Appendix F

START Sampling Data Sheets

90094917

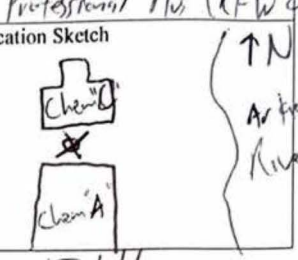
GROUNDWATER SAMPLING FIELD DATA SHEET

SITE: **WELL ID:** MW-645

Project Name: Fansteel Metals / FMRI **DATE:** 04/09/19

Project Number: TDD 0001/18-173

Casing Diameter (in) 4	Screened Interval (ft from GS)	Flow Rate[1] 200-300 mL/min.
Total Depth of Well from TOC (ft) 32.19	Purge Equipment " ←	Sample Equipment geopump peristaltic (RFW 21142)
Static Water from TOC (ft) 23.00	Depth of Sample Intake (ft) 25.60ft.	Analytical Equipment KSI Professional Plus (RFW 23867)
Length of Water Column (ft) ~~5.97~~ 12.19	Time Purge Started 0900	Well Location Sketch
1 Well Volume (gal) 5.97	Micro Purge Data: CPM: ____ Duration (sec): Recharge ____ Discharge ____	
3 Well Volumes (gal) ✓	Peristaltic Pump Setting 0-350 rpm	



Time	Flow Rate (L/min)	Volume Purged/ Liters	Temp °C (+/- 0.1)	Sp Cond. us/cm (+/- 3%)	Redox (ORP) (+/- 10 mv)	DO mg/L (+/- 10%)	pH (+/- 0.1)	Appearance Clear – C Opaque – O Grey - G + Turbidity	Water Level (ft)[2]
0902	~~[illegible]~~ 250 mL/min	~1L	18.4	911	219.3	1.94	6.28	C	Flow to flow through tubing to watermeter
0906	280 mL/min	~2.5L	18.6	911	208.1	1.57	6.24	C/1.97 NTU	
0912	228 mL/min.	~3.8L	18.5	911	194.6	1.54	6.24	C/2.04 NTU	
0919	240 mL/min	~5.4L	18.7	910	160.9	1.79	6.23	C/1.94 NTU	
0924	240 mL/min	~6L	18.7	909	156.5	2.16	6.23	C/1.89 NTU	
0929	240 mL/min.	~7.8L	18.8	907	105.2	2.01	6.22	C/1.96 NTU	
0934	240 mL/min	~9.0L	18.8	901	66.0	1.93	6.23	C/~~2.37~~ 1.93 NTU	
0945	160 mL/min	~11.2L	19.1	888	19.1	1.74	6.22	C/2.07 NTU	
1015			19.3	836	-24.2	8.2	6.17		Final water lvl 23.91

END @ 1116

Sample ID: Collected MS/MSD MW-645-20190409	Sample Date: 04/09/19	Sample Time: Begin 0902 End 1116
Comments: ~~ORP~~ ORP ~~Sample~~ Sensor seems to be off. ORP held at -19 to -20 ORP mV during last 45 min. of sampling.		
Level of PPE: Level D	Analytical Parameters: See QASP	
Disposition of Purged Water: Sgl > Designated area.	Sampler's Signature/Date 04/09/19	

[1] - 1 ounce is approx 30 ml
[2] maximum draw down should be <0.33 ft (4 in)

(2" = 0.16)
(4" = 0.65)

GROUNDWATER SAMPLING FIELD DATA SHEET

SITE: Fansteel Metals/FMI **WELL ID:** MW-53S

Project Name: **DATE:** 04/09/18

Project Number: TDD 0001/18-173

Casing Diameter (in): 4-in.	Screened Interval (ft from GS)	Flow Rate[1]: ~280 mL/min
Total Depth of Well from TOC (ft): 35.49	Purge Equipment: " "	Sample Equipment: Geopump peristaltic (RFW 21142)
Static Water from TOC (ft): 26.52	Depth of Sample Intake (ft): 29.66 lowered to 31.5 @ 1227	Analytical Equipment: YST Professional Plus (RFW 23867)
Length of Water Column (ft): ~~5.83~~ 8.97	Time Purge Started: 1217	Well Location Sketch: ↑N; 04-165; 15-560; Tank farm A; Service Bldg; MW-53S
1 Well Volume (gal): 5.83	Micro Purge Data: CPM: ____ Duration (sec): Recharge ____ Discharge ____	
3 Well Volumes (gal): ✓	Peristaltic Pump Setting: 0-350 rpm	

Time	Flow Rate (L/min)	Volume Purged/ Liters	Temp °C (+/- 0.1)	Sp Cond. us/cm (+/- 3%)	Redox (ORP) (+/- 10 mv)	DO mg/L (+/- 10%)	pH (+/- 0.1)	Appearance Clear – C Opaque – O Grey - G	Water Level (ft)[2]
1219	400 mL/min	~0.4L	19.4°C	838	141.6	3.92	6.16	C / 2.25 NTU	Logged water tube to water meter
1224	228 mL/min	~2.5L	19.9°C	828	128.9	3.36	6.18	C / 1.80 NTU	
1229	280 mL/min	~3.9L	19.6°C	820	112.6	3.03	6.15	C / 2.64 NTU	
1234	284 mL/min	~5.3L	19.6	829	103.2	2.80	6.14	C / 2.22	
1239	280 mL/min	~6.7	19.7	827	75.0	2.64	6.15	C / 1.~~68~~ 80 NTU	
1244	278 mL/min	~8.1	19.6	829	52.2	2.53	6.15	C / 1.49 NTU	
1249	272 mL/min	~9.3	19.7	829	46.7	2.41	6.15	C / 1.50 NTU	
								End water lvl.	26.58 ft

Sample ID: MW-53S-20190409 ~~-1254~~	Sample Date: 04/09/19	Sample Time: 1254
Comments: Fought the water drawing. Duplicate collected. Might have strained the pump.		
Level of PPE: Level D	Analytical Parameters: See QASP	
Disposition of Purged Water: ~3 gals Designated area	Sampler's Signature/Date: [signature] 04/09/19.	

[1] - 1 ounce is approx 30 ml
[2] maximum draw down should be <0.33 ft (4 in)

(2" = 0.16)
(4" = 0.65)

WESTON

GROUNDWATER SAMPLING FIELD DATA SHEET

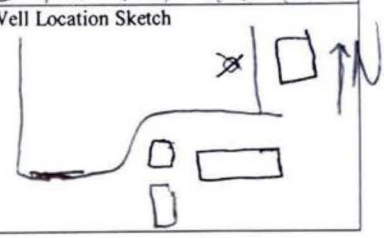
SITE: Fansteel Metals/FMRI **WELL ID:** MW-54S

DATE: 04/09/19

Project Name:

Project Number: TDD0001/18-173

Casing Diameter (in) 4-in.	Screened Interval (ft from GS)	Flow Rate[1] ~280mL/min
Total Depth of Well from TOC (ft) 31.91	Purge Equipment geopump peristaltic (RFW 21142)	Sample Equipment → " "
Static Water from TOC (ft) 19.35 ft.	Depth of Sample Intake (ft) 27.89	Analytical Equipment KI Professional Plus (RFW 23867)
Length of Water Column (ft) ~~31.91 - 19.35~~ 12.56	Time Purge Started 1549	Well Location Sketch
1 Well Volume (gal) 8.16	Micro Purge Data: CPM: ____ Duration (sec): Recharge ____ Discharge ____	
3 Well Volumes (gal) ✓	Peristaltic Pump Setting 0-350 rpm.	



Time	Flow Rate (L/min)	Volume Purged/ Liters	Temp °C (+/- 0.1)	Sp Cond. us/cm (+/- 3%)	Redox (ORP) (+/- 10 mv)	DO mg/L (+/- 10%)	pH (+/- 0.1)	Appearance Clear – C Opaque – O Grey - G	Water Level (ft)[2]
~~1555~~	~~1L/min~~		~~25.7~~						Lost water meter tube to
1558	~~280~~ 480 mL/min	~3 L	18.7	299.9	229.4	4.46	5.48	C 4.96 NTU	
1603	280 mL/min	~4.4L	18.9	298.5	217.7	3.52	5.49	C 4.97 NTU	
1609	288 mL/min	~5.7	~~18.7~~ 18.6	297.3	209.7	3.35	5.62	C 4.11 NTU	
1614	288 mL/min	~7.1L	19.3	296.8	~~216.6~~ 210.0	3.29	5.46	C 5.15 NTU	
1620	276 mL/min	~8.5	18.6	295.2	195.5	1.99	5.42	C 3.89 NTU	
1625	292 mL/min	~10L	18.7	295.2	186.8	2.06	5.42	C 3.95 NTU	
1630	288 mL/min	~11.4L	19.6	294.4	178.7	2.22	5.41	C 4.01 NTU	
								Final	= 20.13 ft

Sample ID: MW-54S-~~1633~~ 20190409	Sample Date: 04/09/19	Sample Time: 1633
Comments: Temperature was oscillatory.		
Level of PPE: Level D	Analytical Parameters: See QASP	
Disposition of Purged Water: ~4 gal Designated area	Sampler's Signature/Date: [signature] 04/09/19	

[1] - 1 ounce is approx 30 ml

[2] maximum draw down should be <0.33 ft (4 in)

(2" = 0.16)
(4" = 0.65)

WESTON SOLUTIONS

GROUNDWATER SAMPLING FIELD DATA SHEET

SITE: **WELL ID:** MW-52S

Project Name: Fansteel Metals / FMRI **DATE:** 04/10/19

Project Number: TDD 0001 / 18-173

Casing Diameter (in): 4-in	Screened Interval (ft from GS):	Flow Rate[1]: 268 mL/min.
Total Depth of Well from TOC (ft): 20.34	Purge Equipment: Geopump peristaltic (RFW 21142) →	Sample Equipment: "
Static Water from TOC (ft): 15.49	Depth of Sample Intake (ft): 19.00	Analytical Equipment: YSI Professional Plus (RFW 23867)
Length of Water Column (ft): ~~3.15~~ 4.85	Time Purge Started: 1706	Well Location Sketch: ↑N, Intake, 62
1 Well Volume (gal): ~~2.5 L~~ 3.15	Micro Purge Data: CPM: ____ Duration (sec): Recharge ____ Discharge ____	
3 Well Volumes (gal): ~~✓~~ 8	Peristaltic Pump Setting: 6-350 rpm.	

Time	Flow Rate (L/min)	Volume Purged/ Liters	Temp °C (+/- 0.1)	Sp Cond. us/cm (+/- 3%)	Redox (ORP) (+/- 10 mv)	DO mg/L (+/- 10%)	pH (+/- 0.1)	Appearance Clear – C Opaque – O Grey - G	Water Level (ft)[2]
1713	264 mL/min	~2L	17.6	420.7	252.1	6.99	6.7	C / 3.33 NTU	N/A
1720	276 mL/min	~3.3L	17.7	420.8	193.9	7.56	6.63	C / 3.01 NTU	
1729	264 mL/min	~5.3L	17.7	420.6	147.0	7.36	~~6.5~~ 6.62	C / 4.28 NTU	
1734	264 mL/min	~6.6L	17.6	420.4	121.1	7.35	6.61	C / 3.88 NTU	
1739	264 mL/min.	~7.9L	17.6	419.5	105.5	7.14	6.58	C / 4.44 NTU	
1744	272 mL/min	~9.2L	17.5	418.7	85.8	7.02	6.59	C / 5.29 NTU	
1750	268 mL/min	~10.5L	17.7	419.1	77.2	7.18	6.56	C / 4.73 NTU	
1755	268 mL/min.	~11.8L	17.5	417.0	75.1	6.73	6.54	C / 4.45 NTU	
								Final SW =	15.98 ft.

Sample ID: MW-52S-20190410	Sample Date: 04/10/19	Sample Time: 17.58
Comments: Turbidity still oscillating, readings when samples started being taken. ORP stabilized during sampling ~70 mV		
Level of PPE: Level D	Analytical Parameters: See QAPP	
Disposition of Purged Water: 4 gal Dechlorinated area	Sampler's Signature/Date: [signature] 04/10/19	

[1] - 1 ounce is approx 30 ml
[2] maximum draw down should be <0.33 ft (4 in)

(2" = 0.16)
(4" = 0.65)

WESTON SOLUTIONS

GROUNDWATER SAMPLING FIELD DATA SHEET

SITE: **WELL ID:** MW-51S

Project Name: Faustee/Metals/FMRI **DATE:** 04/10/19
Project Number: TDD 0001/18-173

Casing Diameter (in): 4-in	Screened Interval (ft from GS):	Flow Rate[1]: 100mL/min
Total Depth of Well from TOC (ft): 34.31	Purge Equipment: Geopump peristaltic / RFW 21142	Sample Equipment: " "
Static Water from TOC (ft): 28.09	Depth of Sample Intake (ft): 32.06 → 33.00 @ 1025	Analytical Equipment: YSI Professional Plus RFW 23867
Length of Water Column (ft): ~~4.043~~ 6.22	Time Purge Started: 1019	Well Location Sketch
1 Well Volume (gal): 4.043	Micro Purge Data: CPM: ____ Duration (sec): Recharge ____ Discharge ____	
3 Well Volumes (gal): ✓	Peristaltic Pump Setting: 0-350 rpm.	

Time	Flow Rate (L/min)	Volume Purged/ Liters	Temp °C (+/- 0.1)	Sp Cond. us/cm (+/- 3%)	Redox (ORP) (+/- 10 mv)	DO mg/L (+/- 10%)	pH (+/- 0.1)	Appearance Clear – C Opaque – O Grey - G	Water Level (ft)[2]
1033	104mL/min	~1L	20.7	564	165.9	6.64	6.76	C / 1.89 NTU	NA
1038	102mL/min	~1.5L	20.7	566	155.4	6.35	6.79	C / 1.67 NTU	
1043	98mL/min	~2L	20.9	565	140.9	6.11	6.78	C / 1.76 NTU	
1050	100mL/min	~2.7L	20.9	566	131.0	6.30	6.76	C / 1.20 NTU	
1056	94mL/min	~3.3L	21.0	566	119.1	5.63	6.77	C / 1.24	
								Final SWL = 29.39 ft.	

Sample ID: MW-51S-20190410	Sample Date: 04/10/19	Sample Time: 1056
Comments: Very Low flow rate. Low turbidity sample.		
Level of PPE: Level D	Analytical Parameters: See QASP	
Disposition of Purged Water: 1.5-2 gal Designated area.	Sampler's Signature/Date: [signature] 04/10/19	

[1] - 1 ounce is approx 30 ml
[2] maximum draw down should be <0.33 ft (4 in)

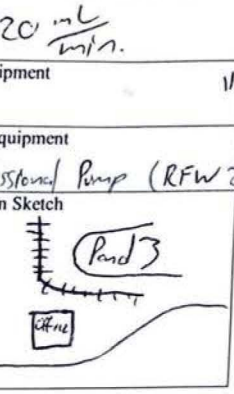
(2" = 0.16)
(4" = 0.65)

GROUNDWATER SAMPLING FIELD DATA SHEET

SITE: **WELL ID:** MW-685

Project Name: Fansteel / Metals / FMRI **DATE:** 04/10/19

Project Number: TDD 0001 / 18-173

Casing Diameter (in): 4-in.	Screened Interval (ft from GS)	Flow Rate[1]: 320 mL/min.
Total Depth of Well from TOC (ft): 29.17	Purge Equipment: Geopump - Peristaltic. (RFW 21142)	Sample Equipment: "
Static Water from TOC (ft): 15.95	Depth of Sample Intake (ft): 28.00	Analytical Equipment: YSI Professional Pump (RFW 23867)
Length of Water Column (ft): ~~8.59 ft.~~ 1322	Time Purge Started: 0816	Well Location Sketch: 
1 Well Volume (gal): 8.59	Micro Purge Data: CPM: ____ Duration (sec): Recharge ____ Discharge ____	
3 Well Volumes (gal): ✓ 20	Peristaltic Pump Setting: 0-350 rpm.	

Time	Flow Rate (L/min)	Volume Purged/ Liters	Temp °C (+/- 0.1)	Sp Cond. us/cm (+/- 3%)	Redox (ORP) (+/- 10 mv)	DO mg/L (+/- 10%)	pH (+/- 0.1)	Appearance Clear – C Opaque – O Grey - G	Water Level (ft)[2]
0816	404 mL/min.	1L	17.8	359.7	210.7	3.02	6.86	C / 5.21 NTU	NA
0824	380 mL/min	~2.2L	17.8	358.4	172.4	3.50	6.83	C / 4.82 NTU	
0829	372 mL/min	~5.4L	17.8	357.6	146.7	2.76	6.82	C / 5.24	
0834	324 mL/min	~7.0L	17.8	357.5	126.0	2.71	6.82	C / 5.44	
0840	328 mL/min	~8.6L	17.8	357.4	95.4	2.58	6.82	C / 5.00	
0845	318 mL/min	~9.1L	17.8	356.6	78.8	2.53	6.82	C / 5.55	
0851	320 mL/min	~10.7L	17.9	355.2	116.8	2.45	6.83	C / 5.59	
							Final water lvl = 16.63 ft.		

Sample ID: MW-685-20190410	Sample Date: 04/10/19	Sample Time: 0855
Comments: ORP bottomed ~~70~~ 30 mV but oscillates up to ~115 mV and down to ~70 mV.		
Level of PPE: Level D	Analytical Parameters: See QASP	
Disposition of Purged Water: ~3.5 gal. Designated area.	Sampler's Signature/Date: [signature] 04/10/19.	

[1] - 1 ounce is approx 30 ml
[2] maximum draw down should be <0.33 ft (4 in)

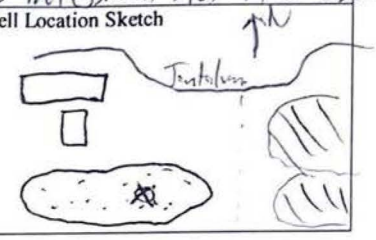
(2" = 0.16)
(4" = 0.65)

GROUNDWATER SAMPLING FIELD DATA SHEET

SITE: **WELL ID:** MW-56S

Project Name: Fansteel Metals / FMRI **DATE:** 04/10/19
Project Number: TDD001/18-173

Casing Diameter (in): 4-in	Screened Interval (ft from GS)	Flow Rate[1]: 272 mL/min.
Total Depth of Well from TOC (ft): 20.17	Purge Equipment: Geopump Peristaltic RFW 21147	Sample Equipment: " "
Static Water from TOC (ft): 13.99	Depth of Sample Intake (ft): 19.00	Analytical Equipment: YSI Professional Plus RFW 23867
Length of Water Column (ft): ~~4.02 ft~~ @ 6.18	Time Purge Started: ~~1325~~ @ 1525	Well Location Sketch
1 Well Volume (gal): ~~1.5L~~ @ 4.02	Micro Purge Data: CPM: ____ Duration (sec): Recharge ____ Discharge ____	
3 Well Volumes (gal): ~~4L~~ @	Peristaltic Pump Setting: 0-350 ~~rpm~~ rpm.	



Time	Flow Rate (L/min)	Volume Purged/ Liters	Temp °C (+/- 0.1)	Sp Cond. us/cm (+/- 3%)	Redox (ORP) (+/- 10 mv)	DO mg/L (+/- 10%)	pH (+/- 0.1)	Appearance Clear – C Opaque – O Grey - G	Water Level (ft)[2]
1532	284 mL/min.	~1L	16.8	1253	250.9	3.19	6.48	C / 6.19 NTU	
1537	280 mL/min	~2L	16.8	1250	214.1	2.94	6.48	C / 5.45 NTU	
1542	280 mL/min.	~3L	16.7	1248	174.6	2.96	6.47	C / 5.32 NTU	
1547	278 mL/min	~4L	16.9	1242	112.5	2.80	6.48	C / 4.59 NTU	
1552	280 mL/min	~5L	16.6	1267	96.1	2.80	6.48	C / 4.05 NTU	
1557	276 mL/min.	~6.5L	16.5	1239	88.0	2.80	6.48	C / 3.69 NTU	
1602	272 mL/min.	~7.5L	16.7	1230	72.8	2.60	6.48	C / 2.89 NTU	
								Final SWL = 15.56 ft.	

Sample ID: MW-56S-20190410	Sample Date: 04/10/19	Sample Time: 1606
Comments:		
Level of PPE: Level D	Analytical Parameters: See QASP	
Disposition of Purged Water: ~3.75 Designated area.	Sampler's Signature/Date: [signature] 04/10/19.	

[1] - 1 ounce is approx 30 ml
[2] maximum draw down should be <0.33 ft (4 in)

(2" = 0.16)
(4" = 0.65)

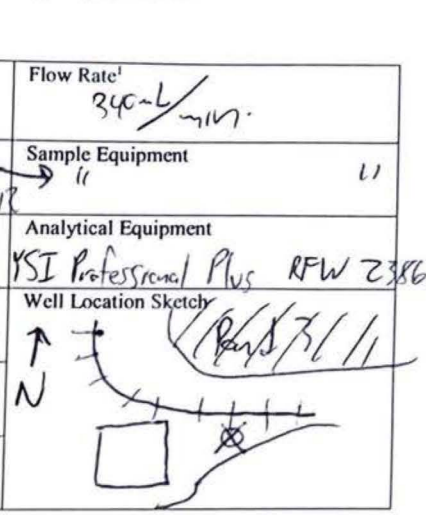
WESTON SOLUTIONS

GROUNDWATER SAMPLING FIELD DATA SHEET

SITE: **WELL ID:** MW-555

Project Name: Fansteel Metals / FMRI **DATE:** 04/10/19
Project Number: TDD 0001/18-173

Casing Diameter (in): 4-in	Screened Interval (ft from GS):	Flow Rate[1]: 340 mL/min.
Total Depth of Well from TOC (ft): 24.91	Purge Equipment: Geopump peristaltic RFW 21142	Sample Equipment: " "
Static Water from TOC (ft): 14.42	Depth of Sample Intake (ft): 21.93	Analytical Equipment: YSI Professional Plus RFW 23867
Length of Water Column (ft): ~~6.89~~ 10.49	Time Purge Started: 1333	Well Location Sketch:
1 Well Volume (gal): ~~2.25~~ 6.89	Micro Purge Data: CPM: ____ Duration (sec): Recharge ____ Discharge ____	
3 Well Volumes (gal): ✓	Peristaltic Pump Setting: 0-350 rpm	



Time	Flow Rate (L/min)	Volume Purged/ Liters	Temp °C (+/- 0.1)	Sp Cond. us/cm (+/- 3%)	Redox (ORP) (+/- 10 mv)	DO mg/L (+/- 10%)	pH (+/- 0.1)	Appearance Clear – C Opaque – O Grey - G	Water Level (ft)[2]
1338	360 mL/min.	~1 L	16.9	111.5	238.4	7.80	~~6.26~~ 5.6	C / 9.22 NTU	N/A
1343	344 mL/min	~3.5	17.0	111.4	239.9	7.90	~~6.25~~ 5.6	C / 8.82 NTU	
1346	342 mL/min	~5 L	16.9	112.4	235.0	7.54	5.25	C / 8.43 NTU	
1351	336 mL/min.	~6.5 L	16.9	111.5	234.8	7.78	5.27	C / 5.97 NTU	
1356	340 mL/min	~8.0 L	17.1	111.5	226.9	7.68	5.27	C / 6.42 NTU	
1401	340 mL/min.	~9.5 L	17.1	111.4	218.7	7.59	5.27	C / 5.76 NTU	
1406	342 mL/min	~11.0 L	17.2	111.5	218.3	7.56	5.28	C / 5.05 NTU	
								Final SWL =	14.60 ft.

Sample ID: MW-555-20190410	Sample Date: 04/10/19	Sample Time: 1408
Comments: Turbidity took awhile to stabilize.		
Level of PPE: Level D	Analytical Parameters: See QASP	
Disposition of Purged Water: ~3.5 gal Designated area.	Sampler's Signature/Date: [signature] 04/10/19	

[1] - 1 ounce is approx 30 ml
[2] maximum draw down should be <0.33 ft (4 in)

(2" = 0.16)
(4" = 0.65)

WESTON SOLUTIONS

GROUNDWATER SAMPLING FIELD DATA SHEET

SITE:

WELL ID: MW-OW 7

Project Name: Fenstee / Metals / FNRT

Project Number: TDD 0001/18-173

DATE: 04/11/19

Casing Diameter (in)	Screened Interval (ft from GS)	Flow Rate[1]
2-in		
Total Depth of Well from TOC (ft)	Purge Equipment	Sample Equipment
20.33		
Static Water from TOC (ft)	Depth of Sample Intake (ft)	Analytical Equipment
19.62		
Length of Water Column (ft)	Time Purge Started	Well Location Sketch
0.71 ft.		
1 Well Volume (gal)	Micro Purge Data: CPM: ____ Duration (sec): Recharge ____ Discharge ____	
0.11		
3 Well Volumes (gal)	Peristaltic Pump Setting	

Time	Flow Rate (L/min)	Volume Purged/ Liters	Temp °C (+/- 0.1)	Sp Cond. us/cm (+/- 3%)	Redox (ORP) (+/- 10 mv)	DO mg/L (+/- 10%)	pH (+/- 0.1)	Appearance Clear – C Opaque – O Grey - G	Water Level (ft)[2]

Sample ID:	Sample Date:	Sample Time:
Comments: Water column is not substantial. Did not sample		
Level of PPE:	Analytical Parameters:	
Disposition of Purged Water:	Sampler's Signature/Date 04/11/19.	

[1] - 1 ounce is approx 30 ml

[2] maximum draw down should be <0.33 ft (4 in)

(2" = 0.16)
(4" = 0.65)

WESTON

GROUNDWATER SAMPLING FIELD DATA SHEET

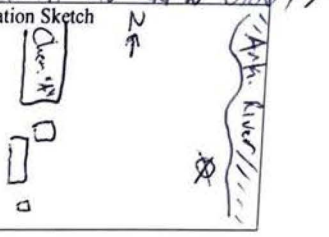
SITE:

WELL ID: MW-OW6

Project Name: Fansteel Metals / FMRI

DATE: 04/11/19

Project Number: TDD 0001/18-173

Casing Diameter (in): 2-M	Screened Interval (ft from GS):	Flow Rate[1]: 242 mL/min
Total Depth of Well from TOC (ft): 19.57	Purge Equipment: geopump peristaltic (RFW 21142)	Sample Equipment: " "
Static Water from TOC (ft): 15.98	Depth of Sample Intake (ft): 18.5	Analytical Equipment: YSI Professional Plus (RFW 23867)
Length of Water Column (ft): 3.59	Time Purge Started: 1747	Well Location Sketch: 
1 Well Volume (gal): 0.57	Micro Purge Data: CPM: ____ Duration (sec): Recharge ____ Discharge ____	
3 Well Volumes (gal):	Peristaltic Pump Setting: 0 - 350 rpm	

Time	Flow Rate[1] (L/min)	Volume Purged/ Liters	Temp °C (+/- 0.1)	Sp Cond. us/cm (+/- 3%)	Redox (ORP) (+/- 10 mv)	DO mg/L (+/- 10%)	pH (+/- 0.1)	Appearance Clear – C Opaque – O Grey - G	Water Level (ft)[2]
1755	262 mL/min	~3L	15.6	1305	68.7	3.60	6.56	C / 7.40 NTU	16.55 ft.
1800	264 mL/min	~4.2L	15.6	1303	29.7	3.35	6.54	C / 10.02 NTU	16.61 ft
1806	256 mL/min	~5.4L	15.5	1300	6.9	2.54	6.54	C / 10.99 NTU	16.66 ft.
1813	244 mL/min	~6.6L	15.4	1293	13.9	2.41	6.55	C / 8.29 NTU	16.69 ft
1819	244 mL/min	~7.8L	15.4	1291	28.2	3.37	6.53	C / 6.22 NTU	16.71 ft.
1824	238 mL/min	~9.0L	15.4	1287	34.8	2.22	6.56	C / 5.11 NTU	16.72 ft
1830	242 mL/min	~10.1L	15.3	1287	45.2	2.03	6.54	C / 5.15 NTU	16.74 ft.
1904								Final SWL =	16.99 ft.

Sample ID: MW-OW6-20190411	Sample Date: 04/11/19	Sample Time: 1833
Comments: ORP & DO gradually oscillate. Water level falls at ~0.02 ft/5 min @ 242 mL/min flow rate.		
Level of PPE: Level D	Analytical Parameters: See QASP	
Disposition of Purged Water: Designated area	Sampler's Signature/Date: [signature] 04/11/19	

[1] - 1 ounce is approx 30 ml
[2] maximum draw down should be <0.33 ft (4 in)

(2" = 0.16)
(4" = 0.65)

WESTON SOLUTIONS

GROUNDWATER SAMPLING FIELD DATA SHEET

SITE:

WELL ID: MW-625

Project Name: Fansteel / Metals / FMRI

DATE: 04/11/19

Project Number: TDD 0001/18-173

Casing Diameter (in) 4-in	Screened Interval (ft from GS)	Flow Rate[1] 284 mL/min
Total Depth of Well from TOC (ft) 22.75	Purge Equipment geopump peristaltic RFW 21142 →	Sample Equipment "
Static Water from TOC (ft) 17.63	Depth of Sample Intake (ft) 21.00	Analytical Equipment YSI Professional Plus RFW 23867
Length of Water Column (ft) 5.12 ft.	Time Purge Started ~~04~~ 1602	Well Location Sketch N
1 Well Volume (gal) 3.33	Micro Purge Data: CPM: ____ Duration (sec): Recharge ____ Discharge ____	
3 Well Volumes (gal)	Peristaltic Pump Setting 0-350 rpm	

Time	Flow Rate (L/min)	Volume Purged/ Liters	Temp °C (+/- 0.1)	Sp Cond. us/cm (+/- 3%)	Redox (ORP) (+/- 10 mv)	DO mg/L (+/- 10%)	pH (+/- 0.1)	Appearance Clear – C Opaque – O Grey - G	Water Level (ft)[2]
1611	284 mL/min	~2L	17.9	1396	91.9	0.29	7.55	C/0.81 NTU	N/A
1617	284 mL/min.	~3.2L	17.9	1394	66.0	0.25	7.51	C/0.87 NTU	
1622	284 mL/min.	~4.3L	17.9	1398	50.4	0.23	7.52	C/0.76 NTU	
1628	284 mL/min.	~5.4L	17.9	1372	29.8	0.21	7.53	C/0.70 NTU	
1635	284 mL/min.	~6.5L	17.9	1370	74.9	0.20	7.52	C/0.65 NTU	
1640	284 mL/min	~7.6L	17.9	1372	74.3	0.19	7.53	C/0.8 NTU	
						@	1718	Final water lvl. =	17.74 ft

Sample ID: MW-625	Sample Date: 04/11/19	Sample Time: 1641
Comments:		
Level of PPE: Level D	Analytical Parameters: ~~G~~ See QASP	
Disposition of Purged Water: Designated area	Sampler's Signature/Date [signature] 04/11/19	

[1] - 1 ounce is approx 30 ml
[2] maximum draw down should be <0.33 ft (4 in)

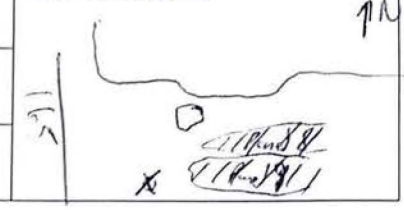
(2" = 0.16)
(4" = 0.65)

GROUNDWATER SAMPLING FIELD DATA SHEET

SITE: **WELL ID:** MW-OW9

Project Name: Fourstee / Metals / EMRI **DATE:** 04/11/19.

Project Number: TDD 0001/18-173

Casing Diameter (in)	Screened Interval (ft from GS)	Flow Rate[1]
2-in.		Variable 220-300 ml/min.
Total Depth of Well from TOC (ft)	**Purge Equipment**	**Sample Equipment**
30.25	geopump peristaltic (RFW 21142)	"
Static Water from TOC (ft)	**Depth of Sample Intake (ft)**	**Analytical Equipment**
22.50	29.00 ft.	YSI Professional Plus RFW 23867.
Length of Water Column (ft)	**Time Purge Started**	**Well Location Sketch**
7.75	1041	
1 Well Volume (gal)	**Micro Purge Data: CPM: ____ Duration (sec): Recharge ____ Discharge ____**	
1.24 gal		
3 Well Volumes (gal)	**Peristaltic Pump Setting**	
	0-350 rpm	

Time	Flow Rate (L/min)	Volume Purged/ Liters	Temp °C (+/- 0.1)	Sp Cond. us/cm (+/- 3%)	Redox (ORP) (+/- 10 mv)	DO mg/L (+/- 10%)	pH (+/- 0.1)	Appearance Clear – C Opaque – O Grey - G	Water Level (ft)[2]
1046	288 ml/min	~1.5L	16.0	1495	155.1	0.79	6.56	Cloudy yellow 162.0 NTU	23.00 ft.
1054	264 ml/min	~2.5L	15.8	1498	112.2	~~1.72~~ 0.62	6.54	Yellow 65.5 NTU	23.20 ft
1059	264 ml/min	~3.5L	16.0	1531	90.9	0.82	6.52	Clear - Yellow 23.9 NTU	23.24 ft.
1104	276 ml/min	~4.7L	16.1	1532	80.7	0.73	6.51	C/13.4 NTU	23.23 ft.
1109	304 ml/min.	~5.7L	16.1	1528	136.4	0.54	6.51	C/7.05 NTU	23.38 ft.
1114	224 ml/min	~6.7L	16.2	1535	134.9	0.49	6.51	C/7.95 NTU	23.38 ft.
1119	222 ml/min	~7.7L	16.4	1553	129.6	0.38	6.50	C/5.47	23.34 ft.
							1206	Final water l.l. =	23.20 ft.

Sample ID:	Sample Date:	Sample Time:
MW-OW9-20190411	04/11/19	~~1121~~ 1122

Comments:

First 2 gallons of purge water were very cloudy. ORP crept up

Level of PPE:	Analytical Parameters:
Level D	See QASP
Disposition of Purged Water:	**Sampler's Signature/Date**
~4 gal. Designated area	04/11/19.

[1] - 1 ounce is approx 30 ml

[2] maximum draw down should be <0.33 ft (4 in)

(2" = 0.16)
(4" = 0.65)

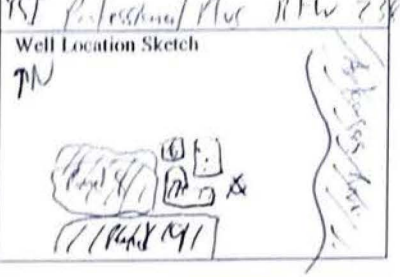
GROUNDWATER SAMPLING FIELD DATA SHEET

SITE:

WELL ID: MW-575

DATE: 04/11/19

Project Name: Fluoride / Metals / TDS
Project Number: 1372 001/18-173

Casing Diameter (in)	Screened Interval (ft from GS)	Flow Rate[1]
6-in		
Total Depth of Well from TOC (ft)	**Purge Equipment**	**Sample Equipment**
21.01	geo Pump peristaltic RFW 21942	"
Static Water from TOC (ft)	**Depth of Sample Intake (ft)**	**Analytical Equipment**
17.64	19.00 ft.	YSI Professional Plus RFW 23467
Length of Water Column (ft)	**Time Purge Started**	**Well Location Sketch**
3.37	1325	
1 Well Volume (gal)	**Micro Purge Data: CPM: ____ Duration (sec): Recharge ____ Discharge ____**	
0.54		
3 Well Volumes (gal)	**Peristaltic Pump Setting**	
	0.350 rpm	

Time	Flow Rate (L/min)	Volume Purged/ Liters	Temp °C (+/- 0.1)	Sp Cond. us/cm (+/- 3%)	Redox (ORP) (+/- 10 mv)	DO mg/L (+/- 10%)	pH (+/- 0.1)	Appearance Clear – C Opaque – O Grey - G	Water Level (ft)[2]
1336	256 ml/min	~2.2	16.8	2376	173.6	0.73	6.00	C / 0.64 NTU	N/A
1342	248 ml/min	~3.6	16.7	2370	152.4	0.61	5.99	C / 1.00 NTU	
1347	248 ml/min	~4.7	16.7	2352	138.1	0.55	5.98	C / 1.54 NTU	
1354	256 ml/min	~5.8	16.8	2331	128.1	0.68	5.98	C / 0.69 NTU	
1400	252 ml/min	~6.9	16.9	2316	124.7	0.51	5.98	C / 0.69 NTU	
1405	256 ml/min	~8.0	16.9	2299	120.9	0.44	5.99	C / 0.80 NTU	
1410	248 ml/min	~9.1	16.8	2287	117.2	0.32	5.98	C / 0.85 NTU	
1521								Final SWL = 17.88 ft.	

Sample ID:	Sample Date:	Sample Time:
MW-575-20190411	04/11/19	1413

Comments:
Turbidimeter calibration is 100% compared to this morning.

Level of PPE:	Analytical Parameters:
Level D	See QAPP
Disposition of Purged Water:	**Sampler's Signature/Date**
Designated waste area	[signature] 04/11/19

[1] - 1 ounce is approx 30 ml
[2] maximum draw down should be <0.33 ft (4 in)

(2" = 0.16)
(4" = 0.65)

WESTON

GROUNDWATER SAMPLING FIELD DATA SHEET

SITE:

WELL ID: ~~MW-OW2~~ MW-OW3

Project Name: Feristee / Metals / FMRI

DATE: 04/11/19

Project Number: TDD 0001/18-173

Casing Diameter (in)	Screened Interval (ft from GS)	Flow Rate[1]
2-in.		
Total Depth of Well from TOC (ft)	**Purge Equipment**	**Sample Equipment**
29.46	geotemp peristaltic RFW 21142 →	" "
Static Water from TOC (ft)	**Depth of Sample Intake (ft)**	**Analytical Equipment**
20.18	28.00	YSI Professional Plus RFW 23867.
Length of Water Column (ft)	**Time Purge Started**	**Well Location Sketch**
9.28	0821	N; soil stockpile; Paved
1 Well Volume (gal)	**Micro Purge Data: CPM: ____ Duration (sec): Recharge ____ Discharge ____**	
1.48		
3 Well Volumes (gal)	**Peristaltic Pump Setting**	
	0-350 rpm.	

Time	Flow Rate (L/min)	Volume Purged/ Liters	Temp °C (+/- 0.1)	Sp Cond. us/cm (+/- 3%)	Redox (ORP) (+/- 10 mv)	DO mg/L (+/- 10%)	pH (+/- 0.1)	Appearance Clear – C Opaque – O Grey - G	Water Level (ft)[2]
0842	188 mL/min	~2L	17.1	1816	-107.9	0.84	6.82	G well settled / 11.51 NTU	reduced 20.58 ft
0847	191 mL/min	~3L	17.2	1767	-67.4	0.84	6.78	G / 6.89 NTU	20.57 ft.
0853	185 mL/min	~4L	17.2	1722	-42.7	0.90	6.77	C / 4.44 NTU	20.55 ft
0900	200 mL/min	~5L	17.1	1699	-25.8	0.68	6.77	C / 4.25 NTU	20.55 ft.
0905	188 mL/min	~6L	17.0	1690	-21.5	0.68	6.75	C / 3.6 NTU	20.55 ft.
0911	210 mL/min	~7L	17.2	1665	-12.4	0.63	6.75	C / 3.00 NTU	20.53 ft
0916	190 mL/min	~8L	17.2	1646	-8.2	0.61	6.74	C / 3.06	20.55. ~~21.00~~ ft
1002								Final SWL =	20.62 ft

Sample ID:	Sample Date:	Sample Time:
MW-OW3-20190411	04/11/19	0919.

Comments:

ORP started of in negatives and rose to ~12mV by end of sampling.

Level of PPE:	Analytical Parameters:
Level D	See QASP
Disposition of Purged Water:	**Sampler's Signature/Date**
~4 gal Designated area	[signature] 04/11/19

[1] - 1 ounce is approx 30 ml
[2] maximum draw down should be <0.33 ft (4 in)

(2" = 0.16)
(4" = 0.65)

WESTON SOLUTIONS

GROUNDWATER SAMPLING FIELD DATA SHEET

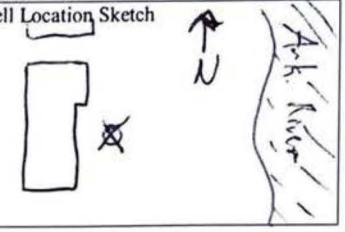
SITE:

WELL ID: MW-655

Project Name: Fansteel Metals/FMRI

DATE: 04/12/19

Project Number: TDD 0001/18-173

Casing Diameter (in)	Screened Interval (ft from GS)	Flow Rate[1]
4-in.		152-194 mL
Total Depth of Well from TOC (ft)	**Purge Equipment**	**Sample Equipment**
33.68	grapump peristaltic (RFW 21142) →	" "
Static Water from TOC (ft)	**Depth of Sample Intake (ft)** Dropped to 28ft @ 0908	**Analytical Equipment**
25.02	27.00ft	YSI Professional Plus (RFW 23867)
Length of Water Column (ft)	**Time Purge Started**	**Well Location Sketch**
8.66	0855	
1 Well Volume (gal)	**Micro Purge Data: CPM: ____ Duration (sec): Recharge ____ Discharge ____**	
5.63		
3 Well Volumes (gal)	**Peristaltic Pump Setting**	
	0-350 rpm	

Time	Flow Rate 300 mL (L/min)	Volume Purged/ Liters	Temp °C (+/- 0.1)	Sp Cond. us/cm (+/- 3%)	Redox (ORP) (+/- 10 mv)	DO mg/L (+/- 10%)	pH (+/- 0.1)	Appearance Clear – C Opaque – O Grey - G	Water Level (ft)[2]
0903	288 mL/min	~2L	17.5	931	267.6	0.72	5.89	C/1.82 NTU	N/A
0908	144 mL/min	~3L	17.6	923	258.5	0.55	5.84	C/1.96 NTU	N/A
0914	192 mL/min	~4L	17.6	~~902~~ 900	248.4	0.86	5.84	C/2.04 NTU	N/A
0920	194 mL/min	~5L	17.6	877	225.1	0.80	5.85	C/1.82 NTU	N/A
0925	152 mL/min	~6L	17.4	895	216.7	0.71	5.85	C/1.62 NTU	N/A
0932	156 mL/min	~7L	17.7	891	218.6	0.73	5.84	C/1.71 NTU	N/A
0939	188 mL/min	~8L	17.8	887	210.5	0.32	5.85	C/1.60 NTU	N/A
1023								Final SWL =	25.42 ft.

Sample ID:	Sample Date:	Sample Time:
MW-655-20190412	04/12/19	0942

Comments:

Flow rate was variable. Probably pumping at low well head press.

Level of PPE:	Analytical Parameters:
Level D	See QAPP
Disposition of Purged Water:	**~~Sampler's Signature/Date~~**
Designated area	[signature] 04/12/19

[1] - 1 ounce is approx 30 ml

[2] maximum draw down should be <0.33 ft (4 in)

(2" = 0.16)
(4" = 0.65)

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