Attachment C

2021-06-17

Created	2021-06-17 11:36:22 MDT by Environmental Department
Updated	2021-06-18 15:00:36 MDT by Environmental Department
Location	37.97453611161371, -107.75296404036483
Groundwater 2021 Field Data	
Well ID	GW-0
Date	2021-06-17
Time	11:45

Observations

Weather Conditions	Clear, 60

Well Information

Stick Up (inches from ground surface)	-99
Depth to Water (inches from top of collar)	-99
Depth to Bottom (inches from top of collar)	-99
Cubic feet of water in well	0
Gallons of water in well	0
Pumping Notes	-99
Purge Time (minutes)	3
Purge Volume (Gallons)	-99

Field Chemistry

Sample method	Bladder pump
SampleTime	11:45
Field ORP (mV)	190
Water Temperature (C)	23.1
Conductivity (uS/cm)	-99
Field DO (%)	11.7
Field pH	-99
color and clarity	Clear
Final Depth to Water (inches from top of collar)	-99
Sampler Name	Chris Bolane

Signature

Signed 2021-06-18 15:00:06 MDT

Notes	DO 0.97 mg/l. Used DI water for sampling

2021-09-23

Created	2021-09-23 11:13:06 MDT by Environmental Department
Updated	2021-09-23 11:50:17 MDT by Environmental Department
Location	,
Groundwater 2021 Field Data	
Well ID	GW-0
Date	2021-09-23
Time	11:13

Observations

Weather Conditions	Clear and seasonal, 65 F.

Well Information

Stick Up (inches from ground surface)	-99
Depth to Water (inches from top of collar)	-99
Depth to Bottom (inches from top of collar)	-99
Cubic feet of water in well	0
Gallons of water in well	0
Pumping Notes	Equipment blank drawn through pump in dedicated blank/DI apparatus.
Purge Time (minutes)	2
Purge Volume (Gallons)	0.128

Field Chemistry

Sample method	Bladder Pump
SampleTime	11:13
Field ORP (mV)	530.2
Water Temperature (C)	12.6
Field TDS (mg/L)	-99
Conductivity (uS/cm)	2
Field DO (%)	79.5
Field pH	6.65
color and clarity	Clear
Final Depth to Water (inches from top of collar)	-99

Photos

Sampler Name	Joshua Moore

Signature	 Signed 2021-09-23 11:17:58 MDT
Notes	Hanna DI water used for equipment blank.

2021-10-28

Created	2021-10-28 10:15:45 MDT by Environmental Department
Updated	2021-10-28 10:52:24 MDT by Environmental Department
Location	37.9753452, -107.7546201
Groundwater 2021 Field Data	
Well ID	GW-0
Date	2021-10-28
Time	10:15

Observations

Weather Conditions	Clear and sunny, about 10" standing snow, 38 F.

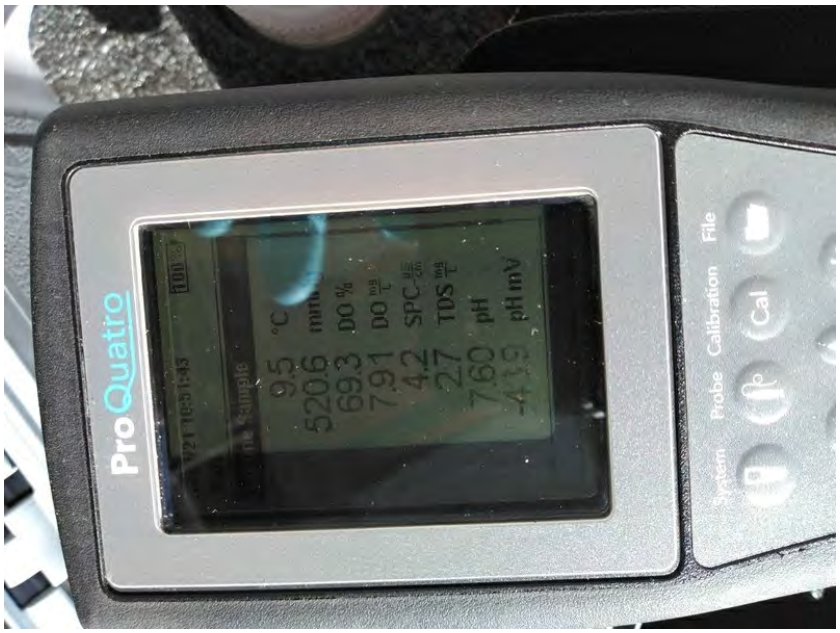
Well Information

Stick Up (inches from ground surface)	-99
Depth to Water (inches from top of collar)	-99
Depth to Bottom (inches from top of collar)	-99
Cubic feet of water in well	0
Gallons of water in well	0
Pumping Notes	Purged approximately 2 L DI through equipment before sampling blank.
Purge Time (minutes)	2
Purge Volume (Gallons)	0.5

Field Chemistry

Sample method	Bladder
SampleTime	10:15
Field ORP (mV)	122.4
Water Temperature (C)	9.5
Field TDS (mg/L)	1.3
Conductivity (uS/cm)	2
Field DO (%)	72.4
Field pH	7.6
color and clarity	Clear
Final Depth to Water (inches from top of collar)	-99

Photos



Sampler Name	Joshua Moore

Signature

Signed 2021-10-28 10:44:00 MDT

Notes	GW-0 completed at start of day at GW-1B. Used Hanna DI water in blank collection device. Checked pH meter with 6.86 buffer, value =6.94.

2021-09-15

Created	2021-09-15 14:55:56 MDT by Environmental Department
Updated	2021-09-15 15:06:04 MDT by Environmental Department
Location	,
Groundwater 2021 Field Data	
Well ID	GW-0
Date	2021-09-15
Time	14:55

Observations

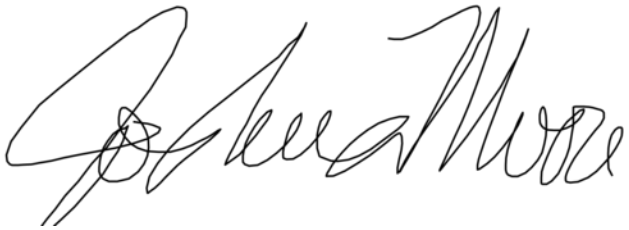
Weather Conditions	Clear and seasonal.

Well Information

Stick Up (inches from ground surface)	-99
Depth to Water (inches from top of collar)	-99
Depth to Bottom (inches from top of collar)	-99
Cubic feet of water in well	0
Gallons of water in well	0
Pumping Notes	Not pumped due to lack of available DI and pump wetwell.
Purge Time (minutes)	0
Purge Volume (Gallons)	-99

Field Chemistry

Sample method	Manual Pump
SampleTime	14:55
Field ORP (mV)	349.8
Water Temperature (C)	24.7
Field TDS (mg/L)	-99
Conductivity (uS/cm)	9.1
Field DO (%)	53.2
Field pH	6.57
color and clarity	Clear
Final Depth to Water (inches from top of collar)	-99

Photos	
Sampler Name	Joshua Moore
Signature	 Signed 2021-09-15 15:04:25 MDT
Notes	Sample GW-0 is a field blank, not an equipment blank. DI volume and apparatus for equipment blank not available.

2021-06-17

Created	2021-06-17 07:56:04 MDT by Environmental Department
Updated	2021-06-18 15:17:38 MDT by Environmental Department
Location	37.9753421573322, -107.75433892394207
Groundwater 2021 Field Data	
Well ID	GW-1A
Date	2021-06-17
Time	07:56

Observations

Weather Conditions	Clear 55

Well Information

Stick Up (inches from ground surface)	44
Depth to Water (inches from top of collar)	72
Depth to Bottom (inches from top of collar)	105
Cubic feet of water in well	0.05996530848
Gallons of water in well	0.44857168939081
Pumping Notes	Exceptionally clear water appearance
Purge Time (minutes)	15
Purge Volume (Gallons)	1

Field Chemistry

Sample method	Bladder pump
SampleTime	07:56
Field ORP (mV)	281
Water Temperature (C)	7.6
Conductivity (uS/cm)	309
Field DO (%)	51.9
Field pH	8.34
color and clarity	Clear
Final Depth to Water (inches from top of collar)	-99

Photos

Sampler Name	Chris Bolane

Signature

Signed 2021-06-18 15:16:37 MDT

Notes	do 5.75 mg/l

2021-09-23

Created	2021-09-23 13:28:42 MDT by Environmental Department
Updated	2021-09-23 13:41:21 MDT by Environmental Department
Location	,
Groundwater 2021 Field Data	
Well ID	GW-1A
Date	2021-09-23
Time	13:28

Observations

Weather Conditions	Clear and seasonal, 67 F.

Well Information

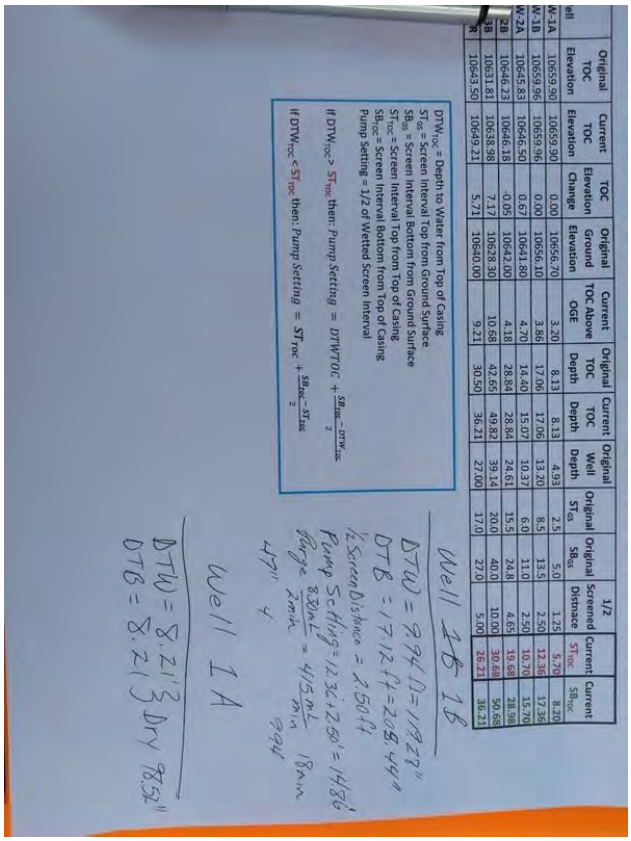
Stick Up (inches from ground surface)	40
Depth to Water (inches from top of collar)	98.52
Depth to Bottom (inches from top of collar)	98.52
Cubic feet of water in well	0
Gallons of water in well	0
Pumping Notes	Well Dry - Not Sampled
Purge Time (minutes)	-99
Purge Volume (Gallons)	-99

Field Chemistry

Sample method	Well Dry - Not Sampled
SampleTime	13:28
Field ORP (mV)	-99
Water Temperature (C)	-99
Field TDS (mg/L)	-99
Conductivity (uS/cm)	-99
Field DO (%)	-99
Field pH	-99
color and clarity	Well Dry
Final Depth to Water (inches from top of collar)	98.52

Photos


GEOTECH ENVIRONMENTAL EQUIPMENT, INC.
1-800-833-7958
Water Level Meter
geotech
WWW.GEOTECHGW.COM
6162



Well	Original TOC Elevation	Current TOC Elevation	TOC Elevation Change	Original Ground Elevation	Current TOC Above OGE	Original TOC Depth	Current TOC Depth	Original Well Depth	Original ST_{OE}	Original SB_{OE}	1/2 Screened Distnace	Current ST_{TOC}	Current SB_{TOC}
MW-3A	10659.90	10659.90	0.00	10656.70	3.20	8.13	8.13	4.93	2.5	5.0	1.25	5.70	8.20
MW-1B	10659.96	10659.96	0.00	10656.10	3.86	17.06	17.06	13.20	8.5	13.5	2.50	12.36	17.36
MW-2A	10645.83	10646.50	0.67	10641.80	4.70	14.40	15.07	10.37	6.0	11.0	2.50	10.70	15.70
2B	10646.23	10646.18	-0.05	10642.00	4.18	28.84	28.84	24.61	15.9	24.8	4.65	19.69	28.50
1B	10631.81	10638.98	7.17	10628.30	10.68	42.65	49.82	39.14	20.0	40.0	10.00	30.68	50.68
R	10643.50	10649.21	5.71	10640.00	9.21	30.50	36.21	27.00	17.0	27.0	5.00	26.21	36.21

Sampler Name	Joshua Moore
Signature	
	Signed 2021-09-23 13:36:51 MDT
Notes	Well was dry. Confirmed with electronic tape and visually with a flashlight. Top of casing is nearly too low below the outer cover system.

2021-06-17

Created	2021-06-17 09:08:43 MDT by Environmental Department
Updated	2021-06-18 15:23:53 MDT by Environmental Department
Location	37.97538029499163, -107.75395612242421
Groundwater 2021 Field Data	
Well ID	GW-1B
Date	2021-06-17
Time	09:08

Observations

Weather Conditions	Clear 55

Well Information

Stick Up (inches from ground surface)	38
Depth to Water (inches from top of collar)	-99
Depth to Bottom (inches from top of collar)	-99
Cubic feet of water in well	0
Gallons of water in well	0
Pumping Notes	Exceptionally clear water
Purge Time (minutes)	15
Purge Volume (Gallons)	1.1

Field Chemistry

Sample method	Bladder pump
SampleTime	09:08
Field ORP (mV)	211
Water Temperature (C)	7.6
Conductivity (uS/cm)	-99
Field DO (%)	57.2
Field pH	8.29
color and clarity	Clear
Final Depth to Water (inches from top of collar)	-99

Photos	
Sampler Name	Chris Bolane
Signature	
	Signed 2021-06-18 15:22:12 MDT
Notes	Very clear water!

2021-09-23

Created	2021-09-23 12:19:14 MDT by Environmental Department
Updated	2021-09-23 15:46:16 MDT by Environmental Department
Location	,
Groundwater 2021 Field Data	
Well ID	GW-1B
Date	2021-09-23
Time	12:19

Observations

Weather Conditions	Clear and seasonal, 67 F.

Well Information

Stick Up (inches from ground surface)	47
Depth to Water (inches from top of collar)	119.28
Depth to Bottom (inches from top of collar)	205.44
Cubic feet of water in well	0.1565639690496
Gallons of water in well	1.1711799017549138
Pumping Notes	Purge rate 415 mL/min. Drawdown less than 0.03 feet.
Purge Time (minutes)	18
Purge Volume (Gallons)	1.97

Field Chemistry

Water Temperature (C) 1	8.4
Conductivity (uS/cm) 1	203.9
Field DO (%) 1	73.9
Field pH 1	6.49
Water Temperature (C) 2	8.4
Conductivity (uS/cm) 2	203.7
Field DO (%) 2	73.2
Field pH 2	6.59
Water Temperature (C) 3	8.4
Conductivity (uS/cm) 3	204.1
Field DO (%) 3	71.6
Field pH 3	6.7
Sample method	Bladder Pump
SampleTime	12:19
Field ORP (mV)	479
Water Temperature (C)	8.4
Field TDS (mg/L)	-99
Conductivity (uS/cm)	204.1
Field DO (%)	69.2
Field pH	6.68

color and clarity	Clear
Final Depth to Water (inches from top of collar)	9.94
Photos	

Well	Original TOC Elevation	Current TOC Elevation	TOC Elevation Change	Original Ground Elevation	Current TOC Above OGE	Original TOC Depth	Current TOC Depth	Original Well Depth	Original ST_{GS}	Original SB_{GS}	1/2 Screened Distnace	Current ST_{TOC}	Current SB_{TOC}
GW-1A	10659.90	10659.90	0.00	10656.70	3.20	8.13	8.13	4.93	2.5	5.0	1.25	5.70	8.20
GW-1B	10659.96	10659.96	0.00	10656.10	3.86	17.06	17.06	13.20	8.5	13.5	2.50	12.36	17.36
GW-2A	10645.83	10646.50	0.67	10641.80	4.70	14.40	15.07	10.37	6.0	11.0	2.50	10.70	15.70
GW-2B	10646.23	10646.18	-0.05	10642.00	4.18	28.84	28.84	24.61	15.5	24.8	4.65	19.68	28.98
GW-3B	10631.81	10638.98	7.17	10628.30	10.68	42.65	49.82	39.14	20.0	40.0	10.00	30.68	50.68
GW-3R	10643.50	10649.21	5.71	10640.00	9.21	30.50	36.21	27.00	17.0	27.0	5.00	26.21	36.21

DTW_{TOC} = Depth to Water from Top of Casing
ST_{GS} = Screen Interval Top from Ground Surface
SB_{GS} = Screen Interval Bottom from Ground Surface
ST_{TOC} = Screen Interval Top from Top of Casing
SB_{TOC} = Screen Interval Bottom from Top of Casing
Pump Setting = 1/2 of Wetted Screen Interval

If $DTW_{TOC} > ST_{TOC}$ then: $Pump\ Setting = DTWTOC + \frac{SB_{TOC} - DTW_{TOC}}{2}$

If $DTW_{TOC} < ST_{TOC}$ then: $Pump\ Setting = ST_{TOC} + \frac{SB_{TOC} - ST_{TOC}}{2}$

Well ~~1B~~ 1B
DTW = 9.94 ft = 119.28
DTB = 17.12 ft = 205.44
½ Screen Distance = 2.50 ft
Pump Setting = 12.36 + 2.50' =
Purge $\frac{830 mL}{2 min}$ = 415 $\frac{mL}{min}$
47" 4 9.94

Well 1A
DTW = 8.21
DTB = 8.21 } Dry

Sampler Name	Joshua Moore
Signature	

Signed 2021-09-23 12:29:58 MDT

Notes	Collected duplicate at GW - 1B.

2021-10-28

Created	2021-10-28 11:11:25 MDT by Environmental Department
Updated	2021-11-01 10:01:17 MDT by Environmental Department
Location	37.9753591, -107.7545987
Groundwater 2021 Field Data	
Well ID	GW-1B
Date	2021-10-28
Time	11:11

Observations

Weather Conditions	See GW-0.

Well Information

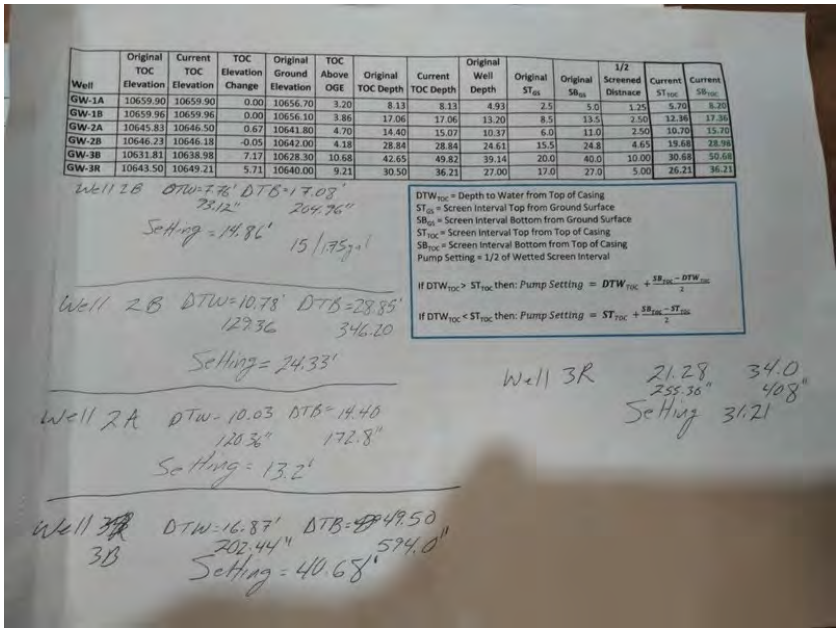
Stick Up (inches from ground surface)	47
Depth to Water (inches from top of collar)	93.12
Depth to Bottom (inches from top of collar)	204.96
Cubic feet of water in well	0.20322788183040005
Gallons of water in well	1.520250234589944
Pumping Notes	Compressor discharge setting 8, fill setting 14. Drawdown less than 0.05 ft.
Purge Time (minutes)	15
Purge Volume (Gallons)	1.75

Field Chemistry

Water Temperature (C) 1	3.7
Conductivity (uS/cm) 1	204.1
Field DO (%) 1	68.1
Field pH 1	7.12
Water Temperature (C) 2	3.6
Conductivity (uS/cm) 2	199.4
Field DO (%) 2	67.1
Field pH 2	7.02
Water Temperature (C) 3	3.5
Conductivity (uS/cm) 3	198.9
Field DO (%) 3	65.7
Field pH 3	7.05
Sample method	Bladder Pump
SampleTime	11:11
Field ORP (mV)	135.3
Water Temperature (C)	3.5
Field TDS (mg/L)	129.3
Conductivity (uS/cm)	198.9
Field DO (%)	66.2
Field pH	7.34

color and clarity	Clear
Final Depth to Water (inches from top of collar)	204.96
Photos	

Well	Original TOC Elevation	Current TOC Elevation	TOC Elevation Change	Original Ground Elevation	TOC Above OGE	Original TOC Depth	Current TOC Depth	Original Well Depth	Original ST_{GS}	Original SB_{GS}	1/2 Screened Distnace	Current ST_{TOC}	Current SB_{TOC}
GW-1A	10659.90	10659.90	0.00	10656.70	3.20	8.13	8.13	4.93	2.5	5.0	1.25	5.70	8.20
GW-1B	10659.96	10659.96	0.00	10656.10	3.86	17.06	17.06	13.20	8.5	13.5	2.50	12.36	17.36
GW-2A	10645.83	10646.50	0.67	10641.80	4.70	14.40	15.07	10.37	6.0	11.0	2.50	10.70	15.70
GW-2B	10646.23	10646.18	-0.05	10642.00	4.18	28.84	28.84	24.61	15.5	24.8	4.65	19.68	28.98
GW-3B	10631.81	10638.98	7.17	10628.30	10.68	42.65	49.82	39.14	20.0	40.0	10.00	30.68	50.68
GW-3R	10643.50	10649.21	5.71	10640.00	9.21	30.50	36.21	27.00	17.0	27.0	5.00	26.21	36.21



Sampler Name	Joshua Moore
Signature	

Signed 2021-10-28 11:26:59 MDT

2021-03-29

Created	2021-03-29 09:23:34 MDT by Environmental Department
Updated	2021-04-12 09:19:05 MDT by Environmental Department
Location	37.9751816, -107.7525276
Groundwater 2021 Field Data	
Well ID	GW-2A
Date	2021-03-29
Time	09:23

Observations

Weather Conditions	Sunny

Well Information

Stick Up (inches from ground surface)	-99
Depth to Water (inches from top of collar)	124
Depth to Bottom (inches from top of collar)	149
Cubic feet of water in well	0.045428264
Gallons of water in well	0.33982703741728004
Pumping Notes	Discharge 15 sec, fill 20 sec
Purge Time (minutes)	15
Purge Volume (Gallons)	0.1

Field Chemistry

Water Temperature (C) 2	1.6
Conductivity (uS/cm) 2	-815
Field DO (%) 2	121
Field pH 2	6.83
Sample method	bladder pump
SampleTime	09:23
Field ORP (mV)	251
Water Temperature (C)	1.6
Field TDS (mg/L)	-99
Conductivity (uS/cm)	-815
Field DO (%)	121
Field pH	6.83
color and clarity	Noticeable Turbidity
Final Depth to Water (inches from top of collar)	172

Photos	
Sampler Name	Chris Bolane
Signature	 Signed 2021-03-29 09:35:54 MDT
Notes	Too much snow to dig for stick up; ice in well pump wouldnt break through to find true bottom of well; DO 16.83 mg/L. 4/7/21- investgated blockage in well. Removed 10 ft of clear tubing that was blocking the well. No ice was present and the pump is now able to reach the bottom of the well.

2021-06-17

Created	2021-06-17 11:00:49 MDT by Environmental Department
Updated	2021-06-18 15:08:19 MDT by Environmental Department
Location	37.975243879517514, -107.75247981781861
Groundwater 2021 Field Data	
Well ID	GW-2A
Date	2021-06-17
Time	11:15

Observations

Weather Conditions	Clear 60

Well Information

Stick Up (inches from ground surface)	53
Depth to Water (inches from top of collar)	123
Depth to Bottom (inches from top of collar)	151
Cubic feet of water in well	0.05087965568
Gallons of water in well	0.380606281907354
Pumping Notes	Initial water drawn from the well had noticeable turbidity.Cleared after after 1/4 gallon pumped
Purge Time (minutes)	15
Purge Volume (Gallons)	1.25

Field Chemistry

Sample method	Bladder pump
SampleTime	11:15
Field ORP (mV)	229
Water Temperature (C)	14.4
Conductivity (uS/cm)	216
Field DO (%)	45.3
Field pH	8.39
color and clarity	Clear
Final Depth to Water (inches from top of collar)	-99

Photos	
Sampler Name	Chris Bolane
Signature	
	Signed 2021-06-18 15:08:18 MDT
Notes	DO 5.14 mg/l

2021-09-15

Created	2021-09-15 14:19:53 MDT by Environmental Department
Updated	2021-09-21 21:32:21 MDT by Environmental Department
Location	,
Groundwater 2021 Field Data	
Well ID	GW-2A
Date	2021-09-15
Time	14:19

Observations

Weather Conditions	Clear and seasonal.

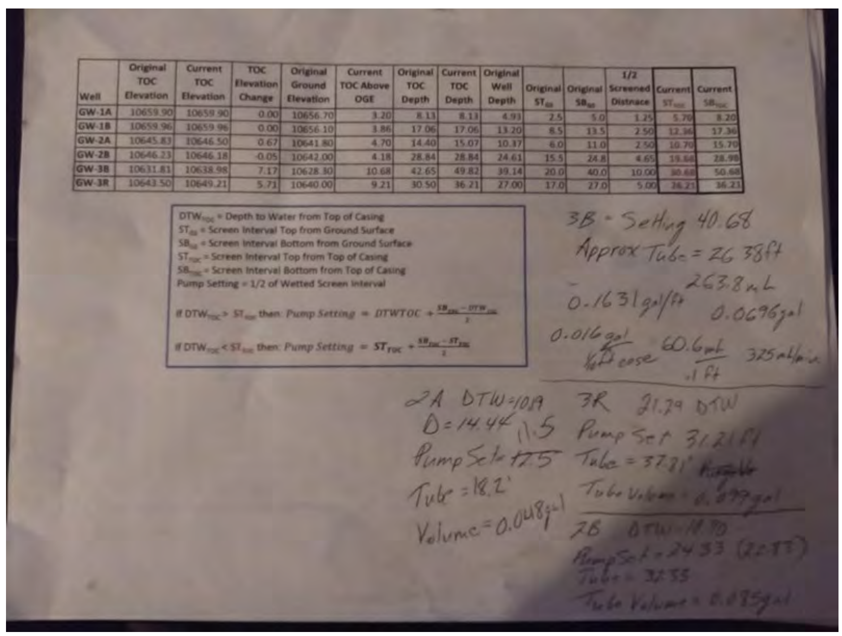
Well Information

Stick Up (inches from ground surface)	39
Depth to Water (inches from top of collar)	122.28
Depth to Bottom (inches from top of collar)	173.2
Cubic feet of water in well	0.09252828811519997
Gallons of water in well	0.6921597098115158
Pumping Notes	Pump set 11.5 ft due to well depth not being as deep as expected. Purge rate 507 mL/min. Tube volume 0.048 gallons. 9/16/21 JM - Drawdown less than 0.02 ft.
Purge Time (minutes)	12
Purge Volume (Gallons)	1.61

Field Chemistry

Water Temperature (C) 1	6.6
Conductivity (uS/cm) 1	177.3
Field DO (%) 1	67.6
Field pH 1	6.38
Water Temperature (C) 2	6.8
Conductivity (uS/cm) 2	177.6
Field DO (%) 2	63.5
Field pH 2	6.32
Sample method	Bladder
SampleTime	14:19
Field ORP (mV)	367.6
Water Temperature (C)	6.7
Field TDS (mg/L)	-99
Conductivity (uS/cm)	177.5
Field DO (%)	64.4
Field pH	6.33
color and clarity	Clear
Final Depth to Water (inches from top of collar)	122.28

Photos	



Well	Original TOC Elevation	Current TOC Elevation	TOC Elevation Change	Original Ground Elevation	Current TOC Above OGE	Original TOC Depth	Current TOC Depth	Original Well Depth	Original ST_{gs}	Original SB_{gs}	1/2 Screened Distnace	Current ST_{TOC}	Current SB_{TOC}
GW-1A	10659.90	10659.90	0.00	10656.70	3.20	8.13	8.13	4.93	2.5	5.0	1.25	5.70	8.20
GW-1B	10659.96	10659.96	0.00	10656.10	3.86	17.06	17.06	13.20	8.5	13.5	2.50	12.36	17.36
GW-2A	10645.83	10646.50	0.67	10641.80	4.70	14.40	15.07	10.37	6.0	11.0	2.50	10.70	15.70
GW-2B	10646.23	10646.18	-0.05	10642.00	4.18	28.84	28.84	24.61	15.5	24.8	4.65	19.68	28.98
GW-3B	10631.81	10638.98	7.17	10628.30	10.68	42.65	49.82	39.14	20.0	40.0	10.00	30.68	50.68
GW-3R	10643.50	10649.21	5.71	10640.00	9.21	30.50	36.21	27.00	17.0	27.0	5.00	26.21	36.21

DTW_{TOC} = Depth to Water from Top of Casing
ST_{gs} = Screen Interval Top from Ground Surface
SB_{gs} = Screen Interval Bottom from Ground Surface
ST_{TOC} = Screen Interval Top from Top of Casing
SB_{TOC} = Screen Interval Bottom from Top of Casing
Pump Setting = 1/2 of Wetted Screen Interval

If $DTW_{TOC} > ST_{TOC}$ then: Pump Setting $= DTWTOC + \frac{SB_{TOC} - DTW_{TOC}}{2}$

If $DTW_{TOC} < ST_{TOC}$ then: Pump Setting $= ST_{TOC} + \frac{SB_{TOC} - ST_{TOC}}{2}$

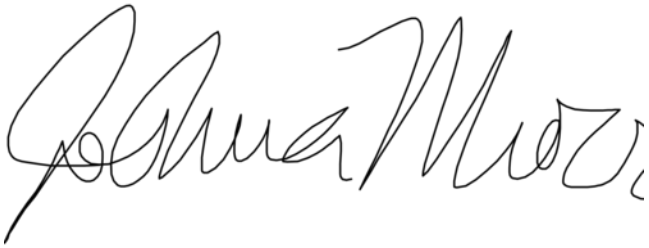
3B - Setting 40.68
Approx Tube = 26.38ft
263.8 mL
0.1631 gal/ft
0.0696 gal
0.016 gal
1/10 ft case
60.6 mL / .1 ft
325 mL/min

2A DTW=10.19
D=14.44 11.5
Pump Set 12.5
Tube = 18.2'
Volume = 0.048 gal

3R 31.29 DTW
Pump Set 31.21 ft
Tube = 37.21'
Tube Volume = 0.099 gal

2B DTW = 18.90
Pump Set = 24.33 (22.73)
Tube = 32.33
Tube Volume = 0.085 gal

Sampler Name	Joshua Moore

Signature	
	Signed 2021-09-15 14:34:32 MDT
Notes	Drawdown less than 0.02 ft

2021-10-28

Created	2021-10-28 13:13:44 MDT by Environmental Department
Updated	2021-11-01 10:02:14 MDT by Environmental Department
Location	37.9751926, -107.7525441
Groundwater 2021 Field Data	
Well ID	GW-2A
Date	2021-10-28
Time	13:13

Observations

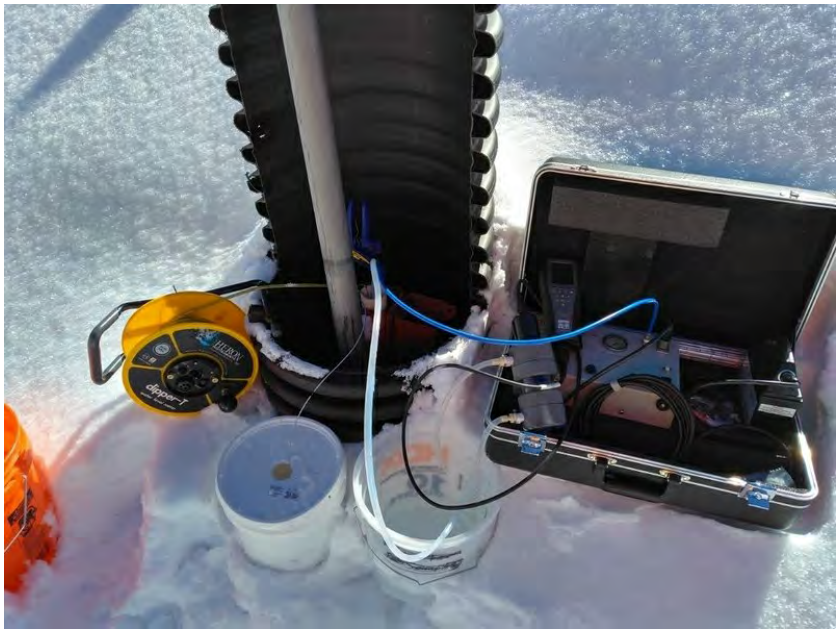
Weather Conditions	See GW-0.

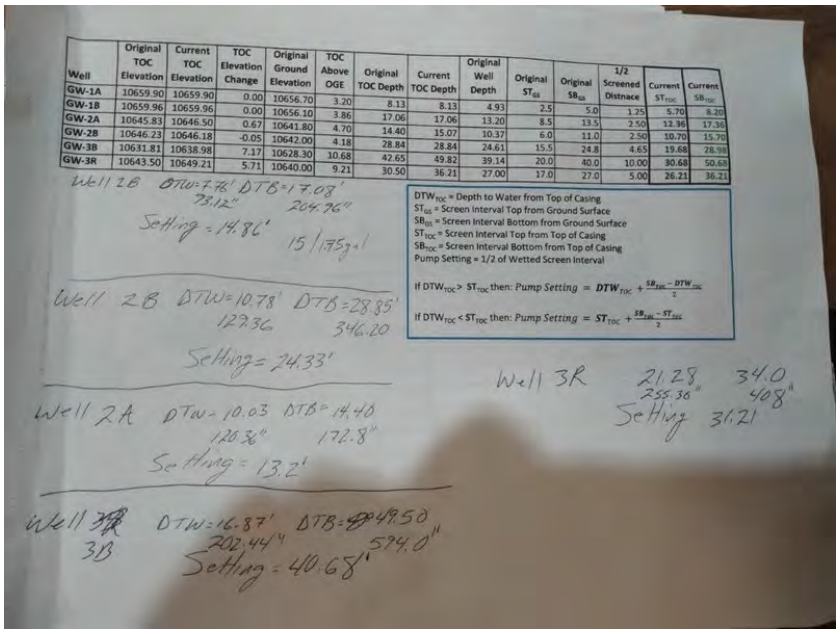
Well Information

Stick Up (inches from ground surface)	39
Depth to Water (inches from top of collar)	120.36
Depth to Bottom (inches from top of collar)	172.8
Cubic feet of water in well	0.09529032656640002
Gallons of water in well	0.7128211936864867
Pumping Notes	Compressor discharge setting 8, fill setting 15. Drawdown <0.05 ft.
Purge Time (minutes)	12
Purge Volume (Gallons)	1

Field Chemistry

Water Temperature (C) 1	4.6
Conductivity (uS/cm) 1	211.2
Field DO (%) 1	52
Field pH 1	6.76
Water Temperature (C) 2	4.7
Conductivity (uS/cm) 2	211.1
Field DO (%) 2	51.6
Field pH 2	6.72
Water Temperature (C) 3	4.7
Conductivity (uS/cm) 3	211.3
Field DO (%) 3	51.9
Field pH 3	6.71
Sample method	Bladder Pump
SampleTime	13:13
Field ORP (mV)	200.1
Water Temperature (C)	4.7
Field TDS (mg/L)	137.3
Conductivity (uS/cm)	211.4
Field DO (%)	52
Field pH	6.71

color and clarity	Clear
Final Depth to Water (inches from top of collar)	120.36
Photos	 



Well	Original TOC Elevation	Current TOC Elevation	TOC Elevation Change	Original Ground Elevation	TOC Above OGE	Original TOC Depth	Current TOC Depth	Original Well Depth	Original ST_{GS}	Original SB_{GS}	1/2 Screened Distnace	Current ST_{TOC}	Current SB_{TOC}
GW-1A	10659.90	10659.90	0.00	10656.70	3.20	8.13	8.13	4.93	2.5	5.0	1.25	5.70	8.20
GW-1B	10659.96	10659.96	0.00	10656.10	3.86	17.06	17.06	13.20	8.5	13.5	2.50	12.36	17.36
GW-2A	10645.83	10646.50	0.67	10641.80	4.70	14.40	15.07	10.37	6.0	11.0	2.50	10.70	15.70
GW-2B	10646.23	10646.18	-0.05	10642.00	4.18	28.84	28.84	24.61	15.5	24.8	4.65	19.68	28.98
GW-3B	10631.81	10638.98	7.17	10628.30	10.68	42.65	49.82	39.14	20.0	40.0	10.00	30.68	50.68
GW-3R	10643.50	10649.21	5.71	10640.00	9.21	30.50	36.21	27.00	17.0	27.0	5.00	26.21	36.21

Well 2B DTW=7.76' DTB=17.03'
73.12" 204.96"
Setting = 14.86'
15/175=1

Well 2B DTW=10.78' DTB=28.85'
129.36 346.20
Setting = 24.33'

Well 2A DTW=10.03 DTB=14.40
120.36" 172.8"
Setting = 13.2'

Well 3B DTW=16.87' DTB=49.50
202.44" 594.0"
Setting = 40.68'

Well 3R 21.28 34.0
255.36" 408"
Setting 31.21

DTW_{TOC} = Depth to Water from Top of Casing
ST_{GS} = Screen Interval Top from Ground Surface
SB_{GS} = Screen Interval Bottom from Ground Surface
ST_{TOC} = Screen Interval Top from Top of Casing
SB_{TOC} = Screen Interval Bottom from Top of Casing
Pump Setting = 1/2 of Wetted Screen Interval

If $DTW_{TOC} > ST_{TOC}$ then: *Pump Setting* $= DTW_{TOC} + \frac{SB_{TOC} - DTW_{TOC}}{2}$

If $DTW_{TOC} < ST_{TOC}$ then: *Pump Setting* $= ST_{TOC} + \frac{SB_{TOC} - ST_{TOC}}{2}$

Sampler Name	Joshua Moore
Signature	

Signed 2021-10-28 13:17:31 MDT

2021-06-17

Created	2021-06-17 11:19:08 MDT by Environmental Department
Updated	2021-06-18 15:03:38 MDT by Environmental Department
Location	37.975148954464096, -107.7524562646707
Groundwater 2021 Field Data	
Well ID	GW-2B
Date	2021-06-17
Time	11:19

Observations

Weather Conditions	Clear, 60

Well Information

Stick Up (inches from ground surface)	51
Depth to Water (inches from top of collar)	-99
Depth to Bottom (inches from top of collar)	-99
Cubic feet of water in well	0
Gallons of water in well	0
Pumping Notes	N/A
Purge Time (minutes)	15
Purge Volume (Gallons)	1.25

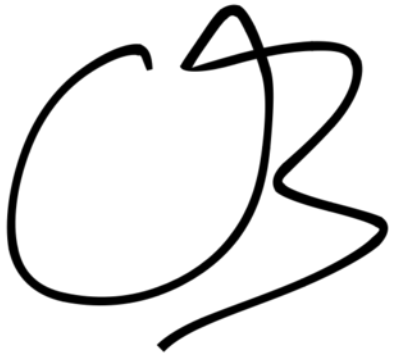
Field Chemistry

Sample method	Bladder pump
SampleTime	11:35
Field ORP (mV)	246
Water Temperature (C)	5.5
Conductivity (uS/cm)	319
Field DO (%)	50.4
Field pH	8.46
color and clarity	Clear
Final Depth to Water (inches from top of collar)	-99

Photos

Sampler Name	Chris Bolane

Signature



Signed 2021-06-18 15:02:49 MDT

Notes	DO 5.85 mg/l

2021-09-15

Created	2021-09-15 12:32:12 MDT by Environmental Department
Updated	2021-09-21 21:31:29 MDT by Environmental Department
Location	,
Groundwater 2021 Field Data	
Well ID	GW-2B
Date	2021-09-15
Time	12:32

Observations

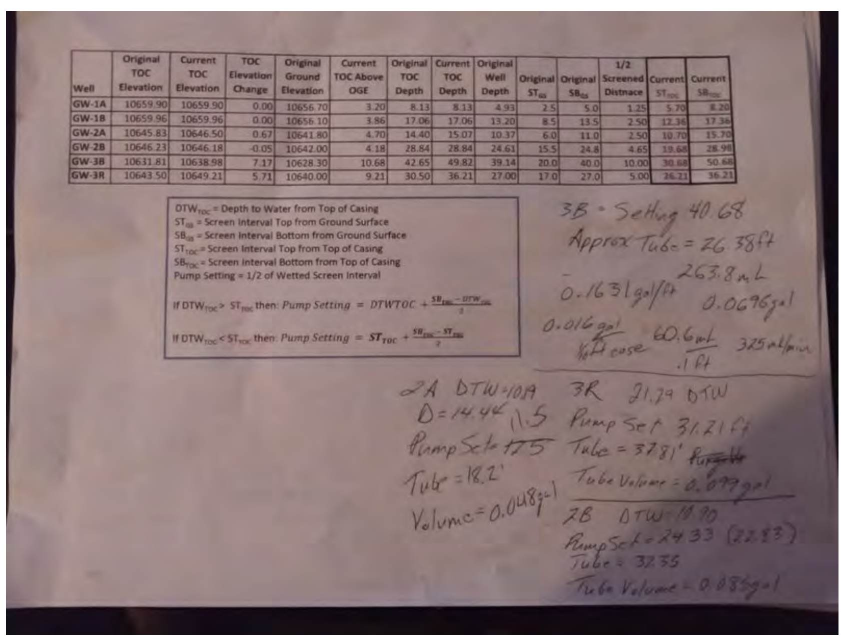
Weather Conditions	Clear and seasonal.

Well Information

Stick Up (inches from ground surface)	34
Depth to Water (inches from top of collar)	130.8
Depth to Bottom (inches from top of collar)	346.92
Cubic feet of water in well	0.3927182566272
Gallons of water in well	2.9377367730649024
Pumping Notes	Pump setting 24.33 ft below TOC. Tube volume 0.085 gallon. Purge rate 542 mL/min. 9/16/21 JM - Drawdown less than 0.02 ft.
Purge Time (minutes)	15
Purge Volume (Gallons)	2.1

Field Chemistry

Water Temperature (C) 1	5.9
Conductivity (uS/cm) 1	176.4
Field DO (%) 1	60.5
Field pH 1	6.27
Water Temperature (C) 2	5.9
Conductivity (uS/cm) 2	174.6
Field DO (%) 2	60.4
Field pH 2	6.29
Water Temperature (C) 3	5.8
Conductivity (uS/cm) 3	174.2
Field DO (%) 3	59.9
Field pH 3	6.32
Sample method	Bladder
SampleTime	12:32
Field ORP (mV)	365.6
Water Temperature (C)	5.9
Field TDS (mg/L)	-99
Conductivity (uS/cm)	174.1
Field DO (%)	60.2

Field pH	6.34
color and clarity	Clear
Final Depth to Water (inches from top of collar)	130.92
Photos	
	

Well	Original TOC Elevation	Current TOC Elevation	TOC Elevation Change	Original Ground Elevation	Current TOC Above OGE	Original TOC Depth	Current TOC Depth	Original Well Depth	Original ST_{GS}	Original SB_{GS}	1/2 Screened Distnace	Current ST_{TOC}	Current SB_{TOC}
GW-1A	10659.90	10659.90	0.00	10656.70	3.20	8.13	8.13	4.93	2.5	5.0	1.25	5.70	8.20
GW-1B	10659.96	10659.96	0.00	10656.10	3.86	17.06	17.06	13.20	8.5	13.5	2.50	12.36	17.36
GW-2A	10645.83	10646.50	0.67	10641.80	4.70	14.40	15.07	10.37	6.0	11.0	2.50	10.70	15.70
GW-2B	10646.23	10646.18	-0.05	10642.00	4.18	28.84	28.84	24.61	15.5	24.8	4.65	19.68	28.98
GW-3B	10631.81	10638.98	7.17	10628.30	10.68	42.65	49.82	39.14	20.0	40.0	10.00	30.68	50.68
GW-3R	10643.50	10649.21	5.71	10640.00	9.21	30.50	36.21	27.00	17.0	27.0	5.00	26.21	36.21

DTW_{TOC} = Depth to Water from Top of Casing
ST_{GS} = Screen Interval Top from Ground Surface
SB_{GS} = Screen Interval Bottom from Ground Surface
ST_{TOC} = Screen Interval Top from Top of Casing
SB_{TOC} = Screen Interval Bottom from Top of Casing
Pump Setting = 1/2 of Wetted Screen Interval

If $DTW_{TOC} > ST_{TOC}$ then: $Pump\ Setting = DTWTOC + \frac{SB_{TOC} - DTW_{TOC}}{2}$

If $DTW_{TOC} < ST_{TOC}$ then: $Pump\ Setting = ST_{TOC} + \frac{SB_{TOC} - ST_{TOC}}{2}$

3B - Setting 40.68
Approx Tube = 26.38 ft
263.8 mL
0.1631 gal/ft 0.0696 gal
0.016 gal
1/10 ft case 60.6 mL / .1 ft 325 ml/min

2A DTW = 10.19
D = 14.44 11.5
Pump Set = 12.5
Tube = 18.2'
Volume = 0.048 gal

3R 21.29 DTW
Pump Set 31.21 ft
Tube = 37.81'
Tube Volume = 0.099 gal

2B DTW = 19.90
Pump Set = 24.33 (22.83)
Tube = 32.35
Tube Volume = 0.085 gal

Sampler Name	Joshua Moore

Signature

Signed 2021-09-15 13:06:50 MDT

2021-10-28

Created	2021-10-28 12:39:11 MDT by Environmental Department
Updated	2021-11-01 10:01:50 MDT by Environmental Department
Location	37.9750839, -107.7525832
Groundwater 2021 Field Data	
Well ID	GW-2B
Date	2021-10-28
Time	12:39

Observations

Weather Conditions	See GW-O.

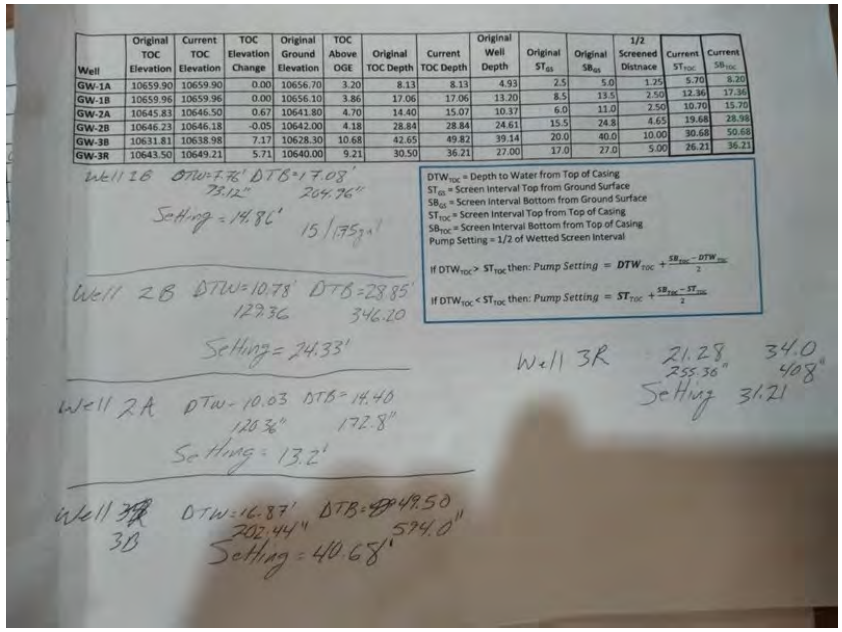
Well Information

Stick Up (inches from ground surface)	34
Depth to Water (inches from top of collar)	129.36
Depth to Bottom (inches from top of collar)	346.2
Cubic feet of water in well	0.39402659063040002
Gallons of water in well	2.9475237917425194
Pumping Notes	Compressor discharge setting 12, fill setting 20. Draw down less than 0.05 ft.
Purge Time (minutes)	14
Purge Volume (Gallons)	1

Field Chemistry

Water Temperature (C) 1	4.7
Conductivity (uS/cm) 1	198.7
Field DO (%) 1	48.1
Field pH 1	6.87
Water Temperature (C) 2	4.7
Conductivity (uS/cm) 2	198.7
Field DO (%) 2	47.5
Field pH 2	6.85
Water Temperature (C) 3	4.7
Conductivity (uS/cm) 3	198.8
Field DO (%) 3	48.3
Field pH 3	6.82
Sample method	Bladder Pump
SampleTime	12:39
Field ORP (mV)	188.4
Water Temperature (C)	4.7
Field TDS (mg/L)	128.9
Conductivity (uS/cm)	198.4
Field DO (%)	47.6
Field pH	6.81

color and clarity	Clear
Final Depth to Water (inches from top of collar)	129.36
Photos	 



Well	Original TOC Elevation	Current TOC Elevation	TOC Elevation Change	Original Ground Elevation	TOC Above OGE	Original TOC Depth	Current TOC Depth	Original Well Depth	Original ST_{GS}	Original SB_{GS}	1/2 Screened Distnace	Current ST_{TOC}	Current SB_{TOC}
GW-1A	10659.90	10659.90	0.00	10656.70	3.20	8.13	8.13	4.93	2.5	5.0	1.25	5.70	8.20
GW-1B	10659.96	10659.96	0.00	10656.10	3.86	17.06	17.06	13.20	8.5	13.5	2.50	12.36	17.36
GW-2A	10645.83	10646.50	0.67	10641.80	4.70	14.40	15.07	10.37	6.0	11.0	2.50	10.70	15.70
GW-2B	10646.23	10646.18	-0.05	10642.00	4.18	28.84	28.84	24.61	15.5	24.8	4.65	19.68	28.98
GW-3B	10631.81	10638.98	7.17	10628.30	10.68	42.65	49.82	39.14	20.0	40.0	10.00	30.68	50.68
GW-3R	10643.50	10649.21	5.71	10640.00	9.21	30.50	36.21	27.00	17.0	27.0	5.00	26.21	36.21

DTW_{TOC} = Depth to Water from Top of Casing
ST_{GS} = Screen Interval Top from Ground Surface
SB_{GS} = Screen Interval Bottom from Ground Surface
ST_{TOC} = Screen Interval Top from Top of Casing
SB_{TOC} = Screen Interval Bottom from Top of Casing
Pump Setting = 1/2 of Wetted Screen Interval

If $DTW_{TOC} > ST_{TOC}$ then: $Pump\ Setting = DTW_{TOC} + \frac{SB_{TOC} - DTW_{TOC}}{2}$

If $DTW_{TOC} < ST_{TOC}$ then: $Pump\ Setting = ST_{TOC} + \frac{SB_{TOC} - ST_{TOC}}{2}$

Well 1B DTW=7.76' DTB=17.08'
73.12" 204.96"
Setting = 14.86' 15 / 1.75gal

Well 2B DTW=10.78' DTB=28.85'
129.36 346.20
Setting = 24.33'

Well 3R 21.28 34.0
255.36" 408"
Setting 31.21

Well 2A DTW=10.03 DTB=14.40
120.36" 172.8"
Setting = 13.2'

Well 3B DTW=16.87' DTB=49.50
202.44" 594.0"
Setting = 40.68'

Sampler Name | Joshua Moore

Signature

Signed 2021-10-28 12:46:53 MDT

2021-06-17

Created	2021-06-17 10:17:48 MDT by Environmental Department
Updated	2021-07-22 10:31:49 MDT by Environmental Department
Location	37.9752409039, -107.750935787
Groundwater 2021 Field Data	
Well ID	GW-3B
Date	2021-06-17
Time	10:17

Observations

Weather Conditions	Clear 60

Well Information

Stick Up (inches from ground surface)	33
Depth to Water (inches from top of collar)	-99
Depth to Bottom (inches from top of collar)	-99
Cubic feet of water in well	0
Gallons of water in well	0
Pumping Notes	None
Purge Time (minutes)	18
Purge Volume (Gallons)	1.25

Field Chemistry

Sample method	Bladder pump
SampleTime	10:17
Field ORP (mV)	249
Water Temperature (C)	8.9
Conductivity (uS/cm)	211
Field DO (%)	53.1
Field pH	8.49
color and clarity	Clear
Final Depth to Water (inches from top of collar)	-99

Photos	
Sampler Name	Chris Bolane
Signature	
	Signed 2021-06-18 21:14:50 MDT
Notes	DO 5.81 mg/l Changed to 3B, 3A was supposed to be deleted (abandoned) but 3B was accidently deleted. 7/22/21 -SN

2021-09-15

Created	2021-09-15 09:56:50 MDT by Environmental Department
Updated	2021-09-21 21:31:06 MDT by Environmental Department
Location	37.9743691, -107.7493228
Groundwater 2021 Field Data	
Well ID	GW-3B
Date	2021-09-15
Time	09:56

Observations

Weather Conditions	Sunny

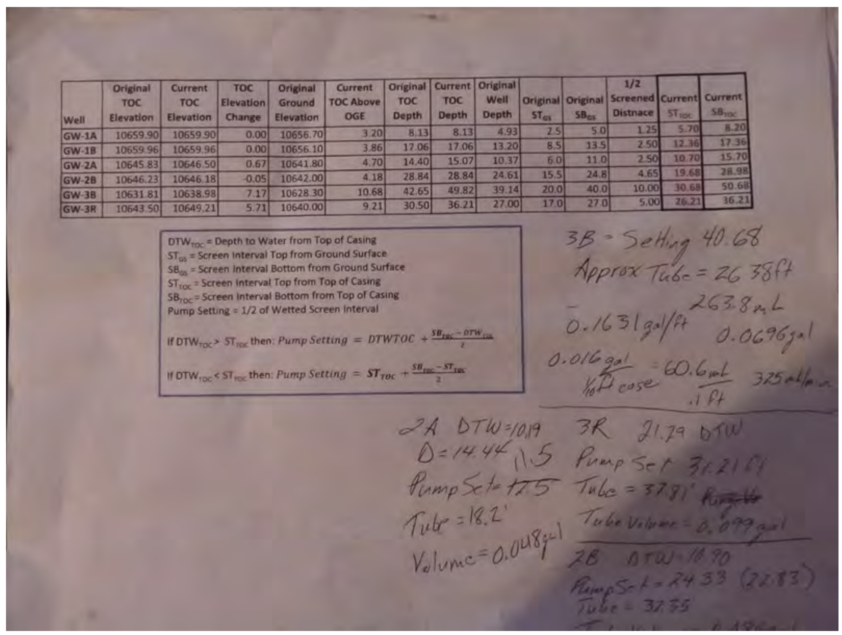
Well Information

Stick Up (inches from ground surface)	23.5
Depth to Water (inches from top of collar)	203.76
Depth to Bottom (inches from top of collar)	0.99
Cubic feet of water in well	-0.3684595636512
Gallons of water in well	-2.7562691350840747
Pumping Notes	Target depth setting 40.68 feet, tube length 26.38 feet, .07 gallons in tube. 9/21/21 JM - update note pumping drawdown less than 0.02 feet.
Purge Time (minutes)	20
Purge Volume (Gallons)	1.72

Field Chemistry

Water Temperature (C) 1	5.5
Conductivity (uS/cm) 1	208
Field DO (%) 1	48
Field pH 1	6.61
Water Temperature (C) 2	5.6
Conductivity (uS/cm) 2	209.3
Field DO (%) 2	46.4
Field pH 2	6.65
Sample method	bladder pump
SampleTime	09:56
Field ORP (mV)	442.8
Water Temperature (C)	5.6
Field TDS (mg/L)	-99
Conductivity (uS/cm)	208.3
Field DO (%)	44.3
Field pH	6.63
color and clarity	Clear
Final Depth to Water (inches from top of collar)	203.76

Photos



Well	Original TOC Elevation	Current TOC Elevation	TOC Elevation Change	Original Ground Elevation	Current TOC Above OGE	Original TOC Depth	Current TOC Depth	Original Well Depth	Original ST_{GS}	Original SB_{GS}	1/2 Screened Distnace	Current ST_{TOC}	Current SB_{TOC}
GW-1A	10659.90	10659.90	0.00	10656.70	3.20	8.13	8.13	4.93	2.5	5.0	1.25	5.70	8.20
GW-1B	10659.96	10659.96	0.00	10656.10	3.86	17.06	17.06	13.20	8.5	13.5	2.50	12.36	17.36
GW-2A	10645.83	10646.50	0.67	10641.80	4.70	14.40	15.07	10.37	6.0	11.0	2.50	10.70	15.70
GW-2B	10646.23	10646.18	-0.05	10642.00	4.18	28.84	28.84	24.61	15.5	24.8	4.65	19.68	28.98
GW-3B	10631.81	10638.98	7.17	10628.30	10.68	42.65	49.82	39.14	20.0	40.0	10.00	30.68	50.68
GW-3R	10643.50	10649.21	5.71	10640.00	9.21	30.50	36.21	27.00	17.0	27.0	5.00	26.21	36.21

DTW_{TOC} = Depth to Water from Top of Casing
ST_{GS} = Screen Interval Top from Ground Surface
SB_{GS} = Screen Interval Bottom from Ground Surface
ST_{TOC} = Screen Interval Top from Top of Casing
SB_{TOC} = Screen Interval Bottom from Top of Casing
Pump Setting = 1/2 of Wetted Screen Interval

If $DTW_{TOC} > ST_{TOC}$ then: $Pump\ Setting = DTWTOC + \frac{SB_{TOC} - DTW_{TOC}}{2}$

If $DTW_{TOC} < ST_{TOC}$ then: $Pump\ Setting = ST_{TOC} + \frac{SB_{TOC} - ST_{TOC}}{2}$

3B - Setting 40.68
Approx Tube = 26.38ft
263.8 mL
0.1631 gal/ft 0.0696 gal
0.016 gal / 1/10 ft case = 60.6 mL / .1 ft 325 mL/min

2A DTW = 10.19
D = 14.44 11.5
Pump Set = 12.5
Tube = 18.2'
Volume = 0.048 gal

3R 21.79 DTW
Pump Set 31.21 ft
Tube = 37.81'
Tube Volume = 0.099 gal

2B DTW = 16.90
Pump Set = 24.33 (22.83)
Tube = 32.55

Sampler Name | Josh Moore

Signature

Signed 2021-09-15 11:08:06 MDT

Notes | Draw down less then .02 feet, depth from topofcasing is 594.6. Range in field needs to be expanded above 500.

2021-10-28

Created	2021-10-28 14:04:45 MDT by Environmental Department
Updated	2021-11-01 10:02:37 MDT by Environmental Department
Location	37.9751634, -107.7525441
Groundwater 2021 Field Data	
Well ID	GW-3B
Date	2021-10-28
Time	14:04

Observations

Weather Conditions	See GW-O.

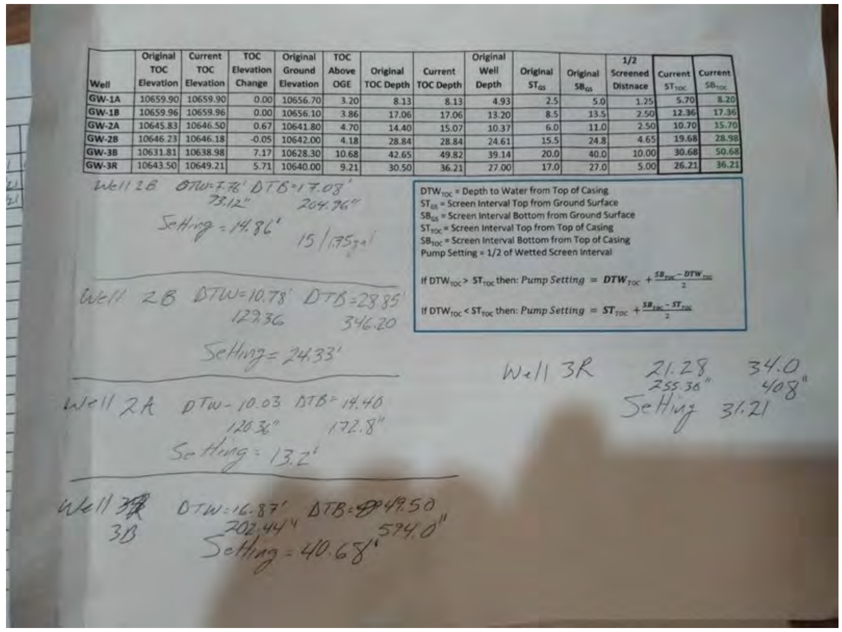
Well Information

Stick Up (inches from ground surface)	24
Depth to Water (inches from top of collar)	202.4
Depth to Bottom (inches from top of collar)	500
Cubic feet of water in well	0.540778054656
Gallons of water in well	4.045301053415302
Pumping Notes	Compressor setting discharge 15, fill 20. Drawdown <0.05 ft.
Purge Time (minutes)	15
Purge Volume (Gallons)	0.75

Field Chemistry

Water Temperature (C) 1	5.2
Conductivity (uS/cm) 1	213.7
Field DO (%) 1	36.6
Field pH 1	6.78
Water Temperature (C) 2	5
Conductivity (uS/cm) 2	213.3
Field DO (%) 2	32.3
Field pH 2	6.86
Water Temperature (C) 3	4.8
Conductivity (uS/cm) 3	212
Field DO (%) 3	33
Field pH 3	6.83
Sample method	Bladder Pump
SampleTime	14:04
Field ORP (mV)	130.4
Water Temperature (C)	4.8
Field TDS (mg/L)	138
Conductivity (uS/cm)	212.4
Field DO (%)	31.9
Field pH	6.82

color and clarity	Clear
Final Depth to Water (inches from top of collar)	202.44
Photos	
	



Well	Original TOC Elevation	Current TOC Elevation	TOC Elevation Change	Original Ground Elevation	TOC Above OGE	Original TOC Depth	Current TOC Depth	Original Well Depth	Original ST_{GS}	Original SB_{GS}	1/2 Screened Distnace	Current ST_{TOC}	Current SB_{TOC}
GW-1A	10659.90	10659.90	0.00	10656.70	3.20	8.13	8.13	4.93	2.5	5.0	1.25	5.70	8.20
GW-1B	10659.96	10659.96	0.00	10656.10	3.86	17.06	17.06	13.20	8.5	13.5	2.50	12.36	17.36
GW-2A	10645.83	10646.50	0.67	10641.80	4.70	14.40	15.07	10.37	6.0	11.0	2.50	10.70	15.70
GW-2B	10646.23	10646.18	-0.05	10642.00	4.18	28.84	28.84	24.61	15.5	24.8	4.65	19.68	28.98
GW-3B	10631.81	10638.98	7.17	10628.30	10.68	42.65	49.82	39.14	20.0	40.0	10.00	30.68	50.68
GW-3R	10643.50	10649.21	5.71	10640.00	9.21	30.50	36.21	27.00	17.0	27.0	5.00	26.21	36.21

DTW_{TOC} = Depth to Water from Top of Casing
ST_{GS} = Screen Interval Top from Ground Surface
SB_{GS} = Screen Interval Bottom from Ground Surface
ST_{TOC} = Screen Interval Top from Top of Casing
SB_{TOC} = Screen Interval Bottom from Top of Casing
Pump Setting = 1/2 of Wetted Screen Interval

If $DTW_{TOC} > ST_{TOC}$ then: $\text{Pump Setting} = DTW_{TOC} + \frac{SB_{TOC} - DTW_{TOC}}{2}$

If $DTW_{TOC} < ST_{TOC}$ then: $\text{Pump Setting} = ST_{TOC} + \frac{SB_{TOC} - ST_{TOC}}{2}$

Well 2B DTW=7.76' DTB=17.08'
73.12" 204.96"
Setting = 14.86' 15 / 1.75 gal

Well 2B DTW=10.78' DTB=28.85'
129.36 346.20
Setting = 24.33'

Well 2A DTW=10.03 DTB=14.40
120.36" 172.8"
Setting = 13.2'

Well 3B DTW=16.87' DTB=49.50
202.44" 594.0"
Setting = 40.68'

Well 3R 21.28 34.0
255.36" 408"
Setting 31.21

Sampler Name	Joshua Moore
Signature	 Signed 2021-10-28 14:15:04 MDT
Notes	Actual depth 594.

2021-03-29

Created	2021-03-29 10:02:37 MDT by Environmental Department
Updated	2021-03-29 15:15:08 MDT by Environmental Department
Location	37.974157, -107.7505836
Groundwater 2021 Field Data	
Well ID	GW-3R
Date	2021-03-29
Time	10:02

Observations

Weather Conditions	Sunny

Well Information

Stick Up (inches from ground surface)	4
Depth to Water (inches from top of collar)	231
Depth to Bottom (inches from top of collar)	384
Cubic feet of water in well	0.27802097568
Gallons of water in well	2.079741468993754
Pumping Notes	10sec discharge, 15sec fill
Purge Time (minutes)	25
Purge Volume (Gallons)	1

Field Chemistry

Water Temperature (C) 2	3.3
Conductivity (uS/cm) 2	-383
Field DO (%) 2	73
Field pH 2	7.23
Sample method	Bladder Pump
SampleTime	10:02
Field ORP (mV)	235
Water Temperature (C)	3.3
Field TDS (mg/L)	-99
Conductivity (uS/cm)	-383
Field DO (%)	73
Field pH	7.23
color and clarity	Clear

Photos	
Sampler Name	Chris Bolane
Signature	 Signed 2021-03-29 10:23:14 MDT
Notes	DO 15.3mg/L; purge volume doesn't include samples

2021-06-17

Created	2021-06-17 09:58:44 MDT by Environmental Department
Updated	2021-06-18 15:25:59 MDT by Environmental Department
Location	37.975539802608985, -107.75047444748482
Groundwater 2021 Field Data	
Well ID	GW-3R
Date	2021-06-17
Time	09:58

Observations

Weather Conditions	Clear 60

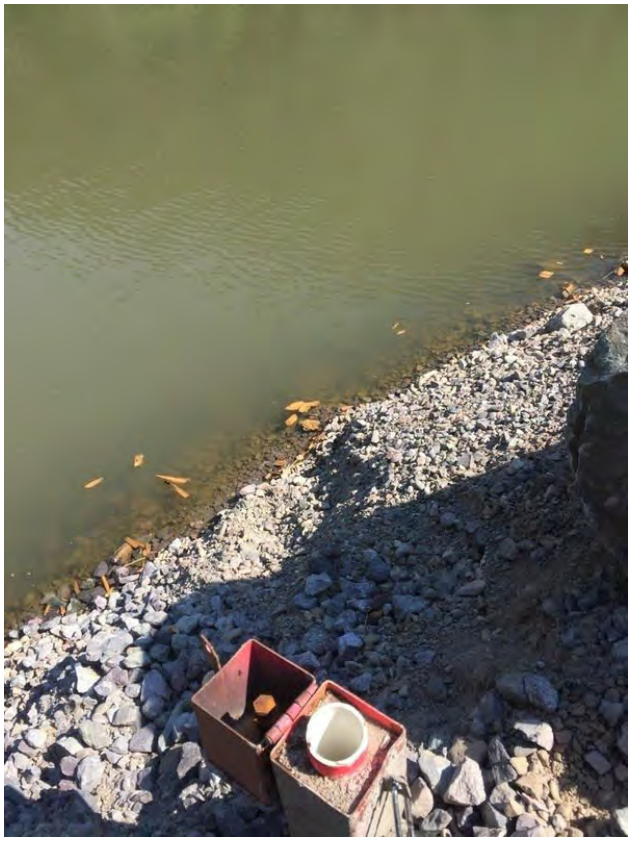
Well Information

Stick Up (inches from ground surface)	0.5
Depth to Water (inches from top of collar)	-99
Depth to Bottom (inches from top of collar)	-99
Cubic feet of water in well	0
Gallons of water in well	0
Pumping Notes	None
Purge Time (minutes)	15
Purge Volume (Gallons)	1

Field Chemistry

Sample method	Bladder pump
SampleTime	09:58
Field ORP (mV)	344
Water Temperature (C)	6.93
Conductivity (uS/cm)	351
Field DO (%)	63.1
Field pH	8.75
color and clarity	Slight Turbidity
Final Depth to Water (inches from top of collar)	-99

Photos



Sampler Name	Chris Bolane

Signature

Signed 2021-06-18 15:25:56 MDT

2021-09-15

Created	2021-09-15 11:23:14 MDT by Environmental Department
Updated	2021-11-24 13:21:30 MST by Environmental Department
Location	,
Groundwater 2021 Field Data	
Well ID	GW-3R
Date	2021-09-15
Time	11:23

Observations

Weather Conditions	Clear and seasonal.

Well Information

Stick Up (inches from ground surface)	7
Depth to Water (inches from top of collar)	255.48
Depth to Bottom (inches from top of collar)	408.08
Cubic feet of water in well	0.277294123456
Gallons of water in well	2.0743042363950774
Pumping Notes	Pump setting 31.21 ft from TOC. Purge rate 428 mL/min. Tube volume 0.099 gallons. 9/16/21 JM - Drawdown less than 0.02 ft.
Purge Time (minutes)	15
Purge Volume (Gallons)	1.69

Field Chemistry

Water Temperature (C) 1	6.2
Conductivity (uS/cm) 1	211.7
Field DO (%) 1	66.3
Field pH 1	6.46
Water Temperature (C) 2	6.1
Conductivity (uS/cm) 2	212.1
Field DO (%) 2	61.8
Field pH 2	6.43
Water Temperature (C) 3	5.9
Conductivity (uS/cm) 3	212.5
Field DO (%) 3	59.4
Field pH 3	6.5
Sample method	Bladder
SampleTime	11:23
Field ORP (mV)	374.9
Water Temperature (C)	6
Field TDS (mg/L)	-99
Conductivity (uS/cm)	212.8
Field DO (%)	59.5

Field pH	6.56
color and clarity	Clear
Final Depth to Water (inches from top of collar)	255.28
Photos	

Well	Original TOC Elevation	Current TOC Elevation	TOC Elevation Change	Original Ground Elevation	Current TOC Above OGE	Original TOC Depth	Current TOC Depth	Original Well Depth	Original ST_{GS}	Original SB_{GS}	1/2 Screened Distnace	Current ST_{TOC}	Current SB_{TOC}
GW-1A	10659.90	10659.90	0.00	10656.70	3.20	8.13	8.13	4.93	2.5	5.0	1.25	5.70	8.20
GW-1B	10659.96	10659.96	0.00	10656.10	3.86	17.06	17.06	13.20	8.5	13.5	2.50	12.36	17.36
GW-2A	10645.83	10646.50	0.67	10641.80	4.70	14.40	15.07	10.37	6.0	11.0	2.50	10.70	15.70
GW-2B	10646.23	10646.18	-0.05	10642.00	4.18	28.84	28.84	24.61	15.5	24.8	4.65	19.68	28.98
GW-3B	10631.81	10638.98	7.17	10628.30	10.68	42.65	49.82	39.14	20.0	40.0	10.00	30.68	50.68
GW-3R	10643.50	10649.21	5.71	10640.00	9.21	30.50	36.21	27.00	17.0	27.0	5.00	26.21	36.21

DTW_{TOC} = Depth to Water from Top of Casing
ST_{GS} = Screen Interval Top from Ground Surface
SB_{GS} = Screen Interval Bottom from Ground Surface
ST_{TOC} = Screen Interval Top from Top of Casing
SB_{TOC} = Screen Interval Bottom from Top of Casing
Pump Setting = 1/2 of Wetted Screen Interval

If $DTW_{TOC} > ST_{TOC}$ then: $Pump\ Setting = DTWTOC + \frac{SB_{TOC} - DTW_{TOC}}{2}$

If $DTW_{TOC} < ST_{TOC}$ then: $Pump\ Setting = ST_{TOC} + \frac{SB_{TOC} - ST_{TOC}}{2}$

3B - Setting 40.68
Approx Tube = 26.38ft
263.8mL
0.1631 gal/ft
0.0696gal
0.016 gal / ft case = 60.6mL / .1 Ft
325 mL/ft

2A DTW=10.19
D=14.44
11.5
Pump Set=12.5
Tube=18.2'
Volume=0.0485gal

3R 21.79 DTW
Pump Set 31.21 Ft
Tube = 37.81'
Tube Volume = 0.099 gal

2B DTW=14.90
Pump Set = 24.33 (22.83)
Tube = 32.83
Tube Volume = 0.085gal

Sampler Name	Joshua Moore

Signature	 Signed 2021-09-15 11:56:46 MDT
Notes	11/24/21 JM - Corrected field DO from 595 to 59.5 as it should be.

2021-07-20

Created	2021-07-20 09:12:53 MDT by Environmental Department
Updated	2021-07-22 07:25:27 MDT by Environmental Department
Location	37.9754626008, -107.750677115
Groundwater 2021 Field Data	
Well ID	GW-3R
Date	2021-07-20
Time	09:12

Observations

Weather Conditions	Sunny 55 degrees

Well Information

Stick Up (inches from ground surface)	6
Depth to Water (inches from top of collar)	253.5
Depth to Bottom (inches from top of collar)	408
Cubic feet of water in well	0.28074667152
Gallons of water in well	2.1001310912387905
Pumping Notes	New tubing used
Purge Time (minutes)	21
Purge Volume (Gallons)	2.25

Field Chemistry

Water Temperature (C) 1	8.4
Conductivity (uS/cm) 1	144.2
Field DO (%) 1	78.2
Field pH 1	7.81
Water Temperature (C) 2	9.5
Conductivity (uS/cm) 2	214
Field DO (%) 2	77.6
Field pH 2	7.71
Water Temperature (C) 3	9.3
Conductivity (uS/cm) 3	181.1
Field DO (%) 3	70.1
Field pH 3	7.69
Sample method	Bladder pump
SampleTime	09:12
Field ORP (mV)	255
Water Temperature (C)	9.3
Conductivity (uS/cm)	179.2
Field DO (%)	78.2
Field pH	7.7
color and clarity	Clear

Final Depth to Water (inches from top of collar)	276
Photos	
Sampler Name	Chris Bolane
Signature	
	Signed 2021-07-20 15:28:28 MDT
Notes	FPS1 after approximately 3 minutes of draw FPS2 after approximately 12 minutes of draw FPS3 after approximately 17 minutes of draw

2021-10-28

Created	2021-10-28 14:49:24 MDT by Environmental Department
Updated	2021-11-24 13:15:50 MST by Environmental Department
Location	37.9751223, -107.7509845
Groundwater 2021 Field Data	
Well ID	GW-3R
Date	2021-10-28
Time	14:49

Observations

Weather Conditions	See GW-0.

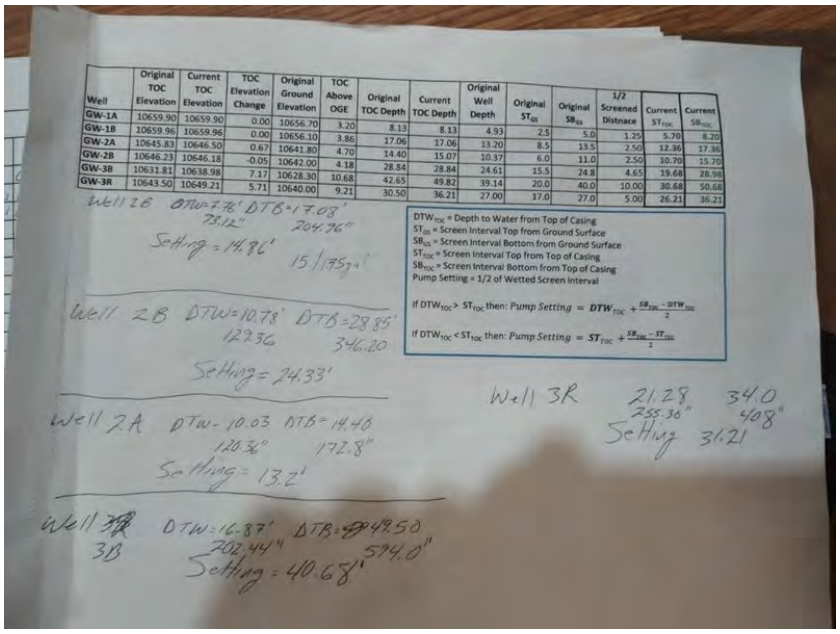
Well Information

Stick Up (inches from ground surface)	7
Depth to Water (inches from top of collar)	255.36
Depth to Bottom (inches from top of collar)	408
Cubic feet of water in well	0.27736680867839997
Gallons of water in well	2.0748479596549445
Pumping Notes	Compressor discharge setting 12, fill setting 16. Drawdown <0.05 ft.
Purge Time (minutes)	12
Purge Volume (Gallons)	0.75

Field Chemistry

Water Temperature (C) 1	4.7
Conductivity (uS/cm) 1	236.1
Field DO (%) 1	55
Field pH 1	6.86
Water Temperature (C) 2	4.6
Conductivity (uS/cm) 2	236.4
Field DO (%) 2	53
Field pH 2	6.84
Water Temperature (C) 3	4.6
Conductivity (uS/cm) 3	236.4
Field DO (%) 3	52.6
Field pH 3	6.83
Sample method	Bladder Pump
SampleTime	14:49
Field ORP (mV)	184.8
Water Temperature (C)	4.6
Field TDS (mg/L)	153.7
Conductivity (uS/cm)	239.5
Field DO (%)	48.8
Field pH	6.81

color and clarity	Clear
Final Depth to Water (inches from top of collar)	255.39
Photos	
	



Well	Original TOC Elevation	Current TOC Elevation	TOC Elevation Change	Original Ground Elevation	TOC Above OGE	Original TOC Depth	Current TOC Depth	Original Well Depth	Original ST_{GS}	Original SB_{GS}	1/2 Screened Distnace	Current ST_{TOC}	Current SB_{TOC}
GW-1A	10659.90	10659.90	0.00	10656.70	3.20	8.13	8.13	4.93	2.5	5.0	1.25	5.70	8.20
GW-1B	10659.96	10659.96	0.00	10656.10	3.86	17.06	17.06	13.20	8.5	13.5	2.50	12.36	17.36
GW-2A	10645.83	10646.50	0.67	10641.80	4.70	14.40	15.07	10.37	6.0	11.0	2.50	10.70	15.70
GW-2B	10646.23	10646.18	-0.05	10642.00	4.18	28.84	28.84	24.61	15.5	24.8	4.65	19.68	28.98
GW-3B	10631.81	10638.98	7.17	10628.30	10.68	42.65	49.82	39.14	20.0	40.0	10.00	30.68	50.68
GW-3R	10643.50	10649.21	5.71	10640.00	9.21	30.50	36.21	27.00	17.0	27.0	5.00	26.21	36.21

Well 1B DTW=7.76' DTB=17.03'
73.12" 204.96"
Setting = 14.86' 15.175'

Well 2B DTW=10.78' DTB=28.85'
129.36 346.20
Setting = 24.33'

Well 2A DTW=10.03 DTB=14.40
120.36" 172.8"
Setting = 13.2'

Well 3B DTW=16.87' DTB=49.50
202.44" 594.0"
Setting = 40.68'

DTW_{TOC} = Depth to Water from Top of Casing
ST_{GS} = Screen Interval Top from Ground Surface
SB_{GS} = Screen Interval Bottom from Ground Surface
ST_{TOC} = Screen Interval Top from Top of Casing
SB_{TOC} = Screen Interval Bottom from Top of Casing
Pump Setting = 1/2 of Wetted Screen Interval

If $DTW_{TOC} > ST_{TOC}$ then: $Pump\ Setting = DTW_{TOC} + \frac{SB_{TOC} - DTW_{TOC}}{2}$

If $DTW_{TOC} < ST_{TOC}$ then: $Pump\ Setting = ST_{TOC} + \frac{SB_{TOC} - ST_{TOC}}{2}$

Well 3R 21.28 34.0
255.36" 408"
Setting 31.21

Sampler Name	Joshua Moore
Signature	
	Signed 2021-10-28 14:51:48 MDT
Notes	11/24/21 JM - Corrected field ORP for a dropped decimal, 1848 to 184.8 mV.

2021-02-15

Created	2021-03-01 10:29:40 MST by Environmental Department
Updated	2021-03-01 10:38:26 MST by Environmental Department
Location	38.15028844404793, -107.76047321977816
Groundwater 2021 Field Data	
Well ID	GW-4
Date	2021-02-15
Time	12:00

Observations

Weather Conditions	23 degrees F. Clear sky. Moderate wind

Well Information

Stick Up (inches from ground surface)	-99
Depth to Water (inches from top of collar)	210
Depth to Bottom (inches from top of collar)	-99
Cubic feet of water in well	-0.56149334304
Gallons of water in well	-4.20026218247758

Field Chemistry

Sample method	Bladder pump
SampleTime	11:15
Field ORP (mV)	-99
Water Temperature (C)	2.7
Field TDS (mg/L)	-99
Conductivity (uS/cm)	-99
Field DO (%)	-99
Field pH	-99

Photos

Sampler Name	Chris Bolane
Signature	
	Signed 2021-03-01 10:35:52 MST
Notes	Sampling event for DRO, GRO. Field data was difficult or impossible to collect due to liquid freezing once at the surface

2021-02-22

Created	2021-03-01 10:39:31 MST by Environmental Department
Updated	2021-03-01 10:45:08 MST by Environmental Department
Location	38.1501889927668, -107.7604957670977
Groundwater 2021 Field Data	
Well ID	GW-4
Date	2021-02-22
Time	11:15

Observations

Weather Conditions	25 +\- degrees F. Clear sky

Well Information

Stick Up (inches from ground surface)	-99
Depth to Water (inches from top of collar)	210
Depth to Bottom (inches from top of collar)	-99
Cubic feet of water in well	-0.56149334304
Gallons of water in well	-4.20026218247758

Field Chemistry

Sample method	Bladder pump
SampleTime	11:15
Field ORP (mV)	-99
Water Temperature (C)	-99
Field TDS (mg/L)	-99
Conductivity (uS/cm)	-99
Field DO (%)	-99
Field pH	-99

Photos	
Sampler Name	Chris Bolane
Signature	
	Signed 2021-03-01 10:43:48 MST
Notes	Sampling for oil and grease. Field data was difficult or impossible to obtain due to freezing temperatures and deep snow

2021-04-21

Created	2021-05-12 13:30:28 MDT by Environmental Department
Updated	2021-05-12 13:30:28 MDT by Environmental Department
Location	37.975211, -107.748307
Groundwater 2021 Field Data	
Well ID	GW-4
Date	2021-04-21
Time	23:28

Observations

Weather Conditions	sunny

Well Information

Stick Up (inches from ground surface)	-99
Depth to Water (inches from top of collar)	-99
Depth to Bottom (inches from top of collar)	-99
Cubic feet of water in well	0
Gallons of water in well	0
Pumping Notes	-99
Purge Time (minutes)	-99
Purge Volume (Gallons)	-99

Field Chemistry

Sample method	bladder pump
SampleTime	23:28
Field ORP (mV)	-99
Water Temperature (C)	-99
Field TDS (mg/L)	-99
Conductivity (uS/cm)	-99
Field DO (%)	-99
Field pH	-99
color and clarity	Clear
Final Depth to Water (inches from top of collar)	-99
Sampler Name	Todd Jesse
Signature	

Signed 2021-05-12 13:30:04 MDT

Notes	Special Sampling for organics. No field data collected.

2021-06-03

Created	2021-06-03 09:55:03 MDT by Environmental Department
Updated	2021-06-08 07:58:00 MDT by Environmental Department
Location	37.975334613619346, -107.74793582047126
Groundwater 2021 Field Data	
Well ID	GW-4
Date	2021-06-03
Time	09:55

Observations

Weather Conditions	Partly cloudy

Well Information

Stick Up (inches from ground surface)	-99
Depth to Water (inches from top of collar)	204
Depth to Bottom (inches from top of collar)	-99
Cubic feet of water in well	-0.55059055968
Gallons of water in well	-4.11870369349743
Pumping Notes	Bladder pump with Teflon tubing and bladder
Purge Time (minutes)	20
Purge Volume (Gallons)	-99

Field Chemistry

Sample method	Bladder pump
SampleTime	09:55
Field ORP (mV)	203
Water Temperature (C)	6
Conductivity (uS/cm)	366
Field DO (%)	38.7
Field pH	8.47
color and clarity	Opaque
Final Depth to Water (inches from top of collar)	-99

Photos	
Sampler Name	Chris Bolane
Signature	
	Signed 2021-06-03 09:59:14 MDT
Notes	DO 4.48 mg/l

2021-06-17

Created	2021-06-17 12:06:29 MDT by Environmental Department
Updated	2021-06-18 14:58:40 MDT by Environmental Department
Location	37.97463028229584, -107.75306906561157
Groundwater 2021 Field Data	
Well ID	GW-4
Date	2021-06-17
Time	12:06

Observations

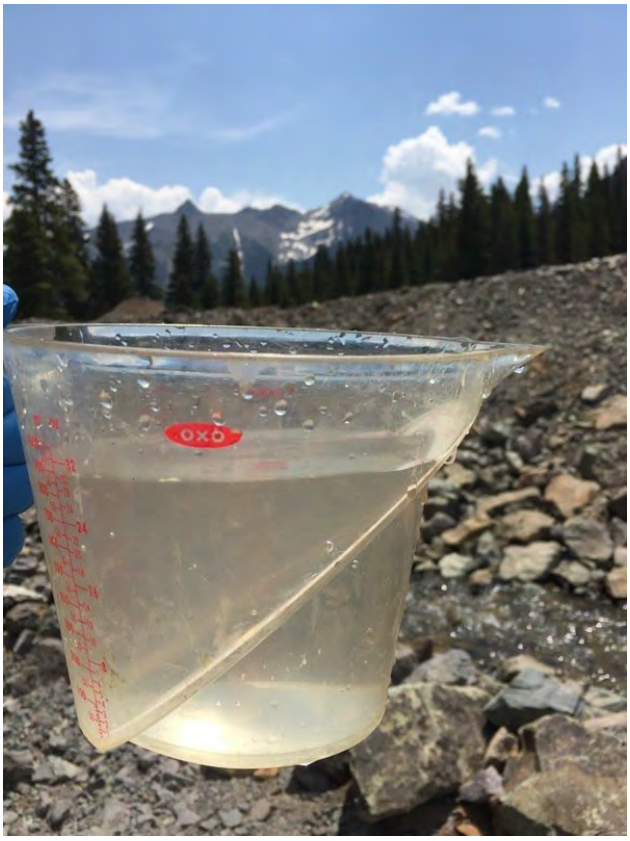
Weather Conditions	Sunny 60 degrees

Well Information

Stick Up (inches from ground surface)	-99
Depth to Water (inches from top of collar)	200
Depth to Bottom (inches from top of collar)	-99
Cubic feet of water in well	-0.54332203744
Gallons of water in well	-4.06433136751067
Pumping Notes	-99
Purge Time (minutes)	15
Purge Volume (Gallons)	1

Field Chemistry

Sample method	Bladder pump
SampleTime	12:06
Field ORP (mV)	194
Water Temperature (C)	11.3
Conductivity (uS/cm)	348
Field DO (%)	24.8
Field pH	8.44
color and clarity	Slight Turbidity
Final Depth to Water (inches from top of collar)	-99

Photos	
Sampler Name	Chris Bolane
Signature	
	Signed 2021-06-18 14:55:41 MDT
Notes	DO 2.37 mg/l. Clarity of the pumped water was significantly more clear than in last rounds of sampling. Very slight sheen of oil on sample surface. Sludge on the bottom of the well was absent.

2021-03-29

Created	2021-03-29 10:33:07 MDT by Environmental Department
Updated	2021-03-29 15:14:15 MDT by Environmental Department
Location	37.9752008, -107.7508432
Groundwater 2021 Field Data	
Well ID	GW-99
Date	2021-03-29
Time	10:33

Observations

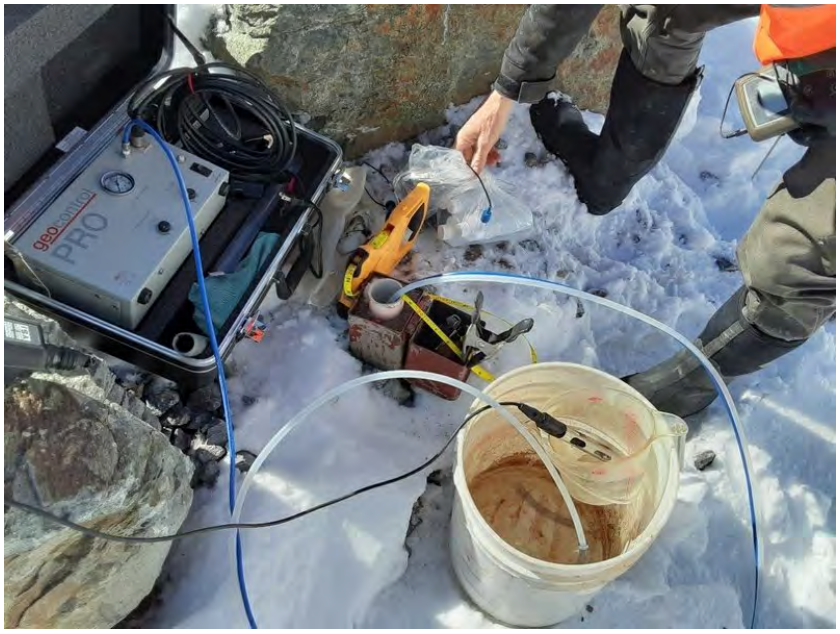
Weather Conditions	Sunny

Well Information

Stick Up (inches from ground surface)	4
Depth to Water (inches from top of collar)	231
Depth to Bottom (inches from top of collar)	384
Cubic feet of water in well	0.27802097568
Gallons of water in well	2.079741468993754
Pumping Notes	10 sec discharge, 15 sec fill
Purge Time (minutes)	25
Purge Volume (Gallons)	1

Field Chemistry

Water Temperature (C) 2	3.9
Conductivity (uS/cm) 2	-140
Field DO (%) 2	107
Field pH 2	7.55
Sample method	Bladder Pump
SampleTime	10:33
Field ORP (mV)	218
Water Temperature (C)	3.9
Field TDS (mg/L)	-99
Conductivity (uS/cm)	-140
Field DO (%)	107
Field pH	7.55
color and clarity	Clear

Photos	
Sampler Name	Chris Bolane
Signature	 Signed 2021-03-29 10:37:50 MDT
Notes	DO 13.15 mg/L, purge volume does not.include samples

2021-06-18

Created	2021-06-18 15:26:20 MDT by Environmental Department
Updated	2021-07-07 11:31:36 MDT by Environmental Department
Location	38.15022855534977, -107.76040012958251
Groundwater 2021 Field Data	
Well ID	GW-99
Duplicated Well	GW-1A
Date	2021-06-18
Time	15:26

Observations

Weather Conditions	Clear, 55 degrees

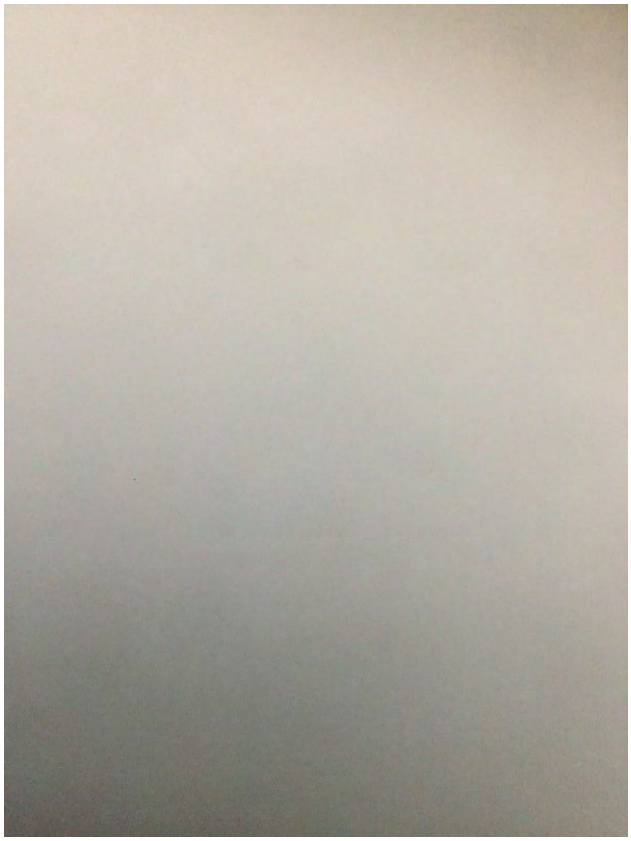
Well Information

Stick Up (inches from ground surface)	-99
Depth to Water (inches from top of collar)	-99
Depth to Bottom (inches from top of collar)	-99
Cubic feet of water in well	0
Gallons of water in well	0
Pumping Notes	None
Purge Time (minutes)	-99
Purge Volume (Gallons)	0

Field Chemistry

Sample method	Bladder pump
SampleTime	15:26
Field ORP (mV)	-99
Water Temperature (C)	-99
Conductivity (uS/cm)	-99
Field DO (%)	-99
Field pH	-99
color and clarity	Clear
Final Depth to Water (inches from top of collar)	-99

Photos



Sampler Name	Chris Bolane

Signature

Signed 2021-06-18 15:28:43 MDT

2021-09-23

Created	2021-09-23 12:59:40 MDT by Environmental Department
Updated	2021-09-23 13:04:56 MDT by Environmental Department
Location	,
Groundwater 2021 Field Data	
Well ID	GW-99
Duplicated Well	GW-1B
Date	2021-09-23
Time	12:59

Observations

Weather Conditions	Clear and seasonal, 67 F.

Well Information

Stick Up (inches from ground surface)	47
Depth to Water (inches from top of collar)	119.28
Depth to Bottom (inches from top of collar)	205.44
Cubic feet of water in well	0.1565639690496
Gallons of water in well	1.1711799017549138
Pumping Notes	Pumping rate 415 mL/min. Drawdown less than 0.03 feet.
Purge Time (minutes)	18
Purge Volume (Gallons)	1.97

Field Chemistry

Water Temperature (C) 1	8.6
Conductivity (uS/cm) 1	204.1
Field DO (%) 1	72.1
Field pH 1	6.6
Sample method	Bladder Pump
SampleTime	12:59
Field ORP (mV)	470.5
Water Temperature (C)	8.5
Field TDS (mg/L)	-99
Conductivity (uS/cm)	204.3
Field DO (%)	69.8
Field pH	6.61
color and clarity	Clear
Final Depth to Water (inches from top of collar)	9.94

Photos	 
Sampler Name	Joshua Moore

Signature	 Signed 2021-09-23 13:04:07 MDT
Notes	Sampled with staggered composite with 1B samples.

2021-09-15

Created	2021-09-15 13:23:09 MDT by Environmental Department
Updated	2021-09-21 21:33:14 MDT by Environmental Department
Location	,
Groundwater 2021 Field Data	
Well ID	GW-99
Duplicated Well	GW-2B
Date	2021-09-15
Time	13:23

Observations

Weather Conditions	Clear and seasonal.

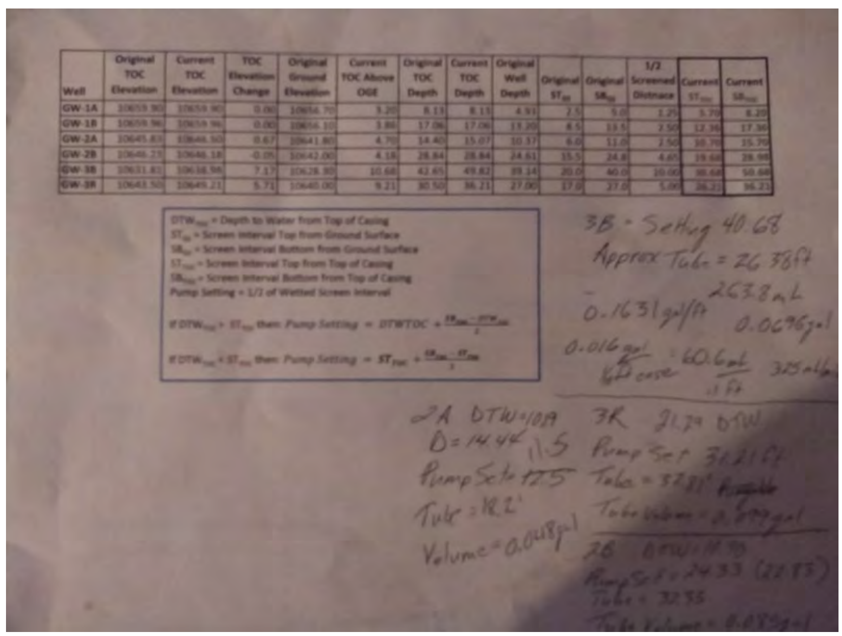
Well Information

Stick Up (inches from ground surface)	34
Depth to Water (inches from top of collar)	130.92
Depth to Bottom (inches from top of collar)	357.6
Cubic feet of water in well	0.4119071553408001
Gallons of water in well	3.081279713669962
Pumping Notes	Same as GW2B
Purge Time (minutes)	10
Purge Volume (Gallons)	1.51

Field Chemistry

Water Temperature (C) 1	5.8
Conductivity (uS/cm) 1	174.7
Field DO (%) 1	63.9
Field pH 1	6.33
Sample method	Bladder
SampleTime	13:23
Field ORP (mV)	374.2
Water Temperature (C)	5.6
Field TDS (mg/L)	-99
Conductivity (uS/cm)	174.4
Field DO (%)	60.9
Field pH	6.34
color and clarity	Clear
Final Depth to Water (inches from top of collar)	10.98

Photos



Well	Original TOC Elevation	Current TOC Elevation	TOC Elevation Change	Original Ground Elevation	Current TOC Above OGE	Original TOC Depth	Current TOC Depth	Original Well Depth	Original ST_{gs}	Original SB_{gs}	1/2 Screened Distnace	Current ST_{toc}	Current SB_{toc}
GW-1A	10659.90	10659.90	0.00	10656.70	3.20	8.13	8.13	4.93	2.5	5.0	1.25	5.70	8.20
GW-1B	10659.96	10659.96	0.00	10656.10	3.86	17.06	17.06	13.20	8.5	13.5	2.50	12.36	17.36
GW-2A	10645.83	10646.50	0.67	10641.80	4.70	14.40	15.07	10.37	6.0	11.0	2.50	10.70	15.70
GW-2B	10646.23	10646.18	-0.05	10642.00	4.18	28.84	28.84	24.61	15.5	24.8	4.65	19.68	28.98
GW-3B	10631.81	10638.98	7.17	10628.30	10.68	42.65	49.82	39.14	20.0	40.0	10.00	30.68	50.68
GW-3R	10643.50	10649.21	5.71	10640.00	9.21	30.50	36.21	27.00	17.0	27.0	5.00	26.21	36.21

DTW_{TOC} = Depth to Water from Top of Casing
ST_{GS} = Screen Interval Top from Ground Surface
SB_{GS} = Screen Interval Bottom from Ground Surface
ST_{TOC} = Screen Interval Top from Top of Casing
SB_{TOC} = Screen Interval Bottom from Top of Casing
Pump Setting = 1/2 of Wetted Screen Interval

Sampler Name	Joshua Moore

Signature	 Signed 2021-09-15 13:29:18 MDT
Notes	9/16/21 JM - Update note that bladder pump compressor failed part way through sample collection. Pump restarted after approximately 35 minutes and allowed to purge for several minutes until stable readings were noted on YSI.

2021-10-28

Created	2021-10-28 11:27:23 MDT by Environmental Department
Updated	2021-10-30 09:39:14 MDT by Environmental Department
Location	37.9754403, -107.7543711
Groundwater 2021 Field Data	
Well ID	GW-99
Duplicated Well	GW-1B
Date	2021-10-28
Time	11:27

Observations

Weather Conditions	See GW-0.

Well Information

Stick Up (inches from ground surface)	47
Depth to Water (inches from top of collar)	93.12
Depth to Bottom (inches from top of collar)	204.96
Cubic feet of water in well	0.20322788183040005
Gallons of water in well	1.520250234589944
Pumping Notes	See GW-1B.
Purge Time (minutes)	15
Purge Volume (Gallons)	1.75

Field Chemistry

Sample method	Bladder Pump
SampleTime	11:27
Field ORP (mV)	138.1
Water Temperature (C)	3.5
Field TDS (mg/L)	128.3
Conductivity (uS/cm)	197.4
Field DO (%)	64.5
Field pH	7.07
color and clarity	Clear
Final Depth to Water (inches from top of collar)	93.12

Photos	
Sampler Name	Joshua Moore
Signature	 Signed 2021-10-28 11:29:46 MDT
Notes	Sample collection staggered composite with GW-1B collection.

2021-01-13, 11:26, OF002A

Created	2021-01-27 17:30:37 MST by Environmental Department
Updated	2021-01-27 17:30:37 MST by Environmental Department
Location	,
Outfall Field Data	
Sample ID	OF002A
Date	2021-01-13
Time	11:26

Observations

Color and Clarity	Clear
Oil and Grease observation	Absent

Field Chemistry

QuickCal?	No
Field pH	7.85
Field Water's Temperature (C)	0.1

Flow Information

Staff Gauge Height (feet)	0.1
Flow (CFS)	-99
Continuous Monitor download?	No
Notes	Very low flow. Ice beginning to form along the edges of the flume.
Sampler's Name	Chris Bolane
Signature	

Signed 2021-01-27 17:29:32 MST

2021-01-25, 11:15, OF002A

Created	2021-01-27 17:33:27 MST by Environmental Department
Updated	2021-01-27 17:33:27 MST by Environmental Department
Location	,
Outfall Field Data	
Sample ID	OF002A
Date	2021-01-25
Time	11:15

Observations

Color and Clarity	ice
Oil and Grease observation	Absent

Field Chemistry

QuickCal?	No
Field pH	20
Field Water's Temperature (C)	-99

Flow Information

Staff Gauge Height (feet)	-99
Flow (CFS)	-99
Continuous Monitor download?	No
Notes	Flume was solid ice approximately 5" thick. No samples were taken.
Sampler's Name	Chris Bolane
Signature	

Signed 2021-01-27 17:32:46 MST

2021-02-11, 11:00, OF002A

Created	2021-02-14 12:53:13 MST by Environmental Department
Updated	2021-02-14 12:58:50 MST by Environmental Department
Location	38.15036283343858, -107.76035285564862
Outfall Field Data	
Sample ID	OF002A
Date	2021-02-11
Time	11:00

Observations

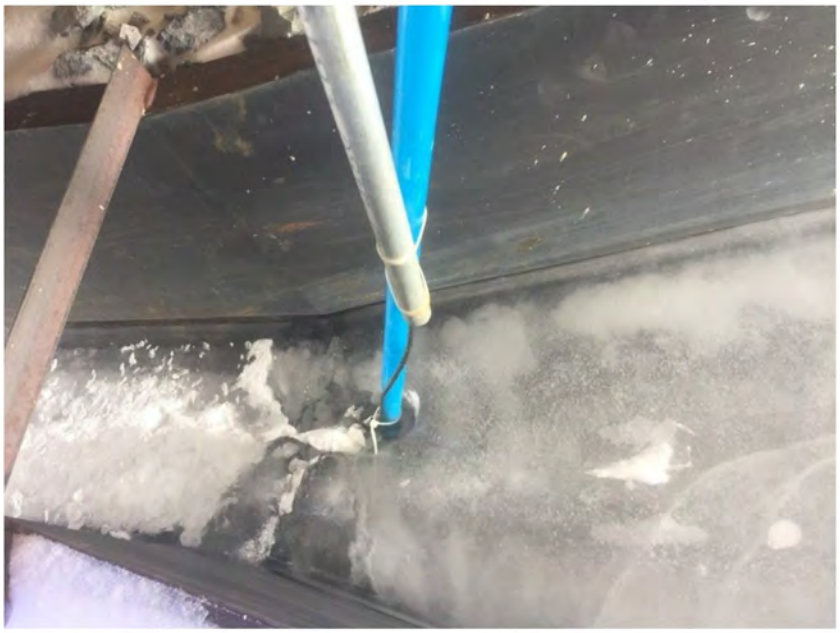
Color and Clarity	No flow
Oil and Grease observation	Absent

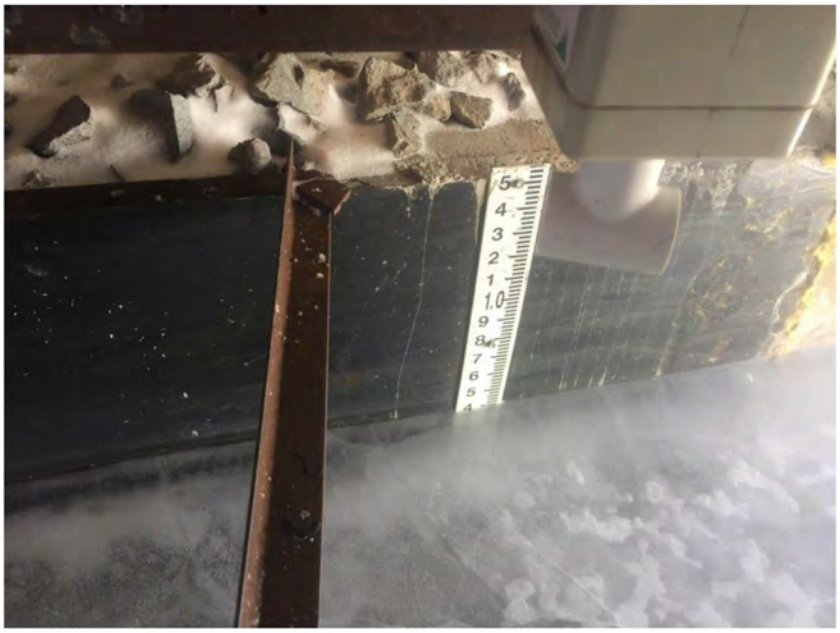
Field Chemistry

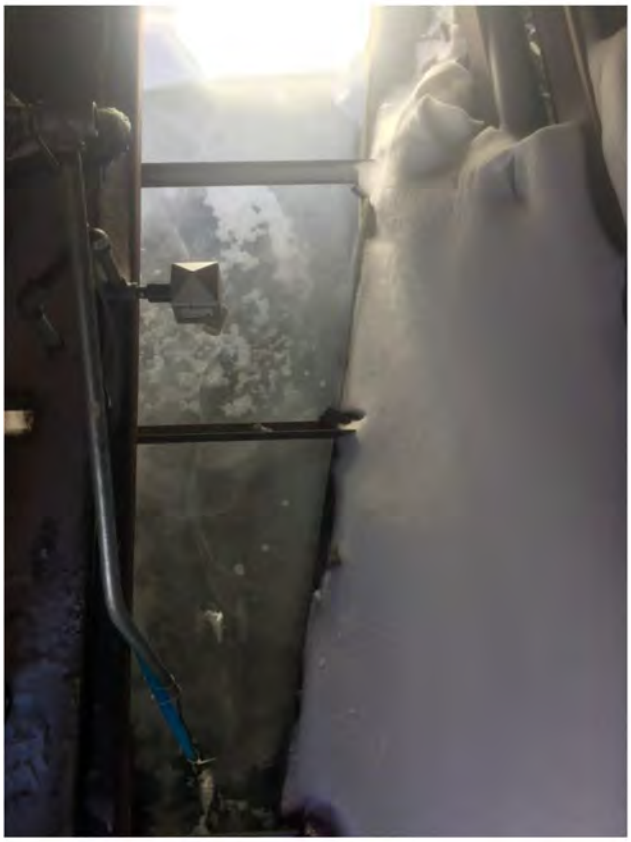
QuickCal?	No
Field pH	2
Field Water's Temperature (C)	-99

Flow Information

Staff Gauge Height (feet)	-99
Flow (CFS)	-99
Continuous Monitor download?	No
Photos	







Notes	Frozen conditions. No flow at outfall. pH was not taken, disregard reported value.
Sampler's Name	Chris Bolane
Signature	

Signed 2021-02-14 12:57:01 MST

2021-02-15, 11:50, OF002A

Created	2021-03-01 09:57:15 MST by Environmental Department
Updated	2021-03-01 10:00:48 MST by Environmental Department
Location	38.15025064166463, -107.76062350730203
Outfall Field Data	
Sample ID	OF002A
Date	2021-02-15
Time	11:50

Observations

Color and Clarity	Frozen conditions, no flow
Oil and Grease observation	Absent

Field Chemistry

QuickCal?	No
Field pH	-99
Field Water's Temperature (C)	-99

Flow Information

Staff Gauge Height (feet)	-99
Flow (CFS)	-99
Continuous Monitor download?	No
Notes	Frozen conditions, no flow to sample
Sampler's Name	Chris Bolane
Signature	

Signed 2021-03-01 10:00:41 MST

2021-03-17, 11:00, OF002A

Created	2021-03-29 18:00:35 MDT by Environmental Department
Updated	2021-06-02 12:21:31 MDT by Environmental Department
Location	38.1501940638, -107.760490654
Outfall Field Data	
Sample ID	OF002A
Date	2021-03-17
Time	11:00

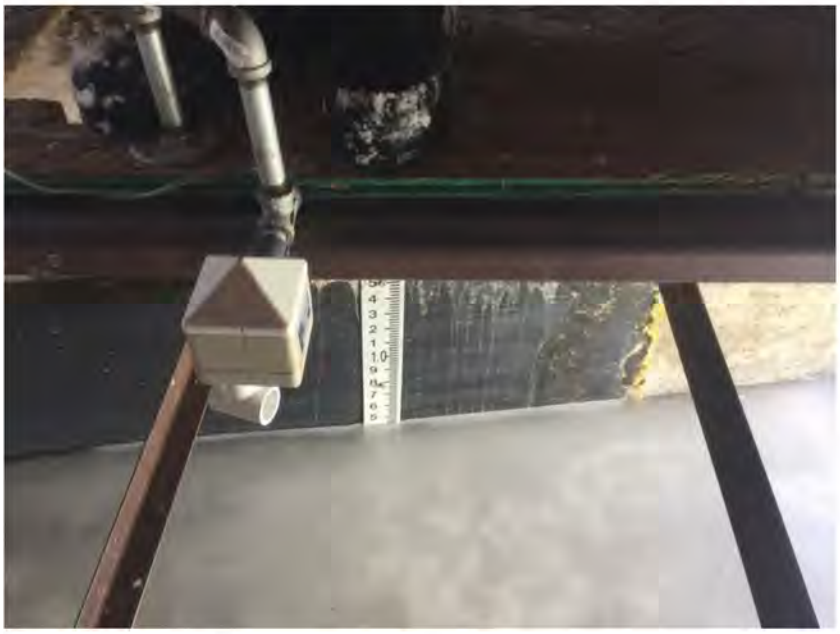
Observations

Color and Clarity	Ice
Oil and Grease observation	Absent

Field Chemistry

QuickCal?	No
Field pH	-99
Field Water's Temperature (C)	-99

Flow Information

Staff Gauge Height (feet)	-99
Flow (CFS)	-99
Continuous Monitor download?	No
Photos	
Notes	Frozen conditions. No flow Should be OF002A, changed from OF001A -SN
Sampler's Name	Chris Bolane

Signature

Signed 2021-03-30 00:02:46 MDT

2021-03-24, 10:15, OF002A

Created	2021-03-29 18:03:07 MDT by Environmental Department
Updated	2021-06-02 12:21:01 MDT by Environmental Department
Location	38.150127763, -107.760541365
Outfall Field Data	
Sample ID	OF002A
Date	2021-03-24
Time	10:15

Observations

Color and Clarity	Frozen
Oil and Grease observation	Absent

Field Chemistry

QuickCal?	No
Field pH	-99
Field Water's Temperature (C)	-99

Flow Information

Staff Gauge Height (feet)	-99
Flow (CFS)	-99
Continuous Monitor download?	No
Photos	
Notes	Frozen conditions. No flow Should be OF002A, changed from OF001A -SN

Sampler's Name	Chris Bolane

Signature

Signed 2021-03-30 00:05:21 MDT

2021-04-15, 10:30, OF002A

Created	2021-04-19 09:04:50 MDT by Environmental Department
Updated	2021-06-02 12:20:27 MDT by Environmental Department
Location	38.1503441837, -107.760370961
Outfall Field Data	
Sample ID	OF002A
Date	2021-04-15
Time	10:30

Observations

Color and Clarity	No flow
Oil and Grease observation	Absent

Field Chemistry

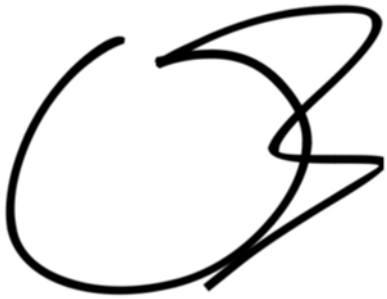
QuickCal?	No
Field pH	-99
Field Water's Temperature (C)	-99

Flow Information

Staff Gauge Height (feet)	-99
Flow (CFS)	-99
Continuous Monitor download?	No
Photos	
Notes	Ice showing signs of thawing, but still no flow Should be OF002A, changed from OF001A -SN

Sampler's Name	Chris Bolane

Signature



Signed 2021-04-19 15:07:29 MDT

2021-04-30, 11:00, OF002A

Created	2021-04-30 14:34:32 MDT by Environmental Department
Updated	2021-06-02 12:19:45 MDT by Environmental Department
Location	38.1501936447, -107.760316897
Outfall Field Data	
Sample ID	OF002A
Date	2021-04-30
Time	11:00

Observations

Color and Clarity	No flow
Oil and Grease observation	Absent

Field Chemistry

QuickCal?	No
Field pH	-99
Field Water's Temperature (C)	-99

Flow Information

Staff Gauge Height (feet)	-99
Flow (CFS)	-99
Continuous Monitor download?	No
Photos	
Notes	Frozen conditions. No flow Should be OF002A, changed from OF001A -SN

Sampler's Name	Chris Bolane

Signature

Signed 2021-04-30 20:37:23 MDT

2021-05-06, 11:56, OF002A

Created	2021-05-06 11:56:16 MDT by Environmental Department
Updated	2021-06-02 12:18:58 MDT by Environmental Department
Location	37.974066264, -107.750792708
Outfall Field Data	
Sample ID	OF002A
Date	2021-05-06
Time	11:56

Observations

Color and Clarity	Varied from slight to strong
Oil and Grease observation	Absent

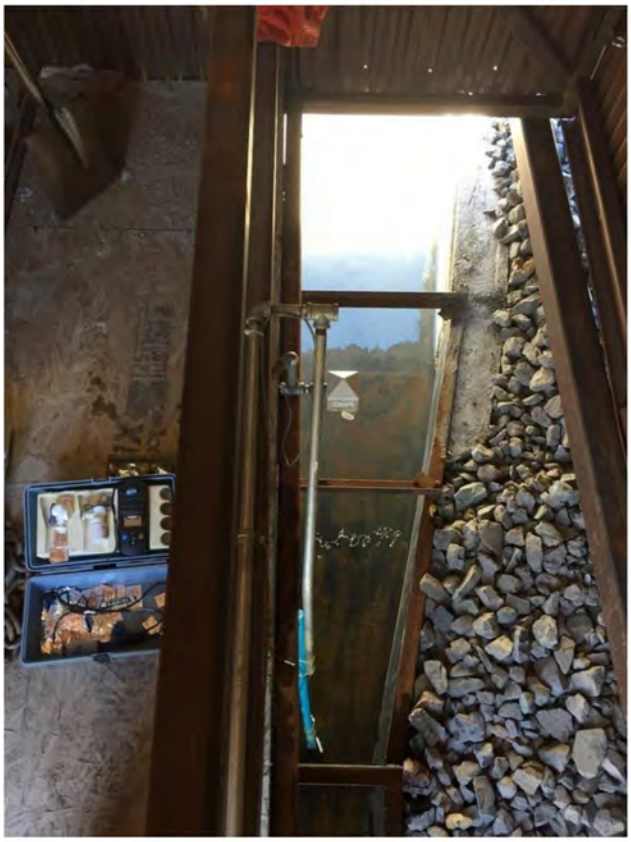
Field Chemistry

QuickCal?	No
Field pH	8.41
Field Water's Temperature (C)	4.4

Flow Information

Staff Gauge Height (feet)	0.158
Flow (CFS)	-99
Continuous Monitor download?	No

Photos



Notes	Turbidity varied from slight to strong during sampling event. Samples were drawn during period of strong turbidity Should be OF002A, 1A no longer in use. -SN
Sampler's Name	Chris Bolane

Signature

Signed 2021-05-06 18:13:10 MDT

2021-05-13, 11:15, OF002A

Created	2021-05-13 16:40:44 MDT by Environmental Department
Updated	2021-06-02 12:18:18 MDT by Environmental Department
Location	38.1503366819, -107.760238191
Outfall Field Data	
Sample ID	OF002A
Date	2021-05-13
Time	11:15

Observations

Color and Clarity	Slight Turbidity
Oil and Grease observation	Absent

Field Chemistry

QuickCal?	No
Field pH	8.44
Field Water's Temperature (C)	4.5

Flow Information

Staff Gauge Height (feet)	0.31
Flow (CFS)	-99
Continuous Monitor download?	No

Photos	 
Notes	Should be OF002A, 1A no longer in use -SN
Sampler's Name	Chris Bolane

Signature

Signed 2021-05-13 22:47:57 MDT

2021-06-15, 11:15, OF002A

Created	2021-06-15 11:15:55 MDT by Environmental Department
Updated	2021-06-15 19:19:17 MDT by Environmental Department
Location	37.975382767653066, -107.74797353903553
Outfall Field Data	
Sample ID	OF002A
Date	2021-06-15
Time	11:15

Observations

Color and Clarity	Clear
Oil and Grease observation	Absent

Field Chemistry

QuickCal?	No
Field pH	8.17
Field Water's Temperature (C)	9.21

Flow Information

Staff Gauge Height (feet)	0.56
Flow (CFS)	-99
Continuous Monitor download?	No

Photos

Sampler's Name	Chris Bolane

Signature

Signed 2021-06-15 19:18:43 MDT

2021-07-08, 07:49, OF002A

Created	2021-07-08 07:49:00 MDT by Environmental Department
Updated	2021-08-05 12:29:40 MDT by Environmental Department
Location	37.975063962, -107.748124413
Outfall Field Data	
Sample ID	OF002A
Date	2021-07-08
Time	07:49

Observations

Color and Clarity	Slight Turbidity
Oil and Grease observation	Absent

Field Chemistry

QuickCal?	No
Field pH	8.25
Field Water's Temperature (C)	10.7

Flow Information

Staff Gauge Height (feet)	0.5
Flow (CFS)	1.84
Continuous Monitor download?	No
Photos	
Notes	On the Chain Of Contact form sent to ACZ , the sample was originally incorrectly named named "002-A" The sample name was corrected at ACZ to show "OF002A" - Chris

Sampler's Name	Chris Bolane

Signature

Signed 2021-07-08 13:50:33 MDT

2021-07-20, 10:24, OF002A

Created	2021-07-20 10:24:11 MDT by Environmental Department
Updated	2021-07-21 15:15:50 MDT by Environmental Department
Location	37.97529521867444, -107.74814427840313
Outfall Field Data	
Sample ID	OF002A
Date	2021-07-20
Time	10:24

Observations

Color and Clarity	Noticeable Turbidity
Oil and Grease observation	Absent

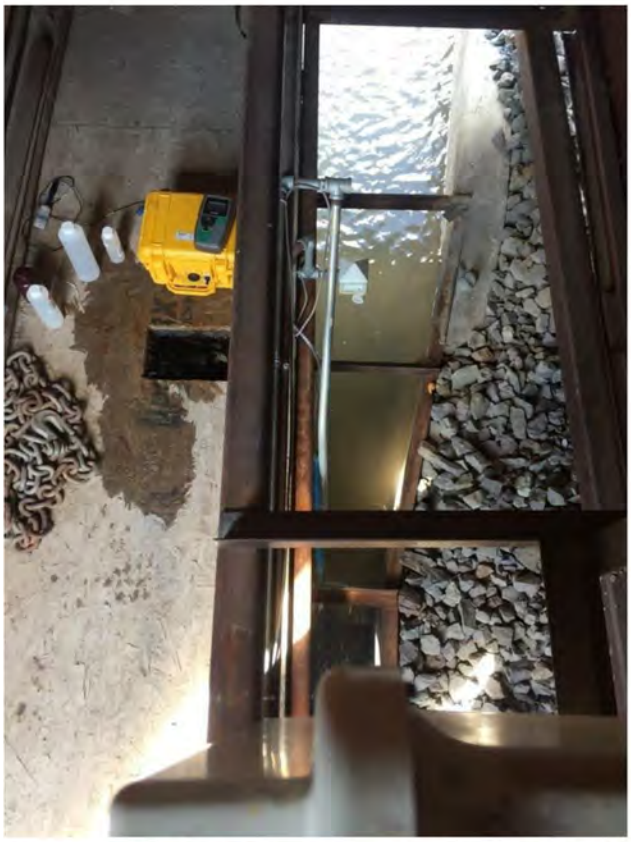
Field Chemistry

QuickCal?	No
Field pH	8.4
Field Water's Temperature (C)	12.5

Flow Information

Staff Gauge Height (feet)	0.47
Flow (CFS)	-99
Continuous Monitor download?	No

Photos



Sampler's Name	Chris Bolane

Signature

Signed 2021-07-21 15:15:42 MDT

2021-07-28, 08:45, OF002A

Created	2021-07-28 08:45:56 MDT by Environmental Department
Updated	2021-07-28 12:12:35 MDT by Environmental Department
Location	38.15060746574489, -107.7606143103476
Outfall Field Data	
Sample ID	OF002A
Date	2021-07-28
Time	08:45

Observations

Color and Clarity	Strong Turbidity
Oil and Grease observation	Absent

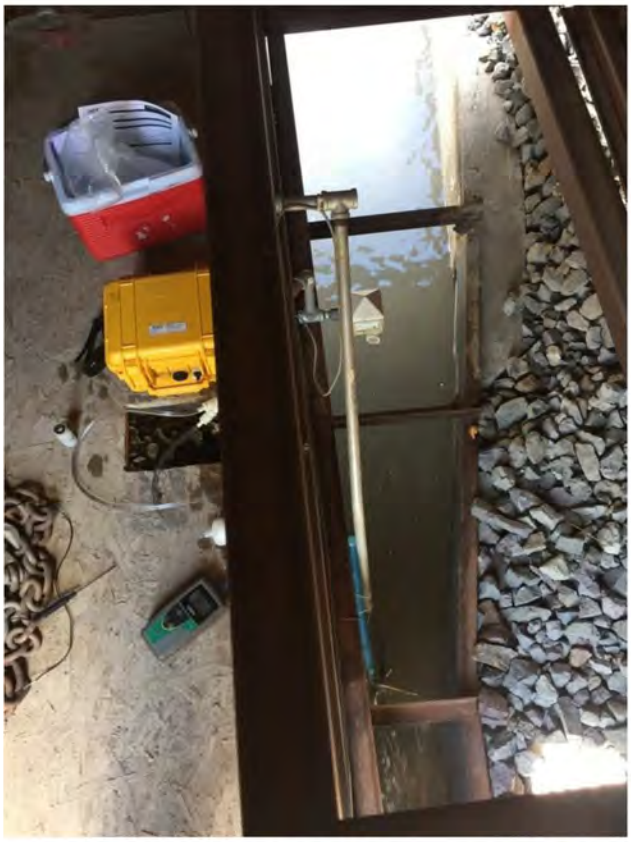
Field Chemistry

QuickCal?	No
Field pH	8.4
Field Water's Temperature (C)	12.2

Flow Information

Staff Gauge Height (feet)	0.48
Flow (CFS)	1.29
Continuous Monitor download?	No

Photos



Notes	More noticeable turbidity than previous sampling events
Sampler's Name	Chris Bolane

Signature

Signed 2021-07-28 12:12:15 MDT

2021-08-05, 12:29, OF002A

Created	2021-08-05 12:29:41 MDT by Environmental Department
Updated	2021-08-05 16:03:00 MDT by Environmental Department
Location	37.9752762074, -107.74813284
Outfall Field Data	
Sample ID	OF002A
Date	2021-08-05
Time	12:29

Observations

Color and Clarity	Noticeable Turbidity
Oil and Grease observation	Absent

Field Chemistry

QuickCal?	No
Field pH	7.63
Field Water's Temperature (C)	13

Flow Information

Staff Gauge Height (feet)	0.5
Flow (CFS)	1.393
Continuous Monitor download?	No
Photos	

Ridgway Office Supply and Services

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(970) 626-3660
www.ridgwayoffice.com

Aug 5, 2021
2:31 PM
Team

30487

PURCHASE

Receipt rhCK

UPS	$74.60
Total	$74.60
Other	$74.60

Ups osmi outfall sampling

Thank you for supporting us! If you had a pleasant experience today, show us some love on Google, Facebook or Yelp!

CO 804 6-01

UPS NEXT DAY AIR
TRACKING #: 1Z 3R5 54V 01 4167 5903
1

BILLING: P/P

Fold here and place in label pouch

FOR UPS SHIPPING ONLY

Notes	Heavy rain and active wildlife in the ponds. Underground has been muddy Sampled between sand filter and flume. EDIT: BG 8/5 post sampling. Based on a gauge reading of 0.5 ft, and a parshal flume width of 12 inches, flow is 1.393 CFS (https://www.openchannelflow.com/assets/uploads/documents/12-inch_parshall_flume_discharge_table.pdf). Also added shipping receipt photo.
Sampler's Name	Michelle Robbins, Briana Greer
Signature	 Signed 2021-08-05 18:44:59 MDT

2021-08-23, 12:40, OF002A

Created	2021-08-23 12:40:00 MDT by Environmental Department
Updated	2021-09-21 20:56:56 MDT by Environmental Department
Location	37.975367940145546, -107.74814585102904
Outfall Field Data	
Sample ID	OF002A
Date	2021-08-23
Time	12:40

Observations

Color and Clarity	Slight Turbidity
Oil and Grease observation	Absent

Field Chemistry

QuickCal?	No
Field pH	8.57
Field Water's Temperature (C)	13.4

Flow Information

Staff Gauge Height (feet)	0.46
Flow (CFS)	1.227
Continuous Monitor download?	No
Photos	

Notes	Preservative vial discolored and grey. Potentially leaked preservative out of bottle due to altitude. Label decomposition. Several variables. Download performed on the 19th. ORP 247.6 mV DO 11.59mgL 110.6% Flow registered with continuous monitoring. See downloaded data. 9/21/21 JM - updated flow according to flume chart.
Sampler's Name	Michelle Robbins, Briana Greer, Josh Moore

Signature

Signed 2021-08-23 14:47:46 MDT

2021-08-30, 12:11, OF002A

Created	2021-08-30 12:11:53 MDT by Environmental Department
Updated	2021-09-21 20:55:38 MDT by Environmental Department
Location	37.9753573, -107.7477527
Outfall Field Data	
Sample ID	OF002A
Date	2021-08-30
Time	12:11

Observations

Color and Clarity	Slight Turbidity
Oil and Grease observation	Absent

Field Chemistry

QuickCal?	No
Field pH	8.19
Field Water's Temperature (C)	11.1

Flow Information

Staff Gauge Height (feet)	0.45
Flow (CFS)	1.186
Continuous Monitor download?	No
Photos	

Notes	ORP = 302.7 mV, DO = 99.1%, Sp Cond = 307.8 uS/cm Need the flow conversion relation or reference sheet for the flume. 9/21/21 JM - updated flow according to flume chart.

Sampler's Name	Joshua Moore
Signature	

Signed 2021-08-30 12:21:24 MDT

2021-09-14, 12:44, OF002A

Created	2021-09-14 12:44:00 MDT by Environmental Department
Updated	2021-09-21 20:54:27 MDT by Environmental Department
Location	,
Outfall Field Data	
Sample ID	OF002A
Date	2021-09-14
Time	12:44

Observations

Color and Clarity	Slight Turbidity
Oil and Grease observation	Absent

Field Chemistry

QuickCal?	Yes
Field pH	8.84
Field Water's Temperature (C)	13.1

Flow Information

Staff Gauge Height (feet)	0.4
Flow (CFS)	0.992
Continuous Monitor download?	No
Photos	


HI70007
pH 7.01
Buffer Solution


System
Probe
Calibration
File
Professional Plus

Notes	Calibration check of pH after surface sampling, 7.01 buffer = 7.08. DO = 139.6%, SpCnd = 334.4, ORO =218.5 . Flume size is 12 inches. 9/21/21 JM - updated flow according to flume chart.
Sampler's Name	Joshua Moore
Signature	 Signed 2021-09-14 13:24:49 MDT

2021-09-21, 10:56, OF002A

Created	2021-09-21 10:56:25 MDT by Environmental Department
Updated	2021-09-21 20:52:46 MDT by Environmental Department
Location	,
Outfall Field Data	
Sample ID	OF002A
Date	2021-09-21
Time	10:56

Observations

Color and Clarity	Slight Turbidity
Oil and Grease observation	Absent

Field Chemistry

QuickCal?	No
Field pH	8.31
Field Water's Temperature (C)	8.6

Flow Information

Staff Gauge Height (feet)	0.38
Flow (CFS)	0.917
Continuous Monitor download?	No

Photos	 
Notes	DO = 100.6%, DO = 11.70 mg/L, SpCnd = 337.6, ORP = 304.8
Sampler's Name	Joshua Moore

Signature

Signed 2021-09-21 11:09:57 MDT

2021-09-30, 14:46, OF002A

Created	2021-09-30 14:46:32 MDT by Environmental Department
Updated	2021-10-01 14:40:46 MDT by Environmental Department
Location	37.97528544455811, -107.74812771661115
Outfall Field Data	
Sample ID	OF002A
Date	2021-09-30
Time	14:46

Observations

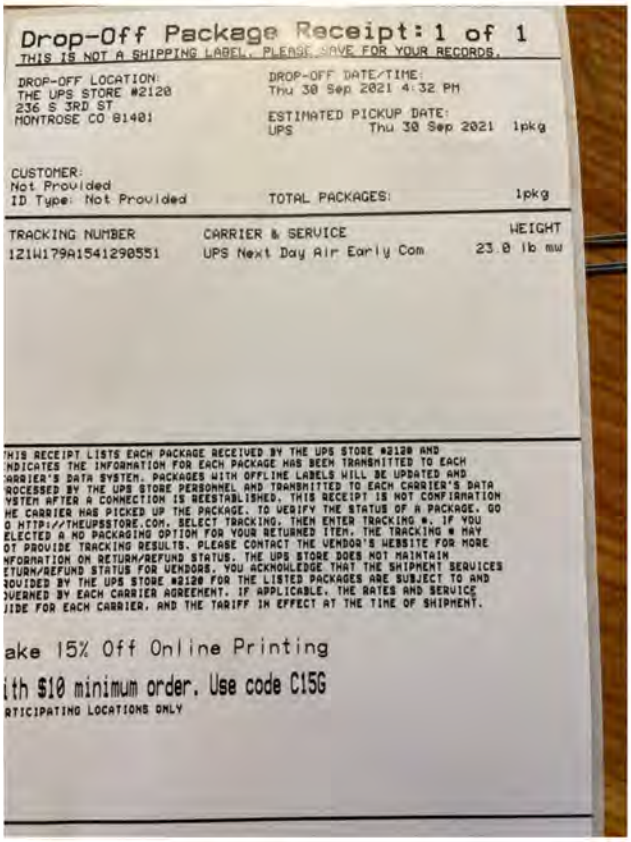
Color and Clarity	Slight Turbidity
Oil and Grease observation	Absent

Field Chemistry

QuickCal?	No
Field pH	9
Field Water's Temperature (C)	7.9

Flow Information

Staff Gauge Height (feet)	0.32
Flow (CFS)	0.7062
Continuous Monitor download?	Yes
Photos	



Drop-Off Package Receipt: 1 of 1

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UPS Thu 30 Sep 2021 1pkg

CUSTOMER:
Not Provided
ID Type: Not Provided

TOTAL PACKAGES: 1pkg

TRACKING NUMBER	CARRIER & SERVICE	WEIGHT
1Z1W179A1541290551	UPS Next Day Air Early Com	23.0 lb mw

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Notes	9.04 as pH 10/01/2021 BG: performed pH check in 7 buffer at truck immediately after sampling. Reading was 7.05 Added photo of shipping doc. Updated flow CFS based on more precise flow table (last one only went to tenths of staff gauge reading).
Sampler's Name	Michelle Robbins, Briana Greer
Signature	

Signed 2021-09-30 14:48:53 MDT

2021-10-13, 11:51, OF002A

Created	2021-10-13 11:51:27 MDT by Environmental Department
Updated	2021-10-13 13:02:19 MDT by Environmental Department
Location	,
Outfall Field Data	
Sample ID	OF002A
Date	2021-10-13
Time	11:51

Observations

Color and Clarity	Clear
Oil and Grease observation	Absent

Field Chemistry

QuickCal?	No
Field pH	9.08
Field Water's Temperature (C)	3.9

Flow Information

Staff Gauge Height (feet)	0.34
Flow (CFS)	0.7744
Photos	
Notes	DO% = 87.4, DO mg/L = 11.44, SpCnd = 375.7 uS/cm, TDS = 244.2, ORP = 198.7 mV
Sampler's Name	Joshua Moore

Signature

Signed 2021-10-13 12:19:57 MDT

2021-10-20, 12:21, OF002A

Created	2021-10-20 12:21:02 MDT by Environmental Department
Updated	2021-10-20 12:43:56 MDT by Environmental Department
Location	,
Outfall Field Data	
Sample ID	OF002A
Date	2021-10-20
Time	12:21

Observations

Color and Clarity	Clear
Oil and Grease observation	Absent

Field Chemistry

QuickCal?	No
Field pH	8.89
Field Water's Temperature (C)	4.5

Flow Information

Staff Gauge Height (feet)	0.32
Flow (CFS)	0.7062
Continuous Monitor download?	Yes
Photos	
Notes	DO% = 83.8 DO = 10.82 mg/L; SpCnd = 317.4 uS/cm; TDS = 206.37; ORP = 210.5 mV
Sampler's Name	Joshua Moore

Signature

Signed 2021-10-20 12:43:43 MDT

2021-11-01, 11:47, OF002A

Created	2021-11-01 11:47:44 MDT by Environmental Department
Updated	2021-11-01 12:07:13 MDT by Environmental Department
Location	,
Outfall Field Data	
Sample ID	OF002A
Date	2021-11-01
Time	11:47

Observations

Color and Clarity	Clear
Oil and Grease observation	Absent

Field Chemistry

QuickCal?	No
Field pH	8.36
Field Water's Temperature (C)	5

Flow Information

Staff Gauge Height (feet)	0.31
Flow (CFS)	0.6728
Continuous Monitor download?	No

Photos

Notes	DO% = 79.8, DO = 10.16 mg/L, SpCnd = 315.5 uS/cm, TDS = 205.1 mg/L, ORP = 221.1 mV
Sampler's Name	Joshua Moore

Signature

Signed 2021-11-01 12:07:03 MDT

2021-11-15, 13:19, OF002A

Created	2021-11-15 13:19:51 MST by Environmental Department
Updated	2021-11-15 13:40:55 MST by Environmental Department
Location	,
Outfall Field Data	
Sample ID	OF002A
Date	2021-11-15
Time	13:19

Observations

Color and Clarity	Clear
Oil and Grease observation	Absent

Field Chemistry

QuickCal?	No
Field pH	8.35
Field Water's Temperature (C)	4.6

Flow Information

Staff Gauge Height (feet)	0.31
Flow (CFS)	0.6728
Continuous Monitor download?	No

Photos	 
Notes	Sampled bimonthly outfall. D = 84.4%, 10.90 mg/L; SpCnd = 382.6 uS/cm; TDS = 248.7 mg/L, ORP = 213.0 mV.
Sampler's Name	Joshua Moore

Signature

Signed 2021-11-15 13:40:49 MST

2021-12-01, 11:11, OF002A

Created	2021-12-01 11:11:52 MST by Environmental Department
Updated	2021-12-01 11:28:03 MST by Environmental Department
Location	,
Outfall Field Data	
Sample ID	OF002A
Date	2021-12-01
Time	11:11

Observations

Color and Clarity	Clear
Oil and Grease observation	Absent

Field Chemistry

QuickCal?	No
Field pH	8.03
Field Water's Temperature (C)	2

Flow Information

Staff Gauge Height (feet)	0.3
Flow (CFS)	0.6401
Continuous Monitor download?	No
Photos	

Notes	Bimonthly DO =68.1%, 9.40 ppm; SpCnd = 395.2 uS/cm; TDS = 256.9 ppm; ORP = 224.3 mV. WET sample volume of 8 gallons also collected.
Sampler's Name	Joshua Moore

Signature

Signed 2021-12-01 11:28:00 MST

2021-12-08, 13:01, OF002A

Created	2021-12-08 13:01:36 MST by Environmental Department
Updated	2021-12-08 15:46:19 MST by Environmental Department
Location	,
Outfall Field Data	
Sample ID	OF002A
Date	2021-12-08
Time	13:01

Observations

Color and Clarity	Clear
Oil and Grease observation	Absent

Field Chemistry

QuickCal?	No
Field pH	7.95
Field Water's Temperature (C)	1.7

Flow Information

Staff Gauge Height (feet)	0.3
Flow (CFS)	0.6401
Continuous Monitor download?	No

Photos	 
Notes	Collection of second bimonthly for December. DO = 67.7%, 9.44 ppm; SpCnd = 416.9 uS/cm; TDS = 271.0 ppm; ORP = 206.2 mV
Sampler's Name	Joshua Moore

Signature

Signed 2021-12-08 13:18:14 MST

2021-03-24, 10:39, UG-2

Created	2021-03-24 10:39:51 MDT by Environmental Department
Updated	2021-06-18 14:51:34 MDT by Environmental Department
Location	38.1501179142, -107.760444051
Surface Water Field Data	
Sample ID	UG-2
Date	2021-03-24
Time	10:39

Observations

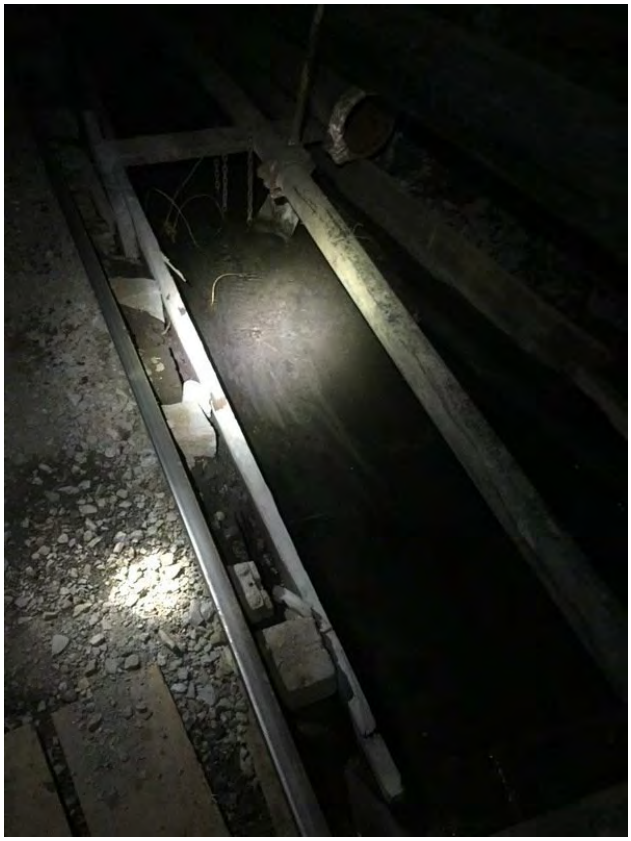
Outdoor Weather Conditions	Cloudy
Color and Clarity	Slight Turbidity
Oil and Grease observation	Absent

Field Chemistry

Sample Time	10:39
QuickCal?	No
Field pH	8.25
Field Water's Temperature (C)	5

Flow Information

Channel Height (feet)	0.1
Interval Spacing (feet)	0.5
Width at Water's Edge (feet)	3
Flow (CFS)	0

Photos	
Notes	Zero to Negative flow. Water in the ditch was visually observed to be not moving with pooling of the water due to lack of overall flow.
Sampler's Name	Chris Bolane
Signature	

Signed 2021-06-08 18:56:05 MDT

2021-06-15, 11:52, UG-2

Created	2021-06-15 11:52:08 MDT by Environmental Department
Updated	2021-06-18 14:49:39 MDT by Environmental Department
Location	38.1502642203, -107.760451092
Surface Water Field Data	
Sample ID	UG-2
Date	2021-06-15
Time	11:52

Observations

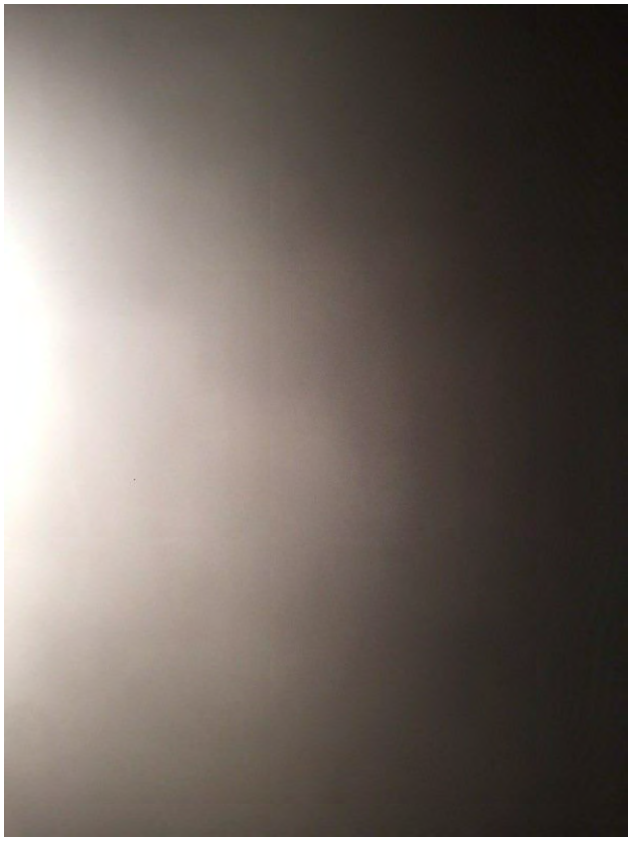
Outdoor Weather Conditions	Sunny, 60 degrees
Color and Clarity	Slight Turbidity
Oil and Grease observation	Absent

Field Chemistry

Sample Time	11:52
QuickCal?	No
Field pH	8.87
Field Water's Temperature (C)	5.09

Flow Information

Channel Height (feet)	0.2
Interval Spacing (feet)	1
Width at Water's Edge (feet)	3
Flow (CFS)	0

Photos	
Notes	Water in the ditch was visually observed to have no flow due to lack of water in the ditch. No photos
Sampler's Name	Chris Bolane
Signature	

Signed 2021-06-17 22:25:08 MDT

2021-09-07, 12:54, UG-2

Created	2021-09-07 12:23:56 MDT by Environmental Department
Updated	2021-09-07 19:15:43 MDT by Environmental Department
Location	,
Surface Water Field Data	
Sample ID	UG-2
Date	2021-09-07
Time	12:54

Observations

Outdoor Weather Conditions	Clear and seasonal
Color and Clarity	Slight Turbidity
Oil and Grease observation	Absent

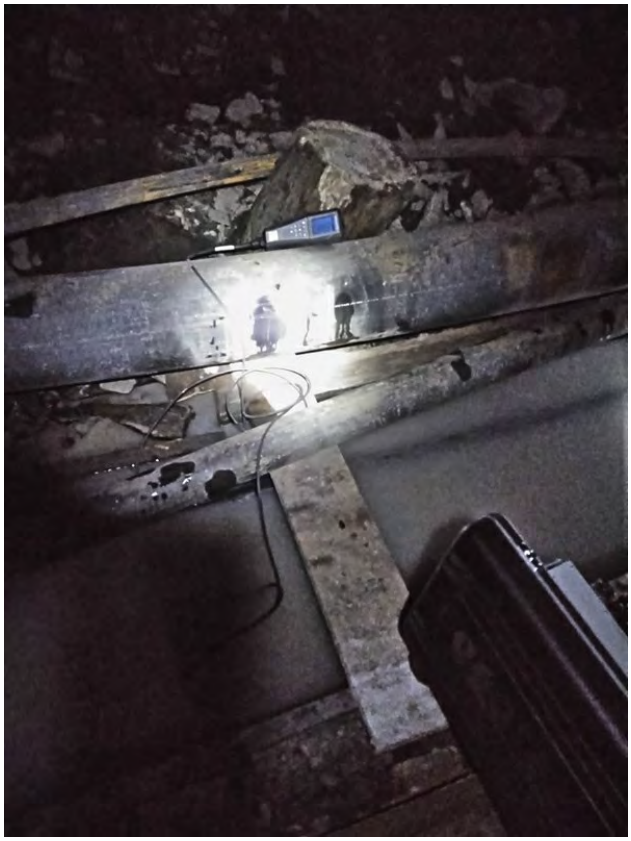
Field Chemistry

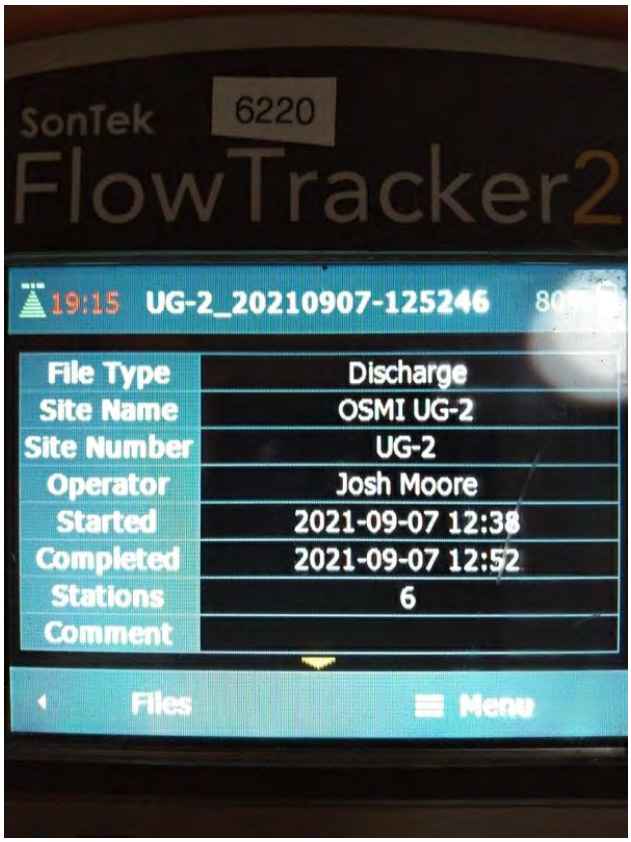
Sample Time	12:55
QuickCal?	No
Field pH	7.85
Field Water's Temperature (C)	7.8

Flow Information

Channel Height (feet)	0.5
Interval Spacing (feet)	0.3
Width at Water's Edge (feet)	2
Flow (CFS)	0.54

Photos




SonTek
6220
FlowTracker2
19:15
UG-2_20210907-125246
File Type
Discharge
Site Name
OSMI UG-2
Site Number
UG-2
Operator
Josh Moore
Started
2021-09-07 12:38
Completed
2021-09-07 12:52
Stations
6
Comment
Files
Menu

Notes	Channel partly obstructed by pipe. ORP =287, DO=84.4, SCnd=350.6
Sampler's Name	Joshua Moore
Signature	

Signed 2021-09-07 12:26:01 MDT

2021-11-17, 10:53, UG-2

Created	2021-11-17 10:53:05 MST by Environmental Department
Updated	2021-11-17 11:07:31 MST by Environmental Department
Location	,
Surface Water Field Data	
Sample ID	UG-2
Date	2021-11-17
Time	10:53

Observations

Outdoor Weather Conditions	See UG-8.
Color and Clarity	Clear
Oil and Grease observation	Absent

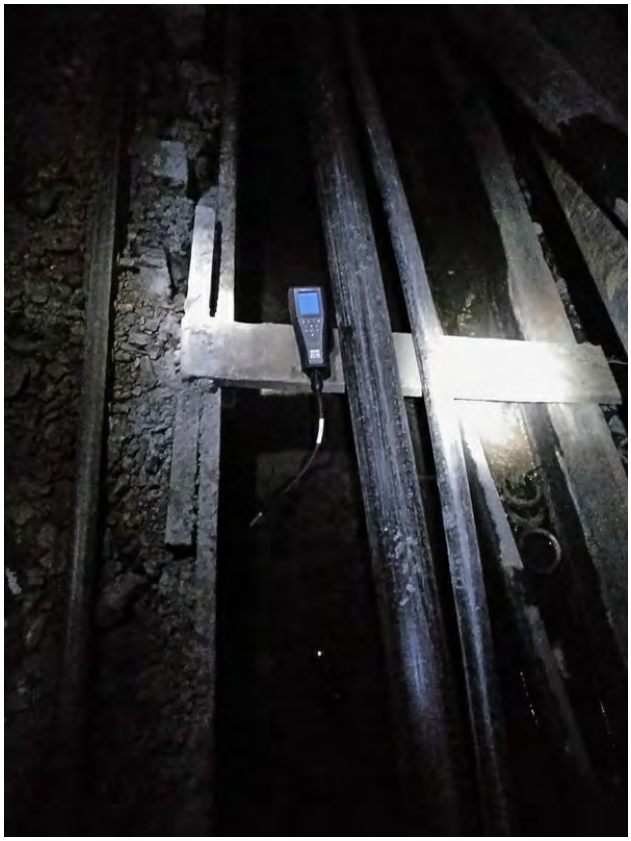
Field Chemistry

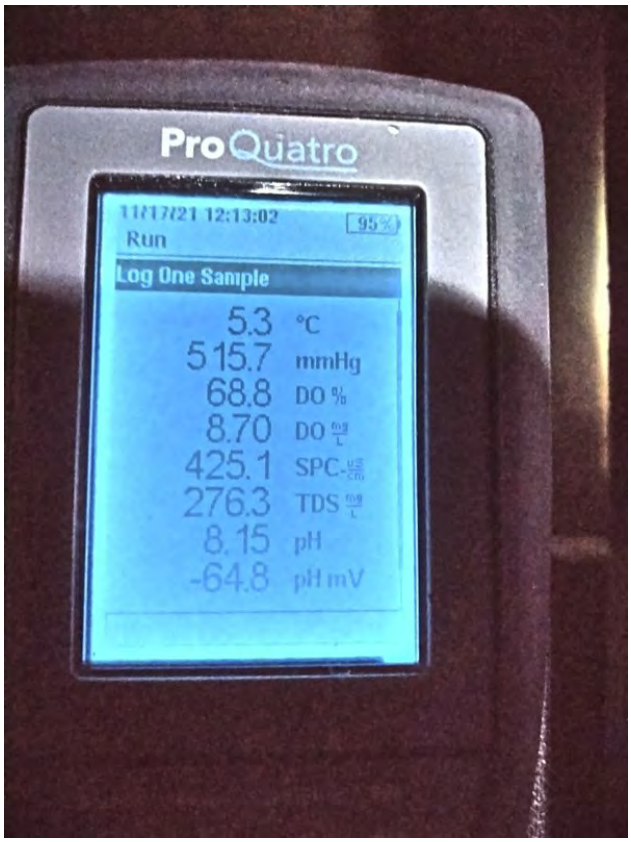
Sample Time	10:53
QuickCal?	No
Field pH	8.15
Field Water's Temperature (C)	5.3

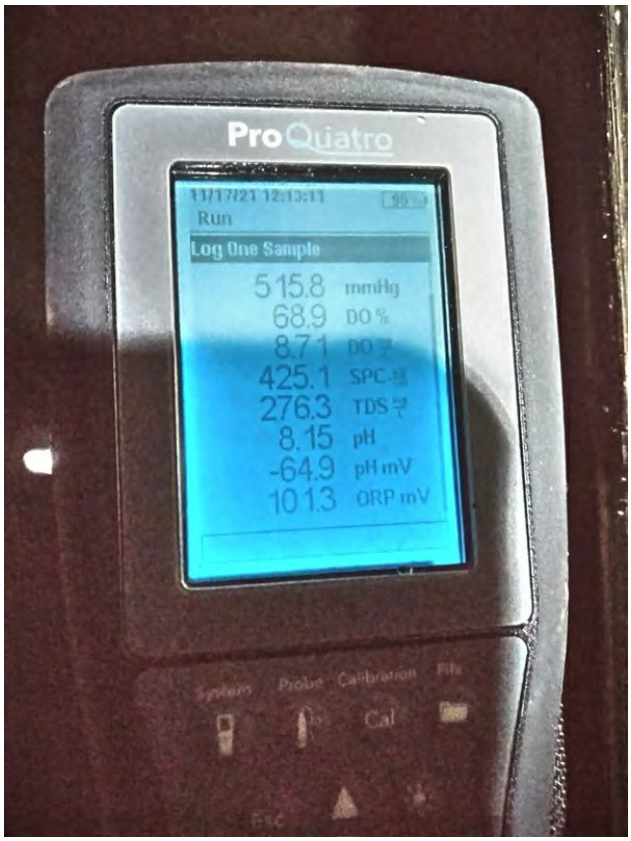
Flow Information

Channel Height (feet)	0.271
Interval Spacing (feet)	1
Width at Water's Edge (feet)	1.667
Flow (CFS)	0.204

Photos




ProQuatro
11/17/21 12:13:02
95%
Run
Log One Sample
5.3 °C
515.7 mmHg
68.8 DO %
8.70 DO mg/L
425.1 SPC-µS/cm
276.3 TDS mg/L
8.15 pH
-64.8 pH mV



Notes	Velocity =.4515 fps. Flow estimation calculated. DO = 68.9%, 8.69 ppm; spCnd = 425.0; TDS = 276.2 ppm; ORP = 101.4 mV.
Sampler's Name	Joshua Moore
Signature	 Signed 2021-11-17 11:07:21 MST

2021-03-24, 09:49, UG-4

Created	2021-03-24 09:49:09 MDT by Environmental Department
Updated	2021-06-08 12:54:02 MDT by Environmental Department
Location	38.150117914227906, -107.76044405075513
Surface Water Field Data	
Sample ID	UG-4
Date	2021-03-24
Time	09:49

Observations

Outdoor Weather Conditions	Cloudy
Color and Clarity	Slight Turbidity
Oil and Grease observation	Absent

Field Chemistry

Sample Time	09:49
QuickCal?	No
Field pH	8.34
Field Water's Temperature (C)	6.1

Flow Information

Channel Height (feet)	0.1
Interval Spacing (feet)	0.5
Width at Water's Edge (feet)	2.5
Flow (CFS)	0.0329

Photos

Sampler's Name	Chris Bolane

Signature

Signed 2021-06-08 12:53:34 MDT

2021-06-15, 09:41, UG-4

Created	2021-06-15 09:41:26 MDT by Environmental Department
Updated	2021-06-18 14:47:53 MDT by Environmental Department
Location	38.1501550461, -107.76050264
Surface Water Field Data	
Sample ID	UG-4
Date	2021-06-15
Time	09:41

Observations

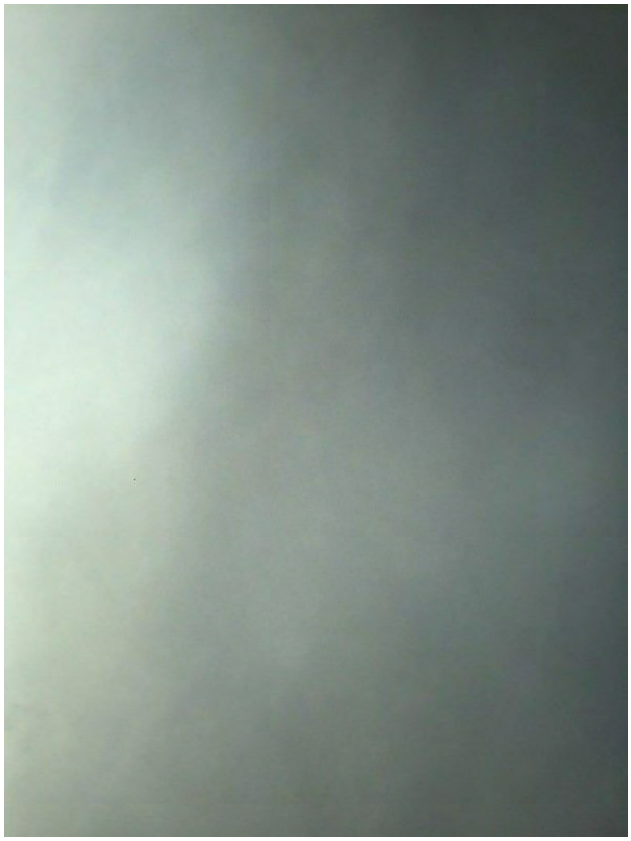
Outdoor Weather Conditions	Sunny, 60 degrees
Color and Clarity	Noticeable Turbidity
Oil and Grease observation	Present

Field Chemistry

Sample Time	09:41
QuickCal?	No
Field pH	8.81
Field Water's Temperature (C)	8.3

Flow Information

Channel Height (feet)	0.6
Interval Spacing (feet)	1
Width at Water's Edge (feet)	3
Flow (CFS)	0

Photos	
Notes	Actual flow -.450. Water in the ditch was visually observed to be flowing very slightly "up-stream" with pooling of the water due to lack of overall flow. No photos
Sampler's Name	Chris Bolane
Signature	

Signed 2021-06-17 22:38:31 MDT

2021-03-17, 10:17, UG-5

Created	2021-03-17 10:17:19 MDT by Environmental Department
Updated	2021-03-21 18:38:13 MDT by Environmental Department
Location	38.15031488895244, -107.7605406940987
Surface Water Field Data	
Sample ID	UG-5
Date	2021-03-17
Time	10:17

Observations

Outdoor Weather Conditions	Underground, overcast outside
Color and Clarity	Clear
Oil and Grease observation	Absent

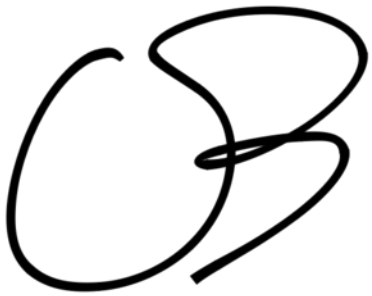
Field Chemistry

Sample Time	10:17
QuickCal?	No
Field pH	8.21
Field Water's Temperature (C)	5.5

Flow Information

Channel Height (feet)	0.1
Interval Spacing (feet)	0.5
Width at Water's Edge (feet)	2
Flow (CFS)	0.0531
Photos	
Sampler's Name	Chris Bolane

Signature



Signed 2021-03-21 18:37:35 MDT

2021-06-15, 10:37, UG-5

Created	2021-06-15 10:37:49 MDT by Environmental Department
Updated	2021-06-17 16:35:21 MDT by Environmental Department
Location	37.973561547731954, -107.74976290772459
Surface Water Field Data	
Sample ID	UG-5
Date	2021-06-15
Time	10:37

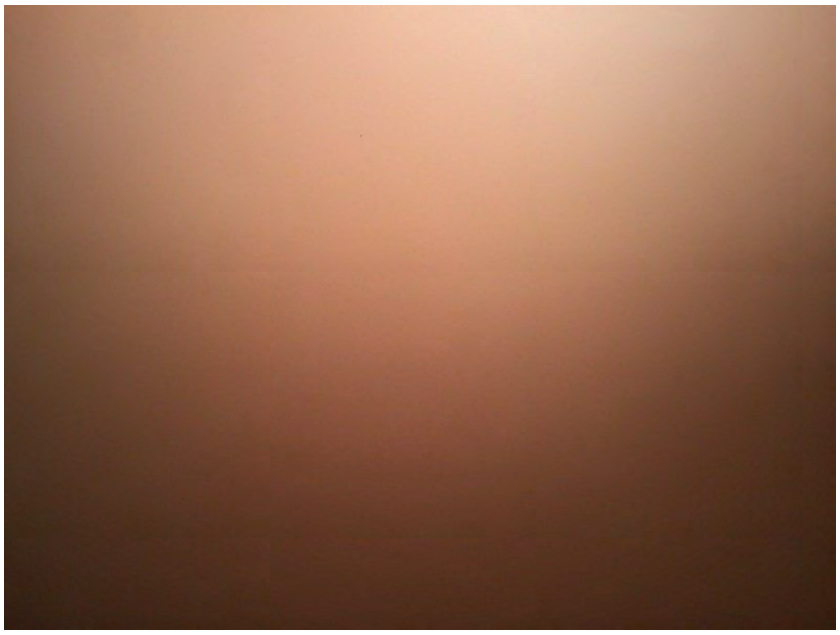
Observations

Outdoor Weather Conditions	Sunny, 60 degrees
Color and Clarity	Clear
Oil and Grease observation	Absent

Field Chemistry

Sample Time	10:37
QuickCal?	No
Field pH	8.96
Field Water's Temperature (C)	6.2

Flow Information

Channel Height (feet)	0.5
Interval Spacing (feet)	0.5
Width at Water's Edge (feet)	1.5
Flow (CFS)	2.48
Photos	
Notes	No photos
Sampler's Name	Chris Bolane

Signature

Signed 2021-06-17 16:35:04 MDT

2021-09-07, 12:25, UG-5

Created	2021-09-07 12:53:01 MDT by Environmental Department
Updated	2021-09-24 16:12:25 MDT by Environmental Department
Location	37.9741092, -107.7506239
Surface Water Field Data	
Sample ID	UG-5
Date	2021-09-07
Time	12:25

Observations

Outdoor Weather Conditions	Clear and seasonal.
Color and Clarity	Noticeable Turbidity
Oil and Grease observation	Absent

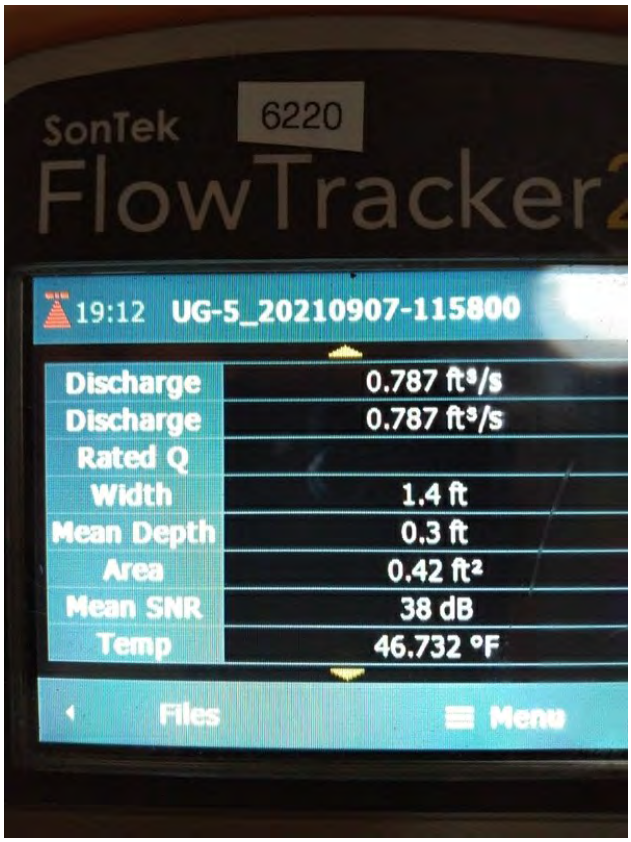
Field Chemistry

Sample Time	12:53
QuickCal?	No
Field pH	7.59
Field Water's Temperature (C)	7.9

Flow Information

Channel Height (feet)	0.4
Interval Spacing (feet)	0.25
Width at Water's Edge (feet)	1.8
Flow (CFS)	0.79

Photos



Sampler's Name	Joshua Moore

Signature

Signed 2021-09-07 19:09:19 MDT

2021-11-17, 11:30, UG-5

Created	2021-11-17 11:30:21 MST by Environmental Department
Updated	2021-11-17 11:40:28 MST by Environmental Department
Location	,
Surface Water Field Data	
Sample ID	UG-5
Date	2021-11-17
Time	11:30

Observations

Outdoor Weather Conditions	See UG-8.
Color and Clarity	Clear
Oil and Grease observation	Absent

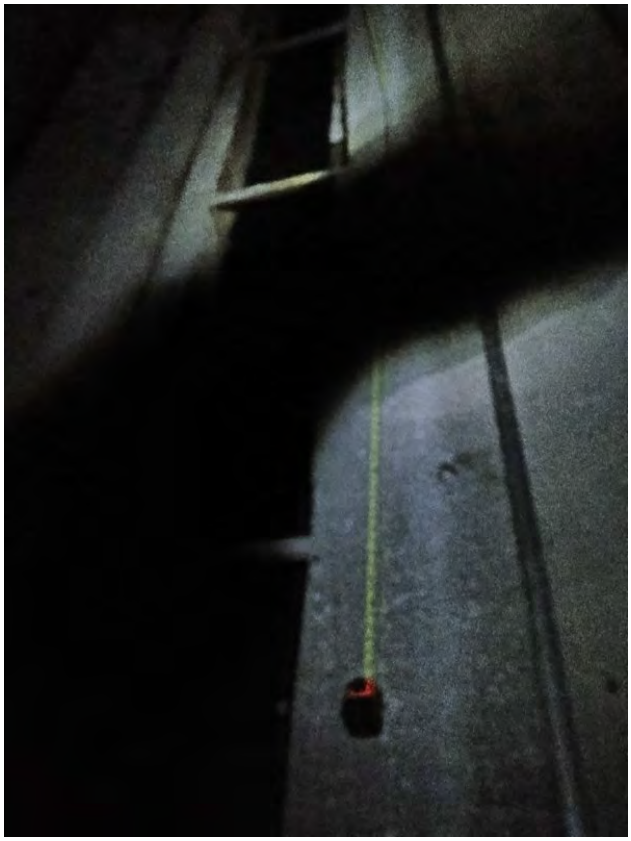
Field Chemistry

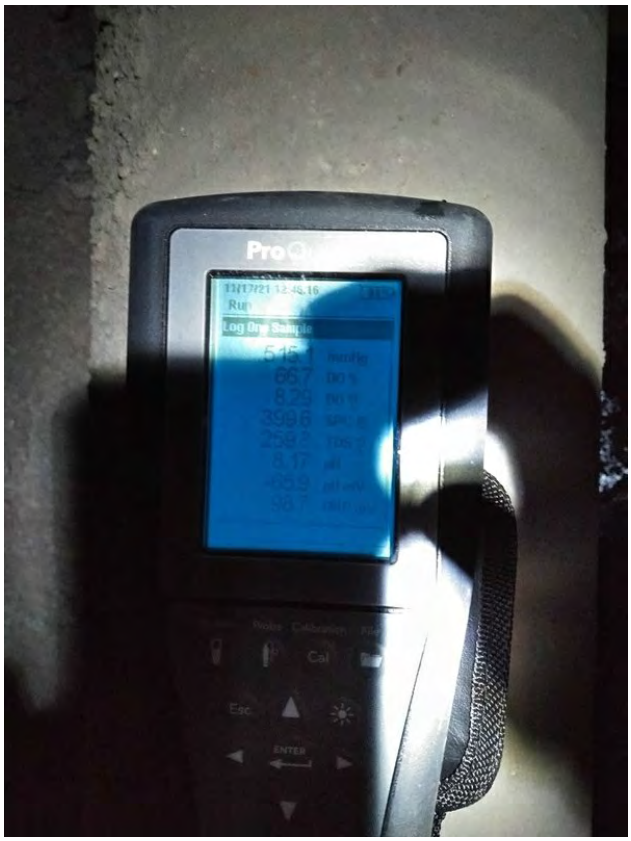
Sample Time	11:30
QuickCal?	No
Field pH	8.28
Field Water's Temperature (C)	6

Flow Information

Channel Height (feet)	0.3125
Interval Spacing (feet)	1
Width at Water's Edge (feet)	1.25
Flow (CFS)	0.5832

Photos





Notes	Velocity = 1.493 fps. Flow estimation calculated. DO = 66.7%, 8.28 ppm; spCnd = 399.9; TDS = 260.1; ORP = 98.4.
Sampler's Name	Joshua Moore
Signature	

Signed 2021-11-17 11:40:19 MST

2021-03-17, 08:58, UG-8

Created	2021-03-17 08:58:37 MDT by Environmental Department
Updated	2021-03-21 18:38:53 MDT by Environmental Department
Location	38.150182161515716, -107.7605385986229
Surface Water Field Data	
Sample ID	UG-8
Date	2021-03-17
Time	08:58

Observations

Outdoor Weather Conditions	Underground
Color and Clarity	Clear
Oil and Grease observation	Absent

Field Chemistry

Sample Time	08:58
QuickCal?	No
Field pH	8.11
Field Water's Temperature (C)	8.14

Flow Information

Channel Height (feet)	0.1
Interval Spacing (feet)	1
Width at Water's Edge (feet)	3
Flow (CFS)	0.038
Photos	
Sampler's Name	Chris Bolane

Signature

Signed 2021-03-21 18:22:04 MDT

2021-06-15, 09:38, UG-8

Created	2021-06-15 09:38:35 MDT by Environmental Department
Updated	2021-06-17 16:45:54 MDT by Environmental Department
Location	38.15029753841287, -107.76045938963793
Surface Water Field Data	
Sample ID	UG-8
Date	2021-06-15
Time	09:38

Observations

Outdoor Weather Conditions	Sunny, 60 degrees
Color and Clarity	Noticeable Turbidity
Oil and Grease observation	Present

Field Chemistry

Sample Time	09:38
QuickCal?	No
Field pH	8.76
Field Water's Temperature (C)	8.27

Flow Information

Channel Height (feet)	0.25
Interval Spacing (feet)	1
Width at Water's Edge (feet)	3
Flow (CFS)	0.238

Photos	
Sampler's Name	Chris Bolane
Signature	

Signed 2021-06-17 16:45:49 MDT

2021-09-07, 13:40, UG-8

Created	2021-09-07 13:40:24 MDT by Environmental Department
Updated	2021-09-10 21:45:21 MDT by Environmental Department
Location	,
Surface Water Field Data	
Sample ID	UG-8
Date	2021-09-07
Time	13:40

Observations

Outdoor Weather Conditions	Clear and seasonal.
Color and Clarity	Strong Turbidity
Oil and Grease observation	Absent

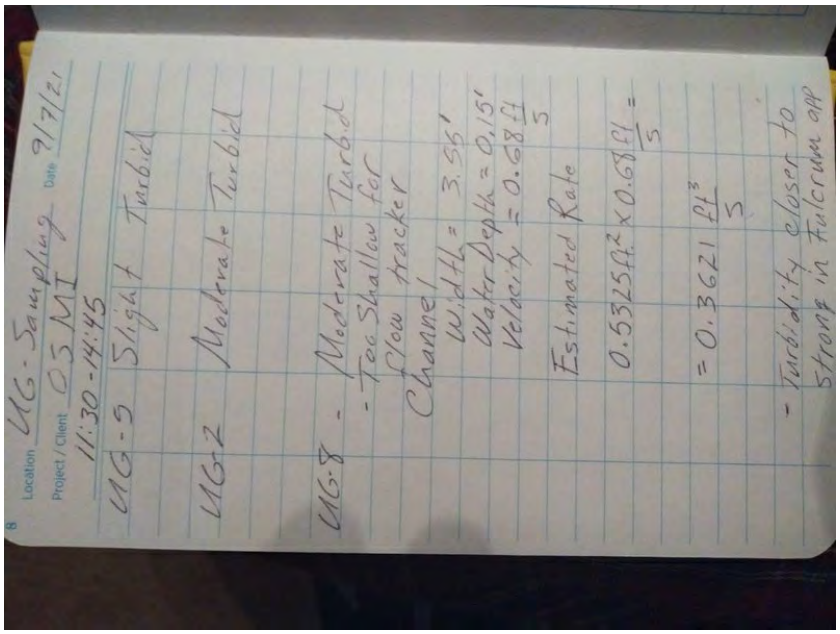
Field Chemistry

Sample Time	13:40
QuickCal?	No
Field pH	7.71
Field Water's Temperature (C)	10.6

Flow Information

Channel Height (feet)	0.15
Interval Spacing (feet)	3.55
Width at Water's Edge (feet)	3.55
Flow (CFS)	0.36

Photos



Notes	Channel too low for Flow Tracker, estimated flow based on velocity and cross section of water. ORP=76.1, SpCnd=418.0, DO=77.5% 9-10-2021 JM : Updated flow from field notes.
Sampler's Name	Joshua Moore

Signature

Signed 2021-09-07 13:45:50 MDT

2021-11-17, 10:06, UG-8

Created	2021-11-17 10:06:52 MST by Environmental Department
Updated	2021-11-17 10:20:20 MST by Environmental Department
Location	,
Surface Water Field Data	
Sample ID	UG-8
Date	2021-11-17
Time	10:06

Observations

Outdoor Weather Conditions	Clear, sunny, seasonal, no precip, 50F.
Color and Clarity	Clear
Oil and Grease observation	Absent

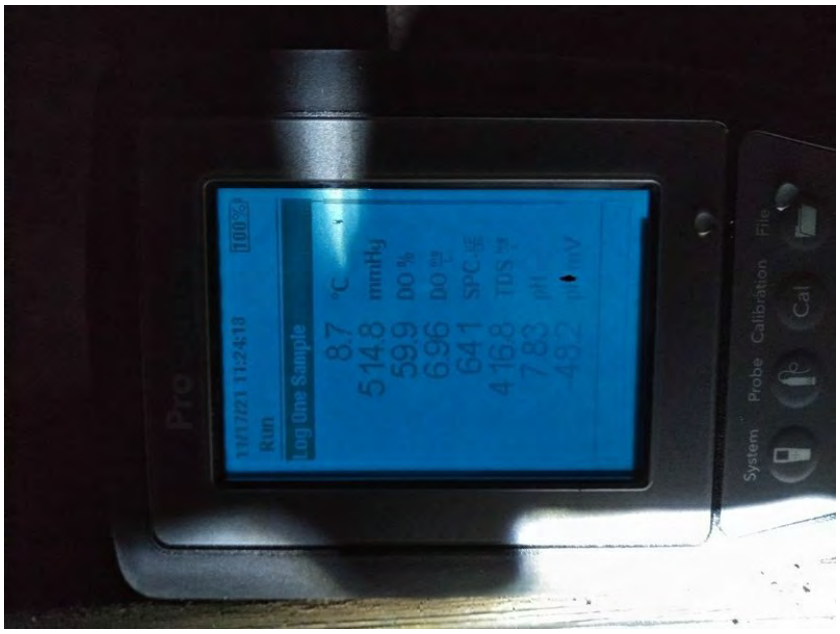
Field Chemistry

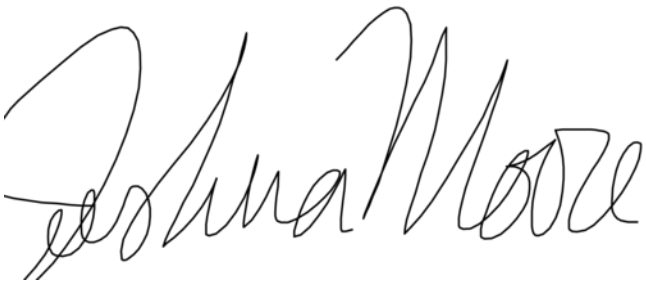
Sample Time	10:06
QuickCal?	No
Field pH	7.82
Field Water's Temperature (C)	8.7

Flow Information

Channel Height (feet)	0.1042
Interval Spacing (feet)	1
Width at Water's Edge (feet)	3.58
Flow (CFS)	0.1846

Photos



Notes	Velocity = .495 fps. Flow rate calculated. DO = 59.9%, 6.95 ppm; spCnd = 640 ppm; TDS = 640 ppm; ORP 33.7 mV.
Sampler's Name	Joshua Moore
Signature	

Signed 2021-11-17 10:19:53 MST

2021-03-24, 09:08, UG-10

Created	2021-03-24 09:08:36 MDT by Environmental Department
Updated	2021-06-08 12:52:20 MDT by Environmental Department
Location	38.15026417843825, -107.76023735302292
Surface Water Field Data	
Sample ID	UG-10
Date	2021-03-24
Time	09:08

Observations

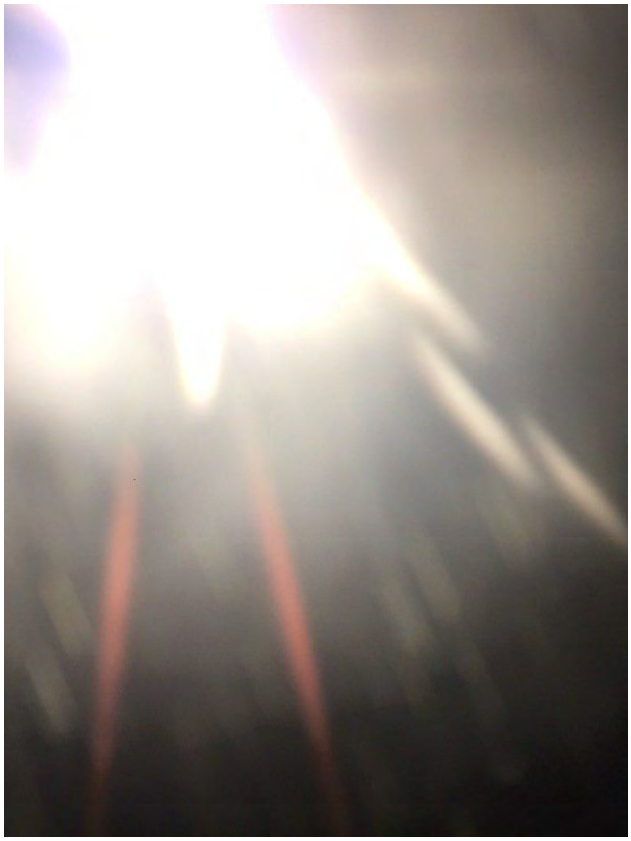
Outdoor Weather Conditions	Cloudy
Color and Clarity	Noticeable Turbidity
Oil and Grease observation	Absent

Field Chemistry

Sample Time	09:08
QuickCal?	No
Field pH	7.81
Field Water's Temperature (C)	7.4

Flow Information

Channel Height (feet)	0.1
Interval Spacing (feet)	0.5
Width at Water's Edge (feet)	3
Flow (CFS)	0.019

Photos	
Notes	No photos taken
Sampler's Name	Chris Bolane
Signature	

Signed 2021-06-08 12:51:13 MDT

2021-06-15, 08:04, UG-10

Created	2021-06-15 08:04:08 MDT by Environmental Department
Updated	2021-06-18 14:50:18 MDT by Environmental Department
Location	37.9740393581, -107.75060839
Surface Water Field Data	
Sample ID	UG-10
Date	2021-06-15
Time	08:04

Observations

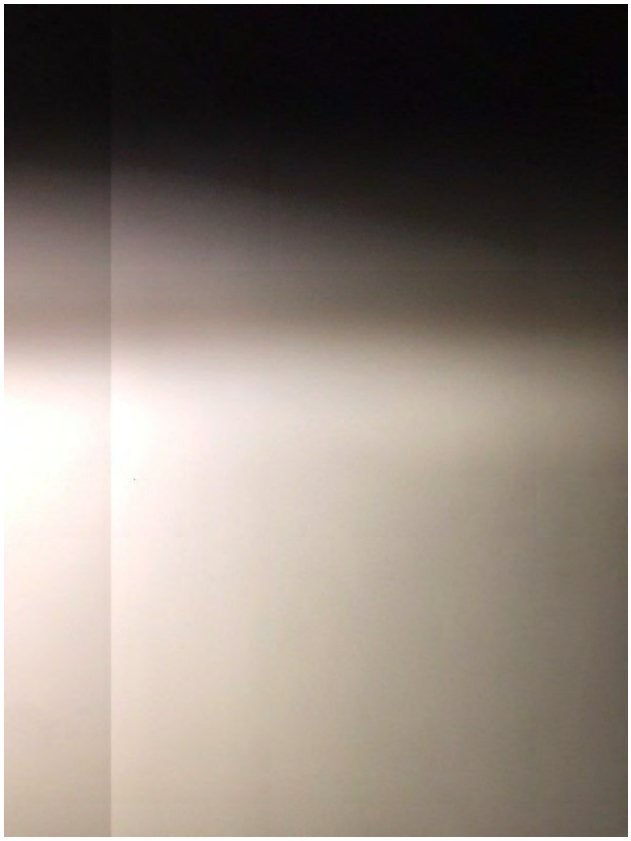
Outdoor Weather Conditions	Sunny 60 degrees
Color and Clarity	Noticeable Turbidity
Oil and Grease observation	Absent

Field Chemistry

Sample Time	08:04
QuickCal?	No
Field pH	9.26
Field Water's Temperature (C)	7.8

Flow Information

Channel Height (feet)	0.55
Interval Spacing (feet)	1
Width at Water's Edge (feet)	3
Flow (CFS)	0

Photos	
Notes	No photos. Actual flow was -1.078. Water in the ditch was visually observed to be flowing very slightly "up-stream" with pooling of the water due to lack of overall flow.
Sampler's Name	Chris Bolane
Signature	

Signed 2021-06-17 22:17:34 MDT

2021-06-15, 10:35, UG-99

Created	2021-06-17 18:11:03 MDT by Environmental Department
Updated	2021-06-17 18:11:39 MDT by Environmental Department
Location	,
Surface Water Field Data	
Sample ID	UG-99
Date	2021-06-15
Time	10:35

Observations

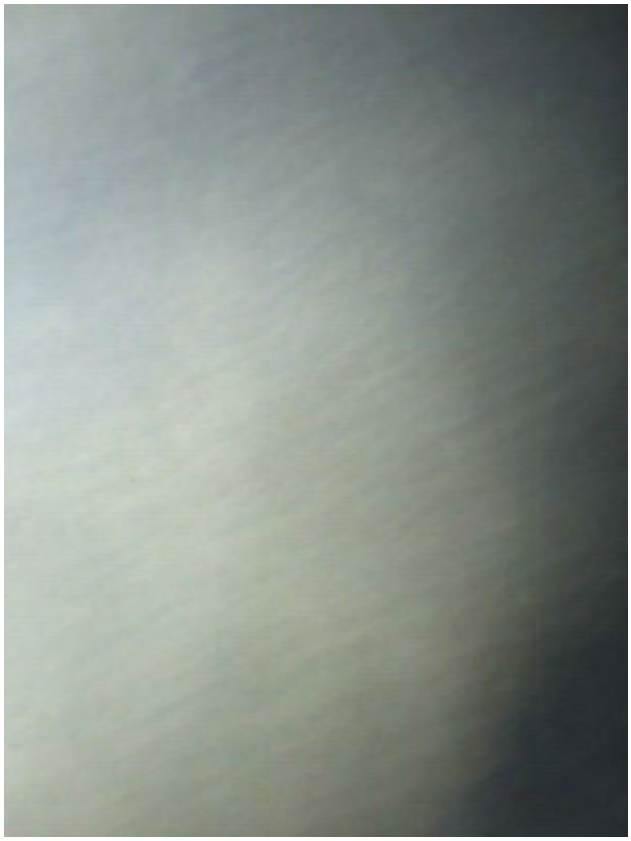
Outdoor Weather Conditions	Sunny, 50 degrees
Color and Clarity	Clear
Oil and Grease observation	Absent

Field Chemistry

Sample Time	10:35
QuickCal?	No
Field pH	8.96
Field Water's Temperature (C)	6.2

Flow Information

Channel Height (feet)	.5
Interval Spacing (feet)	.5
Width at Water's Edge (feet)	1.5
Flow (CFS)	2.48

Photos	
Notes	Duplicate sample taken at site UG-5., No photo
Sampler's Name	Chris Bolane
Signature	Chris Bolane Signed 2021-06-17 18:08:53 MDT

2021-11-17

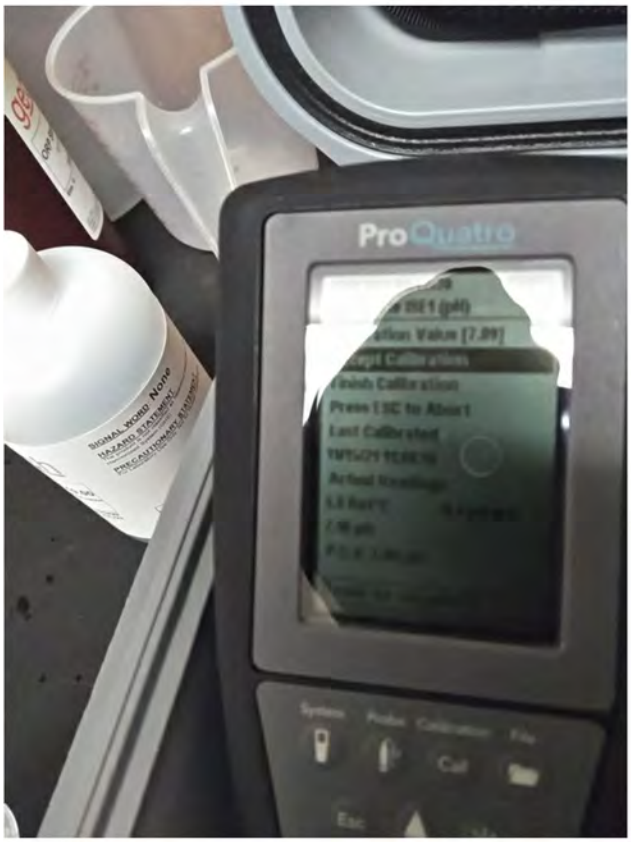
Created	2021-11-17 07:59:09 MST by Environmental Department
Updated	2021-11-17 08:07:42 MST by Environmental Department
Location	,

Equipment Calibration

Calibration Date	2021-11-17
Equipment	YSI SN 21G103989
Notes	Calibrate SpCnd, pH, ORP, and DO.
Sampler's name	Joshua Moore
Signature	

Signed 2021-11-17 08:00:22 MST

Photos



2021-11-22

Created	2021-11-22 10:46:57 MST by Environmental Department
Updated	2021-11-22 10:54:07 MST by Environmental Department
Location	,

Equipment Calibration

Calibration Date	2021-11-22
Equipment	Hanna pH, Electrode SN 06200887211
Notes	Calibrate with pH 7 & 10 buffers. 6.86 reference buffer value = 6.88, ok.
Sampler's name	Joshua Moore
Signature	

Signed 2021-11-22 10:49:12 MST

Photos


HANNA
10.11
17.7°
MODE
SET/HOLD
pH 10.01
Buffer Solution


HANNA
6.88
17.6°
MODE
SET/HOLD
20 mL
pH 6.86
Buffer Solution

2021-11-29

Created	2021-11-29 09:54:09 MST by Environmental Department
Updated	2021-11-29 09:58:41 MST by Environmental Department
Location	,

Equipment Calibration

Calibration Date	2021-11-29
Equipment	Hanna Portable pH Electrode SN 06200887211
Notes	Calibration with 7 and 10 buffers. Reference buffer 6.86, measured value = 6.86.
Sampler's name	Joshua Moore
Signature	

Signed 2021-11-29 09:58:34 MST

Photos

2021-12-01

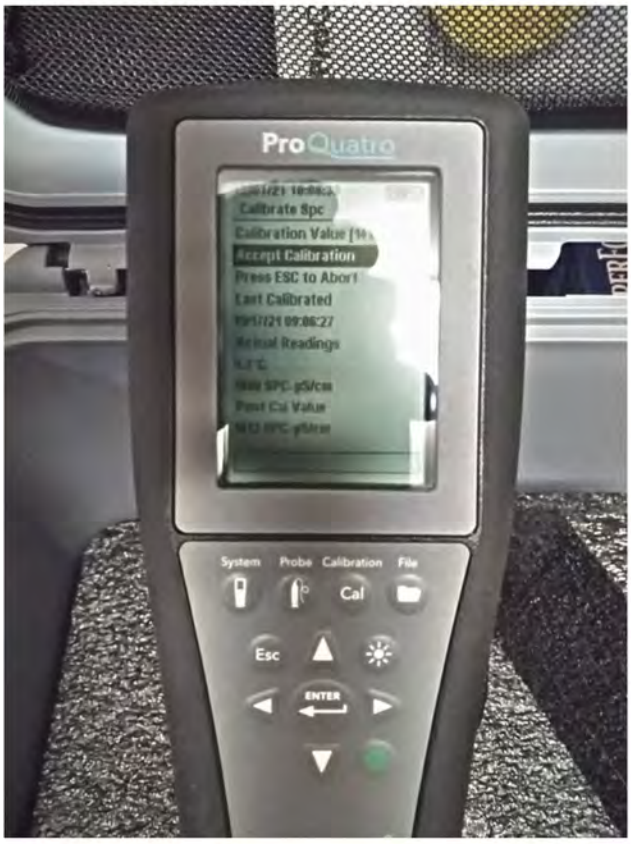
Created	2021-12-01 08:54:53 MST by Environmental Department
Updated	2021-12-01 09:26:49 MST by Environmental Department
Location	,

Equipment Calibration

Calibration Date	2021-12-01
Equipment	YSI SN 21G103989
Notes	Calibrate SpCnd, pH, ORP, DO. DO: cal value = 78.7%, sensor = 3.2 uA; SpCnd: cal value = 1413 uS/cm, sensor = 1400 uS/cm; pH: slope = 55.72 mV/pH, %ideal = 94.2%; ORP: cal value = 232.0 mV, sensor = 225.0 mV
Sampler's name	Joshua Moore
Signature	

Signed 2021-12-01 09:26:45 MST

Photos


ProQuatro
Calibrate Spc
Accept Calibration
Press ESC to Abort
Last Calibrated
Actual Readings
System
Probe
Calibration
File
Cal
Esc
ENTER

2021-12-08

Created	2021-12-08 11:18:07 MST by Environmental Department
Updated	2021-12-08 11:23:50 MST by Environmental Department
Location	,

Equipment Calibration

Calibration Date	2021-12-08
Equipment	Hanna pH, electrode SN 06200887211
Notes	Calibration with 7 and 10 buffers. Reference buffer of 6.86. Reference reading = 6.77.
Sampler's name	Joshua Moore
Signature	

Signed 2021-12-08 11:23:45 MST

Photos

2021-12-08

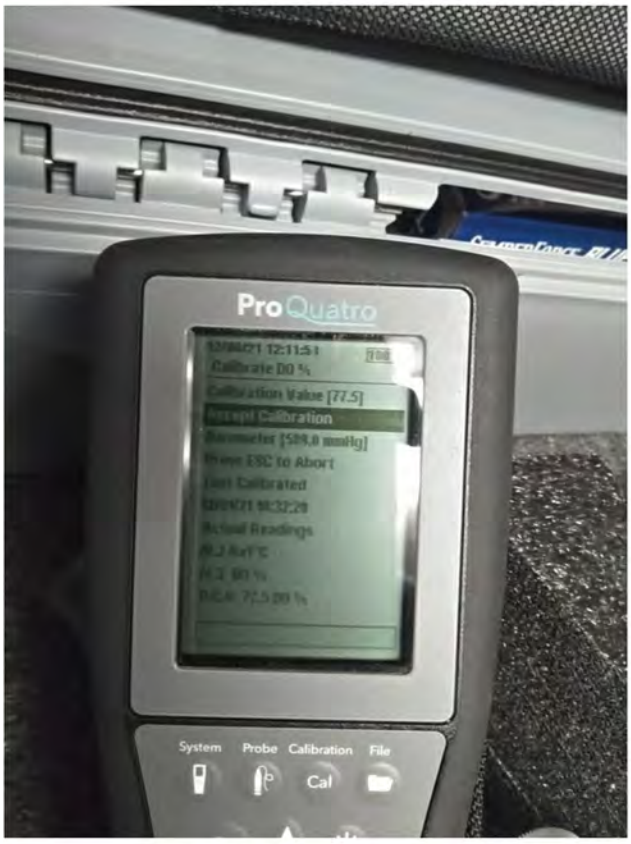
Created	2021-12-08 10:56:42 MST by Environmental Department
Updated	2021-12-08 11:06:09 MST by Environmental Department
Location	,

Equipment Calibration

Calibration Date	2021-12-08
Equipment	YSI SN 21G103989
Notes	Calibrate SpCnd, pH, ORP, and DO. DO: cal value = 77.5%, sensor = 4.0 uA; SpCnd: cal value = 1413 uS/cm, sensor = 1373 uS/cm; pH: slope = 56.89 mV/pH, % ideal = 56.89; ORP: cal value = 220.0 mV, sensor = 210.1 mV.
Sampler's name	Joshua Moore
Signature	

Signed 2021-12-08 11:06:07 MST

Photos


ProQuatro
Calibrate DO %
Calibration Value [77.5]
Accept Calibration
Press ESC to Abort
System
Probe
Calibration
File
Cal

2021-12-17

Created	2021-12-17 08:58:28 MST by Environmental Department
Updated	2021-12-17 09:15:07 MST by Environmental Department
Location	,

Equipment Calibration

Calibration Date	2021-12-17
Equipment	Hanna pH, Electrode SN 06200887211
Notes	Calibration with 7.0 and 10.0 buffers. Reference buffer of 6.86, instrument reading = 6.88 @ 23.2 C.
Sampler's name	Joshua Moore
Signature	

Signed 2021-12-17 09:15:03 MST

2021-01-11

Created	2021-01-27 17:35:09 MST by Environmental Department
Updated	2021-01-27 17:35:09 MST by Environmental Department
Location	,

Equipment Calibration

Calibration Date	2021-01-11
Equipment	Hach pH + temp meter and probes
Sampler's name	Chris Bolane
Signature	
	Signed 2021-01-27 17:35:07 MST

2021-01-24

Created	2021-01-27 17:36:09 MST by Environmental Department
Updated	2021-01-27 17:36:09 MST by Environmental Department
Location	,

Equipment Calibration

Calibration Date	2021-01-24
Equipment	Hach pH / temp meter and probes
Sampler's name	Chris Bolane
Signature	
	Signed 2021-01-27 17:35:56 MST

2021-03-15

Created	2021-03-23 07:52:40 MDT by Environmental Department
Updated	2021-03-23 07:53:26 MDT by Environmental Department
Location	38.150245193427565, -107.76043231609069

Equipment Calibration

Calibration Date	2021-03-15
Equipment	Oakton pH meter
Sampler's name	Chris Bolane
Signature	

Signed 2021-03-23 07:53:21 MDT

2021-03-23

Created	2021-03-23 07:53:55 MDT by Environmental Department
Updated	2021-03-23 07:54:31 MDT by Environmental Department
Location	38.15027193169868, -107.76046282621823

Equipment Calibration

Calibration Date	2021-03-23
Equipment	Oakton pH meter
Sampler's name	Chris Bolane
Signature	

Signed 2021-03-23 07:54:26 MDT

2021-05-05

Created	2021-05-13 16:51:47 MDT by Environmental Department
Updated	2021-05-13 16:51:47 MDT by Environmental Department
Location	,

Equipment Calibration

Calibration Date	2021-05-05
Equipment	Oakton: Temp and pH
Sampler's name	Chris Bolane
Signature	
	Signed 2021-05-13 16:51:46 MDT

2021-05-13

Created	2021-05-13 16:50:59 MDT by Environmental Department
Updated	2021-05-13 16:50:59 MDT by Environmental Department
Location	,

Equipment Calibration

Calibration Date	2021-05-13
Equipment	Oakton: temp and pH
Sampler's name	Chris Bolane
Signature	
	Signed 2021-05-13 16:50:50 MDT

2021-05-23

Created	2021-05-27 16:26:36 MDT by Environmental Department
Updated	2021-07-07 10:47:19 MDT by Environmental Department
Location	38.0241755, -107.671897

Equipment Calibration

Calibration Date	2021-05-23
Equipment	Oakton pH, Cond.
Sampler's name	Chris Bolane
Signature	
	Signed 2021-05-27 16:26:19 MDT

2021-06-13

Created	2021-06-30 18:07:43 MDT by Environmental Department
Updated	2021-06-30 18:07:43 MDT by Environmental Department
Location	,

Equipment Calibration

Calibration Date	2021-06-13
Equipment	Oakton: pH, cond. Also, WVR ORP pen
Sampler's name	Chris Bolane
Signature	
	Signed 2021-06-30 18:04:15 MDT

2021-07-06

Created	2021-07-13 17:51:19 MDT by Environmental Department
Updated	2021-07-13 17:51:19 MDT by Environmental Department
Location	,

Equipment Calibration

Calibration Date	2021-07-06
Equipment	Oakton:Temperature
Sampler's name	Chris Bolane
Signature	
	Signed 2021-07-13 17:50:49 MDT

2021-07-06

Created	2021-07-13 17:49:42 MDT by Environmental Department
Updated	2021-07-13 17:49:55 MDT by Environmental Department
Location	,

Equipment Calibration

Calibration Date	2021-07-06
Equipment	Oakton pH
Sampler's name	Chris Bolane
Signature	
	Signed 2021-07-13 17:49:35 MDT

2021-07-09

Created	2021-07-09 10:59:51 MDT by Environmental Department
Updated	2021-07-09 11:31:15 MDT by Environmental Department
Location	38.15215635116971, -107.7483202145507

Equipment Calibration

Calibration Date	2021-07-09
Equipment	Geotech YSI Pro Plus (rental)
Notes	Calibrated using all new solutions, no DI available so rinsing was done with nestle pure life- purified bottled water. DO calibrated via wet sponge with 774.19 mmHg barometric pressure.
Sampler's name	Briana Greer
Signature	

Signed 2021-07-09 11:02:07 MDT

Photos

Professional Plus Quick-Start Guide

geotech

QTY	Part Number	Inventory Description	Price (ea.)
1	72103400	Pro Plus Meter	$1290.00
1	12101185	4 Meter cable	$1006.00
1	12103029	Conductivity Probe	$469.00
1	12103494	Flow Cell	$407.00
1	12103062	Carry Case Hard	$308.00
1	12103505	Amp pH probe	$241.00
1	12103447	ORP probe	$216.00
1	12103444	DO sensor	$194.00
1	12103457	Comm. Kit	$143.00
1	12103781/28	Cal-Cup Assy	$38.00
1	Floor Stock	Spare DO Cap	$15.00
2	17250005	Spare "C" Batteries	$4.60
1	Replacement	Pro Plus Rental Kit	$4274.60

...fy all inventory above is included. Call immediately to report any missing parts!

...ETTING THE DATE AND TIME

1. Press the System key.
2. Highlight **Date/Time** and press Enter.
3. Highlight **Date Format** and press Enter. Highlight the correct format and press Enter.
4. Highlight **Date** and press Enter. Use the keypad to enter the correct date, and press Enter.
5. Highlight **Time Format** and press Enter. Highlight the correct format and press Enter.
6. Highlight **Time** and press Enter. Use the keypad to enter the correct time, and press Enter.
7. Press Esc to return to the Run screen.

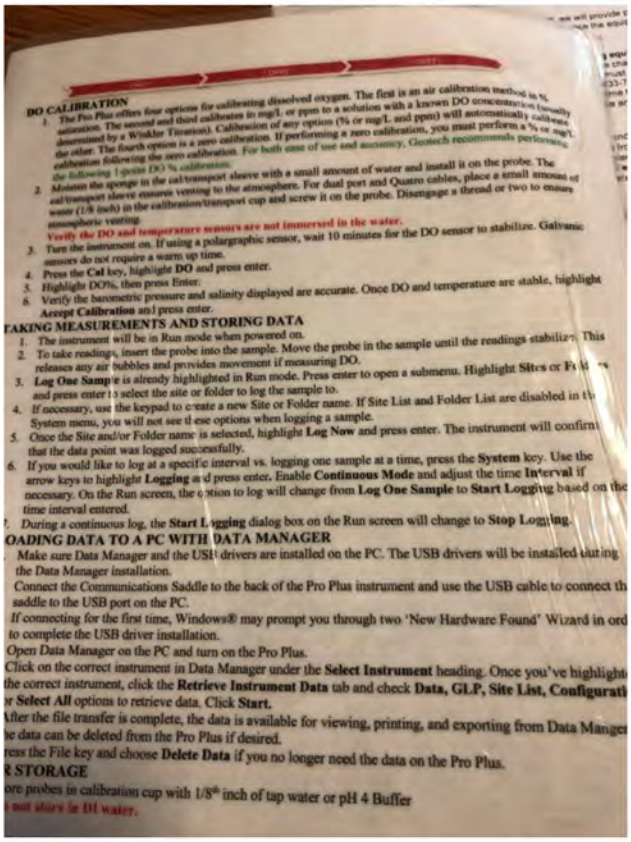
SETTING UP SENSORS & REPORTING UNITS

1. A sensor must be enabled in the **Sensor** menu for it to operate. Once a sensor is enabled, the desired uni... sensor must be selected in the **Display** menu to determine what will be displayed.
2. Select the Sensor hot key on the keypad, highlight **Display**, and press enter.
3. Highlight the parameter you want to access and press the Enter.
4. A submenu will open allowing you to select the reporting units. Some parameters can be reported in ... units. For example, DO can be reported in DO%, DO mg/L, and DO ppm. Other parame..., for ex... temperature, can only be reported in one unit. Make selections from the sub menu, and ... prev... key to return to the Display menu or press Esc to return to the Run screen.

CONDUCTIVITY, PH, AND ORP CALIBRATION

1. Press the **Cal** key.
2. Highlight the parameter you wish to calibrate and press enter. For Co... y, a second ... option of calibrating **Specific Conductance**, **Conductivity**, or **Sa'inity**. Calibrating one ... the other two. An additional sub-menu will require you to select the ... units. ... recognition will determine which buffer the sensor is in and it will allow ... calib...
3. Place the correct amount of calibration standard into a clean, dry ... pre-... contain...
4. Immerse the probe into the solution, making sure the sensor and thermistor are adequately ... least one minute for temperature to stabilize.
5. For any of parameters, enter the calibration solution value by highlighting **Calibration Value**, then using the alpha/numeric keypad to enter the known value. Once you have entered the val... standard, highlight **<<<ENTER>>>** and press enter.
6. Wait for the readings to stabilize, highlight **Accept Calibration** and press enter to calibrate.
7. For pH, continue with the next point by placing the probe in a second buffer and following ... instructions or press **Cal** to complete the calibration.

...ext point by placing the probe in a second buffer and following



DO CALIBRATION

1. The Pro Plus offers four options for calibrating dissolved oxygen. The first is an air calibration method in %... saturation. The second and third calibrates in mg/L or ppm to a solution with a known DO concentration (usually determined by a Winkler Titration). Calibration of any option (% or mg/L and ppm) will automatically calibrate the other. The fourth option is a zero calibration. If performing a zero calibration, you must perform a % or mg/L calibration following the zero calibration. For both ease of use and accuracy, Geotech recommends performing the following 1-point DO % calibration.
2. Moisten the sponge in the cal/transport sleeve with a small amount of water and install it on the probe. The cal/transport sleeve ensures venting to the atmosphere. For dual port and Quatro cables, place a small amount of water (1/8 inch) in the calibration/transport cup and screw it on the probe. Disengage a thread or two to ensure atmospheric venting.
   Verify the DO and temperature sensors are not immersed in the water.
3. Turn the instrument on. If using a polargraphic sensor, wait 10 minutes for the DO sensor to stabilize. Galvanic sensors do not require a warm up time.
4. Press the **Cal** key, highlight **DO** and press enter.
5. Highlight DO%, then press Enter.
6. Verify the barometric pressure and salinity displayed are accurate. Once DO and temperature are stable, highlight **Accept Calibration** and press enter.

TAKING MEASUREMENTS AND STORING DATA

1. The instrument will be in Run mode when powered on.
2. To take readings, insert the probe into the sample. Move the probe in the sample until the readings stabilize. This releases any air bubbles and provides movement if measuring DO.
3. **Log One Sample** is already highlighted in Run mode. Press enter to open a submenu. Highlight **Sites** or **Fo...** and press enter to select the site or folder to log the sample to.
4. If necessary, use the keypad to create a new Site or Folder name. If Site List and Folder List are disabled in the System menu, you will not see these options when logging a sample.
5. Once the Site and/or Folder name is selected, highlight **Log Now** and press enter. The instrument will confirm that the data point was logged successfully.
6. If you would like to log at a specific interval vs. logging one sample at a time, press the **System** key. Use the arrow keys to highlight **Logging** and press enter. Enable **Continuous Mode** and adjust the time **Interval** if necessary. On the Run screen, the option to log will change from **Log One Sample** to **Start Logging** based on the time interval entered.
7. During a continuous log, the **Start Logging** dialog box on the Run screen will change to **Stop Logging**.

LOADING DATA TO A PC WITH DATA MANAGER

Make sure Data Manager and the USB drivers are installed on the PC. The USB drivers will be installed during the Data Manager installation.

Connect the Communications Saddle to the back of the Pro Plus instrument and use the USB cable to connect the saddle to the USB port on the PC.

If connecting for the first time, Windows® may prompt you through two 'New Hardware Found' Wizard in order to complete the USB driver installation.

Open Data Manager on the PC and turn on the Pro Plus.

Click on the correct instrument in Data Manager under the **Select Instrument** heading. Once you've highlighted the correct instrument, click the **Retrieve Instrument Data** tab and check **Data, GLP, Site List, Configuration** or **Select All** options to retrieve data. Click **Start.**

After the file transfer is complete, the data is available for viewing, printing, and exporting from Data Manager. The data can be deleted from the Pro Plus if desired.

Press the File key and choose **Delete Data** if you no longer need the data on the Pro Plus.

...R STORAGE

...ore probes in calibration cup with 1/8" inch of tap water or pH 4 Buffer

...not store in DI water.


geotech
Buffer Solution pH 10.00
Code: 12101019
geotech
Conductivity Standard
1413 µS/cm
Code: 12101014
geotech
ORP Standard, 220mV
Code: 12105001

2021-07-19

Created	2021-07-21 15:18:27 MDT by Environmental Department
Updated	2021-07-21 15:18:27 MDT by Environmental Department
Location	,

Equipment Calibration

Calibration Date	2021-07-19
Equipment	Oakton temperature probe
Sampler's name	Chris Bolane
Signature	
	Signed 2021-07-21 15:18:15 MDT

2021-07-19

Created	2021-07-21 15:19:38 MDT by Environmental Department
Updated	2021-07-21 15:19:38 MDT by Environmental Department
Location	,

Equipment Calibration

Calibration Date	2021-07-19
Equipment	Oakton conductivity meter (new meter)
Sampler's name	Chris Bolane
Signature	
	Signed 2021-07-21 15:19:36 MDT

2021-07-19

Created	2021-07-21 15:17:37 MDT by Environmental Department
Updated	2021-07-21 15:17:37 MDT by Environmental Department
Location	,

Equipment Calibration

Calibration Date	2021-07-19
Equipment	Oakton pH meter
Sampler's name	Chris Bolane
Signature	
	Signed 2021-07-21 15:17:24 MDT

2021-07-22

Created	2021-07-22 10:02:54 MDT by Environmental Department
Updated	2021-07-22 10:36:32 MDT by Environmental Department
Location	38.15214834645218, -107.74825542243919

Equipment Calibration

Calibration Date	2021-07-22
Equipment	Geotech Rental YSI Pro plus
Notes	DO calibrated by wet sponge at 775.21 mmHg. Cleaning/rinsing done with reverse osmosis purified water.
Sampler's name	Briana Greer
Signature	

Signed 2021-07-22 10:34:27 MDT

Photos

rofessional Plus Quick-Start Guide

geotech

Inventory

QTY	Part Number	Description	Price (ea.)
1	72103400	Pro Plus Meter	$1290.00
1	12101185	4 Meter cable	$1006.00
1	12103029	Conductivity Probe	$469.00
1	12103494	Flow Cell	$407.00
1	12103062	Carry Case Hard	$308.00
1	12103505	Amp pH probe	$241.00
1	12103447	ORP probe	$216.00
1	12103444	DO sensor	$194.00
1	12103457	Comm. Kit	$143.00
1	12103781/28	Cal-Cup Assy	$38.00
1	Floor Stock	Spare DO Cap	$15.00
2	17250005	Spare "C" Batteries	$4.60
1	Replacement	Pro Plus Rental Kit	$4274.60

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SETTING THE DATE AND TIME

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5. Highlight **Time Format** and press Enter. Highlight the correct format and press Enter.
6. Highlight **Time** and press Enter. Use the keypad to enter the correct time, and press Enter.
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SETTING UP SENSORS & REPORTING UNITS

1. A sensor must be enabled in the **Sensor** menu for it to operate. Once a sensor is enabled, the desired units for that sensor must be selected in the **Display** menu to determine what will be displayed.
2. Select the Sensor hot key on the keypad, highlight **Display**, and press enter.
3. Highlight the parameter you want to access and press the Enter.
4. A submenu will open allowing you to select the reporting units. Some parameters can be reported in multiple units. For example, DO can be reported in DO%, DO mg/L, and DO ppm. Other parameters, for example temperature, can only be reported in one unit. Make selections from the submenu, and then press the left arrow key to return to the Display menu or press Esc to return to the Run screen.

CONDUCTIVITY, PH, AND ORP CALIBRATION

1. Press the **Cal** key.
2. Highlight the parameter you wish to calibrate and press enter. For Conductivity, a second menu will offer the option of calibrating **Specific Conductance**, **Conductivity**, or **Salinity**. Calibrating one automatically calibrates the other two. An additional sub-menu will require you to select the calibration units. For pH, auto-buffer recognition will determine which buffer the sensor is in and it will allow you to calibrate up to 6 points.
3. Place the correct amount of calibration standard into a clean, dry or pre-rinsed container.
4. Immerse the probe into the solution, making sure the sensor and thermistor are adequately immersed. Allow at least one minute for temperature to stabilize.
5. For any of parameters, enter the calibration solution value by highlighting **Calibration Value**, pressing enter, and then using the alpha/numeric keypad to enter the known value. Once you have entered the value of the calibration standard, highlight **<<<ENTER>>>** and press enter.
6. Wait for the readings to stabilize, highlight **Accept Calibration** and press enter to calibrate.
7. For pH, continue with the next point by placing the probe in a second buffer and following the on-screen instructions or press **Cal** to complete the calibration.
8. For pH, continue with the next point by placing the probe in a second buffer and following the on-screen instructions or press **Cal** to complete the calibration.

DO CALIBRATION

1. The Pro Plus offers four options for calibrating dissolved oxygen. The first is an air calibration method in % saturation. The second and third calibrates in mg/L or ppm to a solution with a known DO concentration (usually determined by a Winkler Titration). Calibration of any option (% or mg/L and ppm) will automatically calibrate the other. The fourth option is a zero calibration. If performing a zero calibration, you must perform a % or mg/L calibration following the zero calibration. For both ease of use and accuracy, Geotech recommends performing the following 1-point DO % calibration:
2. Moisten the sponge in the cal/transport sleeve with a small amount of water and install it on the probe. The cal/transport sleeve ensures venting to the atmosphere. For dual port and Quatro cables, place a small amount water (1/8 inch) in the calibration/transport cup and screw it on the probe. Disengage a thread or two to ensure atmospheric venting.
   Verify the DO and temperature sensors are not immersed in the water.
3. Turn the instrument on. If using a polargraphic sensor, wait 10 minutes for the DO sensor to stabilize. Galvanic sensors do not require a warm up time.
4. Press the **Cal** key, highlight **DO** and press enter.
5. Highlight DO%, then press Enter.
6. Verify the barometric pressure and salinity displayed are accurate. Once DO and temperature are stable, highlight **Accept Calibration** and press enter.

TAKING MEASUREMENTS AND STORING DATA

1. The instrument will be in Run mode when powered on.
2. To take readings, insert the probe into the sample. Move the probe in the sample until the readings stabilize. This releases any air bubbles and provides movement if measuring DO.
3. **Log One Sample** is already highlighted in Run mode. Press enter to open a submenu. Highlight **Sites or Folders** and press enter to select the site or folder to log the sample to.
4. If necessary, use the keypad to create a new Site or Folder name. If Site List and Folder List are disabled in the System menu, you will not see these options when logging a sample.
5. Once the Site and/or Folder name is selected, highlight **Log Now** and press enter. The instrument will confirm that the data point was logged successfully.
6. If you would like to log at a specific interval vs. logging one sample at a time, press the **System** key. Use the arrow keys to highlight **Logging** and press enter. Enable **Continuous Mode** and adjust the time **Interval** if necessary. On the Run screen, the option to log will change from **Log One Sample** to **Start Logging** based on the time interval entered.
7. During a continuous log, the **Start Logging** dialog box on the Run screen will change to **Stop Logging.**

UPLOADING DATA TO A PC WITH DATA MANAGER

1. Make sure Data Manager and the USB drivers are installed on the PC. The USB drivers will be installed during the Data Manager installation.
2. Connect the Communications Saddle to the back of the Pro Plus instrument and use the USB cable to connect the saddle to the USB port on the PC.
3. If connecting for the first time, Windows® may prompt you through two 'New Hardware Found' Wizard in order to complete the USB driver installation.
4. Open Data Manager on the PC and turn on the Pro Plus.
5. Click on the correct instrument in Data Manager under the **Select Instrument** heading. Once you've highlighted the correct instrument, click the **Retrieve Instrument Data** tab and check **Data, GLP, Site List, Configuration** or **Select All** options to retrieve data. Click **Start.**
6. After the file transfer is complete, the data is available for viewing, printing, and exporting from Data Manger and the data can be deleted from the Pro Plus if desired.
7. Press the File key and choose **Delete Data** if you no longer need the data on the Pro Plus.

PROPER STORAGE

1. Store probes in calibration cup with 1/8" inch of tap water or pH 4 Buffer
   Do not store in DI water.

technical support please contact Geotech

2021-07-25

Created	2021-07-30 10:14:06 MDT by Environmental Department
Updated	2021-07-30 10:15:43 MDT by Environmental Department
Location	38.13473952563412, -107.74707966255527

Equipment Calibration

Calibration Date	2021-07-25
Equipment	Oakton pH / temp meter
Sampler's name	Chris Bolane
Signature	

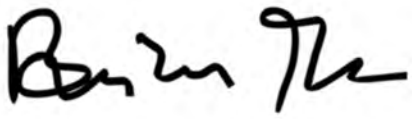
Signed 2021-07-30 10:15:41 MDT

2021-08-05

Created	2021-08-05 10:06:28 MDT by Environmental Department
Updated	2021-08-05 10:45:46 MDT by Environmental Department
Location	38.1519771460799, -107.74844451817474

Equipment Calibration

Calibration Date	2021-08-05
Equipment	Geotech Rental YSI Pro Plus
Notes	DO calibrated by wet sponge method at 762 mmHg in Ridgway.
Sampler's name	Briana Greer
Signature	



Signed 2021-08-05 10:44:38 MDT

Photos

...al Plus Quick-Start Guide

Inventory

QTY	Part Number	Description	Price (ea.)
1	72103400	Pro Plus Meter	$1290.00
1	12101188	4 Meter cable	$1006.00
1	12103029	Conductivity Probe	$469.00
1	12103494	Flow Cell	$407.00
1	12103062	Carry Case Hard	$308.00
1	12103505	Amp pH probe	$241.00
1	12103447	ORP probe	$216.00
1	12103444	DO sensor	$194.00
1	12103457	Comm. Kit	$145.00
1	12103781/28	Cal-Cup Assy	$38.00
1	Floor Stock	Spare DO Cap	$15.00
2	17250005	Spare "C" Batteries	$4.60
1	Replacement	Pro Plus Rental Kit	$4274.60

Verify all inventory above is included. Call immediately to report any missing parts!

SETTING THE DATE AND TIME

1. Press the System key.
2. Highlight **Date Time** and press Enter.
3. Highlight **Date Format** and press Enter. Highlight the correct format and press Enter.
4. Highlight **Date** and press Enter. Use the keypad to enter the correct date, and press Enter.
5. Highlight **Time Format** and press Enter. Highlight the correct format and press Enter.
6. Highlight **Time** and press Enter. Use the keypad to enter the correct time, and press Enter.
7. Press Esc to return to the Run screen.

SETTING UP SENSORS & REPORTING UNITS

1. A sensor must be enabled in the **Sensor** menu for it to operate. Once a sensor is enabled, the desired units for sensor must be selected in the **Display** menu to determine what will be displayed.
2. Select the Sensor hot key on the keypad, highlight **Displa**, and press enter.
3. Highlight the parameter you want to access and press the Enter.
4. A submenu will open allowing you to select the reporting units. Some parameters can be reported in multipl units. For example, DO can be reported in DO%, DO mg/L, and DO ppm. Other parameters, for example temperature, can only be reported in one unit. Make selections from the sub menu, and then press the left ar key to return to the Display menu or press Esc to return to the Run screen.

CONDUCTIVITY, PH, AND ORP CALIBRATION

1. Press the **Cal** key.
2. Highlight the parameter you wish to calibrate and press enter. For Conductivity, a second menu will offe option of calibrating **Specific Conductance**, **Conductivity**, or **Salinity**. Calibrating one automatically c the other two. An additional sub-menu will require you to select the calibration units. For pH, auto-buffe recognition will determine which buffer the sensor is in and it will allow you to calibrate up to 6 points.
3. Place the correct amount of calibration standard into a clean, dry or pre-rinsed container.
4. Immerse the probe into the solution, making sure the sensor and thermistor are adequately immersed. least one minute for temperature to stabilize.
5. For any of parameters, enter the calibration solution value by highlighting **Calibration Value**, pressi then using the alpha/numeric keypad to enter the known value. Once you have entered the value of t standard, highlight **<<<ENTER>>>** and press enter.
6. Wait for the readings to stabilize, highlight **Accept Calibration** and press enter to calibrate.
7. For pH, continue with the next point by placing the probe in a second buffer and following the on- ns.ructions or press **Cal** to complete the calibration.

, or pH, continue with the next point by placing the probe in a second buffer and following the on- instructions or press **Cal** to complete the calibration.

CALIBRATION

1. The Pro Plus offers four options for calibrating dissolved oxygen. The first is an air calibration method in % saturation. The second and third calibrates in mg/L or ppm to a solution with a known DO concentration (usually determined by a Winkler Titration). Calibration of any option (% or mg/L and ppm) will automatically calibrate the other. The fourth option is a zero calibration. If performing a zero calibration, you must perform a % or mg/L calibration following the zero calibration. For both ease of use and accuracy, Geotech recommends performing the following 1-point DO % calibration:
2. Moisten the sponge in the cal/transport sleeve with a small amount of water and install it on the probe. The cal/transport sleeve ensures venting to the atmosphere. For dual port and Quatro cables, place a small amount of water (1/8 inch) in the calibration/transport cup and screw it on the probe. Disengage a thread or two to ensure atmospheric venting.

   Verify the DO and temperature sensors are not immersed in the water.
3. Turn the instrument on. If using a polargraphic sensor, wait 10 minutes for the DO sensor to stabilize. Galvanic sensors do not require a warm up time.
4. Press the **Cal** key, highlight **DO** and press enter.
5. Highlight DO%, then press Enter.
6. Verify the barometric pressure and salinity displayed are accurate. Once DO and temperature are stable, highlight **Accept Calibration** and press enter.

TAKING MEASUREMENTS AND STORING DATA

1. The instrument will be in Run mode when powered on.
2. To take readings, insert the probe into the sample. Move the probe in the sample until the readings stabilize. This releases any air bubbles and provides movement if measuring DO.
3. **Log One Sample** is already highlighted in Run mode. Press enter to open a submenu. Highlight **Sites** or **Folders** and press enter to select the site or folder to log the sample to.
4. If necessary, use the keypad to create a new Site or Folder name. If Site List and Folder List are disabled in the System menu, you will not see these options when logging a sample.
5. Once the Site and/or Folder name is selected, highlight **Log Now** and press enter. The instrument will confirm that the data point was logged successfully.
6. If you would like to log at a specific interval vs. logging one sample at a time, press the **System** key. Use the arrow keys to highlight **Logging** and press enter. Enable **Continuous Mode** and adjust the time **Interval** if necessary. On the Run screen, the option to log will change from **Log One Sample** to **Start Logging** based on th time interval entered.
7. During a continuous log, the **Start Logging** dialog box on the Run screen will change to **Stop Logging**.

UPLOADING DATA TO A PC WITH DATA MANAGER

1. Make sure Data Manager and the USB drivers are installed on the PC. The USB drivers will be installed during the Data Manager installation.
2. Connect the Communications Saddle to the back of the Pro Plus instrument and use the USB cable to connect t saddle to the USB port on the PC.
3. If connecting for the first time, Windows® may prompt you through two 'New Hardware Found' Wizard in or to complete the USB driver installation.
4. Open Data Manager on the PC and turn on the Pro Plus.
5. Click on the correct instrument in Data Manager under the **Select Instrument** heading. Once you've highligh the correct instrument, click the **Retrieve Instrument Data** tab and check **Data, GLP, Site List, Configura** or **Select All** options to retrieve data. Click **Start.**
6. After the file transfer is complete, the data is available for viewing, printing, and exporting from Data Manag the data can be deleted from the Pro Plus if desired.
7. Press the File key and choose **Delete Data** if you no longer need the data on the Pro Plus.

PROPER STORAGE

1. Store probes in calibration cup with 1/8" inch of tap water or pH 4 Buffer

   Do not store in DI water.

or technical support please contact Geotech Environmental Equipment, Inc. at (800) 833-7958

2021-08-12

Created	2021-08-12 08:15:09 MDT by Environmental Department
Updated	2021-08-12 08:18:39 MDT by Environmental Department
Location	38.15196805171496, -107.74816950793168

Equipment Calibration

Calibration Date	2021-08-12
Equipment	Geotech rental YSI pro plus
Notes	DO calibrated by wet sponge method at 761.98 mmHg
Sampler's name	Briana
Signature	

Signed 2021-08-12 08:16:50 MDT

Photos

rofessional Plus Quick-Start Guide

geotech

Inventory

QTY	Part Number	Description	Price (est.)
1	72103400	Pro Plus Meter	$1290.00
1	12101185	4 Meter cable	$1006.00
1	12103029	Conductivity Probe	$469.00
1	12103494	Flow Cell	$407.00
1	12103062	Carry Case Hard	$308.00
1	12103505	Amp pH probe	$241.00
1	12103447	ORP probe	$216.00
1	12103444	DO sensor	$194.00
1	12103457	Comm. Kit	$143.00
1	12103781/28	Cal-Cup Assy	$38.00
1	Floor Stock	Spare DO Cap	$15.00
2	17250005	Spare "C" Batteries	$4.60
1	Replacement	Pro Plus Rental Kit	$4274.60

erify all inventory above is included. Call immediately to report any missing parts!

ETTING THE DATE AND TIME

1. Press the System key.
2. Highlight **Date/Time** and press Enter.
3. Highlight **Date Format** and press Enter. Highlight the correct format and press Enter.
4. Highlight **Date** and press Enter. Use the keypad to enter the correct date, and press Enter.
5. Highlight **Time Format** and press Enter. Highlight the correct format and press Enter.
6. Highlight **Time** and press Enter. Use the keypad to enter the correct time, and press Enter.
7. Press Esc to return to the Run screen.

SETTING UP SENSORS & REPORTING UNITS

1. A sensor must be enabled in the **Sensor** menu for it to operate. Once a sensor is enabled, the desired units for that sensor must be selected in the **Display** menu to determine what will be displayed.
2. Select the Sensor hot key on the keypad, highlight **Display**, and press enter.
3. Highlight the parameter you want to access and press the Enter.
4. A submenu will open allowing you to select the reporting units. Some parameters can be reported in multiple units. For example, DO can be reported in DO%, DO mg/L, and DO ppm. Other parameters, for example temperature, can only be reported in one unit. Make selections from the submenu, and then press the left arrow key to return to the Display menu or press Esc to return to the Run screen.

CONDUCTIVITY, PH, AND ORP CALIBRATION

1. Press the **Cal** key.
2. Highlight the parameter you wish to calibrate and press enter. For Conductivity, a second menu will offer the option of calibrating **Specific Conductance**, **Conductivity**, or **Salinity**. Calibrating one automatically calibrates the other two. An additional sub-menu will require you to select the calibration units. For pH, auto-buffer recognition will determine which buffer the sensor is in and it will allow you to calibrate up to 6 points.
3. Place the correct amount of calibration standard into a clean, dry or pre-rinsed container.
4. Immerse the probe into the solution, making sure the sensor and thermistor are adequately immersed. Allow at least one minute for temperature to stabilize.
5. For any of parameters, enter the calibration solution value by highlighting **Calibration Value**, pressing enter, and then using the alpha/numeric keypad to enter the known value. Once you have entered the value of the calibration standard, highlight **<<<ENTER>>>** and press enter.
6. Wait for the readings to stabilize, highlight **Accept Calibration** and press enter to calibrate.
7. For pH, continue with the next point by placing the probe in a second buffer and following the on-screen instructions or press **Cal** to complete the calibration.
8. For pH, continue with the next point by placing the probe in a second buffer and following the on-screen instructions or press **Cal** to complete the calibration.

'1/2021

DO CALIBRATION

1. The Pro Plus offers four options for calibrating dissolved oxygen. The first is an air calibration method in % saturation. The second and third calibrates in mg/L or ppm to a solution with a known DO concentration (usually determined by a Winkler Titration). Calibration of any option (% or mg/L and ppm) will automatically calibrate the other. The fourth option is a zero calibration. If performing a zero calibration, you must perform a % or mg/L calibration following the zero calibration. For both ease of use and accuracy, Geotech recommends performing the following 1-point DO % calibration:
2. Moisten the sponge in the cal/transport sleeve with a small amount of water and install it on the probe. The cal/transport sleeve ensures venting to the atmosphere. For dual port and Quatro cables, place a small amount of water (1/8 inch) in the calibration/transport cup and screw it on the probe. Disengage a thread or two to ensure atmospheric venting.
   Verify the DO and temperature sensors are not immersed in the water.
3. Turn the instrument on. If using a polargraphic sensor, wait 10 minutes for the DO sensor to stabilize. Galvanic sensors do not require a warm up time.
4. Press the **Cal** key, highlight **DO** and press enter.
5. Highlight DO%, then press Enter.
6. Verify the barometric pressure and salinity displayed are accurate. Once DO and temperature are stable, highlight **Accept Calibration** and press enter.

TAKING MEASUREMENTS AND STORING DATA

1. The instrument will be in Run mode when powered on.
2. To take readings, insert the probe into the sample. Move the probe in the sample until the readings stabilize. This releases any air bubbles and provides movement if measuring DO.
3. **Log One Sample** is already highlighted in Run mode. Press enter to open a submenu. Highlight **Sites** or **Folders** and press enter to select the site or folder to log the sample to.
4. If necessary, use the keypad to create a new Site or Folder name. If Site List and Folder List are disabled in the System menu, you will not see these options when logging a sample.
5. Once the Site and/or Folder name is selected, highlight **Log Now** and press enter. The instrument will confirm that the data point was logged successfully.
6. If you would like to log at a specific interval vs. logging one sample at a time, press the **System** key. Use the arrow keys to highlight **Logging** and press enter. Enable **Continuous Mode** and adjust the time **Interval** if necessary. On the Run screen, the option to log will change from **Log One Sample** to **Start Logging** based on the time interval entered.
7. During a continuous log, the **Start Logging** dialog box on the Run screen will change to **Stop Logging**.

UPLOADING DATA TO A PC WITH DATA MANAGER

1. Make sure Data Manager and the USB drivers are installed on the PC. The USB drivers will be installed during the Data Manager installation.
2. Connect the Communications Saddle to the back of the Pro Plus instrument and use the USB cable to connect the saddle to the USB port on the PC.
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5. Click on the correct instrument in Data Manager under the **Select Instrument** heading. Once you've highlighted the correct instrument, click the **Retrieve Instrument Data** tab and check **Data, GLP, Site List, Configuration** or **Select All** options to retrieve data. Click **Start.**
6. After the file transfer is complete, the data is available for viewing, printing, and exporting from Data Manger and the data can be deleted from the Pro Plus if desired.
7. Press the File key and choose **Delete Data** if you no longer need the data on the Pro Plus.

PROPER STORAGE

1. Store probes in calibration cup with 1/8" inch of tap water or pH 4 Buffer
   Do not store in DI water.

For technical support please contact Geotech Environmental Equipment, Inc. at (800) 833-7950

2021-08-23

Created	2021-08-23 09:12:53 MDT by Environmental Department
Updated	2021-08-24 20:08:39 MDT by Environmental Department
Location	,

Equipment Calibration

Calibration Date	2021-08-23
Equipment	Geotech Rental YSI
Notes	Calibrate Cnd, pH, ORP, DO. DO barometric pressure value is 759.46 mmHg. DO saturation 94.4%.
Sampler's name	Josh Moore
Signature	

Signed 2021-08-23 09:44:43 MDT

Photos

Professional Plus Quick-Start Guide

geotech

Inventory

QTY	Part Number	Description	Price (ea.)
1	72103400	Pro Plus Meter	$1290.00
1	12101185	4 Meter cable	$1006.00
1	12103029	Conductivity Probe	$469.00
1	12103494	Flow Cell	$407.00
1	12103062	Carry Case Hard	$308.00
1	12103505	Amp pH probe	$241.00
1	12103447	ORP probe	$216.00
1	12103444	DO sensor	$194.00
1	12103457	Comm. Kit	$143.00
1	12103781/2	Cal-Cup Assy	$38.00
1	Floor Stock	Spare DO Cap	$15.00
2	[illegible]	Spare [illegible] Batteries	$4.60
1	[illegible]	Pro Plus Rental Kit	$4274.60

[illegible] all inventory above is includ[illegible] Call [illegible] missing parts!

S[illegible]ING THE DATE AND TIME

1. Press the System key.
2. Highlight **Date/Time** and press Ent[illegible]
3. Highlight **Date Format** and press E[illegible] and press Enter.
4. Highlight **Date** and press Enter. U[illegible] date, and press Enter.
5. Highlight **Time Format** and press [illegible] format and press Enter.
6. Highlight **Time** and press Enter. Us[illegible] keypad to enter [illegible] correct time, and press Enter.
7. Press Esc to return to the Run scree[illegible]

SETTING UP SENSORS & REPORT[illegible] UNITS

1. A sensor must be enabled in the **Sensor** menu for it to operate. Once a sensor is enabled, the desired units for that sensor must be selected in the **Display** menu to determine what will be displayed.
2. Select the Sensor hot key on the keypad, highlight **Display**, and press enter.
3. Highlight the parameter you want to access and press the Enter.
4. A submenu will open allowing you to select the reporting units. Some parameters can be reported in multiple units. For example, DO can be reported in DO%, DO mg/L, and DO ppm. Other parameters, for example temperature, can only be reported in one unit. **Make** selections from the submenu, and then press the left arrow key to return to the Display menu or press Esc to return to the Run screen.

CONDUCTIVITY, PH, AND ORP CALIBRATION

1. Press the **Cal** key.
2. Highlight the parameter you wish to calibrate and press enter. For Conductivity, a second menu will offer the option of calibrating **Specific Conductance**, **Conductivity**, or **Salinity**. Calibrating one automatically calibrates the other two. An additional sub-menu will require you to select the calibration units. For pH, auto-buffer recognition will determine which buffer the sensor is in and it will allow you to calibrate up to 6 points.
3. Place the correct amount of calibration standard into a clean, dry or pre-rinsed container.
4. Immerse the probe into the solution, making sure the sensor and thermistor are adequately immersed. Allow at least one minute for temperature to stabilize.
5. For any of parameters, enter the calibration solution value by highlighting **Calibration Value**, pressing enter, and then using the alpha/numeric keypad to enter the known value. Once you have entered the value of the calibration standard, highlight <<<ENTER>>> and press enter.
6. Wait for the readings to stabilize, highlight **Accept Calibration** and press enter to calibrate.
7. For pH, continue with the next point by placing the probe in a second buffer and following the on-screen instructions or press **Cal** to complete the calibration.
8. For pH, continue with the next point by placing the probe in a second buffer and following the on-screen instructions or press **Cal** to complete the calibration.

2/11/2021

2021-08-30

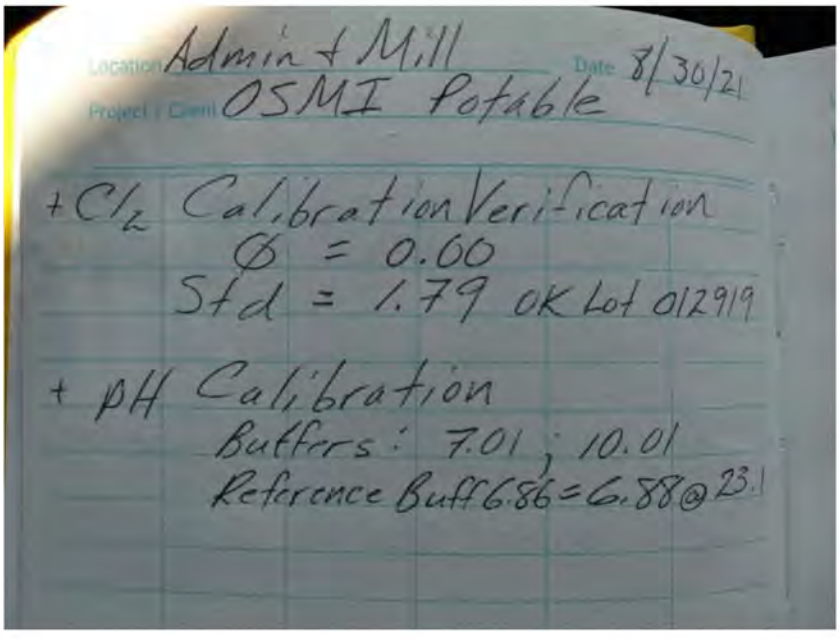
Created	2021-08-30 10:40:13 MDT by Environmental Department
Updated	2021-08-30 10:41:45 MDT by Environmental Department
Location	38.1524371, -107.7483383

Equipment Calibration

Calibration Date	2021-08-30
Equipment	Hanna Pocket pH
Notes	Digital pocket pH meter.
Sampler's name	Joshua Moore
Signature	Joshua Moore

Signed 2021-08-30 10:41:19 MDT

Photos



2021-08-30

Created	2021-08-30 09:23:51 MDT by Environmental Department
Updated	2021-08-30 10:02:59 MDT by Environmental Department
Location	38.1522724, -107.7482911

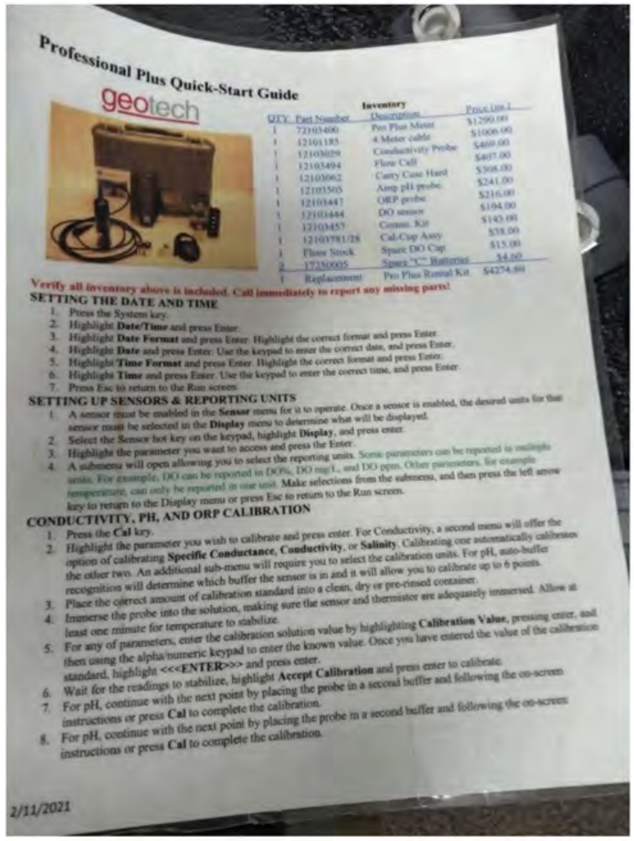
Equipment Calibration

Calibration Date	2021-08-30
Equipment	Rental YSI
Notes	Calibration of pH, conductivity, ORP, and DO.
Sampler's name	Joshua Mooore

Signature

Signed 2021-08-30 09:26:04 MDT

Photos



Professional Plus Quick-Start Guide

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Inventory

QTY	Part Number	Description	Price (ea.)
1	72103400	Pro Plus Meter	$1290.00
1	12101185	4 Meter cable	$1006.00
1	12103029	Conductivity Probe	$469.00
1	12103494	Flow Cell	$407.00
1	12103062	Carry Case Hard	$308.00
1	12103505	Amp pH probe	$241.00
1	12103447	ORP probe	$216.00
1	12103444	DO sensor	$194.00
1	12103457	Comm. Kit	$143.00
1	12103781/28	Cal-Cup Assy	$38.00
1	Floor Stock	Spare DO Cap	$15.00
2	17250005	Spare "C" Batteries	$4.60
1	Replacement	Pro Plus Rental Kit	$4274.80

Verify all inventory above is included. Call immediately to report any missing parts!

SETTING THE DATE AND TIME

1. Press the System key.
2. Highlight **Date/Time** and press Enter.
3. Highlight **Date Format** and press Enter. Highlight the correct format and press Enter.
4. Highlight **Date** and press Enter. Use the keypad to enter the correct date, and press Enter.
5. Highlight **Time Format** and press Enter. Highlight the correct format and press Enter.
6. Highlight **Time** and press Enter. Use the keypad to enter the correct time, and press Enter.
7. Press Esc to return to the Run screen.

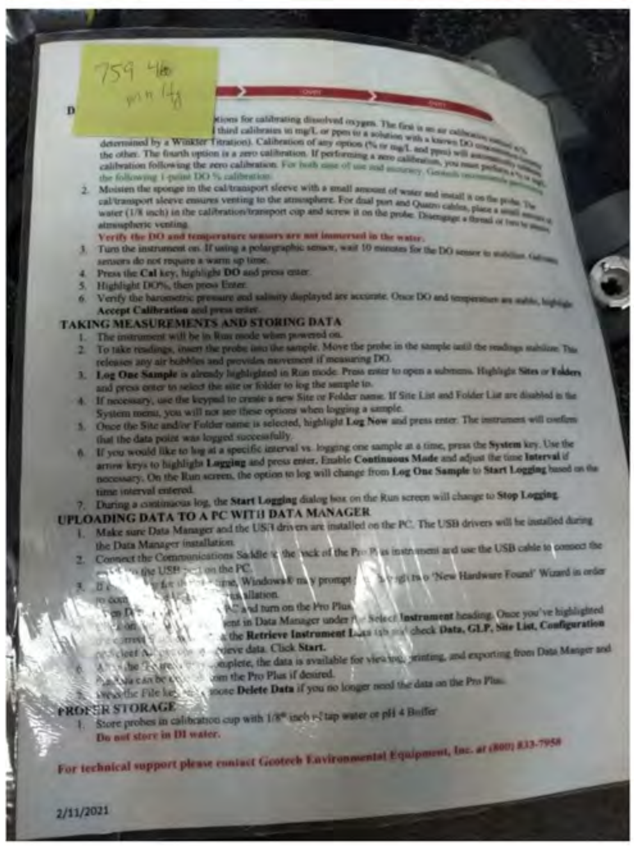
SETTING UP SENSORS & REPORTING UNITS

1. A sensor must be enabled in the **Sensor** menu for it to operate. Once a sensor is enabled, the desired units for that sensor must be selected in the **Display** menu to determine what will be displayed.
2. Select the Sensor hot key on the keypad, highlight **Display**, and press enter.
3. Highlight the parameter you want to access and press the Enter.
4. A submenu will open allowing you to select the reporting units. Some parameters can be reported in multiple units. For example, DO can be reported in DO%, DO mg/L, and DO ppm. Other parameters, for example temperature, can only be reported in one unit. Make selections from the submenu, and then press the left arrow key to return to the Display menu or press Esc to return to the Run screen.

CONDUCTIVITY, PH, AND ORP CALIBRATION

1. Press the **Cal** key.
2. Highlight the parameter you wish to calibrate and press enter. For Conductivity, a second menu will offer the option of calibrating **Specific Conductance**, **Conductivity**, or **Salinity**. Calibrating one automatically calibrates the other two. An additional sub-menu will require you to select the calibration units. For pH, auto-buffer recognition will determine which buffer the sensor is in and it will allow you to calibrate up to 6 points.
3. Place the correct amount of calibration standard into a clean, dry or pre-rinsed container.
4. Immerse the probe into the solution, making sure the sensor and thermistor are adequately immersed. Allow at least one minute for temperature to stabilize.
5. For any of parameters, enter the calibration solution value by highlighting **Calibration Value**, pressing enter, and then using the alpha/numeric keypad to enter the known value. Once you have entered the value of the calibration standard, highlight <<<ENTER>>> and press enter.
6. Wait for the readings to stabilize, highlight **Accept Calibration** and press enter to calibrate.
7. For pH, continue with the next point by placing the probe in a second buffer and following the on-screen instructions or press **Cal** to complete the calibration.
8. For pH, continue with the next point by placing the probe in a second buffer and following the on-screen instructions or press **Cal** to complete the calibration.

2/11/2021



759 46
min 14

D [illegible] tions for calibrating dissolved oxygen. The first is an air calibration [illegible] third calibrates in mg/L or ppm to a solution with a known DO [illegible] determined by a Winkler Titration). Calibration of any option (% or mg/L and ppm) will [illegible] the other. The fourth option is a zero calibration. If performing a zero calibration, you must perform [illegible] calibration following the zero calibration. For both ease of use and accuracy, Geotech recommends performing the following 1-point DO % calibration.

2. Moisten the sponge in the cal/transport sleeve with a small amount of water and install it on the probe. The cal/transport sleeve ensures venting to the atmosphere. For dual port and Quatro cables, place a small amount of water (1/8 inch) in the calibration/transport cup and screw it on the probe. Disengage a thread or two to ensure atmospheric venting.
   Verify the DO and temperature sensors are not immersed in the water.
3. Turn the instrument on. If using a polargraphic sensor, wait 10 minutes for the DO sensor to stabilize. Galvanic sensors do not require a warm up time.
4. Press the **Cal** key, highlight **DO** and press enter.
5. Highlight DO%, then press Enter.
6. Verify the barometric pressure and salinity displayed are accurate. Once DO and temperature are stable, highlight **Accept Calibration** and press enter.

TAKING MEASUREMENTS AND STORING DATA

1. The instrument will be in Run mode when powered on.
2. To take readings, insert the probe into the sample. Move the probe in the sample until the readings stabilize. This releases any air bubbles and provides movement if measuring DO.
3. **Log One Sample** is already highlighted in Run mode. Press enter to open a submenu. Highlight **Sites** or **Folders** and press enter to select the site or folder to log the sample to.
4. If necessary, use the keypad to create a new Site or Folder name. If Site List and Folder List are disabled in the System menu, you will not see these options when logging a sample.
5. Once the Site and/or Folder name is selected, highlight **Log Now** and press enter. The instrument will confirm that the data point was logged successfully.
6. If you would like to log at a specific interval vs. logging one sample at a time, press the **System** key. Use the arrow keys to highlight **Logging** and press enter. Enable **Continuous Mode** and adjust the time **Interval** if necessary. On the Run screen, the option to log will change from **Log One Sample** to **Start Logging** based on the time interval entered.
7. During a continuous log, the **Start Logging** dialog box on the Run screen will change to **Stop Logging**.

UPLOADING DATA TO A PC WITH DATA MANAGER

1. Make sure Data Manager and the USB drivers are installed on the PC. The USB drivers will be installed during the Data Manager installation.
2. Connect the Communications Saddle [illegible] the [illegible] of the Pro Plus instrument and use the USB cable to connect the [illegible] the USB [illegible] on the PC.
3. If [illegible] time, Windows® may prompt [illegible] two 'New Hardware Found' Wizard in order to com[illegible]allation.
4. [illegible] PC and turn on the Pro Plus. [illegible] in Data Manager under the Select **Instrument** heading. Once you've highlighted [illegible] the **Retrieve Instrument Data** tab and check **Data, GLP, Site List, Configuration** [illegible] retrieve data. Click **Start.**
5. [illegible] complete, the data is available for viewing, printing, and exporting from Data Manger and [illegible] can be [illegible] from the Pro Plus if desired.
6. [illegible] the File key [illegible] choose **Delete Data** if you no longer need the data on the Pro Plus.

PROPER STORAGE

1. Store probes in calibration cup with 1/8" inch of tap water or pH 4 Buffer
   Do not store in DI water.

For technical support please contact Geotech Environmental Equipment, Inc. at (800) 833-7958

2/11/2021

2021-09-07

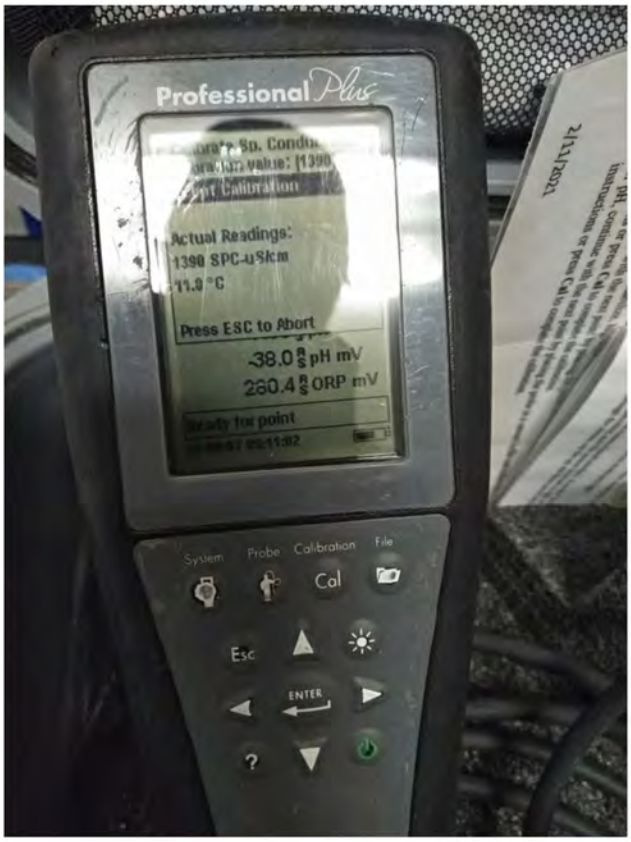
Created	2021-09-07 09:08:04 MDT by Environmental Department
Updated	2021-09-07 09:10:40 MDT by Environmental Department
Location	,

Equipment Calibration

Calibration Date	2021-09-07
Equipment	YSI Rental
Notes	Calibrated cond, pH, ORP, and DO.
Sampler's name	Joshua Moore
Signature	

Signed 2021-09-07 09:09:39 MDT

Photos


Professional Plus
Actual Readings:
1390 SPC-uS/cm
11.0 °C
Press ESC to Abort
-38.0 pH mV
260.4 ORP mV
System
Probe
Calibration
File
Cal
Esc
ENTER

2021-09-08

Created	2021-09-08 07:26:20 MDT by Environmental Department
Updated	2021-09-08 07:28:00 MDT by Environmental Department
Location	,

Equipment Calibration

Calibration Date	2021-09-08
Equipment	YSI Rental
Notes	Calibrated SpCnd, pH, ORP, and DO.
Sampler's name	Joshua Moore I
Signature	

Signed 2021-09-08 07:27:29 MDT

Photos


Professional Plus
Accept Calibration
Actual Readings:
7.88 pH
-23.3 mV
System
Probe
Calibration
Cal

2021-09-14

Created	2021-09-14 06:59:01 MDT by Environmental Department
Updated	2021-09-14 07:10:13 MDT by Environmental Department
Location	,

Equipment Calibration

Calibration Date	2021-09-14
Equipment	YSI Rental
Notes	Calibrate SpCnd, pH, ORP, and DO
Sampler's name	Joshua Moore
Signature	

Signed 2021-09-14 07:00:06 MDT

Photos

2021-09-20

Created	2021-09-20 12:25:17 MDT by Environmental Department
Updated	2021-09-20 12:27:56 MDT by Environmental Department
Location	,

Equipment Calibration

Calibration Date	2021-09-20
Equipment	Hanna Pocket pH
Notes	Electrode SN 06200887211. 6.86 reference buffer reading 6.88.
Sampler's name	Joshua Moore
Signature	 Signed 2021-09-20 12:27:27 MDT
Photos	

2021-09-21

Created	2021-09-21 08:14:56 MDT by Environmental Department
Updated	2021-09-21 08:16:45 MDT by Environmental Department
Location	,

Equipment Calibration

Calibration Date	2021-09-21
Equipment	YSI Rental
Notes	Calibrate SpCnd, pH, ORP, and DO
Sampler's name	Joshua Moore
Signature	

Signed 2021-09-21 08:15:57 MDT

Photos


GLAD


Calibrate Sp. Conductance
Accept Calibration
Actual Readings:
1426 SPC uS/cm
11.5 °C
Press ESC to Abort
-6.1 pH mV
260.3 ORP mV
Ready for point
System
Probe
Calibration
File
Cal
Esc
ENTER
Professional Series

2021-09-23

Created	2021-09-23 07:49:20 MDT by Environmental Department
Updated	2021-09-23 07:51:20 MDT by Environmental Department
Location	,

Equipment Calibration

Calibration Date	2021-09-23
Equipment	YSI Rental
Notes	Calibrate SpCnd, pH, ORP, and DO
Sampler's name	Joshua Moore
Signature	

Signed 2021-09-23 07:50:32 MDT

Photos


Actual Readings:
76.0 pH mV
344.2 ORP mV
System
Probe
Calibration
File
Cal
Esc
ENTER
Professional Series

2021-09-30

Created	2021-09-30 12:28:44 MDT by Environmental Department
Updated	2021-09-30 13:02:24 MDT by Environmental Department
Location	38.15222998618907, -107.74838123480579

Equipment Calibration

Calibration Date	2021-09-30
Equipment	SSG YSI Quattro
Notes	30.23 in Hg pressure, DO calibrated by damp sponge method.
Sampler's name	Briana Greet
Signature	

Signed 2021-09-30 12:59:28 MDT

Photos

2021-10-04

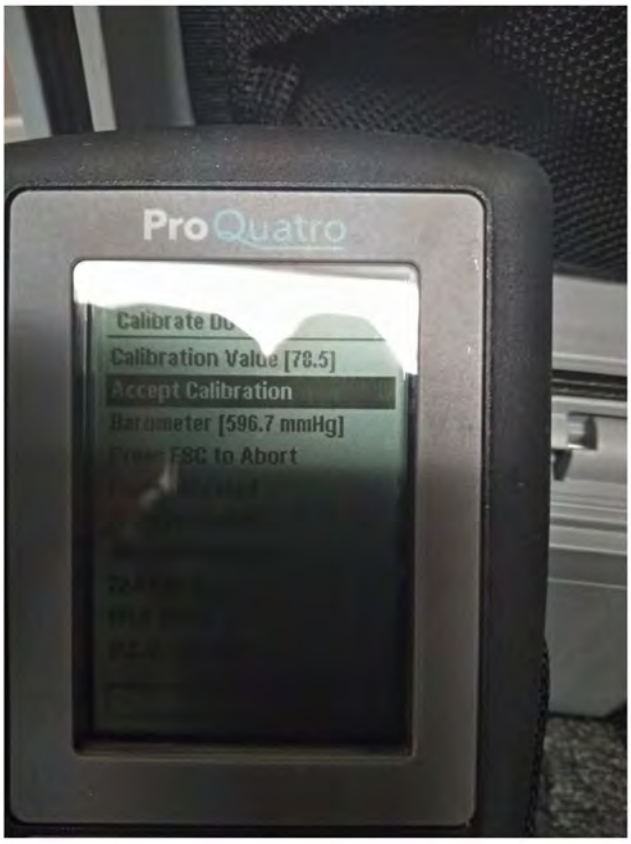
Created	2021-10-04 07:54:46 MDT by Environmental Department
Updated	2021-10-04 08:22:45 MDT by Environmental Department
Location	38.1522817, -107.7485491

Equipment Calibration

Calibration Date	2021-10-04
Equipment	YSI
Notes	Calibrate SpCnd, pH, ORP, and DO.
Sampler's name	Joshua Moore
Signature	

Signed 2021-10-04 08:21:35 MDT

Photos


ProQuatro
Calibration Value [78.5]
Accept Calibration
Barometer [596.7 mmHg]

2021-10-11

Created	2021-10-11 09:57:51 MDT by Environmental Department
Updated	2021-10-11 10:43:35 MDT by Environmental Department
Location	,

Equipment Calibration

Calibration Date	2021-10-11
Equipment	YSI ProQuatro
Notes	Calibrate SpCnd, pH, ORP, and DO. SpCnd = 1421 sensor, 1413 std. PH slope = 55.16 mV/pH. ORP = 239.8 sensor, 228.0 std. DO = 77.0%, 4.1 uA.
Sampler's name	Joshua Moore
Signature	

Signed 2021-10-11 09:59:10 MDT

Photos


ProQuatro
Calibration Value [7.05]
Accept Calibration
Finish Calibration
-5.8 pH mV
System
Probe
Calibration

2021-10-13

Created	2021-10-13 08:21:04 MDT by Environmental Department
Updated	2021-10-13 09:07:49 MDT by Environmental Department
Location	,

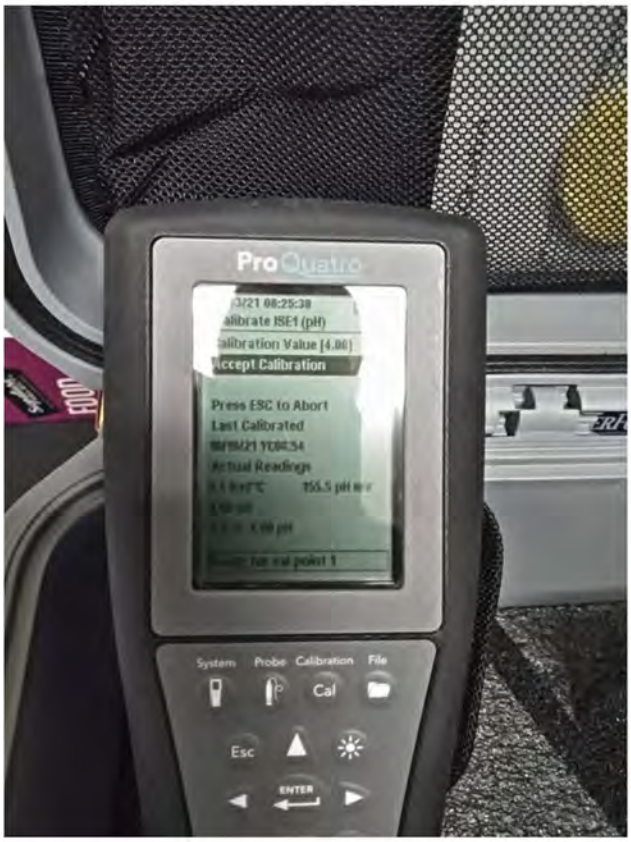
Equipment Calibration

Calibration Date	2021-10-13
Equipment	YSI
Notes	SpCnd sensor = 1272, std = 1413; pH slope = 57.38 mV/pH, 97.0%; ORP sensor = 225.7 mV, std = 227.0 mV @ 15.0C; DO sensor = 3.5 uA, cal value = 77.3% @ 587.6 mmHg
Sampler's name	Joshua Moore

Signature

Signed 2021-10-13 08:24:45 MDT

Photos


ProQuatro
alibrate ISE1 (pH)
ccept Calibration
Press ESC to Abort
Last Calibrated
Actual Readings
System
Probe
Calibration
File
Cal
Esc
ENTER

2021-10-20

Created	2021-10-20 10:21:17 MDT by Environmental Department
Updated	2021-10-20 10:25:33 MDT by Environmental Department
Location	,

Equipment Calibration

Calibration Date	2021-10-20
Equipment	Pocket Hanna pH SN 06200887211
Notes	Two point calibration with pH 7 & 10 buffers.
Sampler's name	Joshua Moore
Signature	

Signed 2021-10-20 10:25:25 MDT

Photos

2021-10-20

Created	2021-10-20 09:31:28 MDT by Environmental Department
Updated	2021-10-20 10:13:28 MDT by Environmental Department
Location	,

Equipment Calibration

Calibration Date	2021-10-20
Equipment	YSI
Notes	SpCnd sensor = 1600uS/S, std = 1413 uS/cm; pH slope = 56.28 mV/pH, 95.1% ideal; ORP sensor = 237.1, std = 231.0; DO sensor = 3.6 uA, std = 78.3%
Sampler's name	Joshua Moore
Signature	

Signed 2021-10-20 10:13:17 MDT

Photos


ProQuatro
Accept Calibration
Press ESC to Abort
System
Probe
Calibration
Cal
File
Esc
ENTER

2021-10-27

Created	2021-10-27 10:35:03 MDT by Environmental Department
Updated	2021-10-27 10:39:52 MDT by Environmental Department
Location	38.1521837, -107.7483178

Equipment Calibration

Calibration Date	2021-10-27
Equipment	Hanna Pocket pH Meter, electrode SN #06200887211
Notes	Two point calibration with 7 & 10 buffers. Calibration OK. 6.86 reference buffer value = 6.85.
Sampler's name	Joshua Moore
Signature	

Signed 2021-10-27 10:37:54 MDT

Photos


HANNA
6.85
21.2
MODE
SET/HOLD
instruments
20 mL
pH 6.86
Buffer Solution

2021-10-28

Created	2021-10-28 07:42:05 MDT by Environmental Department
Updated	2021-10-28 07:43:50 MDT by Environmental Department
Location	38.1521245, -107.7484554

Equipment Calibration

Calibration Date	2021-10-28
Equipment	YSI
Notes	Calibrate SpCnd, pH, ORP, and DO%.
Sampler's name	Joshua Moore
Signature	

Signed 2021-10-28 07:43:06 MDT

Photos

2021-11-01

Created	2021-11-01 09:52:25 MDT by Environmental Department
Updated	2021-11-01 09:57:19 MDT by Environmental Department
Location	,

Equipment Calibration

Calibration Date	2021-11-01
Equipment	Hanna Pocket pH electrode SN 06200887211
Notes	Calibrated with 7.0 & 10.01 buffers. Calibration OK message.
Sampler's name	Joshua Moore
Signature	

Signed 2021-11-01 09:57:13 MDT

Photos

2021-11-01

Created	2021-11-01 09:21:46 MDT by Environmental Department
Updated	2021-11-01 09:49:43 MDT by Environmental Department
Location	,

Equipment Calibration

Calibration Date	2021-11-01
Equipment	YSI SN 21G103989
Notes	Calibrate SpCnd, pH, ORP, %DO. SpCnd std = 1413 uS/cm, sensor = 1525 uS/cm; pH slope = 60.13 mV/pH, 98.4% ideal; ORP std = 231.0, sensor = 240.6; DO value = 78.0% @ 593.0 mmHg, sensor = 3.2 uA.
Sampler's name	Joshua Moore
Signature	

Signed 2021-11-01 09:23:41 MDT

Photos


ProQuatro
Finish Calibration
Press ESC to Abort
Actual Readings

2021-11-15

Created	2021-11-15 10:29:57 MST by Environmental Department
Updated	2021-11-15 11:08:36 MST by Environmental Department
Location	,

Equipment Calibration

Calibration Date	2021-11-15
Equipment	YSI SN #21G103989
Notes	Calibrate SpCnd, pH, ORP, and DO. SpCnd: std = 1413 uS/cm, sensor = 1383 uS/cm; pH: slope = 57.59 mV/pH, 97.4% ideal; ORP std = 223.0 mV, sensor = 216.0 mV; DO value = 78.4%, sensor = 3.7 uA, 595.9mmHg.
Sampler's name	Joshua Moore
Signature	 Signed 2021-11-15 10:31:52 MST

Photos