below swagelok valve)	From FLUTe Projected purge volume	Actual Purge Volume (liters)	Turbidity (NTU)	Color	Photo	Notes
6/14/2023	940	1	87.5-91.5	7.59	4.23	5	4.85	light gray	Y	
6/23/2023	1347	1	87.5-91.5	7.85	4.23	5	3.47	clear	Y	
9/22/2023	1130	1	87.5-91.5	7.85	NA	5	1.92	clear	Y	
12/15/2023	1249	1	87.5-91.5	5.86	NA	5	0.82	Clear	Y	
3/15/2024	10:29	1	87.5-91.5	5.61	NA	2	1	Clear	Y	
6/11/2024	10:49	1	87.5-91.5	6.58	NA	4.5	0.58	Clear	Y	
9/6/2024	12:12	1	87.5-91.5	5.11	NA	5	4.78	Clear	Y	
12/9/2024	12:31	1	87.5-91.5	5.9	NA	5	0.74	Clear	Y	
						71	FINAL PURGE VOLUME			
4/28/2023	1204	2	96.5-100.5	7.4	4.29	5	2.90	clear	Y	
5/5/2023	1215	2	96.5-100.5	6.1	4.29	5	1.07	clear	Y	
5/11/2023	1120	2	96.5-100.5	6.5	4.29	5	4.5	clear	Y	
5/19/2023	1300	2	96.5-100.5	7.21	4.29	5	1.02	clear	Y	
5/25/2023	1200	2	96.5-100.5	7.30	4.29	5	30	grey	Y	
6/1/2023	1015	2	96.5-100.5	7.59	4.29	5	5.09	grey	Y	
6/9/2023	1025	2	96.5-100.5	7.55	4.29	5	4.53	light gray	Y	
6/14/2023	940	2	96.5-100.5	7.73	4.29	5	1.96	light gray	Y	
6/23/2023	1349	2	96.5-100.5	7.86	4.29	5	1.43	clear	Y	
9/22/2023	1130	2	96.5-100.5	8.06	NA	5	1.64	clear	Y	
12/15/2023	12:50	2	96.5-100.5	5.96	NA	4.9	0.8	Clear	Y	
3/15/2024	10:34	2	96.5-100.5	5.61	NA	1.75	3.59	Clear	Y	
6/11/2024	10:50	2	96.5-100.5	5.81	NA	4	0.53	Clear	Y	
9/6/2024	12:13	2	96.5-100.5	5.05	NA	4.25	3.66	Clear	Y	

Well ID: 114-MW57D

AECOM Personnel: GWS Team

Equipment Used:
Water Level Meter - Serial #:

Recommended Purge Pressure: 54 PSI
Recommended Sampling Pressure: 38 PSI

Turbidity Meter - Model: Serial #:

*** Check water level each day of purging and sampling. Note if depth to water in FLUTe Liner is below top of steel casing, add water to liner. If it continues to drop, call FLUTe****

Date	Time	Port Number	Sampling Interval (ft bTSC)	Depth to Water (ft below swagelok valve)	From FLUTe Projected purge volume	Actual Purge Volume (liters)	Turbidity (NTU)	Color	Photo	Notes
12/9/2024	12:32	2	96.5-100.5	5.69	NA	4.75	0.97	Clear	Y	
						69.65	FINAL PURGE VOLUME			
4/28/2023	1205	3	104-108	7.35	4.33	5	2.73	clear	Y	
5/5/2023	1215	3	104-108	6.35	4.33	5	1.3	clear	Y	
5/11/2023	1120	3	104-108	6.76	4.33	5	3.41	clear	Y	
5/19/2023	1300	3	104-108	8.35	4.33	5	1.48	clear	Y	
5/25/2023	1200	3	104-108	7.33	4.33	2.5	3.80	clear	Y	
6/1/2023	1015	3	104-108	7.45	4.33	5	1.45	light yellow	Y	
6/9/2023	1025	3	104-108	7.85	4.33	5	2	Clear	Y	
6/14/2023	940	3	104-108	7.53	4.33	5	2.57	light brown	Y	
6/23/2023	1450	3	104-108	7.8	4.33	5	1.46	clear	y	
9/22/2023	1130	3	104-108	6.86	NA	5	1.28	clear	y	
12/15/2023	12:53	3	104-108	5.7	NA	5.2	0.73	Clear	Y	
3/15/2024	10:35	3	104-108	5.76	NA	2	3.79	Clear	Y	
6/11/2024	10:51	3	104-108	7.61	NA	4.5	0.3	Clear	Y	
9/6/2024	12:15	3	104-108	5.15	NA	4.75	0.9	Clear	Y	
12/9/2024	12:33	3	104-108	6.3	NA	5	0.55	Clear	Y	
						68.95	FINAL PURGE VOLUME			
4/28/2023	1205	4	109-113	7.35	4.37	5	19.8	gray	Y	
5/5/2023	1215	4	109-113	6.2	4.37	5	11	light gray	Y	
5/11/2023	1120	4	109-113	6.69	4.37	5	3.78	clear	Y	
5/19/2013	1300	4	109-113	8.19	4.37	5	1.51	clear	Y	
5/25/2023	1200	4	109-113	7.35	4.37	5	14.6	slight grey	Y	

Well ID: 114-MW57D

AECOM Personnel: GWS Team

Equipment Used:
Water Level Meter - Serial #:

Recommended Purge Pressure: 54 PSI
Recommended Sampling Pressure: 38 PSI

Turbidity Meter - Model: Serial #:

*** Check water level each day of purging and sampling. Note if depth to water in FLUTe Liner is below top of steel casing, add water to liner. If it continues to drop, call FLUTe****

Date	Time	Port Number	Sampling Interval (ft bTSC)	Depth to Water (ft below swagelok valve)	From FLUTe Projected purge volume	Actual Purge Volume (liters)	Turbidity (NTU)	Color	Photo	Notes
6/1/2023	1015	4	109-113	7.5	4.37	5	2.34	light yellow	Y	
6/9/2023	1025	4	109-113	7.54	4.37	5	1.38	light yellow	Y	
6/14/2023	940	4	109-113	7.7	4.37	5	1.03	light brown	Y	
6/23/2023	1351	4	109-113	7.91	4.37	5	1.58	clear	Y	
9/22/2023	1130	4	109-113	6.91	NA	5	0.96	clear	Y	
12/15/2023	12:55	4	109-113	5.85	NA	5.1	0.54	Clear	Y	
3/15/2024	10:38	4	109-113	5.81	NA	2	2.9	Clear	Y	
6/11/2024	10:52	4	109-113	6.08	NA	4	0.44	Clear	Y	
9/6/2024	12:16	4	109-113	5.15	NA	5	0.88	Clear	Y	
12/9/2024	12:34	4	109-113	5.65	NA	5	0.45	Clear	Y	
						71.1	FINAL PURGE VOLUME			

PPG Garfield Avenue Group Sites
FLUTe Tracking Log Field Data Sheet
Bedrock GW Investigation Addendum - 60667926

AECOM

Well ID: 114-MW66D

AECOM Personnel: GWS Team

Equipment Used:
Water Level Meter - Serial #:

Turbidity Meter - Model: Serial #:

Recommended Purge Pressure: 56 PSI
Recommended Sampling Pressure: 40 PSI

*** Check water level each day of purging and sampling. Note if depth to water in FLUTe Liner is below top of steel casing, add water to liner. If it continues to drop, call FLUTe***

Date	Time	Port Number	Sampling Interval (ft bgs)	Depth to Water (ft below swagelok valve)	From FLUTe Projected purge volume (liters)	Actual Purge Volume (liters)	Turbidity (NTU)	Color	Photo	Notes (include additional water level readings here)
3/23/2022	0855	TAG LINE	Water level inside FLUTE liner (take prior to each purging event- measure from top of plastic tube)	0.68	NA	NA	NA	NA	NA	
3/23/2022	1220	TAG LINE		0.69	NA	NA	NA	NA	NA	
3/24/2022	0925	TAG LINE		0.61	NA	NA	NA	NA	NA	
3/24/2022	1150	TAG LINE	NA	0.74	NA	NA	NA	NA	NA	
3/25/2022	1050	TAG LINE	NA	0.90	NA	NA	NA	NA	NA	
3/28/2022	0845	TAG LINE	NA	0.61	NA	NA	NA	NA	NA	
3/29/2022	0945	TAG LINE	NA	0.75	NA	NA	NA	NA	NA	
3/30/2022	0920	TAG LINE	NA	0.73	NA	NA	NA	NA	NA	
3/31/2022	NM	TAG LINE	NA	NM	NA	NA	NA	NA	NA	
4/11/2022	0820	TAG LINE	NA	0.90	NA	NA	NA	NA	NA	
4/19/2022	0830	TAG LINE	NA	0.89	NA	NA	NA	NA	NA	
5/10/2022	10:50	TAG LINE	NA	1.09	NA	NA	NA	NA	NA	
5/13/2022	9:25	TAG LINE	NA	1.11	NA	NA	NA	NA	NA	
5/17/2011	9:55	TAG LINE	NA	1.05	NA	NA	NA	NA	NA	
5/20/2022	9:10	TAG LINE	NA	1.07	NA	NA	NA	NA	NA	
5/24/2022	11:05	TAG LINE	NA	0.96	NA	NA	NA	NA	NA	
5/27/2022	10:25	TAG LINE	NA	1.04	NA	NA	NA	NA	NA	
5/31/2022	10:54	TAG LINE	NA	0.82	NA	NA	NA	NA	NA	
6/7/2022	8:59	TAG LINE	NA	0.85	4.31	4	NA	yellow	NA	
6/10/2022	8:05	TAG LINE	NA	0.89	4.31	4	NA	slight yellow	NA	
6/14/2022	11:08	TAG LINE	NA	0.75	4.31	4	NA	slight yellow	NA	
6/17/2022	9:39	TAG LINE	NA	0.79	4.31	4	NA	very slight yellow	NA	
6/21/2022	10:41	TAG LINE	NA	0.84	4.31	4	NA	very slight yellow	NA	
6/24/2022	10:11	TAG LINE	NA	0.61	NA	NA	NA	NA	NA	
6/28/2022	7:55	TAG LINE	NA	0.5	NA	NA	NA	NA	NA	
7/1/2022	9:11	TAG LINE	NA	0.7	NA	NA	NA	NA	NA	
7/8/2022	NA	TAG LINE	NA	NA	NA	NA	NA	NA	NA	
8/2/2022	NA	TAG LINE	NA	0.93	NA	NA	NA	NA	NA	
4/21/2023	7:36	TAG LINE	NA	NA	NA	NA	NA	NA	NA	

Well ID: 114-MW66D

AECOM Personnel: GWS Team

Equipment Used:
Water Level Meter - Serial #:

Recommended Purge Pressure: 56 PSI
Recommended Sampling Pressure: 40 PSI

Turbidity Meter - Model: Serial #:

*** Check water level each day of purging and sampling. Note if depth to water in FLUTe Liner is below top of steel casing, add water to liner. If it continues to drop, call FLUTe***

Date	Time	Port Number	Sampling Interval (ft bgs)	Depth to Water (ft below swagelok valve)	From FLUTe Projected purge volume (liters)	Actual Purge Volume (liters)	Turbidity (NTU)	Color	Photo	Notes (include additional water level readings here)
5/11/2023	1157	TAG LINE	NA	NA	NA	NA	NA	NA	NA	
6/1/2023	1210	TAG LINE	NA	6.08	NA	NA	NA	NA	NA	
6/14/2023	1215	TAG LINE	NA	1.23	NA	NA	NA	NA	NA	
6/23/2023	1540	TAG LINE	NA	1.38	NA	NA	NA	NA	NA	
9/22/2023	1255	TAG LINE	NA	1.5	NA	NA	NA	NA	NA	
12/11/2023	9:38	TAG LINE	NA	1.49	NA	NA	NA	NA	NA	
12/19/2023	8:44	TAG LINE	NA	1.81	NA	NA	NA	NA	NA	
3/15/2024	8:56	TAG LINE	NA	2.2	NA	NA	NA	NA	NA	
6/11/2024	8:05	TAG LINE	NA	2.44	NA	NA	NA	NA	NA	
9/6/2024	9:43	TAG LINE	NA	2.81	NA	NA	NA	NA	NA	
12/9/2024	10:57	TAG LINE	NA	3.45	NA	NA	NA	NA	NA	
3/23/2022	0856	1	88.8-94.8	10.41	4.31	4	2.48	bright yellow	y	
3/23/2022	1228	1	88.8-94.8	10.2	4.31	4	7.48	bright yellow		
3/24/2022	0926	1	88.8-94.8	10.3	4.31	3.75	6.09	bright yellow	y	
3/24/2022	1150	1	88.8-94.8	10.3	4.31	4	3.87	bright yellow		
3/25/2022	1050	1	88.8-94.8	10.14	4.31	4	5.56	bright yellow	y	color appeared to be less intense at end of purge
3/28/2022	0845	1	88.8-94.8	9.64	4.31	0	-	-	-	line frozen
3/29/2022	0945	1	88.8-94.8	10.11	4.31	4	18.5	bright yellow	y	
3/30/2022	0920	1	88.8-94.8	10.63	4.31	4	18.5	yellow	-	
3/31/2022	NA	1	88.8-94.8	NA	4.31	4	13.1	-	-	
4/11/2022	0820	1	88.8-94.8	10.25	4.31	4	13.9	yellow	-	
4/19/2022	0833	1	88.8-94.8	9.88	4.31	3.75	14.8	yellow	-	done purging first
4/21/2022	Sample date									
5/10/2022	10:50	1	88.8-94.8	9.83	4.31	4	Not Sampled	Slight Yellow	-	
5/13/2022	9:25	1	Sample date	11.77	4.31	3.5	7.63	Slight Yellow	y	Sampled 10:00: Dup 10:05 7.63 NTU
5/17/2011	9:55	1	88.8-94.8	10.29	4.31	4.5	Not Sampled	Slight Yellow	-	
5/20/2022	9:03	1	88.8-94.8	10.26	4.31	4	Not Sampled	Slight Yellow	-	
5/24/2022	11:08	1	88.8-94.8	10.28	4.31	4	Not Sampled	Slight Yellow	y	

Well ID: 114-MW66D

AECOM Personnel: GWS Team

Equipment Used:
Water Level Meter - Serial #:

Recommended Purge Pressure: 56 PSI
Recommended Sampling Pressure: 40 PSI

Turbidity Meter - Model: Serial #:

*** Check water level each day of purging and sampling. Note if depth to water in FLUTe Liner is below top of steel casing, add water to liner. If it continues to drop, call FLUTe***

Date	Time	Port Number	Sampling Interval (ft bgs)	Depth to Water (ft below swagelok valve)	From FLUTe Projected purge volume (liters)	Actual Purge Volume (liters)	Turbidity (NTU)	Color	Photo	Notes (include additional water level readings here)
5/27/2022	10:30	1	88.8-94.8	10.98	4.31	4	Not Sampled	Slight Yellow	-	1 liter yellow 3 liters clear
5/31/2022	10:59	1	88.8-94.8	10.5	4.31	4	Not Sampled	Slight Yellow	y	Video taped water purge
6/3/2022	Sample date									
6/7/2022	8:59	1	88.8-94.8	10.78	4.31	4	Not Taken	yellow	Y	
6/10/2022	10:59	1	88.8-94.8	10.69	4.31	4	Not Taken	slight yellow	Y	1st one off after 4 mins
6/14/2022	11:08	1	88.8-94.8	10.71	4.31	4	Not Taken	slight yellow	Y	off after 4 mins
6/17/2022	9:39	1	88.8-94.8	10.17	4.31	4	Not Taken	very slight yellow	Y	off after 4 mins
6/21/2022	10:41	1	88.8-94.8	11.12	4.31	4	Not Taken	very slight yellow	-	off after 5 mins
6/24/2022	10:18	1	88.8-94.8	11.7	4.31	3.5	Not Taken	very slight yellow	-	first port off
6/28/2022	8:00	1	88.8-94.8	11.34	4.31	3.5	Not Taken	very slight yellow	-	
7/1/2022		1	88.8-94.8	11.31	4.31	4	Not Taken	very slight yellow	-	
7/5/2022	Sample date									
7/8/2022		1	88.8-94.8				Not Taken		-	
8/2/2022	8:38	1	88.8-94.8	12.2	4.31	4	Not Taken	very slight yellow	-	
4/21/2023	7:38	1	91-97	9.42	4.31	3.5	2.61	clear	Y	
5/11/2023	1157	1	91-97	8.52	4.31	3	5.21	very light yellow	Y	
6/1/2023	1210	1	91-97	9.20	4.31	4	5.45	clear	Y	
6/14/2023	1215	1	91-97	9.2	4.31	4	7.27	light gray	Y	
6/23/2023	1540	1	91-97	9.62	4.31	4.5	5.74	very light yellow	Y	
9/22/2023	1255	1	91-97	8.88	4.31	4	2.39	clear	Y	
12/11/2023	9:40	1	91-97	8.32	4.31	4.5	8.95	Light yellow	Y	
12/19/2023	8:44	1	91-97	7.7	4.31	5	5.63	very light yellow	Y	
3/15/2024	9:01	1	91-97	7.54	4.31	5	111	Light yellow/green	Y	Very turbidity, possibly due to maintenance done in December
6/11/2024	8:06	1	91-97	9.53	4.31	5.25	4.94	clear	Y	
9/6/2024	9:44	1	91-97	7.47	4.31	5	4.67	Clear	Y	
12/9/2024	10:58	1	91-97	10.19	4.31	5	4.49	Light yellow	Y	
						155.25	FINAL PURGE VOLUME			
3/23/2022	0857	2	104.8-108.8	9.9	4.38	4	2.72	bright yellow	y	
3/23/2022	1225	2	104.8-108.8	10.21	4.38	4	2.49	bright yellow	y	

Well ID: 114-MW66D

AECOM Personnel: GWS Team

Equipment Used:
Water Level Meter - Serial #:

Recommended Purge Pressure: 56 PSI
Recommended Sampling Pressure: 40 PSI

Turbidity Meter - Model: Serial #:

*** Check water level each day of purging and sampling. Note if depth to water in FLUTe Liner is below top of steel casing, add water to liner. If it continues to drop, call FLUTe***

Date	Time	Port Number	Sampling Interval (ft bgs)	Depth to Water (ft below swagelok valve)	From FLUTe Projected purge volume (liters)	Actual Purge Volume (liters)	Turbidity (NTU)	Color	Photo	Notes (include additional water level readings here)
3/24/2022	0927	2	104.8-108.8	10.31	4.38	4	1.5	clear	y	
3/24/2022	1151	2	104.8-108.8	10.31	4.38	3.5	0.55	clear	-	
3/25/2022	1050	2	104.8-108.8	10.05	4.38	4	0.75	clear	y	
3/28/2022	0845	2	104.8-108.8	9.89	4.38	5	1.03	clear	-	
3/29/2022	0945	2	104.8-108.8	10.2	4.38	4	3.64	clear	y	
3/30/2022	0920	2	104.8-108.8	10.7	4.38	4	1.79	clear	y	
3/31/2022	-	2	104.8-108.8	-	4.38	-	0.76	clear	-	
4/11/2022	0820	2	104.8-108.8	11.13	4.38	4	0.89	clear	-	
4/19/2022	0833	2	104.8-108.8	9.89	4.38	4.2	1.99	clear	-	
4/21/2022	Sample date									
5/10/2022	10:50	2	104.8-108.8	9.11	4.38	4	Not Taken	clear	-	
5/13/2022	9:25	2	104.8-108.8	11.29	4.38	3.5	Not Taken	clear	-	9:55-10:00
5/17/2011	9:55	2	104.8-108.8	10.04	4.38	4.5	Not Taken	clear	-	
5/20/2022	9:04	2	104.8-108.8	10.24	4.38	4	Not Taken	clear	-	
5/24/2022	11:06	2	104.8-108.8	10.2	4.38	4	Not Taken	clear	y	
5/27/2022	10:29	2	104.8-108.8	10.98	4.38	4	Not Taken	clear	y	
5/31/2022	10:58	2	104.8-108.8	10.52	4.38	4	Not Taken	clear	y	
6/3/2022	Sample date									
6/7/2022	9:00	2	104.8-108.8	10.74	4.38	4	Not Taken	clear	Y	
6/10/2022	8:04	2	104.8-108.8	10.6	4.38	4	Not Taken	clear	Y	
6/14/2022	11:07	2	104.8-108.8	10.48	4.38	4	Not Taken	clear	Y	
6/17/2022	9:38	2	104.8-108.8	10.13	4.38	4	Not Taken	clear	Y	
6/21/2022	10:40	2	104.8-108.8	10.89	4.38	4	Not Taken	clear	Y	
6/24/2022	10:17	2	104.8-108.8	11.83	4.38	4	Not Taken	clear	Y	
6/28/2022	7:59	2	104.8-108.8	11.3	4.38	4	Not Taken	clear	Y	
7/1/2022	9:16	2	104.8-108.8	11.25	4.38	3.5	Not Taken	clear	Y	
7/5/2022	Sample date									
7/8/2022	-	2	104.8-108.8	-	-	-	Not Taken	clear	-	
8/2/2022	8:37	2	104.8-108.8	11.38	4.38	4	Not Taken	clear	y	

Well ID: 114-MW66D

AECOM Personnel: GWS Team

Equipment Used:
Water Level Meter - Serial #:

Recommended Purge Pressure: 56 PSI
Recommended Sampling Pressure: 40 PSI

Turbidity Meter - Model: Serial #:

*** Check water level each day of purging and sampling. Note if depth to water in FLUTe Liner is below top of steel casing, add water to liner. If it continues to drop, call FLUTe***

Date	Time	Port Number	Sampling Interval (ft bgs)	Depth to Water (ft below swagelok valve)	From FLUTe Projected purge volume (liters)	Actual Purge Volume (liters)	Turbidity (NTU)	Color	Photo	Notes (include additional water level readings here)
4/21/2023	7:39	2	107-111	8.62	4.38	5.0	1.61	clear	Y	
5/11/2023	1157	2	107-111	7.8	4.38	5	0.78	clear	Y	
6/1/2023	1210	2	107-111	8.55	4.38	5	1.58	clear	Y	
6/14/2023	1215	2	107-111	9.25	4.38	5	2.08	clear	Y	
6/23/2023	1540	2	107-111	9.6	4.38	5	2.2	clear	Y	
9/22/2023	1255	2	107-111	6.92	4.38	5	1.46	clear	Y	
12/11/2023	9:41	2	107-111	7.43	4.38	4	1.66	Clear	Y	
12/19/2023	8:44	2	107-111	7.5	4.38	4	3.46	clear	Y	
3/15/2024	9:00	2	107-111	7.51	4.38	4.5	1.38	Clear	Y	
6/11/2024	8:07	2	107-111	9.5	4.38	4.5	0.45	Clear	Y	
9/6/2024	9:45	2	107-111	7.51	4.38	4.5	1.53	Clear	Y	
12/9/2024	10:59	2	107-111	10.17	4.38	4.5	0.65	Clear	Y	
						160.2	FINAL PURGE VOLUME			
3/23/2022	0858	3	115.8-120.8	9.97	4.42	5	2.57	slight yellow	y	
3/23/2022	1229	3	115.8-120.8	10.24	4.42	4.5	2.98	slight yellow	-	
3/24/2022	0927	3	115.8-120.8	10.22	4.42	4.5	0.70	clear	y	
3/24/2022	0952	3	115.8-120.8	10.39	4.42	4.75	0.69	clear	-	
3/25/2022	1050	3	115.8-120.8	10.18	4.42	4	0.66	clear	y	
3/28/2022	0845	3	115.8-120.8	9.61	4.42	5	0.71	clear	-	
3/29/2022	0945	3	115.8-120.8	10.28	4.42	4	0.9	clear	y	
3/30/2022	0920	3	115.8-120.8	10.62	4.42	4.75	0.99	clear	y	
3/31/2022	-	3	115.8-120.8	-	4.42	4	0.55	clear	-	
4/11/2022	0820	3	115.8-120.8	10.21	4.42	4.5	0.68	clear	-	
4/19/2022	0832	3	115.8-120.8	9.98	4.42	5	0.88	clear	-	
4/21/2022	Sample date									
5/10/2022	10:50	3	115.8-120.8	7.05	4.42	4.5	Not Sampled	clear	-	DTW 2 feet Higher than others
5/13/2022	9:25	3	115.8-120.8	10.85	4.42	5	Not Sampled	clear	-	9 47-9 55
5/17/2011	9:55	3	115.8-120.8	10.23	4.42	4	Not Sampled	clear	-	
5/20/2022	9:06	3	115.8-120.8	10.25	4.42	4	Not Sampled	clear	-	

Well ID: 114-MW66D

AECOM Personnel: GWS Team

Equipment Used:
Water Level Meter - Serial #:

Recommended Purge Pressure: 56 PSI
Recommended Sampling Pressure: 40 PSI

Turbidity Meter - Model: Serial #:

*** Check water level each day of purging and sampling. Note if depth to water in FLUTe Liner is below top of steel casing, add water to liner. If it continues to drop, call FLUTe***

Date	Time	Port Number	Sampling Interval (ft bgs)	Depth to Water (ft below swagelok valve)	From FLUTe Projected purge volume (liters)	Actual Purge Volume (liters)	Turbidity (NTU)	Color	Photo	Notes (include additional water level readings here)
5/24/2022	11:06	3	115.8-120.8	10.22	4.42	4	Not Sampled	clear	y	
5/27/2022	10.28	3	115.8-120.8	10.34	4.42	5	Not Sampled	clear	y	
5/31/2022	10.57	3	115.8-120.8	-	4.42	5	Not Sampled	clear	y	
6/3/2022	Sample date									
6/7/2022	9:01	3	115.8-120.8	10.84	4.42	4	Not Taken	clear	Y	
6/10/2022	8:03	3	115.8-120.8	10.60	4.42	4	Not Taken	clear	Y	
6/14/2022	11:06	3	115.8-120.8	10.46	4.42	4	Not Taken	clear	Y	
6/17/2022	9:37	3	115.8-120.8	10.14	4.42	4	Not Taken	clear	Y	
6/21/2022	10:39	3	115.8-120.8	10.92	4.42	4	Not Taken	clear	Y	slight odor
6/24/2022	10:16	3	115.8-120.8	11.5	4.42	4	Not Taken	clear	Y	
6/28/2022	7:58	3	115.8-120.8	11.24	4.42	4	Not Taken	clear	Y	
7/1/2022	9:15	3	115.8-120.8	11.3	4.42	3.5	Not Taken	clear	Y	
7/5/2022	Sample date									
7/8/2022	-	3	115.8-120.8	-	-	-	Not Taken	-	-	
8/2/2022	8:36	3	115.8-120.8	10.75	4.42	4.25	Not Taken	clear	y	
4/21/2023	7:40	3	118-123	8.7	4.42	5.0	1.50	clear	Y	
5/11/2023	1157	3	118-123	7.79	4.42	5	0.96	clear	Y	
6/1/2023	1210	3	118-123	8.74	4.42	5	0.9	clear	Y	
6/14/2023	1215	3	118-123	9.3	4.42	5	1.41	clear	Y	
6/23/2023	1540	3	118-123	9.59	4.42	4	1.9	clear	Y	
9/22/2023	1255	3	118-123	6.09	4.42	5.5	0.98	clear	Y	
12/11/2023	941	3	118-123	7.79	4.42	5.85	2.06	Clear	Y	
12/19/2023	8:44	3	118-123	7.66	4.42	5.95	4.51	clear	Y	
3/15/2024	8:59	3	118-123	7.58	4.42	4.25	4.98	Clear	Y	
6/11/2024	8:08	3	118-123	9.56	4.42	4.5	0.34	Clear	Y	
9/6/2024	9:46	3	118-123	7.77	4.42	4.5	2.11	Clear	Y	
12/9/2024	11:00	3	118-123	10.24	4.42	5.25	0.56	Clear	Y	
						177.05	FINAL PURGE VOLUME			
3/23/2022	0858	4	121.8-126.8	9.97	4.46	4	2.64	yellow tint	y	
3/23/2022	1229	4	121.8-126.8	10.24	4.46	4	1.46	yellow tint	-	

Well ID: 114-MW66D

AECOM Personnel: GWS Team

Equipment Used:
Water Level Meter - Serial #:

Recommended Purge Pressure: 56 PSI
Recommended Sampling Pressure: 40 PSI

Turbidity Meter - Model: Serial #:

*** Check water level each day of purging and sampling. Note if depth to water in FLUTe Liner is below top of steel casing, add water to liner. If it continues to drop, call FLUTe***

Date	Time	Port Number	Sampling Interval (ft bgs)	Depth to Water (ft below swagelok valve)	From FLUTe Projected purge volume (liters)	Actual Purge Volume (liters)	Turbidity (NTU)	Color	Photo	Notes (include additional water level readings here)
3/24/2022	0927	4	121.8-126.8	10.32	4.46	4.5	2.39	clear	y	
3/24/2022	0952	4	121.8-126.8	10.4	4.46	4	0.98	clear	-	
3/25/2022	1050	4	121.8-126.8	10.14	4.46	4	1.48	clear	y	
3/28/2022	0845	4	121.8-126.8	9.89	4.46	0	-	-	-	
3/29/2022	0945	4	121.8-126.8	10.23	4.46	4	0.39	clear	y	
3/30/2022	0920	4	121.8-126.8	10.69	4.46	4.25	0.99	clear	y	
3/31/2022	-	4	121.8-126.8	-	4.46	4	0.87	clear	-	tubing frozen, purge unsuccessful
4/11/2022	0820	4	121.8-126.8	10.49	4.46	4	1.37	clear	-	
4/19/2022	0831	4	121.8-126.8	9.98	4.46	4.5	2.33	clear	-	took longest to purge
4/21/2022	Sample date									
5/10/2022	10:50	4	121.8-126.8	9.64	4.46	4	Not Sampled	clear	-	
5/13/2022	9:25	4	121.8-126.8	10.8	4.46	3.5	Not Sampled	clear	-	Took Longest to purge
5/17/2011	9:55	4	121.8-126.8	10.15	4.46	4	Not Sampled	clear	-	9 40 - 9 47
5/20/2022	9:07	4	121.8-126.8	10.23	4.46	4	Not Sampled	clear	-	
5/24/2022	11:05	4	121.8-126.8	10.19	4.46	4	Not Sampled	clear	y	
5/27/2022	10:27	4	121.8-126.8	11.95	4.46	4	Not Sampled	clear	y	
5/31/2022	10:56	4	121.8-126.8	10.53	4.46	4	Not Sampled	clear	y	
6/3/2022	Sample date									
6/7/2022	9:02	4	121.8-126.8	10.78	4.46	4	Not Taken	clear	Y	
6/10/2022	8:02	4	121.8-126.8	10.60	4.46	4	Not Taken	clear	Y	stayed on 2 min longer then 1,2,3
6/14/2022	11:05	4	121.8-126.8	10.46	4.46	4	Not Taken	clear	Y	stayed on 2 min longer then 1,2,3
6/17/2022	9:36	4	121.8-126.8	10.26	4.46	4	Not Taken	clear	Y	
6/21/2022	10:38	4	121.8-126.8	10.96	4.46	4	Not Taken	clear	Y	
6/24/2022	10:15	4	121.8-126.8	12.76	4.46	4	Not Taken	clear	Y	pressure in tubing upon arrival
6/28/2022	7:57	4	121.8-126.8	11.2	4.46	4	Not Taken	clear	Y	
7/1/2022	9:14	4	121.8-126.8	11.3	4.46	3.5	Not Taken	clear	Y	
7/5/2022	Sample date									
7/8/2022	-	4	121.8-126.8	-	-	-	Not Taken	clear	Y	
8/2/2022	8:35	4	121.8-126.8	11.7	4		Not Taken	clear	Y	
4/21/2023	7:41	4	124-129	8.7	4.46	5	1.05	clear	Y	
5/11/2023	1157	4	124-129	7.83	4.46	5	0.73	clear	Y	

PPG Garfield Avenue Group Sites
FLUTe Tracking Log Field Data Sheet
Bedrock GW Investigation Addendum - 60667926

AECOM

Well ID: 114-MW66D

AECOM Personnel: GWS Team

Equipment Used:
Water Level Meter - Serial #:

Turbidity Meter - Model: Serial #:

Recommended Purge Pressure: 56 PSI
Recommended Sampling Pressure: 40 PSI

*** Check water level each day of purging and sampling. Note if depth to water in FLUTe Liner is below top of steel casing, add water to liner. If it continues to drop, call FLUTe***

Date	Time	Port Number	Sampling Interval (ft bgs)	Depth to Water (ft below swagelok valve)	From FLUTe Projected purge volume (liters)	Actual Purge Volume (liters)	Turbidity (NTU)	Color	Photo	Notes (include additional water level readings here)
6/1/2023	1210	4	124-129	8.80	4.46	5	1.31	clear	Y	
6/14/2023	1215	4	124-129	9.4	4.46	5	0.87	clear	Y	
6/23/2023	1540	4	124-129	9.76	4.46	4	1.17	clear	Y	
9/22/2023	1255	4	124-129	8.8	4.46	5	0.63	clear	Y	
12/11/2023	9:43	4	124-129	7.56	4.46	5	2.43	Clear	Y	
12/19/2023	8:44	4	124-129	7.65	4.46	5	0.49	Clear	Y	
3/15/2024	8:57	4	124-129	7.59	4.46	3	2.07	Clear	Y	
6/11/2024	8:09	4	124-129	7.25	4.46	4.5	0.26	Clear	Y	
9/6/2024	9:47	4	124-129	6.95	4.46	5.25	0.97	Clear	Y	
12/9/2024	11:01	4	124-129	7.84	4.46	5	0.36	Clear	Y	
						157	FINAL PURGE VOLUME			
3/23/2022	0900	5	134.8-137.8	9.98	4.51	4	1.01	clear	y	
3/23/2022	1231	5	134.8-137.8	10.24	4.51	4	1.25	clear	-	
3/24/2022	0928	5	134.8-137.8	10.21	4.51	4	0.64	clear	y	
3/24/2022	0957	5	134.8-137.8	10.59	4.51	4	1.69	clear	-	
3/25/2022	1050	5	134.8-137.8	10.11	4.51	4	0.95	clear	y	
3/28/2022	0845	5	134.8-137.8	9.72	4.51	4	0.99	clear	-	
3/29/2022	0945	5	134.8-137.8	10.19	4.51	4	0.84	clear	y	
3/30/2022	0920	5	134.8-137.8	10.61	4.51	4	0.26	clear	y	
3/31/2022	-	5	134.8-137.8	-	4.51	4	1.28	clear	y	
4/11/2022	0820	5	134.8-137.8	10.13	4.51	3.5	0.66	clear	-	
4/19/2022	0830	5	134.8-137.8	9.98	4.51	4.25	4.22	clear	-	last to go off for purge
4/21/2022	Sample date									
5/10/2022	10:50	5	134.8-137.8	9.43	4.51	4	Not Sampled	clear	-	Last to go off for purge
5/13/2022	9:25	5	134.8-137.8	10.73	4.51	3.5	Not Sampled	clear	-	Purged 42 PSI 9 34- 9 40
5/17/2011	9:55	5	134.8-137.8	10.17	4.51	4	Not Sampled	clear	-	
5/20/2022	9:07	5	134.8-137.8	10.19	4.51	4	Not Sampled	clear	-	
5/24/2022	11:05	5	134.8-137.8	10.17	4.51	4	Not Sampled	clear	y	
5/27/2022	10:27	5	134.8-137.8	10.63	4.51	4	Not Sampled	clear	y	
5/31/2022	10:56	5	134.8-137.8	10.53	4.51	4	Not Sampled	clear	y	
6/3/2022	Sample date									

Well ID: 114-MW66D

AECOM Personnel: GWS Team

Equipment Used:
Water Level Meter - Serial #:

Recommended Purge Pressure: 56 PSI
Recommended Sampling Pressure: 40 PSI

Turbidity Meter - Model: Serial #:

*** Check water level each day of purging and sampling. Note if depth to water in FLUTe Liner is below top of steel casing, add water to liner. If it continues to drop, call FLUTe***

Date	Time	Port Number	Sampling Interval (ft bgs)	Depth to Water (ft below swagelok valve)	From FLUTe Projected purge volume (liters)	Actual Purge Volume (liters)	Turbidity (NTU)	Color	Photo	Notes (include additional water level readings here)
6/7/2022	9:02	5	134.8-137.8	10.65	4.51	4	Not Taken	clear	Y	
6/10/2022	8:01	5	134.8-137.8	10.56	4.51	4	Not Taken	clear	Y	stayed on 2 min longer then 1,2,3
6/14/2022	11:04	5	134.8-137.8	10.45	4.51	4	Not Taken	clear	Y	stayed on 2 min longer then 1,2,3
6/17/2022	9:35	5	134.8-137.8	10.09	4.51	4	Not Taken	clear	Y	stayed on 2 min longer then 1,2,3
6/21/2022	10:37	5	134.8-137.8	10.64	4.51	4	Not Taken	clear	Y	stayed on 2 min longer then 1,2,3
6/24/2022	10:12	5	134.8-137.8	11.34	4.51	4	Not Taken	clear	Y	stayed on 2 min longer then 1,2,3
6/28/2022	7:56	5	134.8-137.8	11.5	4.51	4	Not Taken	clear	Y	
7/1/2022	9:13	5	134.8-137.8	11.22	4.51	3.75	Not Taken	clear	Y	
7/5/2022	Sample date									
7/8/2022	-	5	134.8-137.8	-	-	-	Not Taken	clear	Y	
8/2/2022	8:34	5	134.8-137.8	11.54	4.51	4	Not Taken	clear	Y	
4/21/2023	7:41	5	137-140	8.64	4.51	5	1.10	clear	Y	
5/11/2023	1157	5	137-140	7.79	4.51	5	1.40	clear	Y	
6/1/2023	1210	5	137-140	9.19	4.51	5	1.10	clear	Y	
6/14/2023	1215	5	137-140	9.31	4.51	5	0.73	clear	Y	
6/23/2023	1540	5	137-140	9.54	4.51	4	1.59	clear	Y	
9/22/2023	1255	5	137-140	8.74	4.51	5	3.28	clear	Y	
12/11/2023	9:44	5	137-140	12:00	4.51	5.8	8.96	Clear	Y	
12/19/2023	8:44	5	137-140	7.63	4.51	5	1.61	Clear	Y	
3/15/2024	8:56	5	137-140	7.47	4.51	4.5	6.46	Clear	Y	
6/11/2024	8:10	5	137-140	7.26	4.51	5	0.22	Clear	Y	
9/6/2024	9:48	5	137-140	6.85	4.51	5	0.93	Clear	Y	
12/9/2024	11:02	5	137-140	7.79	4.51	5	0.7	Clear	Y	
						166.3	FINAL PURGE VOLUME			

AECOM

Well ID: 114-MW72D

AECOM Personnel: GWS Team

Equipment Used:
Water Level Meter - Serial #:

Recommended Purge Pressure: 55 PSI
Recommended Sampling Pressure: 39 PSI

Turbidity Meter - Model: Serial #:

*** Check water level each day of purging and sampling. Note if depth to water in FLUTe Liner is below top of steel casing, add water to liner. If it continues to drop, call FLUTe***

Date	Time	Port Number	Sampling Interval (ft bgs)	Depth to Water (ft below swagelok valve)	From FLUTe Projected purge volume (liters)	Actual Purge Volume (liters)	Turbidity (NTU)	Color	Photo*	Notes (include additional water level readings here)
3/23/2022	0950	TAG LINE	Water level inside FLUTE liner (take prior to each purging event-measure from top of plastic tube)	0.59	NA	NA	NA	NA	NA	
3/24/2022	0820	TAG LINE		0.66	NA	NA	NA	NA	NA	
3/25/2022	0950	TAG LINE		0.39	NA	NA	NA	NA	NA	
3/28/2022	1040	TAG LINE	NA	0.35	NA	NA	NA	NA	NA	
3/29/2022	1029	TAG LINE	NA	0.35	NA	NA	NA	NA	NA	
3/30/2022	0820	TAG LINE	NA	0.30	NA	NA	NA	NA	NA	
4/11/2022	0920	TAG LINE	NA	0.46	NA	NA	NA	NA	NA	
4/19/2022	0945	TAG LINE	NA	0.51	NA	NA	NA	NA	NA	
5/10/2022	11:50	TAG LINE	NA	0.72	NA	NA	NA	NA	NA	
5/13/2022	8:40	TAG LINE	NA	0.73	NA	NA	NA	NA	NA	
5/17/2022	11:00	TAG LINE	NA	0.75	NA	NA	NA	NA	NA	
5/20/2022	8:08	TAG LINE	NA	0.55	NA	NA	NA	NA	NA	
5/24/2022	12:30	TAG LINE	NA	0.67	NA	NA	NA	NA	NA	
5/27/2022	11:05	TAG LINE	NA	0.55	NA	NA	NA	NA	NA	
5/31/2022	10:05	TAG LINE	NA	0.45	NA	NA	NA	NA	NA	
6/7/2022	8:06	TAG LINE	NA	0.52	NA	NA	NA	NA	NA	
6/10/2022	9:30	TAG LINE	NA	0.44	NA	NA	NA	NA	NA	
6/14/2022	9:49	TAG LINE	NA	0.41	NA	NA	NA	NA	NA	white film/sheen on top of water inside casing
6/17/2022	10:40	TAG LINE	NA	0.4	NA	NA	NA	NA	NA	white film on top of water inside casing, took photos and called Frederik S., removed w/paper towel
6/21/2022	9:55	TAG LINE	NA	0.4	NA	NA	NA	NA	NA	white film on top of water inside casing, removed w/paper towel
6/24/2022	10:50	TAG LINE	NA	0.35	NA	NA	NA	NA	NA	film on top, brass fittings look discolored
6/28/2022	7:23	TAG LINE	NA	0.28	NA	NA	NA	NA	NA	
7/1/2022	10:04	TAG LINE	NA	0.37	NA	NA	NA	NA	NA	
8/2/2022	9:38	TAG LINE	NA	0.71	NA	NA	NA	NA	NA	
4/21/23	7:22	TAG LINE	NA	1.9	NA	NA	NA	NA	NA	
5/11/2023	1335	TAG LINE	NA	0.4	NA	NA	NA	NA	NA	
6/1/2023	1108	TAG LINE	NA	0.5	NA	NA	NA	NA	NA	
6/14/2023	1055	TAG LINE	NA	0.83	NA	NA	NA	NA	NA	
6/23/2023	1457	TAG LINE	NA	0.73	NA	NA	NA	NA	NA	
7/13/2023	1200	TAG LINE	NA	0.75	NA	NA	NA	NA	NA	
7/20/2023	1010	TAG LINE	NA	0.85	NA	NA	NA	NA	NA	
8/9/2023	1200	TAG LINE	NA	NA	NA	NA	NA	NA	NA	

Well ID: 114-MW72D

AECOM Personnel: GWS Team

Equipment Used:
Water Level Meter - Serial #:

Turbidity Meter - Model: Serial #:

Recommended Purge Pressure: 55 PSI
Recommended Sampling Pressure: 39 PSI

*** Check water level each day of purging and sampling. Note if depth to water in FLUTe Liner is below top of steel casing, add water to liner. If it continues to drop, call FLUTe***

Date	Time	Port Number	Sampling Interval (ft bgs)	Depth to Water (ft below swagelok valve)	From FLUTe Projected purge volume (liters)	Actual Purge Volume (liters)	Turbidity (NTU)	Color	Photo*	Notes (include additional water level readings here)
9/22/2023	1007	TAG LINE	NA	1.02	NA	NA	NA	NA	NA	
12/15/2023	13:30	TAG LINE	NA	1.41	NA	NA	NA	NA	NA	
3/15/2024	11:20	TAG LINE	NA	1.67	NA	NA	NA	NA	NA	
8/6/2024	9:00	TAG LINE	NA	NA	NA	NA	NA	NA	NA	Skinny dipper unavailable to take WL readings
9/6/2024	13:09	TAG LINE	NA	1.3	NA	NA	NA	NA	NA	
12/9/2024	14:30	TAG LINE	NA	0.82	NA	NA	NA	NA	NA	
3/23/2022	0951	1	99.9-103.9	7.99	4.39	3.75	0.85	slight yellow	Y	
3/24/2022	0820	1	99.9-103.9	8.21	4.39	4	1.47	slight yellow	Y	
3/25/2022	0950	1	99.9-103.9	8.12	4.39	4	0.47	very slight yellow	Y	
3/28/2022	1040	1	99.9-103.9	7.48	4.39	4	2.23	clear	Y	
3/29/2022	1029	1	99.9-103.9	8.26	4.39	3.75	1.85	clear	Y	
3/30/2022	0820	1	99.9-103.9	8.57	4.39	4	1.3	clear	Y	
3/31/2022	1043	1	99.9-103.9	8.12	4.39	3.75	1.66	clear	Y	
4/11/2022	0920	1	99.9-103.9	7.54	4.39	4	3.06	clear	-	
4/19/2022	0946	1	99.9-103.9	8.03	4.39	4	3.33	clear	-	
4/21/2022	Sample date									
5/10/2022	11:50	1	99.9-103.9	7.59	4.39	4.5	Not Taken	clear	Y	
5/13/2022	8:40	1	99.9-103.9	8.29	4.39	4	Not Taken	clear	Y	
5/17/2022	11:00	1	99.9-103.9	7.55	4.39	4	Not Taken	clear	Y	
5/20/2022	8:08	1	99.9-103.9	7.46	4.39	4	Not Taken	clear	Y	
5/24/2022	12:20	1	99.9-103.9	8	4.39	4	Not Taken	clear	Y	
5/27/2022	11:06	1	99.9-103.9	8:38	4.39	4	Not Taken	clear	-	White Sheen, took video
5/31/2022	10:05	1	99.9-103.10	7.77	4.39	4	Not Taken	clear	Y	White Sheen
6/3/2022	Sample date									
6/7/2022	8:10	1	99.9-103.9	7.76	4.39	4	Not Taken	clear	Y	
6/10/2022	9:34	1	99.9-103.9	7.7	4.39	4	Not Taken	clear	Y	
6/14/2022	9:52	1	99.9-103.9	7.46	4.39	4	Not Taken	clear	Y	
6/17/2022	10:44	1	99.9-103.9	7.81	4.39	4	Not Taken	clear	Y	white sheen on top
6/21/2022	10:00	1	99.9-103.9	8.09	4.39	4	Not Taken	clear	Y	white sheen on top
6/24/2022	10:53	1	99.9-103.9	7.95	4.39	4	Not Taken	clear	Y	white sheen on top
6/28/2022	7:28	1	99.9-103.9	8.3	4.39	3	Not Taken	clear	Y	
7/1/2022	10:08	1	99.9-103.9	8.33	4.39	4	Not Taken	clear	Y	

Well ID: 114-MW72D

AECOM Personnel: GWS Team

Equipment Used:
Water Level Meter - Serial #:

Turbidity Meter - Model: Serial #:

Recommended Purge Pressure: 55 PSI
Recommended Sampling Pressure: 39 PSI

*** Check water level each day of purging and sampling. Note if depth to water in FLUTe Liner is below top of steel casing, add water to liner. If it continues to drop, call FLUTe***

Date	Time	Port Number	Sampling Interval (ft bgs)	Depth to Water (ft below swagelok valve)	From FLUTe Projected purge volume (liters)	Actual Purge Volume (liters)	Turbidity (NTU)	Color	Photo*	Notes (include additional water level readings here)
7/5/2022	Sample date									
8/2/2022	9:36	1	99.9-103.9	9.68	4.39	4	Not Taken	clear	Y	
8/4/2022	Sample date									
4/21/2023	7:23	1	102-105	7.62	4.39	4	5.03	clear	Y	
5/11/2023	1335	1	102-105	7.55	4.39	5	2.15	clear	Y	
6/1/2023	1108	1	102-105	7.30	4.39	4	1.78	clear	Y	
6/14/2023	1055	1	102-105	7.37	4.39	4	3.98	clear	Y	
6/23/2023	1458	1	102-105	7.59	4.39	4	2.7	clear	Y	
7/13/2023	1200	1	102-105	7.5	4.39	5	0.71	clear	Y	
7/20/2023	1010	1	102-105	8.31	4.39	5	4.04	clear	Y	
8/9/2023	1200	1	102-105	7.26	4.39	5	3.5	clear	Y	
9/22/2023	1007	1	102-105	7.7	4.39	5	1.38	clear	Y	
12/15/2023	13:30	1	102-105	5.23	4.39	4.8	0.24	clear	Y	
3/15/2024	11:21	1	102-105	5.55	4.39	5	0.52	clear	Y	
8/6/2024	9:01	1	102-106	NA	4.39	5	15.3	Clear	Y	
9/6/2024	13:10	1	102-106	6.5	4.39	4.75	4.95	Clear	Y	
12/9/2024	14:31	1	102-106	11.6	4.39	4.75	7.82	Clear	Y	
						164.05	FINAL PURGE VOLUME			
3/29/2022	1029	2	107.9-111.9	8.29	4.46	4	1.27	clear	Y	
3/30/2022	0820	2	107.9-111.9	8.45	4.46	4.5	3.15	clear	Y	
3/31/2022	10:43	2	107.9-111.9	8.09	4.46	4	1.36	clear	Y	
4/11/2022	0920	2	107.9-111.9	8.03	4.46	4	2.32	clear	-	
4/19/2022	0946	2	107.9-111.9	8.13	4.46	4	7.19	clear	-	
4/21/2022	Sample date									
5/10/2022	11:50	2	107.9-111.9	7.62	4.46	4	Not Taken	clear	Y	
5/13/2022	8:40	2	107.9-111.9	8.49	4.46	4	Not Taken	clear	-	
5/17/2022	11:00	2	107.9-111.9	7.65	4.46	4	Not Taken	clear	Y	
5/20/2022	8:06	2	107.9-111.9	7.52	4.46	4	Not Taken	clear	-	
5/24/2022	12:30	2	107.9-111.9	7.58	4.46	4	Not Taken	clear	Y	
5/27/2022	11:07	2	107.9-111.9	7.4	4.46	4	Not Taken	clear	-	White Sheen
5/31/2022	10:08	2	107.9-111.9	7.66	4.46	4	Not Taken	clear	-	Sheen
6/3/2022	Sample date									
6/7/2022	10:09	2	107.9-111.9	7.92	4.46	4	Not Taken	clear	Y	

Well ID: 114-MW72D

AECOM Personnel: GWS Team

Equipment Used:
Water Level Meter - Serial #:

Turbidity Meter - Model: Serial #:

Recommended Purge Pressure: 55 PSI
Recommended Sampling Pressure: 39 PSI

*** Check water level each day of purging and sampling. Note if depth to water in FLUTe Liner is below top of steel casing, add water to liner. If it continues to drop, call FLUTe***

Date	Time	Port Number	Sampling Interval (ft bgs)	Depth to Water (ft below swagelok valve)	From FLUTe Projected purge volume (liters)	Actual Purge Volume (liters)	Turbidity (NTU)	Color	Photo*	Notes (include additional water level readings here)
6/10/2022	9:33	2	107.9-111.9	8.03	4.46	4	Not Taken	clear	Y	
6/14/2022	9:51	2	107.9-111.9	7.73	4.46	4	Not Taken	clear	Y	
6/17/2022	10:43	2	107.9-111.9	7.82	4.46	4	Not Taken	clear	Y	white sheen on top
6/21/2022	9:58	2	107.9-111.9	8.3	4.46	4	Not Taken	clear	Y	white sheen on top
6/24/2022	10:52	2	107.9-111.9	8.16	4.46	4	Not Taken	clear	Y	white sheen on top
6/28/2022	7:27	2	107.9-111.9	8.73	4.46	3	Not Taken	clear	Y	white sheen on top
7/1/2022	10:07	2	107.9-111.9	8.4	4.46	3.25	Not Taken	clear	Y	white sheen on top
7/5/2022	Sample date									
8/2/2022	9:34	2	107.9-111.9	9.41	4.46	4	Not Taken	clear	Y	
8/4/2022	Sample date									
4/21/2023	7:25	2	110-114	7.64	4.46	4	8.76	slightly cloudy	Y	
5/11/2023	1335	2	110-114	7.70	4.46	4	1.81	clear	Y	
6/1/2023	1110	2	110-114	7.25	4.46	4	1.67	clear	Y	
6/14/2023	1055	2	110-114	7.45	4.46	5	5.73	clear	Y	
6/23/2023	1459	2	110-114	7.52	4.46	4	2.48	clear	y	
7/13/2023	1200	2	110-114	7.55	4.46	5	0.97	clear	y	
7/20/2023	1010	2	110-114	8.73	4.46	5	2.24	clear	y	
8/9/2023	1200	2	110-114	7.3	4.46	4.5	2.18	clear	y	
9/22/2023	1007	2	110-114	7.72	4.46	4.75	1.23	clear	y	
12/15/2023	13:30	2	110-114	5.34	4.46	4.2	0.6	clear	Y	
3/15/2024	11:23	2	110-114	5.59	4.46	4	0.61	clear	Y	
8/6/2024	9:01	2	110-114	NA	4.46	4	17.4	Clear	Y	
9/6/2024	13:11	2	110-114	6.4	4.46	4.25	4.23	Clear	Y	
12/9/2024	14:32	2	110-114	12.5	4.46	4.5	7.34	Clear	Y	
						143.95	FINAL PURGE VOLUME			
3/23/2022	0953	3	113.9-116.9	7.89	4.5	4	1.42	slight yellow	Y	
3/24/2022	0821	3	113.9-116.9	8.03	4.5	4.25	0.74	slight yellow	Y	
3/25/2022	0950	3	113.9-116.9	8.21	4.5	4.75	2.88	very slight yellow	Y	
3/28/2022	1040	3	113.9-116.9	7.7	4.5	4	1.11	clear	Y	
3/29/2022	0:00	3	113.9-116.9	8.24	4.5	4	0.92	clear	Y	
3/30/2022	0820	3	113.9-116.9	8.52	4.5	4.25	1.69	clear	Y	
3/31/2022	10:43	3	113.9-116.9	8.1	4.5	4.5	7.45	clear	Y	film on water
4/11/2022	0920	3	113.9-116.9	7.65	4.5	4	1.29	clear	-	

Well ID: 114-MW72D

AECOM Personnel: GWS Team

Equipment Used:
Water Level Meter - Serial #:

Turbidity Meter - Model: Serial #:

Recommended Purge Pressure: 55 PSI
Recommended Sampling Pressure: 39 PSI

*** Check water level each day of purging and sampling. Note if depth to water in FLUTe Liner is below top of steel casing, add water to liner. If it continues to drop, call FLUTe***

Date	Time	Port Number	Sampling Interval (ft bgs)	Depth to Water (ft below swagelok valve)	From FLUTe Projected purge volume (liters)	Actual Purge Volume (liters)	Turbidity (NTU)	Color	Photo*	Notes (include additional water level readings here)
4/19/2022	10:30	3	113.9-116.9	8.16	4.5	4.25	2.08	clear	-	
4/21/2022	Sample date									
5/10/2022	11:50	3	113.9-116.9	7.58	4.5	5	Not Taken	clear	Y	
5/13/2022	8:40	3	113.9-116.9	8.51	4.5	5	Not Taken	clear	-	
5/17/2022	11:00	3	113.9-116.9	7.55	4.5	4	Not Taken	clear	Y	
5/20/2022	8:07	3	113.9-116.9	6.7	4.5	5	Not Taken	clear	-	
5/24/2022	12:30	3	113.9-116.9	8.89	4.5	5	Not Taken	clear	Y	
5/27/2022	11:08	3	113.9-116.9	6.95	4.5	4	Not Taken	clear	-	White Sheen
5/31/2022	10:02	3	113.9-116.9	7.74	4.5	4	Not Taken	clear	-	First zone off, Sheen
6/3/2022	Sample date									
6/7/2022	8:08	3	113.9-116.9	7.58	4.5	4	Not Taken	clear	Y	
6/10/2022	9:32	3	113.9-116.9	7.31	4.5	4	Not Taken	clear	Y	
6/14/2022	9:51	3	113.9-116.9	7.38	4.5	4.5	Not Taken	clear	Y	First zone off
6/17/2022	10:42	3	113.9-116.9	7.51	4.5	4	Not Taken	clear	Y	White Sheen on top
6/21/2022	9:57	3	113.9-116.9	7.82	4.5	4	Not Taken	clear	Y	White Sheen on top
6/24/2022	10:51	3	113.9-116.9	8.06	4.5	4	Not Taken	clear	Y	White Sheen on top
6/28/2022	7:26	3	113.9-116.9	8.07	4.5	5	Not Taken	clear	Y	White Sheen on top
7/1/2022	10:06	3	113.9-116.9	8	4.5	4	Not Taken	clear	Y	White Sheen on top
7/5/2022	Sample date									
8/2/2022	9:32	3	113.9-116.9	6.85	4.5	5	Not Taken	clear	Y	
4/21/2023	7:26	3	116-119	7.65	4.5	5.0	3.52	clear	Y	
5/11/2023	1335	3	116-119	7.62	4.5	4.5	1.00	clear	Y	
6/1/2023	1110	3	116-119	7.27	4.5	4	3.04	clear	Y	
6/14/2023	1055	3	116-119	7.35	4.5	4	3.79	clear	y	
6/23/2023	1500	3	116-119	7.5	4.5	5	0.7	clear	y	
7/13/2023	1200	3	116-119	7.51	4.5	5	0.95	clear	y	
7/20/2023	1010	3	116-119	8.47	4.5	5	3.03	clear	y	
8/9/2023	1200	3	116-119	7.25	4.5	5	4.33	clear	y	
9/22/2023	1007	3	116-119	7.7	4.5	5	1.41	clear	Y	
12/15/2023	13:30	3	116-119	5.14	4.5	5.1	2.04	clear	Y	
3/15/2024	11:23	3	116-119	5.51	4.5	5.5	0.61	clear	Y	
8/6/2024	9:01	3	116-119	NA	4.5	5.75	5.49	Clear	Y	
9/6/2024	13:12	3	116-119	6.37	4.5	5	1.01	Clear	Y	
12/9/2024	14:33	3	116-119	12.45	4.5	4.5	11.3	Clear	Y	

Well ID: 114-MW72D

AECOM Personnel: GWS Team

Equipment Used:
Water Level Meter - Serial #:

Recommended Purge Pressure: 55 PSI
Recommended Sampling Pressure: 39 PSI

Turbidity Meter - Model: Serial #:

*** Check water level each day of purging and sampling. Note if depth to water in FLUTe Liner is below top of steel casing, add water to liner. If it continues to drop, call FLUTe***

Date	Time	Port Number	Sampling Interval (ft bgs)	Depth to Water (ft below swagelok valve)	From FLUTe Projected purge volume (liters)	Actual Purge Volume (liters)	Turbidity (NTU)	Color	Photo*	Notes (include additional water level readings here)
						176.85	FINAL PURGE VOLUME			
3/23/2022	0954	4	120.9-123.9	7.99	4.54	4.25	6.6	slight yellow	Y	
3/24/2022	0822	4	120.9-123.9	8.11	4.54	4.25	2.21	slight yellow	Y	
3/25/2022	0950	4	120.9-123.9	11	4.54	4.75	2.06	very slight yellow	Y	
3/28/2022	1040	4	120.9-123.9	7.84	4.54	4.25	2.32	clear	Y	
3/29/2022	1029	4	120.9-123.9	8.23	4.54	4	2.56	clear	Y	
3/30/2022	0820	4	120.9-123.9	8.5	4.54	4.75	2.84	clear	Y	
3/31/2022	1043	4	120.9-123.9	8.14	4.54	4	2.43	clear	Y	
4/11/2022	0920	4	120.9-123.9	8.02	4.54	4	2.43	clear	-	
4/19/2022	11:30	4	120.9-123.9	8.02	4.54	4	14	clear	-	
4/21/2022	Sample date									
5/10/2022	11:50	4	120.9-123.9	6.71	4.54	5	Not Taken	clear	Y	
5/13/2022	8:40	4	120.9-123.9	8.61	4.54	5	Not Taken	clear	Y	
5/17/2022	11:00	4	120.9-123.9	7.65	4.54	4	Not Taken	clear	Y	
5/20/2022	8:08	4	120.9-123.9	7.44	4.54	5	Not Taken	clear	-	
5/24/2022	12:30	4	120.9-123.9	7.72	4.54	5	Not Taken	clear	Y	
5/27/2022	11:09	4	120.9-123.9	6.91	4.54	4	Not Taken	clear	-	White Sheen
5/31/2022	10:06	4	120.9-123.9	7.34	4.54	4	Not Taken	clear	-	White Sheen
6/3/2022	Sample date									
6/7/2022	8:07	4	120.9-123.9	7.55	4.54	4	Not Taken	clear	Y	
6/10/2022	9:31	4	120.9-123.9	7.31	4.54	4	Not Taken	clear	Y	
6/14/2022	9:50	4	120.9-123.9	7.39	4.54	4.5	Not Taken	clear	Y	White Sheen
6/17/2022	10:41	4	120.9-123.9	7.44	4.54	4	Not Taken	clear	Y	White Sheen
6/21/2022	9:56	4	120.9-123.9	7.48	4.54	4	Not Taken	clear	Y	Tough to get water level meter through opening, White Sheen on top of water in bucket
6/24/2022	10:50	4	120.9-123.9	7.82	4.54	4	Not Taken	clear	Y	Tough to get water level meter through opening, White Sheen on top
6/28/2022	7:25	4	120.9-123.9	8.72	4.54	5	Not Taken	clear	-	Tough to get water level meter through opening, White Sheen on top
7/1/2022	10:05	4	120.9-123.9	8.52	4.54	4	Not Taken	clear	-	Tough to get water level meter through opening, White Sheen on top
7/5/2022	Sample date									
8/2/2022	9:30	4	120.9-123.9	8.15	4.54	4.5	Not Taken	clear	Y	
4/21/2023	7:28	4	123-126	7.10	4.54	5.0	14.9	clear	Y	
5/11/2023	1335	4	123-126	7.67	4.54	4.5	1.54	clear	Y	
6/1/2023	1110	4	123-126	7.29	4.54	4	1.98	clear	Y	
6/14/2023	1055	4	123-126	7.39	4.54	4	2.62	clear	Y	
6/23/2023	1501	4	123-126	7.55	4.54	5	5.5	clear	y	

PPG Garfield Avenue Group Sites
FLUTe Tracking Log Field Data Sheet
Bedrock GW Investigation Addendum - 60667926

AECOM

Well ID: 114-MW72D

AECOM Personnel: GWS Team

Equipment Used:
Water Level Meter - Serial #:

Turbidity Meter - Model: Serial #:

Recommended Purge Pressure: 55 PSI
Recommended Sampling Pressure: 39 PSI

*** Check water level each day of purging and sampling. Note if depth to water in FLUTe Liner is below top of steel casing, add water to liner. If it continues to drop, call FLUTe***

Date	Time	Port Number	Sampling Interval (ft bgs)	Depth to Water (ft below swagelok valve)	From FLUTe Projected purge volume (liters)	Actual Purge Volume (liters)	Turbidity (NTU)	Color	Photo*	Notes (include additional water level readings here)
7/13/2023	1200	4	123-126	7.62	4.54	4.5	1.78	clear	Y	
7/20/2023	1010	4	123-126	8.56	4.54	4.5	3.14	clear	y	
8/9/2023	1200	4	123-126	7.15	4.54	5	2.41	clear	y	
9/22/2023	1007	4	123-126	6.62	4.54	4.5	1.06	clear	y	
12/15/2023	13:30	4	123-126	5.34	4.54	5.5	7.11	clear	Y	
3/15/2024	11:24	4	123-126	5.57	4.54	5	0.4	clear	Y	
8/6/2024	9:01	4	123-126	NA	4.54	5.5	16.1	Clear	Y	Purged twice at 55 psi, no water came out. Possible blockage? Purged at 80 and lowered to 55, blockage cleared.
9/6/2024	13:13	4	123-126	6.53	4.54	5	1	Clear	Y	
12/9/2024	14:34	4	123-126	12.77	4.54	5.5	7.93	Clear	Y	
						175.75	FINAL PURGE VOLUME			

6 Easy St., Santa Fe, NM 87504
505-455-1300, www.flut.com

Sampling guidelines for *Water FLUTe* systems installed after May, 2009

Rev. April, 2010

Water level in the liner.

The liner water level should be ~10 ft above the highest formation water level to provide a good seal of the liner in the hole (5 ft minimum excess head). The formation water level can be measured via the "pump tube" for each port. The water level inside the liner should be tagged in the ½ x 5/8" tube labeled "TAG" adjacent to the sampling tubes. If the water level inside the liner is measured in the liner, outside the Tag Tube, lower the weighted tag line very slowly to avoid damage to the liner. Water can be added to the liner by simply pouring water into the liner or through the TAG tube, whichever is easier. Do not fill the liner more than 10 ft above the highest formation water level. The water level in the liner should be checked prior to each sampling episode. (Beware that filling the liner with de-ionized water can give a false water level reading.) It is not recommended to manually tag water levels more than 200 ft below the surface. The wet film adhesion may prevent the removal of the tag line. A special Teflon coated tag line can be used to extend that limit.

Water flow

The water flow into the pumping system is shown in Fig. 1. Water flows from the formation through the spacer pore space, through the port tube, through the first check valve, and fills the "pump tube". The "sample tube" is also filled at the same time. The water level rises in the pump tube to the water table for that port.

Setting up the gas pressure source

The water is pumped with gas pressure. The FLUTe pump design is such that there is very low risk of aeration of the sample. The gas source is usually a nitrogen bottle with a regulator for setting the prescribed driving pressure. The arrangement of the FLUTe gas drive system is shown in Fig. 2. The regulator is set to the proper gas pressure defined later by closing the three way valve to prevent gas flow out of the quick connect fitting. The

pressure gauge on the FLUTe pump driver is much more sensitive than the regulator for setting the regulator pressure. The FLUTe pump driver must be securely connected to the regulator at the normal ¼" NPT connection on the regulator outlet.
The regulator is first attached to the top fitting on the gas bottle (a special nitrogen regulator fitting connects to a nitrogen bottle). Tighten the nut securely. Turn the pressure regulator handle counter-clockwise until is moves freely (the no pressure position). Rotate the main valve on the regulator (nearer the bottle) clockwise to fully closed. Open the valve on the bottle (counter clockwise). The main bottle pressure gauge on the regulator will rise to the bottle pressure. Close the regulator valve (clockwise) until the pressure starts to rise on the pressure gauge on the FLUTe pump driver (three way valve closed with no flow out of the quick connect). Adjust the regulator to the desired pressure for purging, provided by FLUTe. Connect the quick connect to the top fitting of the pump tube (see Fig. 2). Open the three way valve to drive the water out of the pump.

Purging

Water is pumped from the tubing by applying the gas pressure to the interface at the static water level in the pump tube (Fig. 1 and 2). The water is driven down in the pump tube and up through the second check valve to the surface via the sample tube. By driving the water with a sufficient gas pressure (the "recommended purge pressure") to drive all of the water in the pump tube and the sample tube to the surface, the water in the pump tubing is nearly all expelled. The purge stroke (~1 gal. of water) is complete when gas is expelled from the sample tube following the water flow. <u>The pressure in the system must then be vented (i.e., dropped to atmospheric by turning the three way valve to the vent position)</u>, to allow the pump tube to refill by flow via the port tube. The recharge flow from the port tube consists of the port tube water, the water in the pore space of the spacer, and water from the medium. Because of the relatively large volume in the pump tube, most of the recharge is from the medium. The recharge will take about as long as the first purge stroke. However, a low conductivity medium will require more time.

Purging the pump tube a second time will remove any of the water that has resided in the spacer and port tube volume. That is highly recommended, since the water resident in the tubing and spacer is probably not typical of the formation water. If the refill has been prompt, the second purge water

volume will be similar to the first stroke. Two more purge strokes, for a total of four purge strokes, are recommended to remove water that may have been in long contact with the liner or spacer. (Note, systems manufactured before May, 2009 use larger pumps and were only stroked twice. The purge volume is slightly larger for this new procedure and takes about the same time as the two stroke system. This new system stresses the liner less at the spacer and has numerous other advantages.)

Sampling

The sampling flow is best driven on the fifth cycle using a "recommended sampling pressure" which is less than that needed to drive gas through the bottom of the pump tube. The pressure recommended is that which will drive the water to near, but not out of, the bottom of the large tube. That recommended pressure, "the sampling pressure," is calculated in the spreadsheet provided with each system. The pressure regulator is set to the sample pressure, which is lower than the purge pressure. Opening the three way valve will now apply the sample pressure to the system causing flow from the sample tube.

The first flow of the sampling cycle sweeps along droplets of water left in the tubing from the purge cycle. That residual water is depleted of volatile components. Tests have shown that the first tube volume of the sample flow should be discarded as depleted in volatiles (the "discard volume" is also calculated in the spreadsheet). Thereafter, the samples can be collected from the sample tube outflow. The volume to be discarded is shown in the spreadsheet as "discard volume". The sample tube water flow rate will start fast, then slow, and finally stop. That occurs as the water column being driven approaches the applied pressure/head. The typical sampling pressure drives to within 25 ft. of the bottom of the pump tube (the U). The large buffer zone remaining in the pump tube assures against aeration of the sample.

This procedure should provide an ample sample (~3 liters) of good quality drawn directly from the formation. If a larger sample volume is needed, simply drop the pressure (i.e., vent the three way valve again), let the pump refill and apply the pressure again. No discard is needed for subsequent sampling flows.

Caution: If the pumping system refills very slowly, there may not be sufficient water in the pump to fill the "sample tube" to the surface when the stroke is performed. In that case, there will be spitting of gas from the sample water and it will be followed by a flow of gas only. The sample water should never show "spitting" and the sample stroke should never end with gas flow from the sample tube. The proper sample flow will slow until it stops flowing. Should this evidence of insufficient recharge be observed, allow the pump to refill for a longer time and repeat the sample stroke. One can tag the water level in the large tube, as described in the head measurement procedure, to assure that the pumping system has been sufficient refilled.

Measuring the head in the system

The water level at each port can be manually measured by removing the plug from the top of the pump tube and lowering a slender (~1/4") electric water level meter until it contacts the water level in the pump tube. It is not recommended to manually tag water levels more than 200 ft below the surface. The wet film adhesion may prevent the removal of the tag line. A special Teflon coated tag line can be used to extend that limit.

The water level in the large tubes may not be the current water level. After sampling, if there is any leakage of the second check valve (sand in the tube, etc…) the water in the sample tube can backflow into the larger tube, adding to the water that fills the large tube during the recharge. Also, if the water level in the formation is dropping between head measurements, the water level in the pump tube will not follow the descent if the first check valve is a good seal. For these two reasons, and for the freezing concern below, it is best to finish the sampling stroke by raising the pressure to the "purge pressure" value to purge the pumping system of all water. Then upon refilling, the level is the current head for each port. If head measurements are made between sampling events, each port's pumping system should be first be purged one stroke to allow the tubing to refill to the current head value. Always replace the plugs in the top of the pump tubes when finished sampling.

If the water might freeze in the sampling tubing near the surface, purge the entire volume of water from each sampling line, after sampling, before leaving it. Use the recommended purge pressure to remove all water, not the sampling pressure. **Each line should be blowing gas when the purge is**

complete. If the tubes were purged after sampling prior to head measurements, that is sufficient.

Since the Water FLUTe uses PVDF tubing, the purge of the entire system after sampling should not be neglected, even if head measurements are not to be made. This removes the water column in the sampling tube. For deep water tables, the long term pressure of the standing water in the sampling tube might lead to excessive creep of the tubing which is susceptible to "cold flow", a characteristic of Teflon like materials. (This is not a concern except for very deep water tables (>300 ft).

In most cases, the performance of a final purge of the system after sampling is useful, even if not essential.

Simultaneous purge and sampling of all tubes

The FLUTe pumping system for each port is essentially identical in length, pump volume and elevation in the hole. This allows all ports to be purged and sampled simultaneously for a great saving in sampling time. The only difference for simultaneous sampling is that the pressure source must include a tube to each port fitting at the wellhead. FLUTe offers a manifold pump driver system at extra cost (the single port driver is provided with the Water FLUTe). The recommended purge and sample pressures are the same as used for single port sampling.

In some cases, the buoyancy of the sampling system is so great when emptied of water during the simultaneous purge that the tubing bundle can cause the liner to invert. The sampling volume spreadsheet provided with the liner notes whether the system can be purged simultaneously. This is only a problem for smaller hole diameters, many ports, and a small excess head in the liner. The new pump design allows simultaneous sampling in most situations.

A short summary is provided as the following checklist:

<u>Check List</u>

1. Check/restore the water level in the liner.
2. Connect the gas driver source to the gas drive (pump) tube for the port.

3. Set the regulator to the recommended purge pressure.
4. Turn the three way valve and expel the tube water at the suggested purge pressure. Collect the purged water volume for verification of a good purge. Note the water flow time of the purge stroke (~4 min.).
5. Allow the tubing to refill. Repeat the purge. Collect the purge volume to assure the amount removed is at least the "port tube volume". Was the refill long enough?
6. Purge a total of four times, more if desired.
7. Allow the tubing to refill for the sample stroke.
8. Reduce the driving pressure to the "sampling pressure". Apply the pressure and collect the first flow to measure the discard volume. Discard that water. Collect the samples.
9. Perform a final purge of the water out of the sampling lines by raising the driving pressure to the purge pressure value.
10. When the sampling system has refilled, tag the water level, if desired, for the current water table. If a port system is refilling very slowly, tag it at a later time.

See the spreadsheet provided with each *Water FLUTe* for the recommended purge and sampling pressures. Those are the pressures that can also be used for a simultaneous purge of the several ports. The spreadsheet flags the condition where all ports should not be purged simultaneously. In most cases, several, to all, of the ports can be purged simultaneously.

Optimum sampling procedure:
Since it is often desirable to minimize the amount of time that the sample water resides in the pumping tubing, it is useful to note the actual time that is required for the recharge of the system. Since the fill rate slows dramatically for the last portion of the recharge, it is not necessary to wait for a complete refill. For most formations, the recharge is dominated by the tubing pressure drop. In that case, the time required for the purge stroke to be completed is about the same time required for the refill. (The exception is for a tight formation that recharges the tubing very slowly.) Hence the second purge can be started after waiting the same length of time as the first purge endured. If the second purge is of a similar volume (usually somewhat less) than the first purge volume, the refill time was long enough. After the same delay, the sampling stroke can be initiated. This timing of the strokes allows one to reduce the retention time in the pumping system. For the very large sample volumes produced, the refill time can be shortened

even more, as long as the sample volume is adequate after the discard of the first flow.

In some situations, the retention time is still too long. FLUTe can often increase the sample tube and port tube diameters for greater flow rates. However, the standard design is well matched for to a wide range of hole diameters, depths, and water table elevations. For very deep wells, the tubing may need to be of higher pressure capacity for the required driving pressures. For water table depths below 700 ft., this may be a concern. FLUTe initiated a design change from Nylon 11 to PVDF tubing in the Water FLUTe systems in 2002 to avoid any concern about tubing interaction with the sample water. However, the prescribed purge is sufficient for the use of Nylon tubing systems.

For special situations such as a very large difference (>50ft) between the water tables at the ports or large fluctuations in the water table, the pumping system may be extended to greater depths. However, the sampling procedure above is sufficient for that situation also.

Questions: Call 888-333-2433 and ask for Carl Keller, or a field engineer.

Figure 1. Water FLUTe pump system

(Single port system shown for clarity)

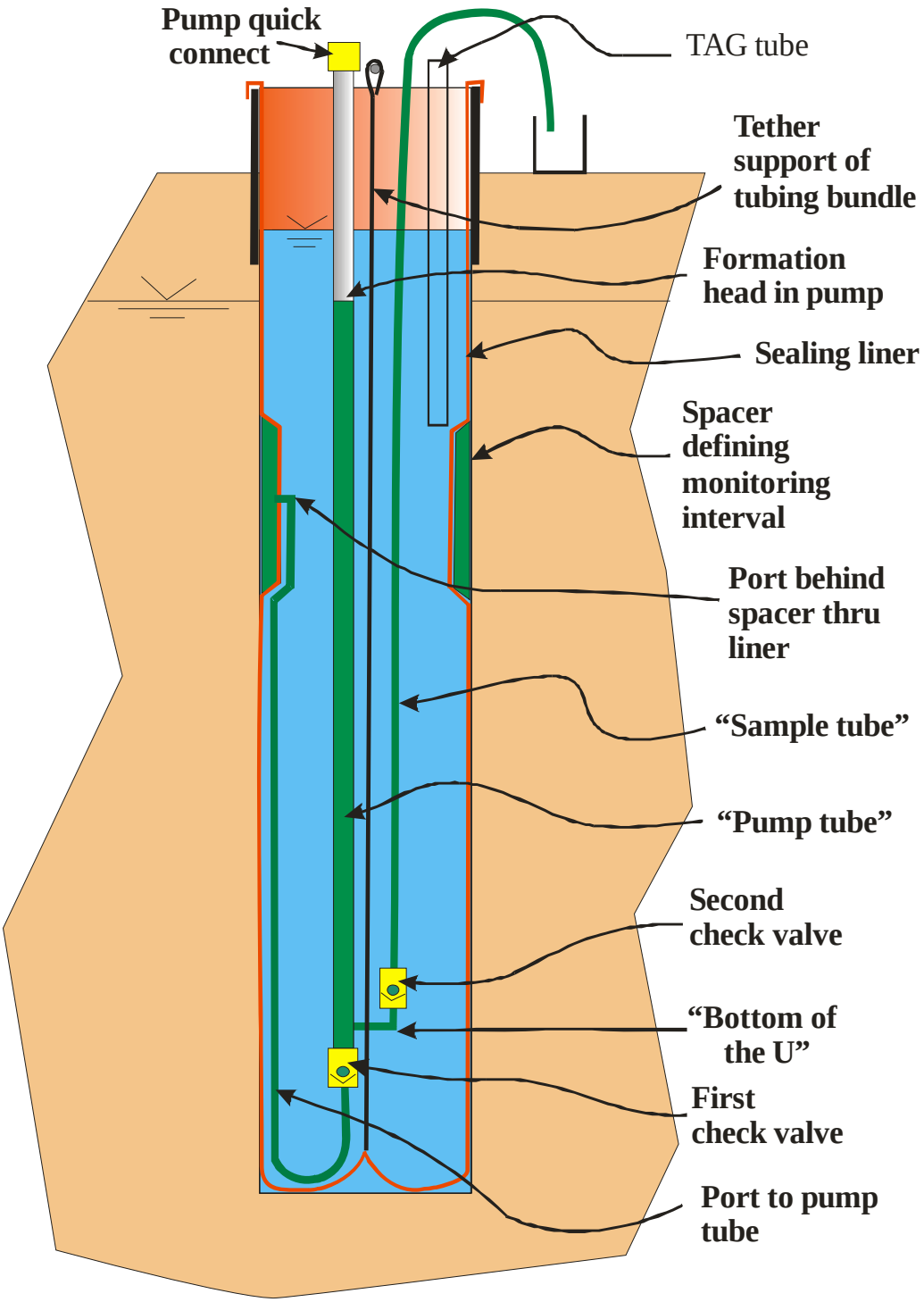

Fig. 2. Pumping Procedure