ATTACHMENT E-9

Groundwater Sampling Field Logs (April–July 2018) E&R Ponds and SWMUs

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: B-2

Sampling Personnel: ~~Gerald Ingle~~/D. ~~McCartha~~/R. Oliver Date: 4/3/18

Comments: Time In: 900 Time Out: 1245

Well Information

Well Diameter: 2 inches Reference Point Marked: (Yes) No

Depth to Water: 13.82 feet below T.O.C. Well Depth: 15.30 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 1.48 ft

1 Well Volume=0.24 gal

3 Well Volume= 0.71 gal

Total Purged: ~0.50 gal

Well Purge Dry (?) (yes)/no

Purge Method (check): ☑ Traditional Purge ☐ Tubing In-Screen Method

Purge Start Time: 0915

Purge End Time: 0935

Total Time: 5 min

Purge Rate: 0.1 gpm

Purging Equipment and Calibration Information

Bailer: ☐ Teflon ☐ Poly. Pump: ☐ Grundfos ☑ Peri. ID# 6

Pump Tubing Type: ☐ Teflon ☑ Teflon-Lined Poly. ☐ Polyethylene

Meter(s) Used: ☑ Hanna 991300 ☐ YSI 556 ☐ Lamotte 2020 ID#'s 11 [illegible]

Calibration Date/Time: 4/3/18 900

Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. µS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
930	0.25	16.7	.27	4.31	—	—	29.2	14.80
935		The well gets dry				935		
1240	Enough water was recovered to collect the sample						4.79	

Stabilization Info:	+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): ☑ Bailer ☑ Straw Method ☐ Pump Tubing ☐ Vacuum Jug ☐ Other

Final Tubing/Pump Depth: 15.30 feet below T.O.C

Final Groundwater Depth (if applic. — feet below T.O.C

Final Sample Turbidity 4.79 NTUs

Ferrous Iron Concentration (if sampled): — mg/L

Comments:

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
B-2	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1240
B-2	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	1241

Sample Laboratory: ☑ AES ☐ ACL ☐ TA ☐ XENCO Delivery Method: ☑ Hand Delivery ☐ Fed Ex ☐ UPS

Field Personnel Signature: [signature]

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: B-2D

Sampling Personnel: ~~Gerald Ingle~~/D. Mc~~Cartha~~/R. Oliver Date: 4/3/18

Comments: Time In: 1120 Time Out: 1215

Well Information

Well Diameter: 2 inches Reference Point Marked: (Yes) No

Depth to Water: 26.95 feet below T.O.C. Well Depth: 34.95 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 8.01 ft

1 Well Volume= 1.30 gal

3 Well Volume= 3.84 gal

Total Purged: 6 gal

Well Purge Dry (?) yes/(no)

Purge Method (check): ☑ Traditional Purge ☐ Tubing In-Screen Method

Purge Start Time: 1130

Purge End Time: 1200

Total Time: 30 min

Purge Rate: 0.2 gpm

Purging Equipment and Calibration Information

Bailer: ☑ Teflon ☐ Poly. Pump: ☐ Grundfos ☑ Peri. ID# 6

Pump Tubing Type: ☐ Teflon ☐ Teflon-Lined Poly. ☐ Polyethylene

Meter(s) Used: ☑ Hanna 991300 ☐ YSI 556 ☑ Lamotte 2020 ID#'s 1189

Calibration Date/Time: 4/3/18 500

Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. µS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
1135	1	20.2	22	4.59	—	—	114	—
1140	2	19.9	20	4.62	—	—	86.5	—
1145	3	19.7	19	4.75	—	—	33.5	—
1150	4	19.4	21	4.69	—	—	20.5	—
1155	5	19.8	22	4.72	—	—	14.5	—
1204 ~~1200~~	6	19.4	20	4.62	—	—	7.41	
Stabilization Info:		+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): ☑ Bailer ☐ Straw Method ☐ Pump Tubing ☐ Vacuum Jug ☐ Other

Final Tubing/Pump Depth: — feet below T.O.C

Final Groundwater Depth (if applic. — feet below T.O.C

Final Sample Turbidity 7.41 NTUs

Ferrous Iron Concentration (if sampled): — mg/L

Comments:

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
B-2D	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1205
B-2D	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	1205

Sample Laboratory: ☑ AES ☐ ACL ☐ TA ☐ XENCO Delivery Method: ☑ Hand Delivery ☐ Fed Ex ☐ UPS

Field Personnel Signature:

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: B-2DD

Sampling Personnel: ~~Gerald Ingle~~/D. ~~McCartha~~/R. Oliver Date: 4/3/18

Comments: Time In: 940 Time Out: 1050

Well Information

Well Diameter: 2 inches Reference Point Marked: (Yes) No

Depth to Water: 37.7 feet below T.O.C. Well Depth: 57.75 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 20.05 ft

1 Well Volume= 3.21 gal

3 Well Volume= 9.62 gal

Total Purged: 10 gal

Well Purge Dry (?) yes (no)

Purge Method (check): ☑ Traditional Purge ☐ Tubing In-Screen Method

Purge Start Time: 1015

Purge End Time: 1050

Total Time: 40 min

Purge Rate: 0.25 gpm

Purging Equipment and Calibration Information

Bailer: ☑ Teflon ☐ Poly. Pump: ☐ Grundfos ☑ Peri. ID# 6

Pump Tubing Type: ☐ Teflon ☐ Teflon-Lined Poly. ☐ Polyethylene

Meter(s) Used: ☑ Hanna 991300 ☐ YSI 556 ☑ Lamotte 2020 ID#'s

Calibration Date/Time: 4/3/18 900

Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. µS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
1020	2.0	20.4	63	5.93	—	—	18.1	—
1025	4.0	19.4	46	~~5.50~~ 5.53	—	—	17.4	—
1035	~~6.00~~ 6.2	20.0	46	5.59	—	—	12.6	—
1045	~~10.00~~ 8.00	20.1	44	5.58	—	—	~~8.17~~ 8.17	—
1050	10.00	19.5	43	5.48	—	—	4.69	—
Stabilization Info:		+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): ☑ Bailer ☐ Straw Method ☐ Pump Tubing ☐ Vacuum Jug ☐ Other

Final Tubing/Pump Depth: — feet below T.O.C

Final Groundwater Depth (if applic. — feet below T.O.C

Final Sample Turbidity 4.69 NTUs

Ferrous Iron Concentration (if sampled): — mg/L

Comments:

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
B-2DD	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1100
B-2DD	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	1100

Sample Laboratory: ☑ AES ☐ ACL ☐ TA ☐ XENCO Delivery Method: ☑ Hand Delivery ☐ Fed Ex ☐ UPS

Field Personnel Signature: [signature]

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: B-3

Sampling Personnel: ~~Gerald Ingle~~ / D. McCarthy / ~~R. Oliver~~ Date: 4-04-18

Comments: Time In: 1641 Time Out: 1755

Well Information

Well Diameter: 2 inches Reference Point Marked: (Yes) No

Depth to Water: 12.94 feet below T.O.C. Well Depth: 20.99 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 8.05 ft

1 Well Volume=1.29 gal

3 Well Volume=3.87 gal

Total Purged: 4.25 gal

Well Purge Dry (?) yes/no

Purge Method (check): [x] Traditional Purge [ ] Tubing In-Screen Method

Purge Start Time: 1652

Purge End Time: 1733

Total Time: 41 min

Purge Rate: 0.10 gpm

Purging Equipment and Calibration Information

Bailer: [ ] Teflon [ ] Poly. Pump: [ ] Grundfos [x] Peri. ID# P-7

Pump Tubing Type: [ ] Teflon [x] Teflon-Lined Poly. [ ] Polyethylene

Meter(s) Used: [x] Hanna 991300 [ ] YSI 556 [x] Lamotte 2020 ID#'s 8, 5

Calibration Date/Time: 4-04-18 0815

Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. µS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
1705	1.50	19.1	18	4.79	-	-	2.60	14.60
1715	2.75	18.3	21	4.74	-	-	3.80	15.88
1721	3.25	18.1	22	4.75	-	-	4.72	16.21
1726	3.75	18.2	28	4.75	-	-	5.33	16.59
1730	4.00	18.0	28	4.74	-	-	4.32	16.87
1733	4.25	17.7	28	4.72	-	-	5.19	17.15
Stabilization Info:		+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): [ ] Bailer [x] Straw Method [ ] Pump Tubing [ ] Vacuum Jug [ ] Other

Final Tubing/Pump Depth: 17.65 feet below T.O.C Final Groundwater Depth(if applic. 17.15 feet below T.O.C

Final Sample Turbidity 5.19 NTUs Ferrous Iron Concentration (if sampled): - mg/L

Comments:

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
B-3	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1740
B-3	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	1740

Sample Laboratory: [x] AES [ ] ACL [ ] TA [ ] XENCO Delivery Method: [x] Hand Delivery [ ] Fed Ex [ ] UPS

Field Personnel Signature: Dan McCarthy

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: B-6

Sampling Personnel: ~~Gerald Ingle~~/~~D. McCartha~~/R. Oliver Date: 4/3/18

Comments: Time In: 1300 Time Out: 1500

Well Information

Well Diameter: 2 inches Reference Point Marked: (Yes) No

Depth to Water: 9.04 feet below T.O.C. Well Depth: 16.15 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 7.09 ft

1 Well Volume= 1.13 gal

3 Well Volume= 3.40 gal

Total Purged: 4 gal

Well Purge Dry (?) yes/no

Purge Method (check): ☑ Traditional Purge ☐ Tubing In-Screen Method

Purge Start Time: ~~1315~~ 1315

Purge End Time: 1420

Total Time: 65 min

Purge Rate: 0.06 gpm

Purging Equipment and Calibration Information

Bailer: ☐ Teflon ☐ Poly. Pump: ☐ Grundfos ☑ Peri. ID# 6

Pump Tubing Type: ☐ Teflon ☑ Teflon-Lined Poly. ☐ Polyethylene

Meter(s) Used: ☑ Hanna 991300 ☐ YSI 556 ☑ Lamotte 2020 ID#'s 7 11

Calibration Date/Time: 4/3/18 800

Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. µS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
1335	1	21.3	23	4.91	—	—	4.03	9.85
1400	2	20.3	24	4.81	—	—	3.28	9.97
1420	4	21.0	22	4.83	—	—	2.98	10.05
Stabilization Info:		+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): ☐ Bailer ☑ Straw Method ☐ Pump Tubing ☐ Vacuum Jug ☐ Other

Final Tubing/Pump Depth: 10.05 feet below T.O.C

Final Groundwater Depth (if applic.): — feet below T.O.C

Final Sample Turbidity 2.98 NTUs

Ferrous Iron Concentration (if sampled): — mg/L

Comments:

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
B-6	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1445
B-6	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	1445

Sample Laboratory: ☑ AES ☐ ACL ☐ TA ☐ XENCO Delivery Method: ☑ Hand Delivery ☐ Fed Ex ☐ UPS

Field Personnel Signature:

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: DGA-1

Sampling Personnel: ~~Gerald Ingle~~/D. McCarthy/~~R. Oliver~~ Date: 4-05-18

Comments: Time In: 0915 Time Out: 1428

Well Information

Well Diameter: 2 inches Reference Point Marked: (Yes) No

Depth to Water: 27.16 feet below T.O.C. Well Depth: 29.50 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 2.34 ft
1 Well Volume= 0.37 gal
3 Well Volume= 1.11 gal
Total Purged: 0.85 gal
Well Purge Dry (?) yes/no

Purge Method (check): ☒ Traditional Purge ☐ Tubing In-Screen Method

Purge Start Time: 0935
Purge End Time: 0946
Total Time: 11 min
Purge Rate: 0.08 gpm

Purging Equipment and Calibration Information

Bailer: ☐ Teflon ☐ Poly. Pump: ☐ Grundfos ☒ Peri. ID# P-7

Pump Tubing Type: ☐ Teflon ☒ Teflon-Lined Poly. ☐ Polyethylene

Meter(s) Used: ☒ Hanna 991300 ☐ YSI 556 ☒ Lamotte 2020 ID#'s 8,5

Calibration Date/Time: 4-05-18 0830

Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. µS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
0942	0.50	18.4	78	4.67	–	–	2.30	28.40
0945	0.75	19.1	76	4.68	–	–	6.24	29.10
0948	0.85	well went dry, will sample when well recovers						
Stabilization Info:		+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): ☐ Bailer ☑ Straw Method ☐ Pump Tubing ☐ Vacuum Jug ☐ Other

Final Tubing/Pump Depth: — feet below T.O.C Final Groundwater Depth(if applic. \ feet below T.O.C

Final Sample Turbidity — NTUs Ferrous Iron Concentration (if sampled): — mg/L

Comments: not enough H2O for final NTU reading. Sample is clear

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
DGA-1	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1410
DGA-1	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	1410

Sample Laboratory: ☒ AES ☐ ACL ☐ TA ☐ XENCO Delivery Method: ☒ Hand Delivery ☐ Fed Ex ☐ UPS

Field Personnel Signature: Dawn McCarthy

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: DGA-3

Sampling Personnel: Gerald Ingle/D. McCarthy ~~/R. Oliver~~ Date: 4-10-18

Comments: Time In: 1418 Time Out: 1518

Well Information

Well Diameter: 2 inches Reference Point Marked: (Yes) No

Depth to Water: 13.13 feet below T.O.C. Well Depth: 23.08 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 10.05 ft
1 Well Volume= 2.09 gal
3 Well Volume= 6.27 gal
Total Purged: 3.60 gal
Well Purge Dry (?) (yes)/no

Purge Method (check): ☒ Traditional Purge ☐ Tubing In-Screen Method

Purge Start Time: 1426
Purge End Time: 1451
Total Time: 25 min
Purge Rate: 0.14 gpm

Purging Equipment and Calibration Information

Bailer: ☐ Teflon ☐ Poly. Pump: ☐ Grundfos ☒ Peri. ID# P-8

Pump Tubing Type: ☐ Teflon ☒ Teflon-Lined Poly. ☐ Polyethylene

Meter(s) Used: ☒ Hanna 991300 ☐ YSI 556 ☒ Lamotte 2020 ID#'s 3, 7

Calibration Date/Time: 4-10-18 0815

Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. µS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
1443	2.30	22.7	0.15	5.05	~	~	2.39	n/m
1451	3.60	well	went	dry				
	Will	sample	when	well	recovers			
Stabilization Info:	+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----	

Sample Collection Parameters

Sample Collection Method (check all): ☐ Bailer ☒ Straw Method ☐ Pump Tubing ☐ Vacuum Jug ☐ Other

Final Tubing/Pump Depth: ~ feet below T.O.C Final Groundwater Depth (if applic. ~ feet below T.O.C

Final Sample Turbidity 2.37 NTUs Ferrous Iron Concentration (if sampled): ~ mg/L

Comments: Piece of plastic observed in one of the 1-4 Dioxane vials

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
DGA-3	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1510
DGA-3	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	1510

Sample Laboratory: ☒ AES ☐ ACL ☐ TA ☐ XENCO Delivery Method: ☒ Hand Delivery ☐ Fed Ex ☐ UPS

Field Personnel Signature: Dan McKeon

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: DGA-4D

Sampling Personnel: ~~Gerald Ingle/D. McCartha/R. Oliver~~ Date: 4/10/18

Comments: Time In: 1120 Time Out: 1535

Well Information

Well Diameter: 2.0 inches Reference Point Marked: (Yes) No

Depth to Water: 49.50 feet below T.O.C. Well Depth: 49.74 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 8.24 ft

1 Well Volume= 1.32 gal

3 Well Volume= 3.96 gal

Total Purged: 2.10 gal

Well Purge Dry (?) yes/no

Purge Method (check): ☒ Traditional Purge ☐ Tubing In-Screen Method

Purge Start Time: 1127

Purge End Time: 1140

Total Time: 13 min

Purge Rate: 0.16 gpm

Purging Equipment and Calibration Information

Bailer: ☒ Teflon ☐ Poly. Pump: ☐ Grundfos ☐ Peri. ID#

Pump Tubing Type: ☐ Teflon ☐ Teflon-Lined Poly. ☐ Polyethylene

Meter(s) Used: ☒ Hanna 991300 ☐ YSI 556 ☒ Lamotte 2020 ID#'s 37

Calibration Date/Time: 4/10/18, 0815

Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. mS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
1135	1.50	21.8	0.14	5.06	—	—	38.3	—
1140	DAY @	2.1 GALLONS						
Stabilization Info:		+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): ☒ Bailer ☐ Straw Method ☐ Pump Tubing ☐ Vacuum Jug ☐ Other

Final Tubing/Pump Depth: NM feet below T.O.C Final Groundwater Depth(if applic. NM feet below T.O.C

Final Sample Turbidity 11.29 NTUs Ferrous Iron Concentration (if sampled): — mg/L

Comments: ~~FINAL~~ TURBIDITY REVISED, BUT SAMPLED @ END OF DAY

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
DGA-4D	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1525
DGA-4D	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	1525

Sample Laboratory: ☒ AES ☐ ACL ☐ TA ☐ XENCO Delivery Method: ☒ Hand Delivery ☐ Fed Ex ☐ UPS

Field Personnel Signature:

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: DGA-5D

Sampling Personnel: ~~Gerald Ingle~~/D. McCarthy/~~R. Oliver~~ Date: 4-03-18

Comments: Time in: 1739 Time In: ~~1850~~ 1828 Time Out: 1850

Well Information

Well Diameter: 2 inches Reference Point Marked: (Yes) No

Depth to Water: 41.44 feet below T.O.C. Well Depth: 56.66 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 15.22 ft
1 Well Volume= 2.44 gal
3 Well Volume=7.32 gal
Total Purged: 7.75 gal
Well Purge Dry (?) yes/(no)

Purge Method (check): [X] Traditional Purge [ ] Tubing In-Screen Method

Purge Start Time: 1746
Purge End Time: 1830
Total Time: 44 min
Purge Rate: 0.18 gpm

Purging Equipment and Calibration Information

Bailer: [X] Teflon [ ] Poly. Pump: [ ] Grundfos [X] Peri. ID# —

Pump Tubing Type: [ ] Teflon [ ] Teflon-Lined Poly. [ ] Polyethylene

Meter(s) Used: [X] Hanna 991300 [ ] YSI 556 [X] Lamotte 2020 ID#'s 65

Calibration Date/Time: 4-03-18 1350

Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. µS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
1755	2.50	23.5	97	5.64	—	—	11.3	—
1814	5.00	22.0	82	5.57	—	—	13.4	—
1819	6.00	21.7	82	5.51	—	—	7.85	—
1825	7.00	21.7	82	5.53	—	—	8.69	—
1830	7.75	21.6	80	5.57	—	—	9.07	—
Stabilization Info:		+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): [X] Bailer [ ] Straw Method [ ] Pump Tubing [ ] Vacuum Jug [ ] Other

Final Tubing/Pump Depth: — feet below T.O.C

Final Groundwater Depth (if applic. — feet below T.O.C

Final Sample Turbidity 9.07 NTUs

Ferrous Iron Concentration (if sampled): — mg/L

Comments:

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
DGA-5D	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1835
DGA-5D	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	1835

Sample Laboratory: [X] AES [ ] ACL [ ] TA [ ] XENCO Delivery Method: [X] Hand Delivery [ ] Fed Ex [ ] UPS

Field Personnel Signature: Dan McGeorge

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: DGA-6

Sampling Personnel: ~~Gerald Ingle~~/D. McCartha/~~R. Oliver~~ Date: 4-03-18

Comments: Time In: 1630 Time Out: 1738

Well Information

Well Diameter: 2 inches Reference Point Marked: (Yes) No

Depth to Water: 22.39 feet below T.O.C. Well Depth: 26.40 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 4.01 ft

1 Well Volume= 0.64 gal

3 Well Volume= 1.93 gal

Total Purged: 2.25 gal

Well Purge Dry (?) yes/(no)

Purge Method (check): [x] Traditional Purge [ ] Tubing In-Screen Method

Purge Start Time: 1642

Purge End Time: 1716

Total Time: 34 min

Purge Rate: 0.07 gpm

Purging Equipment and Calibration Information

Bailer: [ ] Teflon [ ] Poly. Pump: [ ] Grundfos [x] Peri. ID# P-7

Pump Tubing Type: [ ] Teflon [x] Teflon-Lined Poly. [ ] Polyethylene

Meter(s) Used: [x] Hanna 991300 [ ] YSI 556 [x] Lamotte 2020 ID#'s 8, 5

Calibration Date/Time: 4-03-18 1350

Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. µS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
1653	0.75	23.6	55	4.58	—	—	1.37	23.53
1658	1.25	22.7	57	4.53	—	—	0.92	23.91
1705	1.75	21.8	54	4.53	—	—	0.93	23.89
1710	2.00	21.7	54	4.55	—	—	0.80	23.91
1716	2.25	21.5	53	4.54	—	—	0.76	23.94
Stabilization Info:		+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): [ ] Bailer [x] Straw Method [ ] Pump Tubing [ ] Vacuum Jug [ ] Other

Final Tubing/Pump Depth: 24.25 feet below T.O.C Final Groundwater Depth(if applic. 23.94 feet below T.O.C

Final Sample Turbidity 0.76 NTUs Ferrous Iron Concentration (if sampled): — mg/L

Comments:

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
DGA-6	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1720
DGA-6	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	1720

Sample Laboratory: [x] AES [ ] ACL [ ] TA [ ] XENCO Delivery Method: [x] Hand Delivery [ ] Fed Ex [ ] UPS

Field Personnel Signature: Dan McCartha

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: DGA-7D

Sampling Personnel: Gerald Ingle/D. McCartha/~~R. Oliver~~ Date: 4-04-18

Comments: Time In: 0945 Time Out: 1038

Well Information

Well Diameter: 2 inches Reference Point Marked: (Yes) No

Depth to Water: 45.41 feet below T.O.C. Well Depth: 50.95 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 5.54 ft

1 Well Volume=0.89 gal

3 Well Volume=2.67 gal

Total Purged: 3.00 gal

Well Purge Dry (?) yes/no

Purge Method (check): ☒ Traditional Purge ☐ Tubing In-Screen Method

Purge Start Time: 1000

Purge End Time: 1016

Total Time: 16 min

Purge Rate: 0.19 gpm

Purging Equipment and Calibration Information

Bailer: ☒ Teflon ☐ Poly. Pump: ☐ Grundfos ☐ Peri. ID# —

Pump Tubing Type: ☐ Teflon ☐ Teflon-Lined Poly. ☐ Polyethylene

Meter(s) Used: ☒ Hanna 991300 ☐ YSI 556 ☒ Lamotte 2020 ID#'s 8, 5

Calibration Date/Time: 4-04-18 0815

Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. µS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
1005	1.00	22.4	67	4.59	—	—	4.73	—
1010	2.00	21.9	67	4.56	—	—	3.97	—
1013	2.50	21.8	66	4.55	—	—	4.05	—
1020	3.00	21.8	67	4.53	—	—	4.85	—
Stabilization Info:		+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): ☒ Bailer ☐ Straw Method ☐ Pump Tubing ☐ Vacuum Jug ☐ Other

Final Tubing/Pump Depth: — feet below T.O.C

Final Groundwater Depth (if applic. — feet below T.O.C

Final Sample Turbidity 4.85 NTUs

Ferrous Iron Concentration (if sampled): mg/L

Comments:

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
DGA-7D	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1020
DGA-7D	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	1020

Sample Laboratory: ☒ AES ☐ ACL ☐ TA ☐ XENCO Delivery Method: ☒ Hand Delivery ☐ Fed Ex ☐ UPS

Field Personnel Signature: [signature]

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: DSA-1

Sampling Personnel: ~~Gerald Ingle~~/D. McCarthy/~~R. Oliver~~ Date: 4-04-18

Comments: Time In: 1225 Time Out: 1340

Well Information

Well Diameter: 2 inches Reference Point Marked: (Yes) No

Depth to Water: 9.20 feet below T.O.C. Well Depth: 16.59 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 7.39 ft

1 Well Volume= 1.18 gal

3 Well Volume= 3.55 gal

Total Purged: 3.75 gal

Well Purge Dry (?) yes/(no)

Purge Method (check): [X] Traditional Purge [ ] Tubing In-Screen Method

Purge Start Time: 1237

Purge End Time: 1317

Total Time: 40 min

Purge Rate: 0.09 gpm

Purging Equipment and Calibration Information

Bailer: [ ] Teflon [ ] Poly. Pump: [ ] Grundfos [X] Peri. ID# P-7

Pump Tubing Type: [ ] Teflon [X] Teflon-Lined Poly. [ ] Polyethylene

Meter(s) Used: [X] Hanna 991300 [ ] YSI 556 [X] Lamotte 2020 ID#'s 8,5

Calibration Date/Time: 4-04-18 0815

Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. µS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
1247	1.25	20.8	30	4.83	-	-	2.74	11.31
1301	2.50	21.0	29	4.84	-	-	3.19	11.92
1308	3.00	20.3	28	4.84	-	-	4.28	12.17
1314	3.50	20.0	28	4.88	-	-	4.90	12.40
1317	3.75	19.9	28	4.90	-	-	3.69	12.50
Stabilization Info:		+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): [ ] Bailer [X] Straw Method [ ] Pump Tubing [ ] Vacuum Jug [ ] Other

Final Tubing/Pump Depth: 12.75 feet below T.O.C Final Groundwater Depth(if applic. 12.50 feet below T.O.C

Final Sample Turbidity 3.69 NTUs Ferrous Iron Concentration (if sampled): — mg/L

Comments:

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
DSA-1	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1325
DSA-1	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	1325

Sample Laboratory: [X] AES [ ] ACL [ ] TA [ ] XENCO Delivery Method: [X] Hand Delivery [ ] Fed Ex [ ] UPS

Field Personnel Signature: Dan McCarthy

L-1D

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: ~~L-1D~~ L-1D

Sampling Personnel: ~~Gerald Ingle~~/D. ~~McCartha~~/R. Oliver Date: 4/4/18

Comments: Time In: 1035 Time Out: 1205

Well Information

Well Diameter: 2 inches Reference Point Marked: (Yes) No

Depth to Water 60.20 feet below T.O.C. Well Depth: 75.48 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 15.28 ft

1 Well Volume= 2.44 gal

3 Well Volume= 7.33 gal

Total Purged: 7.5 gal

Well Purge Dry (?) yes/no

Purge Method (check): ☑ Traditional Purge ☐ Tubing In-Screen Method

Purge Start Time: 1100

Purge End Time: 1140

Total Time: 40 min

Purge Rate: 0.20 gpm

Purging Equipment and Calibration Information

Bailer: ☑ Teflon ☐ Poly. Pump: ☐ Grundfos ☐ Peri. ID#

Pump Tubing Type: ☐ Teflon ☐ Teflon-Lined Poly. ☐ Polyethylene

Meter(s) Used: ☑ Hanna 991300 ☐ YSI 556 ☑ Lamotte 2020 ID#'s ~~#1~~ #911

Calibration Date/Time: 4/4/18 830

Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. µS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
1105	1.5	22.1	0.08	6.31	—	—	11.3	—
1120	3.5	21.0	0.07	6.22	—	—	12.43	—
1130	5.5	21.1	0.07	6.19	—	—	6.13	—
1140	7.5	20.9	0.07	6.21	—	—	7.20	—
Stabilization Info:		+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): ☑ Bailer ☐ Straw Method ☐ Pump Tubing ☐ Vacuum Jug ☐ Other

Final Tubing/Pump Depth: — feet below T.O.C

Final Groundwater Depth (if applic. — feet below T.O.C

Final Sample Turbidity 7.20 NTUs

Ferrous Iron Concentration (if sampled): — mg/L

Comments:

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
L-1D	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1145
L-1D	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	1145

Sample Laboratory: ☑ AES ☐ ACL ☐ TA ☐ XENCO Delivery Method: ☑ Hand Delivery ☐ Fed Ex ☐ UPS

Field Personnel Signature:

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: LF-3

Sampling Personnel: ~~Gerald Ingle~~/D. McCartha/~~R. Oliver~~ Date: 4-06-18

Comments: Time In: 0850 Time Out: 1024

Well Information

Well Diameter: 2 inches Reference Point Marked: (Yes) No

Depth to Water: 8.09 feet below T.O.C. Well Depth: 15.05 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 6.96 ft

1 Well Volume= 1.11 gal

3 Well Volume= 3.34 gal

Total Purged: 3.75 gal

Well Purge Dry (?) yes/(no)

Purge Method (check): [x] Traditional Purge [ ] Tubing In-Screen Method

Purge Start Time: 0904

Purge End Time: 1000

Total Time: 56 min

Purge Rate: 0.07 gpm

Purging Equipment and Calibration Information

Bailer: [ ] Teflon [ ] Poly. Pump: [ ] Grundfos [x] Peri. ID# P-7

Pump Tubing Type: [ ] Teflon [x] Teflon-Lined Poly. [ ] Polyethylene

Meter(s) Used: [x] Hanna 991300 [ ] YSI 556 [x] Lamotte 2020 ID#'s 8 3

Calibration Date/Time: 4-05-18 0910

Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. µS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
0922	1.25	16.7	489	6.51	—	—	1.23	9.67
0935	2.25	17.3	525	6.57	—	—	4.50	10.81
0943	2.75	18.2	515	6.57	—	—	3.43	11.93
0949	3.25	18.2	582	6.58	—	—	6.29	12.87
0955	3.50	18.6	596	6.57	—	—	16.6	13.72
1000	3.75	18.5	572	6.59	—	—	9.77	13.89
Stabilization Info:		+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): [ ] Bailer [x] Straw Method [ ] Pump Tubing [ ] Vacuum Jug [ ] Other

Final Tubing/Pump Depth: 14.50 feet below T.O.C Final Groundwater Depth(if applic. 13.89 feet below T.O.C

Final Sample Turbidity 9.77 NTUs Ferrous Iron Concentration (if sampled): — mg/L

Comments:

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
LF-3	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1010
LF-3	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	1010

Sample Laboratory: [x] AES [ ] ACL [ ] TA [ ] XENCO Delivery Method: [x] Hand Delivery [ ] Fed Ex [ ] UPS

Field Personnel Signature: Dan Mega

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: LF 5 1650

Sampling Personnel: ~~Gerald Ingle~~/D. ~~McCarthy~~/R. Oliver Date: 4/3/18

Comments: Time In: ~~1455~~ Time Out:

Well Information

Well Diameter: 2 inches Reference Point Marked: Yes No

Depth to Water: 5.15 feet below T.O.C. Well Depth: 12.05 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 6.9 ft

1 Well Volume= 1.10 gal

3 Well Volume= 3.31 gal

Total Purged: 3.5 gal

Well Purge Dry (?) yes/no

Purge Method (check): ☑ Traditional Purge ☐ Tubing In-Screen Method

Purge Start Time: ~~1430~~ 1505

Purge End Time: 1830 1705

Total Time: ~~240~~ min

Purge Rate: 0.4 gpm

Purging Equipment and Calibration Information

Bailer: ☐ Teflon ☐ Poly. Pump: ☐ Grundfos ☑ Peri. ID# 6

Pump Tubing Type: ☐ Teflon ☑ Teflon-Lined Poly. ☐ Polyethylene

Meter(s) Used: ☑ Hanna 991300 ☐ YSI 556 ☑ Lamotte 2020 ID#'s 9 } 11

Calibration Date/Time: 4/3/18 800

Comments: pH 9 - not working #1 was calibrated 1 use for this well

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. ~~µS/cm~~ mS	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
~~1530~~ 1730	1.0	22.9	0.09	5.51	—	—	1.56	5.75
	1.5							
1800	2.0	20.4	0.08	5.46	—	—	2.46	5.85
~~1815~~ 1815	2.5	19.6	0.07	5.37	—	—	1.82	5.96
1825	3.0	20.9	0.06	5.37	—	—	1.01	6.07
1830	3.5	20.9	0.06	5.39	—	—	1.00	6.07
Stabilization Info:		+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): ☐ Bailer ☑ Straw Method ☐ Pump Tubing ☐ Vacuum Jug ☐ Other

Final Tubing/Pump Depth: feet below T.O.C Final Groundwater Depth(if applic. feet below T.O.C

Final Sample Turbidity NTUs Ferrous Iron Concentration (if sampled): mg/L

Comments: pH #9 was not ~~working~~ properly working

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
LF 5	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1835
LF 5	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	1835

Sample Laboratory: ☑ AES ☐ ACL ☐ TA ☐ XENCO Delivery Method: ☑ Hand Delivery ☐ Fed Ex ☐ UPS

Field Personnel Signature:

40

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: LS-2

Sampling Personnel: Gerald Ingle/D. McCartha/R. Oliver Date: 4/5/18

Comments: Time In: 950 Time Out: 1350

Well Information

Well Diameter: 4 inches Reference Point Marked: (Yes) No

Depth to Water: 47.35 feet below T.O.C. Well Depth: 162.70 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 115.35 ft

1 Well Volume= 74.98 gal

3 Well Volume= 224.93 gal

Total Purged: 250 gal

Well Purge Dry (?) yes/no

Purge Method (check): ☑ Traditional Purge ☐ Tubing In-Screen Method

Purge Start Time: 930

Purge End Time: 1330

Total Time: 240 min

Purge Rate: 1.04 gpm

Purging Equipment and Calibration Information

Bailer: ☐ Teflon ☐ Poly. Pump: ☑ Grundfos ☐ Peri. ID# C B-3

Pump Tubing Type: ☑ Teflon ☐ Teflon-Lined Poly. ☐ Polyethylene

Meter(s) Used: ☑ Hanna 991300 ☐ YSI 556 ☑ Lamotte 2020 ID#'s 15 11

Calibration Date/Time: 4/5/18 930

Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. mS µS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
945	10	17.1	0.28	8.13	—	—	0.70	48.80
#10 40	50	21.5	0.24	7.87	—	—	2.88	48.60
1120	100	21.0	0.27	8.12	—	—	0.72	48.92
1200	150	19.5	0.27	8.16	—	—	1.54	48.92
1240	200	19.5	0.24	7.81	—	—	0.77	48.90
1325	250	19.3	0.24	7.80	—	—	0.60	48.90

Stabilization Info: +/- 0.5 deg. +/- 5% +/- 0.1 SU ----- ----- <10 NTUs -----

Sample Collection Parameters

Sample Collection Method (check all): ☐ Bailer ☐ Straw Method ☑ Pump Tubing ☐ Vacuum Jug ☐ Other

Final Tubing/Pump Depth: 47 feet below T.O.C

Final Groundwater Depth (if applic. — feet below T.O.C

Final Sample Turbidity 0.60 NTUs

Ferrous Iron Concentration (if sampled): — mg/L

Comments:

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
LS-2	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1335
LS-2	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	1335

Sample Laboratory: ☑ AES ☐ ACL ☐ TA ☐ XENCO Delivery Method: ☑ Hand Delivery ☐ Fed Ex ☐ UPS

Field Personnel Signature:

#10 flow rate was increased 25%

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: LS-3

Sampling Personnel: ~~Gerald Ingle~~/D. McCartha/~~R. Oliver~~ Date: 4/6/18

Comments: Time In: 1305 Time Out: 1410

Well Information

Well Diameter: 2.0 inches Reference Point Marked: (Yes) No

Depth to Water: 72.55 feet below T.O.C. Well Depth: 148.50 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 75.95 ft

1 Well Volume= 12.15 gal

3 Well Volume= 36.46 gal

Total Purged: 37.50 gal

Well Purge Dry (?) yes/(no)

Purge Method (check): ☒ Traditional Purge ☐ Tubing In-Screen Method

Purge Start Time: 1325

Purge End Time: 1352

Total Time: 27 min

Purge Rate: 1.39 gpm

Purging Equipment and Calibration Information

Bailer: ☐ Teflon ☐ Poly. Pump: ☒ Grundfos ☐ Peri. ID# P-3/GB-2

Pump Tubing Type: ☐ Teflon ☒ Teflon-Lined Poly. ☐ Polyethylene

Meter(s) Used: ☒ Hanna 991300 ☐ YSI 556 ☒ Lamotte 2020 ID#'s 37

Calibration Date/Time: 4/5/18, 0845

Comments: TUBING @ 75'

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. mS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
1335	12.00	23.0	0.25	7.62	—	—	0.72	72.92
1343	24.00	21.3	0.25	7.80	—	—	0.64	72.94
1348	31.00	21.3	0.25	7.89	—	—	0.81	72.98
1351	37.00	21.5	0.25	7.89	—	—	0.65	72.97
Stabilization Info:		+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): ☐ Bailer ☐ Straw Method ☒ Pump Tubing ☐ Vacuum Jug ☐ Other

Final Tubing/Pump Depth: ~75' feet below T.O.C

Final Groundwater Depth(if applic. 72.97 feet below T.O.C

Final Sample Turbidity 0.65 NTUs

Ferrous Iron Concentration (if sampled): — mg/L

Comments:

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
LS-3	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1355
LS-3	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	1355

Sample Laboratory: ☒ AES ☐ ACL ☐ TA ☐ XENCO Delivery Method: ☒ Hand Delivery ☐ Fed Ex ☐ UPS

Field Personnel Signature:

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: PTB-1

Sampling Personnel: Gerald Ingle/D. McCartha/~~R. Oliver~~ Date: 4/10/18

Comments: Time In: 1150 Time Out: 1635

Well Information

Well Diameter: 1.0 inches Reference Point Marked: (Yes) No

Depth to Water: 14.02 feet below T.O.C. Well Depth: 20.77 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 6.75 ft

1 Well Volume= 0.27 gal

3 Well Volume= 0.81 gal

Total Purged: 0.35 gal

Well Purge Dry (?) yes/no

Purge Method (check): ■ Traditional Purge ☐ Tubing In-Screen Method

Purge Start Time: 1155

Purge End Time: 1159

Total Time: 4 min

Purge Rate: 0.09 gpm

Purging Equipment and Calibration Information

Bailer: ☐ Teflon ☐ Poly. Pump: ☐ Grundfos ■ Peri. ID# P-8

Pump Tubing Type: ☐ Teflon ■ Teflon-Lined Poly. ☐ Polyethylene

Meter(s) Used: ■ Hanna 991300 ☐ YSI 556 ■ Lamotte 2020 ID#'s 3,7

Calibration Date/Time: 4/10/18, 0815

Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. MS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
1158	0.30	22.11	0.86	3.83	—	—	6.86	—
1159	0.35	DRY @ 0.35 GALLONS						
Stabilization Info:		+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): ☐ Bailer ■ Straw Method ☐ Pump Tubing ☐ Vacuum Jug ☐ Other

Final Tubing/Pump Depth: ~20.50 feet below T.O.C

Final Groundwater Depth (if applic. NM feet below T.O.C

Final Sample Turbidity 8.37 NTUs

Ferrous Iron Concentration (if sampled): N/A mg/L

Comments:

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
PTB-1	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	4/10/18, 1630
PTB-1	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	4/10/18, 1630

Sample Laboratory: ■ AES ☐ ACL ☐ TA ☐ XENCO Delivery Method: ■ Hand Delivery ☐ Fed Ex ☐ UPS

Field Personnel Signature:

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: PTB-2

Sampling Personnel: ~~Gerald Ingle~~/D. McCartha/~~R. Oliver~~ Date: 4/10/18

Comments: Time In: 1200 Time Out: 1855

Well Information

Well Diameter: 1.0 inches Reference Point Marked: (Yes) No

Depth to Water: 14.42 feet below T.O.C. Well Depth: 19.75 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 5.33 ft

1 Well Volume= 0.21 gal

3 Well Volume= 0.63 gal

Total Purged: 0.45 gal

Well Purge Dry (?) ~~Yes~~ No

Purge Method (check): ■ Traditional Purge ☐ Tubing In-Screen Method

Purge Start Time: 1205

Purge End Time: 1211

Total Time: 6 min

Purge Rate: 0.08 gpm

Purging Equipment and Calibration Information

Bailer: ☐ Teflon ☐ Poly. Pump: ☐ Grundfos ■ Peri. ID# P-8

Pump Tubing Type: ☐ Teflon ■ Teflon-Lined Poly. ☐ Polyethylene

Meter(s) Used: ■ Hanna 991300 ☐ YSI 556 ■ Lamotte 2020 ID#s 3,7

Calibration Date/Time: 4/10/18, 0815

Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. mS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
1209	0.30	22.4	2.07	3.74	–	–	4.63	–
1211	0.45	DRY @	0.45	Gallons				
Stabilization Info:		+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): ☐ Bailer ■ Straw Method ☐ Pump Tubing ☐ Vacuum Jug ☐ Other

Final Tubing/Pump Depth: ~~19.50~~ feet below T.O.C

Final Groundwater Depth (if applic. NM feet below T.O.C

Final Sample Turbidity 8.37 NTUs

Ferrous Iron Concentration (if sampled): — mg/L

Comments:

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
PTB-2	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1640
PTB-2	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	1645

Sample Laboratory: ■ AES ☐ ACL ☐ TA ☐ XENCO Delivery Method: ■ Hand Delivery ☐ Fed Ex ☐ UPS

Field Personnel Signature:

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: PTB-4

Sampling Personnel: Gerald Ingle/D. McCartha/~~R. Oliver~~ Date: 4/10/18

Comments: Time In: 1215 Time Out: 1745

Well Information

Well Diameter: 1.0 inches Reference Point Marked: (Yes) No

Depth to Water: 14.97 feet below T.O.C. Well Depth: 19.97 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 5.03 ft

1 Well Volume= 0.20 gal

3 Well Volume= ~~0.60~~ 0.60 gal

Total Purged: 0.35 gal

Well Purge Dry (?) (yes)/no

Purge Method (check): ■ Traditional Purge ☐ Tubing In-Screen Method

Purge Start Time: 1216

Purge End Time: 1220

Total Time: 4 min

Purge Rate: 0.09 gpm

Purging Equipment and Calibration Information

Bailer: ☐ Teflon ☐ Poly. Pump: ☐ Grundfos ■ Peri. ID# P-8

Pump Tubing Type: ☐ Teflon ■ Teflon-Lined Poly. ☐ Polyethylene

Meter(s) Used: ■ Hanna 991300 ☒ YSI 556 ■ Lamotte 2020 ID#'s 3,7

Calibration Date/Time: 4/10/18, 0815

Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. mS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
1219	0.30	22.9	4.37	3.56	—	—	2.75	—
1220	DRY @ 0.35 GALLONS							
Stabilization Info:		+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): ☐ Bailer ■ Straw Method ☐ Pump Tubing ☐ Vacuum Jug ☐ Other

Final Tubing/Pump Depth: ~19.5 feet below T.O.C Final Groundwater Depth (if applic. ~~19.5~~) feet below T.O.C

Final Sample Turbidity 12.3 NTUs Ferrous Iron Concentration (if sampled): — mg/L

Comments: ELEVATED TURBIDITY, BUT SAMPLED @ END OF DAY

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
PTB-4	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1735
PTB-4	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	1735

Sample Laboratory: ■ AES ☐ ACL ☐ TA ☐ XENCO Delivery Method: ■ Hand Delivery ☐ Fed Ex ☐ UPS

Field Personnel Signature:

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: SH-101

Sampling Personnel: ~~Gerald Ingle~~/D. McCartha/~~R. Oliver~~ Date: 4-03-18

Comments: Time In: 1445 Time Out: 1607

Well Information

Well Diameter: 2 inches Reference Point Marked: (Yes) No

Depth to Water: 9.51 feet below T.O.C. Well Depth: 16.00 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 6.49 ft

1 Well Volume= 1.04 gal

3 Well Volume= 3.12 gal

Total Purged: 3.50 gal

Well Purge Dry (?) yes/(no)

Purge Method (check): [x] Traditional Purge [ ] Tubing In-Screen Method

Purge Start Time: 1454

Purge End Time: 1535

Total Time: 41 min

Purge Rate: 0.09 gpm

Purging Equipment and Calibration Information

Bailer: [ ] Teflon [ ] Poly. Pump: [ ] Grundfos [x] Peri. ID# P-7

Pump Tubing Type: [ ] Teflon [x] Teflon-Lined Poly. [ ] Polyethylene

Meter(s) Used: [x] Hanna 991300 [ ] YSI 556 [x] Lamotte 2020 ID#'s 8, 5

Calibration Date/Time: 4-03-18 1350

Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. µS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
1508	1.25	23.8	106	4.91	—	—	2.92	9.77
1520	2.25	22.3	99	4.95	—	—	2.65	9.75
1525	2.75	21.7	100	4.98	—	—	1.51	9.76
1528	3.00	21.5	101	5.03	—	—	1.84	9.76
1532	3.25	21.4	99	5.07	—	—	1.93	9.77
1535	3.50	21.2	99	5.10	—	—	2.21	9.77
Stabilization Info:		+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): [ ] Bailer [x] Straw Method [ ] Pump Tubing [ ] Vacuum Jug [ ] Other

Final Tubing/Pump Depth: 10.25 feet below T.O.C

Final Groundwater Depth(if applic. 9.77 feet below T.O.C

Final Sample Turbidity 2.21 NTUs

Ferrous Iron Concentration (if sampled): —— mg/L

Comments:

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
SH-101	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1540
SH-101	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	1540

Sample Laboratory: [x] AES [ ] ACL [ ] TA [ ] XENCO Delivery Method: [x] Hand Delivery [ ] Fed Ex [ ] UPS

Field Personnel Signature:

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: SH-102

Sampling Personnel: ~~Gerald Ingle~~/D. McCarthy/~~R. Oliver~~ Date: 4-05-18

Comments: Time In: 0845 Time Out: 1845

Well Information

Well Diameter: 2 inches Reference Point Marked: (Yes) No

Depth to Water: 13.37 feet below T.O.C. Well Depth: 16.70 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 3.33 ft

1 Well Volume= 0.53 gal

3 Well Volume= 1.59 gal

Total Purged: 0.75 gal

Well Purge Dry (?) (yes)/no

Purge Method (check): [x] Traditional Purge [ ] Tubing In-Screen Method

Purge Start Time: 0900

Purge End Time: 0908

Total Time: 8 min

Purge Rate: 0.10 gpm

Purging Equipment and Calibration Information

Bailer: [ ] Teflon [ ] Poly. Pump: [ ] Grundfos [x] Peri. ID# P-7

Pump Tubing Type: [ ] Teflon [x] Teflon-Lined Poly. [ ] Polyethylene

Meter(s) Used: [x] Hanna 991300 [ ] YSI 556 [x] Lamotte 2020 ID#'s 8,5

Calibration Date/Time: 4-05-18 0830

Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. µS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
0906	0.60	18.0	196	4.30	—	—	1.68	15.01
0908	0.75	well went dry						
	Will	Sample When well recovers						
Stabilization Info:		+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): [ ] Bailer [x] Straw Method [ ] Pump Tubing [ ] Vacuum Jug [ ] Other

Final Tubing/Pump Depth: — feet below T.O.C Final Groundwater Depth(if applic. — feet below T.O.C

Final Sample Turbidity — NTUs Ferrous Iron Concentration (if sampled): — mg/L

Comments: Not enough water for turbidity reading, Sample is clear

Only had enough water to fill 2 Vials

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
SH-102	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1830
~~SH-102~~	~~1,4 Dioxane~~	~~40 ml glass vials~~	~~2~~	~~HCl + Ice~~	pm

Sample Laboratory: [x] AES [ ] ACL [ ] TA [ ] XENCO Delivery Method: [x] Hand Delivery [ ] Fed Ex [ ] UPS

Field Personnel Signature: Dave McCarthy

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: SH-107

Sampling Personnel: Gerald Ingle/D. McCartha/~~R. Oliver~~ Date: 4-10-18

Comments: Time In: 1055 Time Out: 1730

Well Information

Well Diameter: 2 inches Reference Point Marked: (Yes) No

Depth to Water: 16.28 feet below T.O.C. Well Depth: 22.16 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 5.88 ft

1 Well Volume=0.94 gal

3 Well Volume=2.82 gal

Total Purged: 1.10 gal

Well Purge Dry (?) (yes)/no

Purge Method (check): ■ Traditional Purge ☐ Tubing In-Screen Method

Purge Start Time: 1107

Purge End Time: 1116

Total Time: 9 min

Purge Rate: 0.12 gpm

Purging Equipment and Calibration Information

Bailer: ☐ Teflon ☐ Poly. Pump: ☐ Grundfos ■ Peri. ID# P-8

Pump Tubing Type: ☐ Teflon ■ Teflon-Lined Poly. ☐ Polyethylene

Meter(s) Used: ■ Hanna 991300 ☐ YSI 556 ■ Lamotte 2020 ID#'s 3, 7

Calibration Date/Time: 4-10-18 0815

Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. mS/cm or µS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
1114	1.00	21.8	0.44	5.25	—	~	11.8	—
1116	1.10	well went dry						
		well sample when well recovers						
Stabilization Info:		+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): ☐ Bailer ■ Straw Method ☐ Pump Tubing ☐ Vacuum Jug ☐ Other

Final Tubing/Pump Depth: ~ feet below T.O.C

Final Groundwater Depth (if applic. ~ feet below T.O.C

Final Sample Turbidity 1.92 NTUs

Ferrous Iron Concentration (if sampled): — mg/L

Comments: Only had enough water for 3 vials, (2) VOCs, 1-4 Dioxane (1)

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
SH-107	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1715
SH-107	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	1715

Sample Laboratory: ■ AES ☐ ACL ☐ TA ☐ XENCO Delivery Method: ■ Hand Delivery ☐ Fed Ex ☐ UPS

Field Personnel Signature: Dan Mc

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: SP-13

Sampling Personnel: ~~Gerald Ingle~~/D. ~~McCartha~~/R. (Oliver) Date: 4/5/18

Comments: Time In: 1400 Time Out: 1730

Well Information

Well Diameter: 2 inches Reference Point Marked: (Yes) No

Depth to Water: 10.14 feet below T.O.C. Well Depth: 17.03 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 10.89 ft

1 Well Volume= 1.74 gal

3 Well Volume= 5.23 gal

Total Purged: 5.5 gal

Well Purge Dry (?) yes (no)

Purge Method (check): ☐ Traditional Purge ☐ Tubing In-Screen Method

Purge Start Time: 1430

Purge End Time: 1645

Total Time: 105 min

Purge Rate: 0.05 gpm

Purging Equipment and Calibration Information

Bailer: ☐ Teflon ☐ Poly. Pump: ☐ Grundfos ☒ ~~Peri~~ ID# P-6

Pump Tubing Type: ☐ Teflon ☒ Teflon-Lined Poly. ☐ Polyethylene

Meter(s) Used: ☒ ~~Hanna 991300~~ ☐ YSI 556 ☒ Lamotte 2020 ID#'s } 11

Calibration Date/Time: 4/5/18 - 930

Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. µS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
1510	1.5	20.4	0.14	6.01	—	—	25.9	6.94
1600	3.25	19.1	0.15	6.55	—	—	21.0	6.95
1645	5.5	21.9	0.16	6.59	—	—	21.4	6.95
	~~6~~							

Stabilization Info:	+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): ☐ Bailer ☑ Straw Method ☐ Pump Tubing ☐ Vacuum Jug ☐ Other

Final Tubing/Pump Depth: — feet below T.O.C

Final Groundwater Depth (if applic. — feet below T.O.C

Final Sample Turbidity NTUs

Ferrous Iron Concentration (if sampled): — mg/L

Comments:

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
SP-13	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1720
SP-13	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	1720

60 45 105

Sample Laboratory: ☑ AES ☐ ACL ☐ TA ☐ XENCO Delivery Method: ☒ ~~Hand~~ Delivery ☐ Fed Ex ☐ UPS

Field Personnel Signature:

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: US T-1

Sampling Personnel: ~~Gerald Ingle~~/D. McCarthy/~~R. Oliver~~ Date: 4-05-18

Comments: Time In: 1100 Time Out: 1158

Well Information

Well Diameter: 2 inches Reference Point Marked: (Yes) No

Depth to Water: 10.98 feet below T.O.C. Well Depth: 12.13 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 1.25 ft
1 Well Volume= 0.20 gal
3 Well Volume= 0.60 gal
Total Purged: 0.30 gal
Well Purge Dry (?) yes/no

Purge Method (check): ☒ Traditional Purge ☐ Tubing In-Screen Method

Purge Start Time: 1115
Purge End Time: 1119
Total Time: 4 min
Purge Rate: 0.07 gpm

Purging Equipment and Calibration Information

Bailer: ☐ Teflon ☐ Poly. Pump: ☐ Grundfos ☒ Peri. ID# P-7

Pump Tubing Type: ☐ Teflon ☒ Teflon-Lined Poly. ☐ Polyethylene

Meter(s) Used: ☒ Hanna 991300 ☐ YSI 556 ☒ Lamotte 2020 ID#s 8, 5

Calibration Date/Time: 0830 4-05-18

Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. µS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
1118	0.25	20.0	164	5.39	—	—	10.79	>11.90
1119	0.30	well	went	dry				
	will	sample	when	well	recovers			
Stabilization Info:		+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): ☐ Bailer ☒ Straw Method ☐ Pump Tubing ☐ Vacuum Jug ☐ Other

Final Tubing/Pump Depth: ~ feet below T.O.C

Final Groundwater Depth (if applic. ~ feet below T.O.C

Final Sample Turbidity 10.2 NTUs

Ferrous Iron Concentration (if sampled): ~ mg/L

Comments:

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
US T-1	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1140
US T-1	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	1140

Sample Laboratory: ☒ AES ☐ ACL ☐ TA ☐ XENCO Delivery Method: ☒ Hand Delivery ☐ Fed Ex ☐ UPS

Field Personnel Signature: Dave Mccarthy

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: UST-1D

Sampling Personnel: ~~Gerald Ingle~~/D. McCartha/~~R. Oliver~~ Date: 4-05-18

Comments: Time In: 1238 Time Out: 1355

Well Information

Well Diameter: 2 inches Reference Point Marked: (Yes) No

Depth to Water: 46.22 feet below T.O.C. Well Depth: 50.71 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 4.49 ft

1 Well Volume=0.72 gal

3 Well Volume= 2.16 gal

Total Purged: 2.25 gal

Well Purge Dry (?) yes/no

Purge Method (check): ☒ Traditional Purge ☐ Tubing In-Screen Method

Purge Start Time: 1247

Purge End Time: 1325

Total Time: 38 min

Purge Rate: 0.06 gpm

Purging Equipment and Calibration Information

Bailer: ☒ Teflon ☐ Poly. Pump: ☐ Grundfos ☐ Peri. ID#

Pump Tubing Type: ☐ Teflon ☐ Teflon-Lined Poly. ☐ Polyethylene

Meter(s) Used: ☒ Hanna 991300 ☐ YSI 556 ☒ Lamotte 2020 ID#s 8,5

Calibration Date/Time: 4-05-18 0830

Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. µS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
1250	0.75	23.1	60	5.46	—	—	3.16	—
1258	1.35	23.2	56	5.50	5.50	—	4.33	—
1318	1.75	22.8	55	5.45	—	—	4.01	—
1322	2.00	22.8	53	5.45	—	—	3.38	—
1325	2.25	23.0	53	5.44	—	—	2.75	—
Stabilization Info:		+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): ☒ Bailer ☐ Straw Method ☐ Pump Tubing ☐ Vacuum Jug ☐ Other

Final Tubing/Pump Depth: — feet below T.O.C

Final Groundwater Depth(if applic. — feet below T.O.C

Final Sample Turbidity 2.75 NTUs

Ferrous Iron Concentration (if sampled): — mg/L

Comments:

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
UST-1D	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1335
UST-1D	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	1335

Sample Laboratory: ☒ AES ☐ ACL ☐ TA ☐ XENCO Delivery Method: ☒ Hand Delivery ☐ Fed Ex ☐ UPS

Field Personnel Signature:

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: UST-1DD

Sampling Personnel: ~~Gerald Ingle~~/D. McCarthia/~~R. Oliver~~ Date: 4-04-18

Comments: Time In: 1345 Time Out: 1525

Well Information

Well Diameter: 2 inches Reference Point Marked: (Yes) No

Depth to Water: 46.41 feet below T.O.C. Well Depth: 92.95 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 46.54 ft
1 Well Volume= 7.45 gal
3 Well Volume= 22.35 gal
Total Purged: 23.00 gal
Well Purge Dry (?) yes/(no)

Purge Method (check): (■) Traditional Purge ( ) Tubing In-Screen Method

Purge Start Time: 1416
Purge End Time: 1504
Total Time: 48 min
Purge Rate: 0.48 gpm

Purging Equipment and Calibration Information

Bailer: ☐ Teflon ☐ Poly. Pump: ■ Grundfos ☐ Peri. ID# P-9

Pump Tubing Type: ☐ Teflon ■ Teflon-Lined Poly. ☐ Polyethylene

Meter(s) Used: ■ Hanna 991300 ☐ YSI 556 ■ Lamotte 2020 ID#s 8, 5

Calibration Date/Time: 4-04-18 0815

Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. µS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
1434	7.50	23.8	28	5.02	—	—	1.30	48.71
1449	15.00	23.4	26	4.97	—	—	0.96	48.73
1456	19.00	23.2	26	4.98	—	—	0.82	48.70
1500	21.00	23.1	26	4.97	—	—	0.85	48.75
1504	23.00	23.1	25	4.97	—	—	0.89	48.77
Stabilization Info:		+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): ☐ Bailer ☐ Straw Method ■ Pump Tubing ☐ Vacuum Jug ☐ Other

Final Tubing/Pump Depth: 52.50 feet below T.O.C

Final Groundwater Depth (if applic. 48.77 feet below T.O.C

Final Sample Turbidity 0.89 NTUs

Ferrous Iron Concentration (if sampled): — mg/L

Comments:

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
UST-1DD	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1515
UST-1DD	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	1515

Sample Laboratory: ■ AES ☐ ACL ☐ TA ☐ XENCO Delivery Method: ■ Hand Delivery ☐ Fed Ex ☐ UPS

Field Personnel Signature: [signature]

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: UST-3

Sampling Personnel: ~~Gerald Ingle~~/D. McCartha/R. Oliver Date: 4-04-18

Comments: Time In: 0821 Time Out: 1158

Well Information

Well Diameter: 2 inches Reference Point Marked: (Yes) No

Depth to Water: 7.69 feet below T.O.C. Well Depth: 9.29 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 1.60 ft

1 Well Volume=0.26 gal

3 Well Volume= 0.78 gal

Total Purged: 0.30 gal

Well Purge Dry (?) yes/no

Purge Method (check): ■ Traditional Purge ☐ Tubing In-Screen Method

Purge Start Time: 0834

Purge End Time: 0837

Total Time: 3 min

Purge Rate: 0.10 gpm

Purging Equipment and Calibration Information

Bailer: ☐ Teflon ☐ Poly. Pump: ☐ Grundfos ■ Peri. ID# P-7

Pump Tubing Type: ☐ Teflon ■ Teflon-Lined Poly. ☐ Polyethylene

Meter(s) Used: ■ Hanna 991300 ☐ YSI 556 ■ Lamotte 2020 ID#'s 8, 5

Calibration Date/Time: 4-04-18 0815

Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. µS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
0837	0.30	18.5	66	5.03	—	—	7.87	—
	Well went dry at 0.30 gallons							
	will sample when well recovers							
Stabilization Info:	+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----	

Sample Collection Parameters

Sample Collection Method (check all): ☐ Bailer ■ Straw Method ☐ Pump Tubing ☐ Vacuum Jug ☐ Other

Final Tubing/Pump Depth: — feet below T.O.C Final Groundwater Depth(if applic. — feet below T.O.C

Final Sample Turbidity 8.49 NTUs Ferrous Iron Concentration (if sampled): — mg/L

Comments: Sample is clear

Groundwater at 7.85' before sampling initiated

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
UST-3	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1145
UST-3	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	1145

Sample Laboratory: ■ AES ☐ ACL ☐ TA ☐ XENCO Delivery Method: ■ Hand Delivery ☐ Fed Ex ☐ UPS

Field Personnel Signature: Dan McCartha

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: UST-7D

Sampling Personnel: ~~Gerald Ingle~~/D. McCartha/~~R. Oliver~~ Date: 4-04-18

Comments: Time In: 1601 Time Out: 1815

Well Information

Well Diameter: 2 inches Reference Point Marked: (Yes) No

Depth to Water: 35.73 feet below T.O.C. Well Depth: 43.10 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 5.37 ft

1 Well Volume= 1.02 gal

3 Well Volume= 3.06 gal

Total Purged: 3.25 gal

Well Purge Dry (?) yes/(no)

Purge Method (check): [X] Traditional Purge [ ] Tubing In-Screen Method

Purge Start Time: 1612

Purge End Time: 1633

Total Time: 21 min

Purge Rate: 0.15 gpm

Purging Equipment and Calibration Information

Bailer: [X] Teflon [ ] Poly. Pump: [ ] Grundfos [ ] Peri. ID# —

Pump Tubing Type: [ ] Teflon [ ] Teflon-Lined Poly. [ ] Polyethylene

Meter(s) Used: [X] Hanna 991300 [ ] YSI 556 [X] Lamotte 2020 ID#'s 8, 5

Calibration Date/Time: 4-04-18 0815

Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. µS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
1618	1.25	20.9	26	4.92	—	—	11.6	—
1624	2.25	20.3	24	5.00	—	—	23.5	—
1628	2.75	20.4	24	4.96	—	—	24.0	—
1633	3.25	20.3	24	4.98	—	—	20.4	—
Stabilization Info:		+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): [X] Bailer [ ] Straw Method [ ] Pump Tubing [ ] Vacuum Jug [ ] Other

Final Tubing/Pump Depth: — feet below T.O.C Final Groundwater Depth(if applic. — feet below T.O.C

Final Sample Turbidity 7.80 NTUs Ferrous Iron Concentration (if sampled): — mg/L

Comments:

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
UST-7D	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1800
UST-7D	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	1800

Sample Laboratory: [X] AES [ ] ACL [ ] TA [ ] XENCO Delivery Method: [X] Hand Delivery [ ] Fed Ex [ ] UPS

Field Personnel Signature: Dan McCartha

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: UST-14

Sampling Personnel: ~~Gerald Ingle~~ D. McCarthy ~~R. Oliver~~ Date: 4-04-18

Comments: Time In: 0855 Time Out: 1845

Well Information

Well Diameter: 2 inches Reference Point Marked: (Yes) No

Depth to Water: 13.99 feet below T.O.C. Well Depth: 15.05 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 1.06 ft
1 Well Volume= 0.17 gal
3 Well Volume= 0.51 gal
Total Purged: 0.20 gal
Well Purge Dry (?) yes/no

Purge Method (check): ■ Traditional Purge ☐ Tubing In-Screen Method

Purge Start Time: 0914
Purge End Time: 0917
Total Time: 3 min
Purge Rate: 0.07 gpm

Purging Equipment and Calibration Information

Bailer: ☐ Teflon ☐ Poly. Pump: ☐ Grundfos ■ Peri. ID# P-7
Pump Tubing Type: ☐ Teflon ■ Teflon-Lined Poly. ☐ Polyethylene
Meter(s) Used: ■ Hanna 991300 ☐ YSI 556 ■ Lamotte 2020 ID#s 8, 5
Calibration Date/Time: 4-04-18 0815
Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. µS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
0917	0.20	21.0	95	5.76	—	—	12.9	DTS
	well	went dry at	0.2 gallons,	will	sample			
		when well recovers						
1215	gauged	UST-14	DTW = 14.69,	will	return	later		
	when	well has	recovered more					
Stabilization Info:		+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): ☐ Bailer ■ Straw Method ☐ Pump Tubing ☐ Vacuum Jug ☐ Other

Final Tubing/Pump Depth: — feet below T.O.C Final Groundwater Depth(if applic. — feet below T.O.C

Final Sample Turbidity 11.2 NTUs Ferrous Iron Concentration (if sampled): — mg/L

Comments:

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
UST-14	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1835
UST-14	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	1835

Sample Laboratory: ■ AES ☐ ACL ☐ TA ☐ XENCO Delivery Method: ■ Hand Delivery ☐ Fed Ex ☐ UPS

Field Personnel Signature: Dawn McCarthy

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: W-2

Sampling Personnel: ~~Gerald Ingle~~/D. ~~McCartha~~/R. Oliver Date: 4/4/18

Comments: Time In: 1702 Time Out: 1830

Well Information

Well Diameter: 2.0 inches Reference Point Marked: (Yes) No

Depth to Water: 6.11 feet below T.O.C. Well Depth: 17.09 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 10.98 ft

1 Well Volume= 1.76 gal

3 Well Volume= 5.27 gal

Total Purged: 5.50 gal

Well Purge Dry (?) yes/(no)

Purge Method (check): ☒ Traditional Purge ☐ Tubing In-Screen Method

Purge Start Time: 1711

Purge End Time: 1813

Total Time: 62 min

Purge Rate: 0.09 gpm

Purging Equipment and Calibration Information

Bailer: ☐ Teflon ☐ Poly. Pump: ☐ Grundfos ☒ Peri. ID# P-8

Pump Tubing Type: ☐ Teflon ☒ Teflon-Lined Poly. ☐ Polyethylene

Meter(s) Used: ☒ Hanna 991300 ☐ YSI 556 ☒ Lamotte 2020 ID#'s 37

Calibration Date/Time: 4/4/18, 0835

Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. mS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
1731	1.70	20.6	0.10	5.37	—	—	2.07	10.80
1748	3.25	18.4	0.03	5.09	—	—	4.07	11.91
1755	3.75	18.9	0.05	5.09	—	—	2.59	12.32
1807	5.00	18.1	0.05	5.02	—	—	3.14	14.51
1812	5.40	17.9	0.05	5.01	—	—	2.97	14.80
Stabilization Info:		+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): ☐ Bailer ☒ Straw Method ☒ Pump Tubing ☐ Vacuum Jug ☐ Other

Final Tubing/Pump Depth: ~16' feet below T.O.C

Final Groundwater Depth(if applic. 14.80 feet below T.O.C

Final Sample Turbidity 2.97 NTUs

Ferrous Iron Concentration (if sampled): — mg/L

Comments:

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
W-2	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1815
W-2	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	1815
W-2	60 Sulfide	500 ml HDPE	1	Zn. Acet/NaOH+ice	1815

Sample Laboratory: ☒ AES ☐ ACL ☐ TA ☐ XENCO Delivery Method: ☒ Hand Delivery ☐ Fed Ex ☐ UPS

Field Personnel Signature:

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: W-3

Sampling Personnel: Gerald Ingle/D. ~~McCartha~~/R. ~~Oliver~~ Date: 4/5/18

Comments: Time In: 1051 Time Out: 1140

Well Information

Well Diameter: 2.0 inches Reference Point Marked: (Yes) No

Depth to Water: 8.85 feet below T.O.C. Well Depth: 15.20 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 6.35 ft

1 Well Volume= 1.02 gal

3 Well Volume= 3.05 gal

Total Purged: 3.45 gal

Well Purge Dry (?) yes (no)

Purge Method (check): ☒ Traditional Purge ☐ Tubing In-Screen Method

Purge Start Time: 1036

Purge End Time: 1129

Total Time: 53 min

Purge Rate: 0.07 gpm

Purging Equipment and Calibration Information

Bailer: ☐ Teflon ☐ Poly. Pump: ☐ Grundfos ■ Peri. ID# P-8

Pump Tubing Type: ☐ Teflon ■ Teflon-Lined Poly. ☐ Polyethylene

Meter(s) Used: ■ Hanna 991300 ☐ YSI 556 ■ Lamotte 2020 ID#'s 3,7

Calibration Date/Time: 4/5/18, 0845

Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. mS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
1051	0.90	16.5	0.18	5.88	—	—	2.28	9.70
1106	1.95	17.7	0.15	5.74	—	—	2.91	10.34
1119	2.70	17.8	0.15	5.75	—	—	2.15	10.31
1128	3.40	18.0	0.15	5.73	—	—	2.44	10.50
Stabilization Info:		+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): ☐ Bailer ■ Straw Method ■ Pump Tubing ☐ Vacuum Jug ☐ Other

Final Tubing/Pump Depth: ~12' feet below T.O.C Final Groundwater Depth(if applic. 10.50 feet below T.O.C

Final Sample Turbidity 2.44 NTUs Ferrous Iron Concentration (if sampled): — mg/L

Comments:

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
W-3	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1130
W-3	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	1130
W-3	SULFIDE	500ml HDPE	1	ZnACET/NaOH	1130

Sample Laboratory: ■ AES ☐ ACL ☐ TA ☐ XENCO Delivery Method: ■ Hand Delivery ☐ Fed Ex ☐ UPS

Field Personnel Signature:

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: W-3D

Sampling Personnel: Gerald Ingle / ~~D. McCartha/R. Oliver~~ Date: 4/5/18

Comments: Time In: 1535 Time Out: 1655

Well Information

Well Diameter: 4.0 inches Reference Point Marked: (Yes) No

Depth to Water: 59.79 feet below T.O.C. Well Depth: 96.51 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 37.22 ft

24.19 1 Well Volume= ~~37.22~~ gal

72.58 3 Well Volume= ~~111.7~~ gal

Total Purged: 26.25 gal

Well Purge Dry? (yes) no

Purge Method (check): ■ Traditional Purge ☐ Tubing In-Screen Method

Purge Start Time: 1600

Purge End Time: 1618

Total Time: 18 min

Purge Rate: 1.46 gpm

Purging Equipment and Calibration Information

Bailer: ☐ Teflon ☐ Poly. Pump: ■ Grundfos ☐ Peri. ID# P-4/CB-2

Pump Tubing Type: ☐ Teflon ■ Teflon-Lined Poly. ☐ Polyethylene

Meter(s) Used: ■ Hanna 991300 ☐ YSI 556 ■ Lamotte 2020 ID#'s 3,7

Calibration Date/Time: 4/5/18, 0845

Comments: TUBING @ 95'

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. mS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
1617	26.00	23.8	0.13	5.97	—	—	1.03	95.21
1618	Day @	26.25	Gauges					

Stabilization Info: +/- 0.5 deg. | +/- 5% | +/- 0.1 SU | ----- | ----- | <10 NTUs | -----

Sample Collection Parameters

Sample Collection Method (check all): ☐ Bailer ☐ Straw Method ■ Pump Tubing ☐ Vacuum Jug ☐ Other

Final Tubing/Pump Depth: ~95 feet below T.O.C

Final Groundwater Depth (if applic. 86.21 feet below T.O.C

Final Sample Turbidity 3.89 NTUs

Ferrous Iron Concentration (if sampled): — mg/L

Comments:

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
W-3D	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1645
W-3D	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	

Sample Laboratory: ■ AES ☐ ACL ☐ TA ☐ XENCO Delivery Method: ■ Hand Delivery ☐ Fed Ex ☐ UPS

Field Personnel Signature:

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: W-75

Sampling Personnel: ~~Gerald Ingle~~/D. ~~McCartha~~/R. Oliver Date: 4/4/18

Comments: Time In: 1315 Time Out: 1450

Well Information

Well Diameter: 2 inches Reference Point Marked: (Yes) No

Depth to Water: 9.54 feet below T.O.C. Well Depth: 10.81 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 1.27 ft

1 Well Volume= 0.20 gal

3 Well Volume= 0.61 gal

Total Purged: 1.00 gal

Well Purge Dry (?) yes/no

Purge Method (check): ☑ Traditional Purge ☐ Tubing In-Screen Method

Purge Start Time: 1325

Purge End Time: 1415

Total Time: 45 min

Purge Rate: 0.02 gpm

Purging Equipment and Calibration Information

Bailer: ☐ Teflon ☐ Poly. Pump: ☐ Grundfos ☑ Peri. ID# 6

Pump Tubing Type: ☐ Teflon ☑ Teflon-Lined Poly. ☐ Polyethylene

Meter(s) Used: ☑ Hanna 991300 ☐ YSI 556 ☑ Lamotte 2020 ID#'s 1 5 10

Calibration Date/Time: 4/4/18 - 830

Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. ~~mS/cm~~ cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
1335	0.25	19.8	0.04	5.14	—	—	20.3	10.1
1345	0.50	19.2	0.04	5.03	—	—	20.8	10.56
1400	0.75	19.1	0.03	5.02	—	—	14.4	10.80
1410	1.00	19.5	0.04	5.02	—	—	5.21	10.81
		went	dry	@ 1gal				
Stabilization Info:		+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): ☑ Bailer ☐ Straw Method ☐ Pump Tubing ☐ Vacuum Jug ☐ Other

Final Tubing/Pump Depth: 9.9 feet below T.O.C Final Groundwater Depth(if applic. 10.80 feet below T.O.C

Final Sample Turbidity 5.14 NTUs Ferrous Iron Concentration (if sampled): NM mg/L

Comments:

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
W-75	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1435
W-75	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	1435

Sample Laboratory: ☑ AES ☐ ACL ☐ TA ☐ XENCO Delivery Method: ☑ Hand Delivery ☐ Fed Ex ☐ UPS

Field Personnel Signature: [signature]

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: W-8

Sampling Personnel: ~~Gerald Ingle~~/D. McCartha/R. Oliver Date: 4/5/18

Comments: Time In: 1415 Time Out: 1825

Well Information

Well Diameter: 2.0 inches Reference Point Marked: (Yes) No

Depth to Water: 39.19 feet below T.O.C. Well Depth: 41.14 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 1.95 ft

1 Well Volume= 0.31 gal

3 Well Volume= 0.94 gal

Total Purged: 1.00 gal

Well Purge Dry (?) yes/(no)

Purge Method (check): ■ Traditional Purge ☐ Tubing In-Screen Method

Purge Start Time: 1420

Purge End Time: 1438

Total Time: 18 min

Purge Rate: 0.06 gpm

Purging Equipment and Calibration Information

Bailer: ■ Teflon ☐ Poly. Pump: ☐ Grundfos ☐ Peri. ID#

Pump Tubing Type: ☐ Teflon ☐ Teflon-Lined Poly. ☐ Polyethylene

Meter(s) Used: ■ Hanna 991300 ☐ YSI 556 ■ Lamotte 2020 ID#'s 3,7

Calibration Date/Time: 4/5/18, 0845

Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. mS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
1425	0.35	20.3	0.08	5.60	—	—	NM	NM
1432	0.70	20.2	0.07	5.62	—	—	60.2	NM
1438	1.00	19.9	0.07	5.58	—	—	38.4	NM
Stabilization Info:		+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): ■ Bailer ☐ Straw Method ☐ Pump Tubing ☐ Vacuum Jug ☐ Other

Final Tubing/Pump Depth: — feet below T.O.C

Final Groundwater Depth(if applic. — feet below T.O.C

Final Sample Turbidity 9.34 NTUs

Ferrous Iron Concentration (if sampled): — mg/L

Comments:

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
W-8	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1815
W-8	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	1815

Sample Laboratory: ■ AES ☐ ACL ☐ TA ☐ XENCO Delivery Method: ■ Hand Delivery ☐ Fed Ex ☐ UPS

Field Personnel Signature:

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: W-9

Sampling Personnel: Gerald Ingle ~~D. McCartha~~/R. ~~Oliver~~ Date: 4/5/18

Comments: Time In: 1500 Time Out: 1540

Well Information

Well Diameter: 2.0 inches Reference Point Marked: (Yes) No

Depth to Water: 40.03 feet below T.O.C. Well Depth: 46.80 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 6.77 ft

1 Well Volume= 1.08 gal

3 Well Volume= 3.25 gal

Total Purged: 3.45 gal

Well Purge Dry (?) yes/(no)

Purge Method (check): ■ Traditional Purge ☐ Tubing In-Screen Method

Purge Start Time: 1506

Purge End Time: 1527

Total Time: 21 min

Purge Rate: 0.16 gpm

Purging Equipment and Calibration Information

Bailer: ■ Teflon ☐ Poly. Pump: ☐ Grundfos ☐ Peri. ID# ~~8~~

Pump Tubing Type: ☐ Teflon ■ Teflon-Lined Poly. ☐ Polyethylene

Meter(s) Used: ■ Hanna 991300 ☐ YSI 556 ■ Lamotte 2020 ID#s 3, 7

Calibration Date/Time: 4/5/18, 0845

Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. mS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
1510	1.25	20.4	0.07	5.60	—	—	10.20	NM
1515	2.10	21.0	0.06	5.50	—	—	10.83	NM
1519	2.60	21.2	0.06	5.59	—	—	8.37	NM
1526	3.40	20.9	0.06	5.56	—	—	6.44	NM
Stabilization Info:		+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): ■ Bailer ☐ Straw Method ☐ Pump Tubing ☐ Vacuum Jug ☐ Other

Final Tubing/Pump Depth: N/a feet below T.O.C

Final Groundwater Depth (if applic. NM feet below T.O.C

Final Sample Turbidity 5.89 NTUs

Ferrous Iron Concentration (if sampled): — mg/L

Comments:

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
W-9	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1530
W-9	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	1530

Sample Laboratory: ■ AES ☐ ACL ☐ TA ☐ XENCO Delivery Method: ■ Hand Delivery ☐ Fed Ex ☐ UPS

Field Personnel Signature:

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: W-15

Sampling Personnel: ~~Gerald Ingle~~/D. ~~McCartha~~/R Oliver Date: 4/5/18

Comments: Time In: 900 Time Out: 1140

Well Information

Well Diameter: 2 inches Reference Point Marked: (Yes) No

Depth to Water: 32.20 feet below T.O.C. Well Depth: 40.04 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 7.84 ft

1 Well Volume= 1.25 gal

3 Well Volume= 3.76 gal

Total Purged: 2 gal

Well Purge Dry (?) yes/no

Purge Method (check): ☒ ~~Traditional~~ Purge ☐ Tubing In-Screen Method

Purge Start Time: ~~0930~~ 0930

Purge End Time: 1020

Total Time: 20 min

Purge Rate: 0.10 gpm

Purging Equipment and Calibration Information

Bailer: ☒ Teflon ☐ Poly. Pump: ☐ Grundfos ☐ Peri. ID#

Pump Tubing Type: ☐ Teflon ☐ Teflon-Lined Poly. ☐ Polyethylene

Meter(s) Used: ☐ Hanna 991300 ☐ YSI 556 ☒ Lamotte 2020 ID#'s 19 11

Calibration Date/Time: 4/5/18 930

Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. ~~mS~~ µS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
1005	1	17.3	0.60	5.13	—	—	88	—
1020	2	18.41	0.00	4.75	—	—	24.8	—
	~~3~~ 4	The well	went	dry	@ 2 gallons			
Stabilization Info:		+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): ☒ Bailer ☐ Straw Method ☐ Pump Tubing ☐ Vacuum Jug ☐ Other

Final Tubing/Pump Depth: — feet below T.O.C

Final Groundwater Depth (if applic. — feet below T.O.C

Final Sample Turbidity 3.36 NTUs

Ferrous Iron Concentration (if sampled): — mg/L

Comments:

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
W-15	VOCs (Full List)	40 ml glass vials		HCl + Ice	1135
W-15	1,4-Dioxane	40 ml glass vials		HCl + Ice	1135

Sample Laboratory: ☒ AES ☐ ACL ☐ TA ☐ XENCO Delivery Method: ☒ Hand Delivery ☐ Fed Ex ☐ UPS

Field Personnel Signature:

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: W-15D

Sampling Personnel: ~~Gerald Ingle~~/D. ~~McCartha~~/R. (Oliver) Date: 4/6/18

Comments: Time In: 900 Time Out: 1110

Well Information

Well Diameter: 2 inches Reference Point Marked: (Yes) No

Depth to Water: 48.77 feet below T.O.C. Well Depth: 116.43 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 67.66 ft

1 Well Volume= 10.8 gal

3 Well Volume= 32.4 gal

Total Purged: 35 gal

Well Purge Dry (?) yes/(no)

Purge Method (check): ☑ Traditional Purge ☐ Tubing In-Screen Method

Purge Start Time: 930

Purge End Time: 1040

Total Time: 70 min

Purge Rate: 0.5 gpm

Purging Equipment and Calibration Information

Bailer: ☐ Teflon ☐ Poly. Pump: ☑ Grundfos ☐ Peri. ID# B3

Pump Tubing Type: ☐ Teflon ☑ Teflon-Lined Poly. ☐ Polyethylene

Meter(s) Used: ☑ Hanna 991300 ☐ YSI 556 ☐ Lamotte 2020 ID#'s 15 11

Calibration Date/Time: 4/6/18 930

Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. mS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
~~start~~	~~5~~	~~16~~	~~0.31~~				~~2.63~~	
940	10	16.5	0.31	7.20	—	—	2.63	50.16
950	15	18.3	0.24	7.33	—	—	0.75	49.31
1000	20	18.8	0.24	7.44	—	—	0.55	49.31
1010	25	19.0	0.25	7.22	—	—	1.90	49.33
1030	30	19.2	0.26	7.32	—	—	0.46	49.15
1040	35	21.7	0.26	7.38			0.41	49.05

Stabilization Info:	+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): ☐ Bailer ☐ Straw Method ☑ Pump Tubing ☐ Vacuum Jug ☐ Other

Final Tubing/Pump Depth: 50 feet below T.O.C

Final Groundwater Depth (if applic. — feet below T.O.C

Final Sample Turbidity 0.41 NTUs

Ferrous Iron Concentration (if sampled): — mg/L

Comments:

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
W-15D	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1050
W-15D	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	1050

Sample Laboratory: ☑ AES ☐ ACL ☐ TA ☐ XENCO Delivery Method: ☑ Hand Delivery ☐ Fed Ex ☐ UPS

Field Personnel Signature: [signature]

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: W-16DD

Sampling Personnel: ~~Gerald Ingle~~/D. McCarthy/~~R. Oliver~~ Date: 4-09-18

Comments: Time In: 1400 Time Out: 1608

Well Information

Well Diameter: 2 inches Reference Point Marked: (Yes) No

Depth to Water: 41.12 feet below T.O.C. Well Depth: 85.88 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 44.76 ft

1 Well Volume=7.16 gal

3 Well Volume=21.49 gal

Total Purged: 24.00 gal

Well Purge Dry (?) yes/(no)

Purge Method (check): [x] Traditional Purge [ ] Tubing In-Screen Method

Purge Start Time: 1431

Purge End Time: 1531

Total Time: 60 min

Purge Rate: 0.40 gpm

Purging Equipment and Calibration Information

Bailer: [ ] Teflon [ ] Poly. Pump: [x] Grundfos [ ] Peri. ID# P-3

Pump Tubing Type: [ ] Teflon [x] Teflon-Lined Poly. [ ] Polyethylene

Meter(s) Used: [x] Hanna 991300 [ ] YSI 556 [x] Lamotte 2020 ID#'s 8, 5

Calibration Date/Time: 4-09-18 1435

Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. µS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
1455	7.50	18.5	66	4.69	—	—	0.96	45.15
1509	14.50	18.7	66	4.80	—	—	0.90	45.33
1515	17.00	19.1	64	4.81	—	—	1.02	45.33
1521	19.50	19.4	61	4.81	—	—	0.95	45.33
1527	22.00	19.3	61	4.80	—	—	1.13	45.32
1531	24.00	19.3	62	4.80	—	—	1.30	45.32
Stabilization Info:		+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): [ ] Bailer [ ] Straw Method [x] Pump Tubing [ ] Vacuum Jug [ ] Other

Final Tubing/Pump Depth: 48.50 feet below T.O.C

Final Groundwater Depth(if applic. 45.32 feet below T.O.C

Final Sample Turbidity 1.30 NTUs

Ferrous Iron Concentration (if sampled): — mg/L

Comments:

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
W-16DD	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1540
W-16DD	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	1540

Sample Laboratory: [x] AES [ ] ACL [ ] TA [ ] XENCO Delivery Method: [x] Hand Delivery [ ] Fed Ex [ ] UPS

Field Personnel Signature: Dawn Myers

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: W-170

Sampling Personnel: ~~Gerald Ingle~~/D. ~~McCartha~~/R. Oliver Date: 4/4/18

Comments: Time In: 1540 Time Out:

Well Information

Well Diameter: 2 inches Reference Point Marked: (Yes) No

Depth to Water: 40.06 feet below T.O.C. Well Depth: 68.55 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 28.49 ft
1 Well Volume= 4.56 gal
3 Well Volume= 13.68 gal
Total Purged: 14 gal
Well Purge Dry (?) yes/no

Purge Method (check): ☑ Traditional Purge ☐ Tubing In-Screen Method

Purge Start Time: 1550
Purge End Time: 1700
Total Time: 70 min
Purge Rate: 0.2 gpm

Purging Equipment and Calibration Information

Bailer: ☑ Teflon ☐ Poly. Pump: ☐ Grundfos ☐ Peri. ID#

Pump Tubing Type: ☐ Teflon ☐ Teflon-Lined Poly. ☐ Polyethylene

Meter(s) Used: ☑ Hanna 991300 ☐ YSI 556 ☑ Lamotte 2020 ID#'s 12 11

Calibration Date/Time: 4/4/18 - 1430

Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. ~~mS~~ µS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
1555	2	20.8	0.06	5.78	—	—	17.2	—
1605	4	20.1	6.05	5.72	—	—	11.7	—
1615	6	19.7	0.05	5.74	—	—	7.19	—
1625	8	19.7	0.05	5.71	—	—	6.81	—
1645	10	19.8	0.05	5.71	—	—	4.58	—
1655	12	19.7	0.05	5.74	—	—	4.07	—
1700	14	19.6	0.04	5.72	—	—	2.93	—
Stabilization Info:		+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): ☑ Bailer ☐ Straw Method ☐ Pump Tubing ☐ Vacuum Jug ☐ Other

Final Tubing/Pump Depth: — feet below T.O.C Final Groundwater Depth (if applic. — feet below T.O.C

Final Sample Turbidity 2.93 NTUs Ferrous Iron Concentration (if sampled): — mg/L

Comments:

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
W-170	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1720
W-170	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	1720

Sample Laboratory: ☑ AES ☐ ACL ☐ TA ☐ XENCO Delivery Method: ☑ Hand Delivery ☐ Fed Ex ☐ UPS

Field Personnel Signature:

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: W-18

Sampling Personnel: ~~Gerald Ingle~~/D. ~~McCartha~~/R. Oliver Date: 4/4/18

Comments: Time In: 838 Time Out: 1020

Well Information

Well Diameter: 2 inches Reference Point Marked: (Yes) No

Depth to Water: 29.37 feet below T.O.C. Well Depth: 30.66 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 1.29 ft

1 Well Volume= 0.21 gal

3 Well Volume= 0.61 gal

Total Purged: < 0.25 gal

Well Purge Dry (?) yes/no

Purge Method (check): ☑ ~~Traditional~~ Purge ☐ Tubing In-Screen Method

Purge Start Time: 840

Purge End Time: 845

Total Time: 5 min

Purge Rate: 0.05 gpm

Purging Equipment and Calibration Information

Bailer: ☑ Teflon ☐ Poly. Pump: ☐ Grundfos ☐ Peri. ID#

Pump Tubing Type: ☐ Teflon ☐ Teflon-Lined Poly. ☐ Polyethylene

Meter(s) Used: ☐ Hanna 991300 ☐ YSI 556 ☑ Lamotte 2020 ID#'s 411

Calibration Date/Time: 4/4/18 - 830

Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. µS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
	0.25	The well went dry						
	~~0.50~~	Sample will be collected						
	~~0.75~~	when well recovers						
Stabilization Info:		+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): ☑ Bailer ☐ Straw Method ☐ Pump Tubing ☐ Vacuum Jug ☐ Other

Final Tubing/Pump Depth: — feet below T.O.C

Final Groundwater Depth (if applic. — feet below T.O.C

Final Sample Turbidity 8.76 NTUs

Ferrous Iron Concentration (if sampled): — mg/L

Comments:

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
W-18	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1015
W-18	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	1015

Sample Laboratory: ☑ AES ☐ ACL ☐ TA ☐ XENCO Delivery Method: ☑ Hand Delivery ☐ Fed Ex ☐ UPS

Field Personnel Signature: [signature]

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: W-19D

Sampling Personnel: Gerald Ingle/D. McCartha/R. Oliver Date: 4/4/18

Comments: Time In: 950 Time Out: 1005

Well Information

Well Diameter: 2 inches Reference Point Marked: (Yes) No

Depth to Water: 47.90 feet below T.O.C. Well Depth: 62.70 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 14.75 ft

1 Well Volume=2.36 gal

3 Well Volume=7.08 gal

Total Purged: 7.50 gal

Well Purge Dry (?) yes (no)

Purge Method (check): ☑ Traditional Purge ☐ Tubing In-Screen Method

Purge Start Time: 900

Purge End Time: 950

Total Time: 50 min

Purge Rate: 0.15 gpm

Purging Equipment and Calibration Information

Bailer: ☑ Teflon ☐ Poly. Pump: ☐ Grundfos ☐ Peri. ID#

Pump Tubing Type: ☐ Teflon ☐ Teflon-Lined Poly. ☐ Polyethylene

Meter(s) Used: ☑ Hanna 991300 ☐ YSI 556 ☑ Lamotte 2020 ID#s #1 #11

Calibration Date/Time: 4/4/18 830

Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. µS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
905	2.1	19.7	0.24	5.70	—	—	27.2	—
915	4.3	19.7	0.06	5.94	—	—	40.7	—
935	6.5	19.6	0.07	5.75	—	—	19.2	—
945	7	19.5	0.06	5.65	—	—	15.2	—
950	7.5	19.7	0.07	5.70	—	—	19.2	—
Stabilization Info:		+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): ☑ Bailer ☐ Straw Method ☐ Pump Tubing ☐ Vacuum Jug ☐ Other

Final Tubing/Pump Depth: — feet below T.O.C Final Groundwater Depth(if applic. — feet below T.O.C

Final Sample Turbidity 8.98 NTUs Ferrous Iron Concentration (if sampled): — mg/L

Comments:

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
W-18D	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	955
W-18D	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	955

Sample Laboratory: ☑ AES ☐ ACL ☐ TA ☐ XENCO Delivery Method: ☑ Hand Delivery ☐ Fed Ex ☐ UPS

Field Personnel Signature: [signature]

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: W-23D

Sampling Personnel: ~~Gerald Ingle~~/D. ~~McCartha~~/R. Oliver Date: 4/3/18

Comments: Time In: 1530 Time Out: 1630

Well Information

Well Diameter: 2" inches Reference Point Marked: (Yes) No

Depth to Water: 45.61 feet below T.O.C. Well Depth: 48.05 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 2.48 ft

1 Well Volume=0.40 gal

3 Well Volume= 1.20 gal

Total Purged: 1.50 gal

Well Purge Dry (?) yes/(no)

Purge Method (check): ☑ ~~Traditional~~ Purge ☐ Tubing In-Screen Method

Purge Start Time: 1540

Purge End Time: 1605

Total Time: 25 min

Purge Rate: 0.06 gpm

Purging Equipment and Calibration Information

Bailer: ☑ Teflon ☐ Poly. Pump: ☐ Grundfos ☑ Peri. ID# P-6

Pump Tubing Type: ☐ Teflon ☐ Teflon-Lined Poly. ☐ Polyethylene

Meter(s) Used: ☑ Hanna 991300 ☐ YSI 556 ☑ Lamotte 2020 ID#'s 9 & 11

Calibration Date/Time: 4/3/18 500

Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. µS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
1545	.25	22.5	40	5.15	—	—	19	—
1550	.50	20.8	40	5.12	—	—	27	—
1555	1.0	20.8	43	5.08	—	—	28	—
1600	1.25	20.4	40	4.92	—	—	14.2	—
1605	1.50	20.4	44	5.14	—	—	8.11	—
Stabilization Info:		+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): ☑ Bailer ☐ Straw Method ☐ Pump Tubing ☐ Vacuum Jug ☐ Other

Final Tubing/Pump Depth: — feet below T.O.C

Final Groundwater Depth(if applic. — feet below T.O.C

Final Sample Turbidity 8.11 NTUs

Ferrous Iron Concentration (if sampled): — mg/L

Comments:

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
W-23D	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1610
W-23D	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	1610

Sample Laboratory: ☑ AES ☐ ACL ☐ TA ☐ XENCO Delivery Method: ☑ Hand Delivery ☐ Fed Ex ☐ UPS

Field Personnel Signature:

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: W-28D

Sampling Personnel: ~~Gerald Ingle~~/D. ~~McCartha~~/R. Oliver Date: 4/4/18

Comments: Time In: 1220 Time Out: 1536

Well Information

Well Diameter: 2 inches Reference Point Marked: (Yes) No

Depth to Water: 47.19 feet below T.O.C. Well Depth: 54.49 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 7.3 ft

1 Well Volume= 1.17 gal

3 Well Volume= 3.5 gal

Total Purged: 1.5 gal

Well Purge Dry (?) yes/no

Purge Method (check): ☑ Traditional Purge ☐ Tubing In-Screen Method

Purge Start Time: 1245

Purge End Time: 1250

Total Time: 5 min

Purge Rate: 0.3 gpm

Purging Equipment and Calibration Information

Bailer: ☑ Teflon ☐ Poly. Pump: ☐ Grundfos ☐ Peri. ID#

Pump Tubing Type: ☐ Teflon ☐ Teflon-Lined Poly. ☐ Polyethylene

Meter(s) Used: ☑ Hanna 991300 ☐ YSI 556 ☑ Lamotte 2020 ID#'s 1 } 11

Calibration Date/Time: 4/4/18 830

Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. mS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
1250	1	22.4	0.06	5.90	—	—	19.0	
	1.5							
	2	1255	well went dry @ 1.5 gallons					
	2.5							
	3	Sample will be collected when well recovers						
	3.5							
Stabilization Info:		+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): ☑ Bailer ☐ Straw Method ☐ Pump Tubing ☐ Vacuum Jug ☐ Other

Final Tubing/Pump Depth: — feet below T.O.C Final Groundwater Depth (if applic. — feet below T.O.C

Final Sample Turbidity 4.29 NTUs Ferrous Iron Concentration (if sampled): — mg/L

Comments:

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
W-28D	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1520
W-28D	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	1520

Sample Laboratory: ☑ AES ☐ ACL ☐ TA ☐ XENCO Delivery Method: ☑ Hand Delivery ☐ Fed Ex ☐ UPS

Field Personnel Signature: RS

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: W-30

Sampling Personnel: Daniel McCartha ~~Gerald Ingle~~ Date: 4-11-18

Comments: Time In: 0850 Time Out: 1050

Well Information

Well Diameter: 2 inches Reference Point Marked: Yes No

Depth to Water: 39.38 feet below T.O.C. Well Depth: 44.10 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 4.72 ft
1 Well Volume= 0.76 gal
3 Well Volume= 2.28 gal
Total Purged: 3.50 gal
Well Purge Dry (?) yes/no

Purge Method (check): ☒ Traditional Purge ☐ Tubing In-Screen Method

Purge Start Time: 0905
Purge End Time: 0934
Total Time: 29 min
Purge Rate: 0.12 gpm

Purging Equipment and Calibration Information

Bailer: ☒ Teflon ☐ Poly. Pump: ☐ Grundfos ☐ Peri. ID# —
Pump Tubing Type: ☐ Teflon ☐ Teflon-Lined Poly. ☐ Polyethylene
Meter(s) Used: ☒ Hanna 991300 ☐ YSI 556 ☒ Lamotte 2020 ID#s 3,5
Calibration Date/Time: 4/11/18 0830
Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. µS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
0910	0.75	18.8	64	5.40	—	—	2.85	—
0917	1.50	20.0	61	5.55	—	—	3.16	—
0922	2.00	20.0	66	5.66	—	—	4.46	—
0926	2.50	19.9	63	5.69	—	—	4.59	—
0930	3.00	19.8	60	5.63	—	—	3.78	—
0934	3.50	19.6	60	5.60	—	—	3.80	—
Stabilization Info:		+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): ☒ Bailer ☐ Straw Method ☐ Pump Tubing ☐ Vacuum Jug ☐ Other

Final Tubing/Pump Depth: — feet below T.O.C

Final Groundwater Depth (if applic. — feet below T.O.C

Final Sample Turbidity 2.90 NTUs

Ferrous Iron Concentration (if sampled): — mg/L

Comments:

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
W-30	Appendix IX VOCs	40 ml. glass	2	HCl + Ice	0935
W-30	Appendix IX Total Cyanide	500 ml. HDPE	1	NaOH + Ice	0935
W-30	Appendix IX Metals	250 ~~500~~ ml. HDPE	1	HNO3 + Ice	0935
W-30	Appendix IX Sulfide	500 ml. HDPE	1	Zinc Acet./NaOH	0935
W-30	App. IX Base/Neutral Acids	1000 ml. glass amber	2	None / Ice	0935
W-30	App. IX Pest./PCBs	1000 ml. glass amber	2	None / Ice	0935
W-30	App. IX Herbicides	1000 ml. glass amber	2	None / Ice	0935
W-30	App. IX Dioxins/Furans	1000 ml. glass amber		None / Ice	0935
W-30	App. IX Extra Sample/8141	1000 ml. glass amber		None / Ice	0935
W-30	micro Extractables	40 ml 21955	2	Ice	0935

Sample Laboratory: ☒ AES ☐ ACL ☐ TA ☐ XENCO Delivery Method: ☒ Hand Delivery ☐ Fed Ex ☐ UPS

Field Personnel Signature: Daniel McCartha

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: W-31

Sampling Personnel: ~~Gerald Ingle~~/D. ~~McCarthy~~ R. Oliver Date: 4/5/18

Comments: Time In: 1120 Time Out: 1325

Well Information

Well Diameter: 2 inches Reference Point Marked: (Yes) No

Depth to Water: 39.25 feet below T.O.C. Well Depth: 75.33 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 36.04 ft

1 Well Volume= 5.78 gal

3 Well Volume= 17.33 gal

Total Purged: 17.5 gal

Well Purge Dry (?) yes/no

Purge Method (check): ☑ Traditional Purge ☐ Tubing In-Screen Method

Purge Start Time: 1200

Purge End Time: 1305

Total Time: 65 min

Purge Rate: 0.27 gpm

Purging Equipment and Calibration Information

Bailer: ☑ Teflon ☐ Poly. Pump: ☐ Grundfos ☐ Peri. ID#

Pump Tubing Type: ☐ Teflon ☐ Teflon-Lined Poly. ☐ Polyethylene

Meter(s) Used: ☑ Hanna 991300 ☐ YSI 556 ☑ Lamotte 2020 ID#'s 1 3 11

Calibration Date/Time: 4/5/18 930

Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. µS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
1210	5	18.6	0.05	6.02	—	—	9.94	—
1235	10	18.9	0.04	5.48	—	—	3.24	—
1255	15	18.0	0.04	5.45	—	—	3.38	—
1305	17.5	18.6	0.04	5.46	—	—	2.4	—
Stabilization Info:		+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): ☑ Bailer ☐ Straw Method ☐ Pump Tubing ☐ Vacuum Jug ☐ Other

Final Tubing/Pump Depth: — feet below T.O.C Final Groundwater Depth (if applic. — feet below T.O.C

Final Sample Turbidity 5.46 NTUs Ferrous Iron Concentration (if sampled): — mg/L

Comments:

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
W-31	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1320
W-31	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	1320

Sample Laboratory: ☑ AES ☐ ACL ☐ TA ☐ XENCO Delivery Method: ☑ Hand Delivery ☐ Fed Ex ☐ UPS

Field Personnel Signature:

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: W-275

Sampling Personnel: ~~G. Ingle~~/D. ~~McCartha~~/R. Oliver Date: 4/2/18

Comments: Time In: 1410 Time Out: 1800

Well Information

Well Diameter: 2 inches Reference Point Marked: (Yes) No

Depth to Water: 12.80 feet below T.O.C. Well Depth: 19.64 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 6.84 ft

1 Well Volume= 1.1 gal

3 Well Volume= 3.3 gal

Total Purged: 4.0 gal

Well Purge Dry (?) yes (no)

Purge Method (check): ☒ Traditional Purge ☐ Tubing In-Screen Method

Purge Start Time: 1620

Purge End Time: 1745

Total Time: 65 min

Purge Rate: 0.06 gpm

Purging Equipment and Calibration Information

Bailer: ☐ Teflon ☐ Poly. Pump: ☐ Grundfos ☐ Peri. ID#

Pump Tubing Type: ☐ Teflon ☒ Teflon-Lined Poly. ☐ Polyethylene

Meter(s) Used: ☒ Hanna 991300 ☐ YSI 556 ☒ Lamotte 2020 ID#'s 11 19

Calibration Date/Time: 4/2/18 1400

Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. µS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
1645	1.0	21.9	28	4.60	—	—	0.93	13.00
1700	2.0	20.9	25	4.15	—	—	0.68	13.05
1725	3.0	21.3	27	4.14	—	—	0.52	13.08
1745	4.0	20.6	26	4.10	—	—	0.59	13.10
~~1800~~	~~5.0~~	~~19.7~~	~~20~~					

Stabilization Info:	+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): ☐ Bailer ☒ Straw Method ☒ Pump Tubing ☐ Vacuum Jug ☐ Other

Final Tubing/Pump Depth: 13.10 feet below T.O.C

Final Groundwater Depth (if applic. — feet below T.O.C

Final Sample Turbidity 0.59 NTUs

Ferrous Iron Concentration (if sampled): — mg/L

Comments:

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
W-275	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1750
W-275	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	1750
W-275	Sulfide	500 ml HDPE	1	Zn. Acetate/NaOH	1750
W-275	Metals	250 ml HDPE	1	HNO3 + Ice	1750
W-275	Cyanide	500 ml HDPE	1	NaOH + Ice	1750
—	~~SVOCs~~	~~1000 ml HDPE~~	—	~~Ice~~	—
—	~~Herbicides (Dinoseb)~~	~~1000 ml HDPE~~	—	~~Ice~~	—

Sample Laboratory: ■ AES ☐ ACL ☐ TA ☐ XENCO Delivery Method: ■ Hand Delivery ☐ Fed Ex ☐ UPS

Field Personnel Signature: [signature]

AEM Groundwater Sampling Field Log 1430

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: W27D

Sampling Personnel: ~~Gerald Ingle~~/D. McCartha/R. Oliver Date: 4/2/18

Comments: Time In: ~~2:30~~ Time Out: 1600

Well Information

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Well Diameter: 2 inches Reference Point Marked: Yes No

Depth to Water: 27.59 feet below T.O.C. Well Depth: 54.01 feet below T.O.C.

Purging Information

Purge Method (check): ☑ Traditional Purge ☐ Tubing In-Screen Method 14:45

Water Column: 26.42 ft

1 Well Volume= 4.22 gal

3 Well Volume= 12.68 gal

Total Purged: 13 gal

Well Purge Dry (?) yes/no

Purge Start Time: ~~1500~~

Purge End Time: 1530

Total Time: 45 min

Purge Rate: 0.3 gpm

Purging Equipment and Calibration Information

Bailer: ☑ Teflon ☐ Poly. Pump: ☐ Grundfos ☐ Peri. ID#

Pump Tubing Type: ☐ Teflon ☐ Teflon-Lined Poly. ☐ Polyethylene

Meter(s) Used: ☑ Hanna 991300 ☐ YSI 556 ☑ Lamotte 2020 ID#'s G and 11

Calibration Date/Time: 4/2/18 14:00

Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. µS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
1505	4.00	22.5	44	4.88	—	—	32.1	~~32~~ 29.05
1510	8.00	21.4	~~34~~ 34	4.84	—	—	24.1	NM
1525	12.00	21.8	37	4.82	—	—	7.91	NM
1530	13.00	20.8	33	5.85	—	—	7.42	NM
Stabilization Info:		+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): ☑ Bailer ☐ Straw Method ☐ Pump Tubing ☐ Vacuum Jug ☐ Other

Final Tubing/Pump Depth: N/A feet below T.O.C Final Groundwater Depth (if applic.) N/A feet below T.O.C

Final Sample Turbidity 7.42 NTUs Ferrous Iron Concentration (if sampled): N/A mg/L

Comments:

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
W-27D	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1545
W-27D	1,4-Dioxane	40 ml glass vials	1	HCl + Ice	1545
W-27D	Sulfide	500 ml HDPE	1	Zn Acetate/NaOH	1545
W-27D	Metals	250 HDPE	1	HNO3 + Ice	1545
W-27D	Cyanide	500 ml HDPE	1	NaOH +Ice	1545
~~W-27D~~					

Sample Laboratory: ■ AES ☐ ACL ☐ TA ☐ XENCO Delivery Method: ■ Hand Delivery ☐ Fed Ex ☐ UPS

Field Personnel Signature: [signature]

RP - 4/2/18 1530

Calibration Record
Ingersoll Rand-Sylvania Remediation

Ppc. 1

Meter	Date	Time	pH Before	pH After	Conductivity (µS/cm) Before	Conductivity (µS/cm) After	ORP Before	ORP After	D.O. (mg/L) Before	D.O. (mg/L) After	Turbidity Before	Turbidity After
#3	4/4/18	0835	7: 6.99	7.01	1,413:		Temperature:	18.4	Temperature:			
			4: 4.02	3.99	12.88:	12.85		12.88	Barometric Pressure:			
			10:									
#7	4/4/18	0835	7:		1,413:		Temperature:		Temperature:		Barometric Pressure:		1.05/1.0	0.99/1.0
			4:		12.88:							
			10:									
#3	4/3/18	1815	7: 7.12	7.01	1,413:		Temperature:	21.9	Temperature:		Barometric Pressure:			
			4: 4.06	4.01	12.88:	12.38		12.87				
			10:									
#7	4/3/18	1815	7:		1,413:		Temperature:		Temperature:		Barometric Pressure:		1.11/1.0	1.05/1.0
			4:		12.88:							
			10:									
#3	4/5/18	0845	7: 7.09	7.04	1,413:		Temperature:	8.1	Temperature:		Barometric Pressure:			
			4: 4.03	4.00	12.88:	13.43		12.88				
			10:									
#7	4/5/18	0845	7: 7.02	7.05	1,413:		Temperature:		Temperature:		Barometric Pressure:		1.05/1.0	1.01/1.0
			4: 3.93	4.00	12.88:							
			10:									
#3	4/9/18	1330	7: 7.02	7.05	1,413:		Temperature:	15.4	Temperature:		Barometric Pressure:			
			4: 3.93	4.00	12.88:	12.60		12.89				
			10:									

Standard	Lot Number	Expiration
pH 7	26010 E85	10/2018
pH 4	2612 C90	12/2018
Conductivity	76 H561	8/2018
ORP		
Turbidity		

Designation	Meters	Serial #
1	Hanna HI 991300	
2	LaMotte 2020we	1542-4211
3	Hanna HI 991300	
10	Hanna HI 991301	Not in use

Designation	Meters	Serial #
4	YSI 556 MPS	06L1239AN
5	LaMotte 2020we	2024-1012
6	Hydac	9700142667
11	LaMotte 2020we	1546-4211

Designation	Meters	Serial #
7	LaMotte 2020we	185-3710
8	Hanna HI 991300	
9	Hanna HI 991300	8257290
12	YSI 556 MPS	112L100450

ORP Calibration Chart	
Temp °C	Value, mV
10	250.5
15	244.0
20	237.5
25	231.0
30	224.5
35	218.0

Notes:

Field Personnel Signature

Calibration Record
Ingersoll Rand-Sylvania Remediation

Meter	Date	Time	pH Std	pH Before	pH After	Conductivity (µS/cm) Std	Conductivity Before	Conductivity After	ORP Before	ORP After	D.O. (mg/L) Before	D.O. (mg/L) After	Turbidity (NTU) Before	Turbidity (NTU) After
#7	4/9/18	1330	7 / 4 / 10			1,413 / 12.88	Temperature:		Temperature:		Barometric Pressure:		0.91 / 1.0	0.93 / 1.0
#3	9/10/18	0815	7 / 4 / 10	7.06 / 4.04	7.03 / 4.00	1,413 / 12.88	Temperature: / 12.79	17.9 / 12.88	Temperature:		Barometric Pressure:			
#7	4/10/18	0815	7 / 4 / 10			1,413 / 12.88	Temperature:		Temperature:		Barometric Pressure:		0.92 / 1.0	0.95 / 1.0
			7 / 4 / 10			1,413 / 12.88	Temperature:		Temperature:		Barometric Pressure:			
			7 / 4 / 10			1,413 / 12.88	Temperature:		Temperature:		Barometric Pressure:			
			7 / 4 / 10			1,413 / 12.88	Temperature:		Temperature:		Barometric Pressure:			
			7 / 4 / 10			1,413 / 12.88	Temperature:		Temperature:		Barometric Pressure:			

Standard	Lot Number	Expiration
pH 7	26010E85	10/2018
pH 4	2612C90	12/2018
Conductivity	7GH561	8/2018
ORP		
Turbidity		

ORP Calibration Chart

Temp °C	Value, mV
10	250.5
15	244.0
20	237.5
25	231.0
30	224.5
35	218.0

Designation	Meters	Serial #
1	Hanna HI 991300	
2	LaMotte 2020we	1542-4211
3	Hanna HI 991300	
10	Hanna HI 991301	Not in use
4	YSI 556 MPS	06L1239AN
5	LaMotte 2020we	2024-1012
6	Hydac	9700142667
11	LaMotte 2020we	1546-4211
7	LaMotte 2020we	185-3710
8	Hanna HI 991300	
9	Hanna HI 991300	8257290
12	YSI 556 MPS	112L100450

Notes:

Field Personnel Signature: [signature]

Calibration Record
Ingersoll Rand-Sylvania Remediation

Meter	Date	Time	pH Before	pH After	Conductivity (µS/cm) Before	Conductivity (µS/cm) After	ORP Before	ORP After	D.O. (mg/L) Before	D.O. (mg/L) After	Turbidity (NTU) Before	Turbidity (NTU) After
Hanna 8	4-03-18	1350	7: 7.17 4: 4.13 10:	7: 7.03 4: 3.99 10:	1,413 (circled) 12.88 Temperature 20.5 °C 1341	1415	Temperature		Barometric Pressure			
Lamotte 5	4-03-18	1350	7: 4: 10:		1,413 12.88 Temperature		Temperature		Barometric Pressure		0.00 0.91	0.00
Hanna 8	4-04-18	0815	7: 7.08 4: 4.02 10:	7: 7.03 4: 3.99 10:	1,413 (circled) 12.88 Temperature 21.4 °C 1407	1413	Temperature		Barometric Pressure			
Lamotte 5	4-04-18	0815	7: 4: 10:		1,413 12.88 Temperature		Temperature		Barometric Pressure		0.00 0.94	0.00
Hanna 8	4-05-18	0830	7: 7.10 4: 3.90 10:	7: 7.04 4: 3.99 10:	1,413 (circled) 12.88 Temperature 7.7 °C 1497	1413	Temperature		Barometric Pressure			
Lamotte 5	4-05-18	0830	7: 4: 10:		1,413 12.88 Temperature		Temperature		Barometric Pressure		0.00 0.68	0.00
			7: 4: 10:		1,413 12.88 Temperature		Temperature		Barometric Pressure			

Standard	Lot Number	Expiration
pH 7	260 10 E85	10/ 2018
pH 4	2612 C90	12/ 18
Conductivity	76H561	8/ 18
ORP		
Turbidity		

ORP Calibration Chart	
Temp °C	Value, mV
10	250.5
15	244.0
20	237.5
25	231.0
30	224.5
35	218.0

Notes:

Designation	Meters	Serial #
1	Hanna HI 991300	
2	LaMotte 2020we	1542-4211
3	Hanna HI 991300	
10	Hanna HI 991301	Not in use

Designation	Meters	Serial #
4	YSI 556 MPS	06L1239AN
5	LaMotte 2020we	2024-1012
6	Hydac	9700142667
11	LaMotte 2020we	1546-4211

Designation	Meters	Serial #
7	LaMotte 2020we	185-3710
8	Hanna HI 991300	
9	Hanna HI 991300	8257290
12	YSI 556 MPS	112L100450

Field Personnel Signature

Calibration Record
Ingersoll Rand-Sylvania Remediation

Meter	Date	Time	pH			Conductivity (µS/cm)			ORP		D.O. (mg/L)		Turbidity (NTU)	
				Before	After		Before	After	Before	After	Before	After	Before	After
Hanna 8	4-06-18	0910	7	7.01	7.00	1,413	Temperature 9.9 °C		Temperature		Barometric Pressure			
			4	4.02	3.98	12.88	1340	1413						
			10											
LaMotte 5	4-06-18	0910	7			1,413	Temperature		Temperature		Barometric Pressure		0.00	
			4			12.88							0.52	0.00
			10											
Hanna 8	4-09-18	1435	7	7.05	7.04	1,413	Temperature 17.9°C		Temperature		Barometric Pressure			
			4	4.01	3.98	12.88	1474	1413						
			10											
LaMotte 5	4-09-18	1435	7			1,413	Temperature		Temperature		Barometric Pressure		0.00	
			4			12.88							0.89	0.00
			10											
Hanna 8	4-10-18	0820	7	7.09	7.04	1,413	Temperature 13.3°C		Temperature		Barometric Pressure			
			4	3.84	3.98	12.88	1384	1413						
			10											
LaMotte 5	4-10-18	0820	7			1,413	Temperature		Temperature		Barometric Pressure		0.00	
			4			12.88							0.82	0.00
			10											
Hanna 8 LaMotte 5	4-11-18	0830	7	7.03	7.01	1,413	Temperature 16.1°C		Temperature		Barometric Pressure		0.00	
			4	3.95	3.99	12.88	1428	1414					0.64	0.00
			10											

Standard	Lot Number	Expiration
pH 7	26010 E85	10/2018
pH 4	2612 C90	12/2018
Conductivity	76H561	8/2018
ORP		
Turbidity		

ORP Calibration Chart	
Temp °C	Value, mV
10	250.5
15	244.0
20	237.5
25	231.0
30	224.5
35	218.0

Notes:

Designation	Meters	Serial #
1	Hanna HI 991300	
2	LaMotte 2020we	1542-4211
3	Hanna HI 991300	
10	Hanna HI 991301	Not in use

Designation	Meters	Serial #
4	YSI 556 MPS	06L1239AN
5	LaMotte 2020we	2024-1012
6	Hydac	9700142667
11	LaMotte 2020we	1546-4211

Designation	Meters	Serial #
7	LaMotte 2020we	185-3710
8	Hanna HI 991300	
9	Hanna HI 991300	8257290
12	YSI 556 MPS	112L100450

Field Personnel Signature

AEM Groundwater Sampling Field Log

AEM Project: Ingersoll Rand-Sylvania Remediation AEM Job No.: 1162-1801-2 Well No.: SH-106

Sampling Personnel: Gerald Ingle/D. ~~McCartha~~/~~R. Oliver~~ Date: 7/16/15

Comments: Time In: 1240 Time Out: 1535

Well Information

Well Diameter: 2.0 inches Reference Point Marked: (Yes) No

Depth to Water: 14.65 feet below T.O.C. Well Depth: 1940 feet below T.O.C.

0.04 gal/ft in 1-inch-ID well
0.16 gal/ft in 2-inch-ID well
0.65 gal/ft in 4-inch-ID well

Purging Information

Water Column: 4.85 ft

1 Well Volume= 0.78 gal

3 Well Volume= 2.33 gal

Total Purged: 0.90 gal

Well Purge Dry (?) (yes)/no

Purge Method (check): [x] Traditional Purge [ ] Tubing In-Screen Method

Purge Start Time: 1245

Purge End Time: 1301

Total Time: 16 min

Purge Rate: 0.06 gpm

Purging Equipment and Calibration Information

Bailer: [ ] Teflon [ ] Poly. Pump: [ ] Grundfos [x] Peri. ID# P-8

Pump Tubing Type: [ ] Teflon [ ] Teflon-Lined Poly. [ ] Polyethylene

Meter(s) Used: [x] Hanna 991300 [ ] YSI 556 [ ] Lamotte 2020 ID#'s RENTALS

HACH TURBIDITY METER

Calibration Date/Time: 7/16/15, 1235

Comments:

Groundwater Field Parameters

Time	Gallons Purged	Temp. Deg. Cel	Cond. mS/cm	pH SU	Dissolved Oxygen mg/L	ORP mV	Turbidity NTUs	Water Level ft. from TOC
1255	0.65	27.1	318	3.75	—	—	4.61	17.12
1300	DRY	@ 0.9	Gallons					

Stabilization Info:	+/- 0.5 deg.	+/- 5%	+/- 0.1 SU	-----	-----	<10 NTUs	-----

Sample Collection Parameters

Sample Collection Method (check all): [ ] Bailer [x] Straw Method [ ] Pump Tubing [ ] Vacuum Jug [ ] Other

Final Tubing/Pump Depth: 14.0' feet below T.O.C

Final Groundwater Depth (if applic.): NM feet below T.O.C

Final Sample Turbidity: 6.11 NTUs

Ferrous Iron Concentration (if sampled): — mg/L

Comments:

Laboratory Analytical Information

Sample ID	Analysis	Container	Qty.	Preservative	Time Sampled
SH-106	VOCs (Full List)	40 ml glass vials	2	HCl + Ice	1515
SH-106	1,4-Dioxane	40 ml glass vials	2	HCl + Ice	1515

Sample Laboratory: [x] AES [ ] ACL [ ] TA [ ] XENCO Delivery Method: [x] Hand Delivery [ ] Fed Ex [ ] UPS

Field Personnel Signature:

Calibration Record
Ingersoll Rand-Sylvania Remediation

Meter	Date	Time	pH	pH Before	pH After	Conductivity (µS/cm)	Conductivity Before	Conductivity After	ORP Before	ORP After	D.O. (mg/L) Before	D.O. (mg/L) After	Turbidity (NTU) Before	Turbidity (NTU) After
RENTAL HANNA 991301	7/16/18	1235	7	7.03	6.99	1,413	Temperature		Temperature		Barometric Pressure			
			4	3.99	4.02	12.88								
			10											
RENTAL HACH TURBIDIMETER	7/16/18	1235	7			1,413	Temperature		Temperature		Barometric Pressure		985/1000 9.71/10.0	997/1000 10.27/10.0
			4			12.88								
			10											
			7			1,413	Temperature		Temperature		Barometric Pressure			
			4			12.88								
			10											
			7			1,413	Temperature		Temperature		Barometric Pressure			
			4			12.88								
			10											
			7			1,413	Temperature		Temperature		Barometric Pressure			
			4			12.88								
			10											
			7			1,413	Temperature		Temperature		Barometric Pressure			
			4			12.88								
			10											
			7			1,413	Temperature		Temperature		Barometric Pressure			
			4			12.88								
			10											

Standard	Lot Number	Expiration
pH 7		
pH 4		
Conductivity		
ORP		
Turbidity		

ORP Calibration Chart

Temp °C	Value, mV
10	250.5
15	244.0
20	237.5
25	231.0
30	224.5
35	218.0

Notes:

Designation	Meters	Serial #
1	Hanna HI 991300	
2	LaMotte 2020we	1542-4211
3	Hanna HI 991300	
10	Hanna HI 991301	Not in use

Designation	Meters	Serial #
4	YSI 556 MPS	06L1239AN
5	LaMotte 2020we	2024-1012
6	Hydac	9700142667
11	LaMotte 2020we	1546-4211

Designation	Meters	Serial #
7	LaMotte 2020we	185-3710
8	Hanna HI 991300	
9	Hanna HI 991300	8257290
12	YSI 556 MPS	112L100450

Field Personnel Signature: [signature]