

May 31, 2024



Mr. Brian Rath, P.E., Environmental Engineer Senior
IDNR - Land Quality Bureau
6200 Park Avenue, Suite 200
Des Moines, Iowa 50321

**RE: Response to the May 29, 2024, IDNR Comment Letter (Doc #110154)
Rural Iowa Sanitary Landfill
IDNR Permit No. 42-SDP-01-72P**

Mr. Rath:

Find attached responses to your letter dated May 29, 2024 (Doc #110154). The responses are presented in the same order as your letter.

2023 AWQR

1. No response requested.
2. The 2023 field sampling forms are attached (Attachment A), as requested.
3.
 - a. No response requested.
 - b. Table 12 (revised) is attached (Attachment B) indicating that the September 2023 reading at LW-2 was recorded as 3.76, rather than 6376.
 - c. No response requested.
4. No response requested.

Groundwater Study – Action Plan for Passive Gas Venting

Conceptual Plan

The conceptual plan includes two (2) components anticipated to promote the passive venting of landfill gas.

The first component is venting of the existing leachate collection system constructed in 1995 along the east, west and north sides of the Original Landfill. The leachate collection system consists of a series of perforated leachate lateral collection pipes that extend into the toe of waste around the perimeter of the site. The collection pipes are connected to solid-wall leachate header pipe that drains by gravity to the leachate holding tanks in the northwest corner of the Original Landfill.

Venting of the existing leachate collection system will be accomplished by replacing the existing sealed solid manhole covers with grate-style manhole covers at ten (10) manholes along the east, west, and north sides of the Original Landfill. A Site Plan (Figure 1) illustrating the location of the leachate collection system and the ten (10) manholes is included in Attachment C.

The second component of venting includes the construction of six (6) to twelve (12) passive gas vents through the landfill cap. A Site Plan (Figure 1) illustrating the location of the planned constructed vents

is included in Attachment C. Cross sections (Figure 2 and Figure 3) of the conceptual construction of the vents are also included in Attachment C.

Passive Vents 1-6 will be constructed by landfill staff using RIWMA equipment. Vents 1-6 are located along the south side of the Original Landfill where the 1995 leachate collection system does not exist. It is anticipated that the venting of the 1995 leachate collection system will not have any effect along the south side of the Original Landfill in the vicinity of MW-13C and MW-14 and that the constructed passive gas vents 1-6 are warranted to vent gas.

Passive Vents 7-12 are proposed as a contingency, in the event that sufficient passive gas venting is not realized from the venting of the 1995 leachate collection system near MW-49A.

Schedule

The conceptual Plan is presented above and in Attachment C. The schedule is proposed as follows:

Submittal of the Conceptual Plan -	Herein
Install Ten (10) vented grate-style manhole covers -	June, 2024 (ordered 5/23/24, delivery 6/5/24)
Construct Vents 1-6 -	Construction Complete by 12/31/24
Construction Documentation Vents 1-6 -	Within 60 days following construction
Monitor 1995 LCS Venting Impacts at MW-49A -	Through 2025
Construct Vents 7-12 (if warranted)	Construction Complete by 12/31/26
Construction Documentation Vents 7-12 -	Within 60 days following construction

Please indicate whether the proposed Action Plan, Contingency, and Schedule are acceptable to the Department.

Sincerely,
HLW ENGINEERING GROUP



Todd Whipple, CPG
Project Manager

cc: Harm Jass, Manager

Attachment A
2023 Field Sampling Forms (April & October)

**RURAL IOWA SANITARY LANDFILL
PERMIT # 42-SDP-1-72P**

4/10/2023

Sampled by: T. Whipple

Weather conditions: : Sunny, windy, 26-40 degrees

IDNR Form 542-1322

Monitoring Well: **MW-7 (dg)**

Primary Sampling Method:
Secondary Sampling Method:

No-Purge for Appendix I
Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1109.64
Well Depth	25.00
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1109.64
Well Depth	25.30
Top Screen	1089.64
Bottom Screen	1084.64
Bottom Well	1084.64
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	21.00
Top sample	1088.64
Bottom sample	1084.64
Turbidity(NTU)	111.00

Date	Time	Water Level	Water Elevation	Notes
4/10/2023	12:40	17.15	1092.49	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte	Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	111.00
Appendix I	Metals	150	150	111.00
Appendix I	VOC	240	240	111.00
Full Appendix II	10 more containers	5620		
TSS	TSS	1000		
Supplemental	BEHP	946		
Supplemental				
Total		400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1109.64	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	25.00	Before purging	4/10/2023	12:40	17.15	1092.49		0.0	NO
		After purging				1109.64			
		Top of Screen 1990				1089.64			
						2.85			feet above (+) or below (-) top screen
		Bottom of Well 1990				1084.64			
		Bottom of Well	4/10/2023		25.20	1084.44			
						-0.20			feet sedimentation
		Before Sampling				1109.64			
		Recovery				1109.64			
		Recovery				1109.64			
		Recovery				1109.64			
		Recovery				1109.64			

IDNR Form 542-1322

Monitoring Well: MW-7A (dg)

Primary Sampling Method: No-Purge for Appendix I
 Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1105.29
Well Depth	22.90
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1105.29
Well Depth	22.90
Top Screen	1092.39
Bottom Screen	1082.64
Bottom Well	1082.64
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	16.00
Top sample	1089.29
Bottom sample	1085.29
Turbidity(NTU)	4.55

Date	Time	Water Level	Water Elevation	Notes
4/10/2023	12:49	13.03	1092.26	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte	Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	4.55
Appendix I	Metals	150	150	4.55
Appendix I	VOC	240	240	4.55
Full Appendix II	10 more containers	5620		
TSS	TSS	1000		
Supplemental	BEHP	946		
Supplemental				
Total		400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1105.29	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	22.90		4/10/2023	12:49	13.03	1092.26		0.0	NO
		Before purging				1105.29			
		After purging				1105.29			
		Top of Screen 1990				1092.39			
						-0.13			feet above (+) or below (-) top screen
		Bottom of Well 1990				1082.39			
		Bottom of Well	4/10/2023		22.80	1082.49			
						0.10			feet sedimentation
		Before Sampling				1105.29			
		Recovery				1105.29			
		Recovery				1105.29			
		Recovery				1105.29			
		Recovery				1105.29			

IDNR Form 542-1322

Monitoring Well: MW-7B (dg) N

Primary Sampling Method: No-Purge for Appendix I
 Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1105.23
Well Depth	22.90
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1105.23
Well Depth	22.65
Top Screen	1092.33
Bottom Screen	1082.33
Bottom Well	1082.33
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	16.00
Top sample	1089.23
Bottom sample	1085.23
Turbidity(NTU)	59.10

Date	Time	Water Level	Water Elevation	Notes
4/10/2023	12:57	13.11	1092.12	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte	Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	59.10
Appendix I	Metals	150	150	59.10
Appendix I	VOC	240	240	59.10
Full Appendix II	10 more containers	5620		
TSS	TSS	1000		
Supplemental	BEHP	946		
Supplemental				
Total		400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1105.23	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	22.90	Before purging	4/10/2023	12:57	13.11	1092.12		0.0	No
		After purging				1105.23			
		Top of Screen 1990				1092.33			
						-0.21			feet above (+) or below (-) top screen
		Bottom of Well 1990				1082.33			
		Bottom of Well	4/10/2023		22.65	1082.58			
						0.25			feet sedimentation
		Before Sampling				1105.23			
		Recovery				1105.23			
		Recovery				1105.23			
		Recovery				1105.23			
		Recovery				1105.23			

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Monitoring Well: MW-7C (dg) W

Primary Sampling Method: No-Purge for Appendix I
 Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1109.79
Well Depth	28.70
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1109.79
Well Depth	28.40
Top Screen	1091.09
Bottom Screen	1081.09
Bottom Well	1081.09
Sampler Length (ft)	
Sampler Volume (mL)	440.00
Feet cordage	
Top sample	1109.79
Bottom sample	1109.79
Turbidity(NTU)	

Date	Time	Water Level	Water Elevation	Notes
4/10/2023		17.48	1092.31	WL ONLY

ANALYTES, CONTAINERS, AND VOLUMES

Analyte	Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10		0
Appendix I	Metals	150		0
Appendix I	VOC	240		0
Full Appendix II	10 more containers	5620		
TSS	TSS	1000		
Supplemental	BEHP	946		
Supplemental				
Total		0	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1109.79	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	28.70	Before purging	4/10/2023		17.48	1092.31			
Capped	YES	After purging				1109.79			
Standing Water	NO	Top of Screen 1990				1091.09			
Litter	NO					1.22			feet above (+) or below (-) top screen
Level Tape	Solinst	Bottom of Well 1990				1081.09			
Equipment	Disposable Bailer	Bottom of Well	4/10/2023			1109.79			
						28.70			feet sedimentation
		Before Sampling				1109.79			
		Recovery				1109.79			
		Recovery				1109.79			
		Recovery				1109.79			
		Recovery				1109.79			

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Monitoring Well: MW-8 (dg)

Primary Sampling Method: No-Purge for Appendix I
 Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1109.6
Well Depth	45.50
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1109.6
Well Depth	44.60
Top Screen	1069.10
Bottom Screen	1064.10
Bottom Well	1064.10
Sampler Length (ft)	
Sampler Volume (mL)	440.00
Feet cordage	
Top sample	1109.60
Bottom sample	1109.60
Turbidity(NTU)	

Date	Time	Water Level	Water Elevation	Notes
4/10/2023		14.28	1095.32	WL ONLY

ANALYTES, CONTAINERS, AND VOLUMES

Analyte	Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	0
Appendix I	Metals	150	150	0
Appendix I	VOC	240	240	0
Full Appendix II	10 more containers	5620		
TSS	TSS	1000		
Supplemental	BEHP	946		
Supplemental				
Total		400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1109.6	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	45.50		4/10/2023		14.28	1095.32			
		Before purging				1109.60			
		After purging				1109.60			
		Top of Screen 1990				1069.10			
						26.22			feet above (+) or below (-) top screen
		Bottom of Well 1990				1064.10			
		Bottom of Well	4/10/2023			1109.60			
						45.50			feet sedimentation
		Before Sampling				1109.60			
		Recovery				1109.60			
		Recovery				1109.60			
		Recovery				1109.60			
		Recovery				1109.60			

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Monitoring Well: MW-9 (dg)

Primary Sampling Method: No-Purge for Appendix I
 Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1119.77
Well Depth	18.00
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1119.77
Well Depth	17.45
Top Screen	1106.77
Bottom Screen	1101.77
Bottom Well	1101.77
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	11.00
Top sample	1108.77
Bottom sample	1104.77
Turbidity(NTU)	111.00

Date	Time	Water Level	Water Elevation	Notes
4/10/2023	10:30	7	1112.77	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte	Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	111.00
Appendix I	Metals	150	150	111.00
Appendix I	VOC	240	240	111.00
Full Appendix II	10 more containers	5620		
TSS	TSS	1000		
Supplemental	BEHP	946		
Supplemental				
Total		400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1119.77	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	18.00	Before purging	4/10/2023	10:30	7.00	1112.77		0.0	
		After purging				1119.77			
		Top of Screen 1990				1106.77			
						6.00			feet above (+) or below (-) top screen
		Bottom of Well 1990				1101.77			
		Bottom of Well	4/10/2023		17.50	1102.27			
						0.50			feet sedimentation
		Before Sampling				1119.77			Appendix I Metals
		Recovery				1119.77			Appendix II
		Recovery				1119.77			
		Recovery				1119.77			
		Recovery				1119.77			

IDNR Form 542-1322

Monitoring Well: MW-211 (dg)

Primary Sampling Method: No-Purge for Appendix I
 Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1139.26
Well Depth	27.53
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1139.26
Well Depth	27.80
Top Screen	1121.73
Bottom Screen	1111.73
Bottom Well	1111.73
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	21.00
Top sample	1118.26
Bottom sample	1114.26
Turbidity(NTU)	20.20

Date	Time	Water Level	Water Elevation	Notes
4/10/2023	10:16	13.13	1126.13	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte	Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	20.20
Appendix I	Metals	150	150	20.20
Appendix I	VOC	240	240	20.20
Full Appendix II	10 more containers	5620		
TSS	TSS	1000		
Supplemental	BEHP	946		
Supplemental				
Total		400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1139.26	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	27.53	Before purging	4/10/2023	10:16	13.13	1126.13	7	3.0	No
		After purging				1139.26			
		Top of Screen 1990				1121.73			
						4.40			feet above (+) or below (-) top screen
		Bottom of Well 1990				1111.73			
		Bottom of Well	4/10/2023		27.80	1111.46			
						-0.27			feet sedimentation
		Before Sampling				1139.26			
		Recovery				1139.26			
		Recovery				1139.26			
		Recovery				1139.26			
		Recovery				1139.26			

IDNR Form 542-1322

Monitoring Well: MW-13R (dg)

Primary Sampling Method: No-Purge for Appendix I
 Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1147.71
Well Depth	21.99
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1147.71
Well Depth	22.10
Top Screen	1135.72
Bottom Screen	1125.72
Bottom Well	1125.72
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	16.00
Top sample	1131.71
Bottom sample	1127.71
Turbidity(NTU)	38.90

Date	Time	Water Level	Water Elevation	Notes
4/10/2023	11:38	13.89	1133.82	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte	Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	38.90
Appendix I	Metals	150	150	38.90
Appendix I	VOC	240	240	38.90
Full Appendix II	10 more containers	5620		
TSS	TSS	1000		
Supplemental	BEHP	946		
Supplemental	(3+4)-methyl phenol			
Total		400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1147.71	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	21.99	Before purging	4/10/2023	11:38	13.89	1133.82	5	3.8	No
		After purging				1147.71			
		Top of Screen 1990				1135.72			
						-1.90			feet above (+) or below (-) top screen
		Bottom of Well 1990				1125.72			
		Bottom of Well	4/10/2023		22.10	1125.61			
						-0.11			feet sedimentation
		Before Sampling				1147.71			
		Recovery				1147.71			
		Recovery				1147.71			
		Recovery				1147.71			
		Recovery				1147.71			

IDNR Form 542-1322

Monitoring Well: MW-14 (dg)

Primary Sampling Method: No-Purge for Appendix I
 Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1155.28
Well Depth	15.00
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1155.28
Well Depth	15.00
Top Screen	1145.28
Bottom Screen	1140.28
Bottom Well	1140.28
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	10.00
Top sample	1145.28
Bottom sample	1141.28
Turbidity(NTU)	124.00

Date	Time	Water Level	Water Elevation	Notes
4/10/2023	11:49	9.29	1145.99	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte	Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	124.00
Appendix I	Metals	150	150	124.00
Appendix I	VOC	240	240	124.00
Full Appendix II	10 more containers	5620		
TSS	TSS	1000		
Supplemental	BEHP	946		
Supplemental				
Total		400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1155.28	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	15.00	Before purging	4/10/2023	11:49	9.29	1145.99	2.5	2.7	No
		After purging				1155.28			
		Top of Screen 1990				1145.28			
						0.71			feet above (+) or below (-) top screen
		Bottom of Well 1990				1140.28			
		Bottom of Well	4/10/2023		15.00	1140.28			
						0.00			feet sedimentation
		Before Sampling				1155.28			
		Recovery				1155.28			
		Recovery				1155.28			
		Recovery				1155.28			
		Recovery				1155.28			

IDNR Form 542-1322

Monitoring Well: MW-29 (dg)

Primary Sampling Method: No-Purge for Appendix I
 Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1136.65
Well Depth	19.23
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1136.55
Well Depth	19.15
Top Screen	1127.42
Bottom Screen	1117.42
Bottom Well	1117.42
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	13.00
Top sample	1123.55
Bottom sample	1119.55
Turbidity(NTU)	4.98

Date	Time	Water Level	Water Elevation	Notes
4/10/2023	13:35	7.09	1129.46	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte	Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	4.98
Appendix I	Metals	150	150	4.98
Appendix I	VOC	240	240	4.98
Full Appendix II	10 more containers	5620		
TSS	TSS	1000		
Supplemental	BEHP	946		
Supplemental				
Total		400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1136.65	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	19.23	Before purging	4/10/2023	13:35	7.09	1129.56		0.0	No
		After purging				1136.65			
		Top of Screen 1990				1127.42			
						2.14	feet above (+) or below (-) top screen		
		Bottom of Well 1990				1117.42			
		Bottom of Well	4/10/2023		19.50	1117.15			
						-0.27	feet sedimentation		
		Before Sampling				1136.65			
		Recovery				1136.65			
		Recovery				1136.65			
		Recovery				1136.65			
		Recovery				1136.65			

IDNR Form 542-1322

Monitoring Well: MW-33 (dg)

Primary Sampling Method: No-Purge for Appendix I
 Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1115.86
Well Depth	22.58
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1115.89
Well Depth	21.75
Top Screen	1103.28
Bottom Screen	1093.28
Bottom Well	1093.28
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	15.00
Top sample	1100.89
Bottom sample	1096.89
Turbidity(NTU)	0.93

Date	Time	Water Level	Water Elevation	Notes
4/10/2023	10:43	12.37	1103.52	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte	Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	0.93
Appendix I	Metals	150	150	0.93
Appendix I	VOC	240	240	0.93
Full Appendix II	10 more containers	5620		
TSS	TSS	1000		
Supplemental	BEHP	946		
Supplemental				
Total		400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1115.86	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	22.58	Before purging	4/10/2023	10:43	12.37	1103.49		0.0	No
		After purging				1115.86			
		Top of Screen 1990				1103.28			
						0.21			feet above (+) or below (-) top screen
		Bottom of Well 1990				1093.28			
		Bottom of Well	4/10/2023		21.80	1094.06			
						0.78			feet sedimentation
		Before Sampling				1115.86			
		Recovery				1115.86			
		Recovery				1115.86			
		Recovery				1115.86			
		Recovery				1115.86			

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Monitoring Well: MW-35R (dg)

Primary Sampling Method: No-Purge for Appendix I
 Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1123.59
Well Depth	15.05
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1123.59
Well Depth	15.05
Top Screen	1113.57
Bottom Screen	1108.54
Bottom Well	1108.54
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	9.00
Top sample	1114.59
Bottom sample	1110.59
Turbidity(NTU)	9.99

Date	Time	Water Level	Water Elevation	Notes
4/10/2023	12:17	6.15	1117.44	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte	Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	9.99
Appendix I	Metals	150	150	9.99
Appendix I	VOC	240	240	9.99
Full Appendix II	10 more containers	5620		
TSS	TSS	1000		
Supplemental	BEHP	946	946	
Supplemental				
Total		1346	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1123.59	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	15.05	Before purging	4/10/2023	12:17	6.15	1117.44		0.0	
		After purging				1123.59			
		Top of Screen 1990				1113.57			
						3.87			feet above (+) or below (-) top screen
		Bottom of Well 1990				1108.54			
		Bottom of Well	4/10/2023		15.00	1108.59			
						0.05			feet sedimentation
		Before Sampling				1123.59			
		Recovery				1123.59			
		Recovery				1123.59			
		Recovery				1123.59			
		Recovery				1123.59			

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Monitoring Well: MW-36 (ug)

Primary Sampling Method: No-Purge for Appendix I
 Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1151.02
Well Depth	72.00
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1151.28
Well Depth	71.18
Top Screen	1089.84
Bottom Screen	1079.84
Bottom Well	1079.02
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	65.00
Top sample	1086.28
Bottom sample	1082.28
Turbidity(NTU)	5.64

Date	Time	Water Level	Water Elevation	Notes
4/10/2023	8:19	30.5	1120.78	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte	Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	5.64
Appendix I	Metals	150	150	5.64
Appendix I	VOC	240	240	5.64
Full Appendix II	10 more containers	5620		
TSS	TSS	1000		
Supplemental	BEHP	946		
Supplemental				
Total		400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1151.02	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	72.00	Before purging	4/10/2023	8:19	30.50	1120.52		0.0	
		After purging				1151.02			
		Top of Screen 1990				1089.84			
						30.68			feet above (+) or below (-) top screen
		Bottom of Well 1990				1079.84			
		Bottom of Well	4/10/2023		71.40	1079.62			
						-0.22			feet sedimentation
		Before Sampling				1151.02			
		Recovery				1151.02			
		Recovery				1151.02			
		Recovery				1151.02			
		Recovery				1151.02			

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Monitoring Well: MW-37 (ug)

Primary Sampling Method: No-Purge for Appendix I
 Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1151.28
Well Depth	29.50
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1151.28
Well Depth	29.35
Top Screen	1141.78
Bottom Screen	1121.78
Bottom Well	1121.78
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	23.00
Top sample	1128.28
Bottom sample	1124.28
Turbidity(NTU)	4.63

Date	Time	Water Level	Water Elevation	Notes
4/10/2023	8:27	10.92	1140.36	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte	Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	4.63
Appendix I	Metals	150	150	4.63
Appendix I	VOC	240	240	4.63
Full Appendix II	10 more containers	5620		
TSS	TSS	1000		
Supplemental	BEHP	946		
Supplemental				
Total		400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1151.28	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	29.50		4/10/2023	8:27	10.92	1140.36		0.0	No
		Before purging				1151.28			
		After purging				1151.28			
		Top of Screen 1990				1141.78			
						-1.42			feet above (+) or below (-) top screen
		Bottom of Well 1990				1121.78			
		Bottom of Well	4/10/2023		29.30	1121.98			
						0.20			feet sedimentation
		Before Sampling				1151.28			
		Recovery				1151.28			
		Recovery				1151.28			
		Recovery				1151.28			
		Recovery				1151.28			

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Monitoring Well: MW-39 (ug)

Primary Sampling Method: No-Purge for Appendix I
 Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1153.09
Well Depth	36.30
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1153.09
Well Depth	36.60
Top Screen	1126.79
Bottom Screen	1116.79
Bottom Well	1116.79
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	31.00
Top sample	1122.09
Bottom sample	1118.09
Turbidity(NTU)	1.42

Date	Time	Water Level	Water Elevation	Notes
4/10/2023	8:05	18.72	1134.37	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte	Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	1.42
Appendix I	Metals	150	150	1.42
Appendix I	VOC	240	240	1.42
Full Appendix II	10 more containers	5620		
TSS	TSS	1000		
Supplemental	BEHP	946		
Supplemental				
Total		400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1153.09	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	36.30	Before purging	4/10/2023	8:05	18.72	1134.37		0.0	No
		After purging				1153.09			
		Top of Screen 1990				1126.79			
						7.58			feet above (+) or below (-) top screen
		Bottom of Well 1990				1116.79			
		Bottom of Well	4/10/2023		36.80	1116.29			
						-0.50			feet sedimentation
		Before Sampling				1153.09			
		Recovery				1153.09			
		Recovery				1153.09			
		Recovery				1153.09			
		Recovery				1153.09			

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Monitoring Well: MW-40 (ug)

Primary Sampling Method: No-Purge for Appendix I
 Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1137.89
Well Depth	38.00
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1137.89
Well Depth	37.55
Top Screen	1119.89
Bottom Screen	1099.89
Bottom Well	1099.89
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	31.00
Top sample	1106.89
Bottom sample	1102.89
Turbidity(NTU)	7.45

Date	Time	Water Level	Water Elevation	Notes
4/10/2023	8:47	10.18	1127.71	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte	Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	7.45
Appendix I	Metals	150	150	7.45
Appendix I	VOC	240	240	7.45
Full Appendix II	10 more containers	5620		
TSS	TSS	1000		
Supplemental	BEHP	946		
Supplemental				
Total		400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1137.89	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	38.00	Before purging	4/10/2023	8:47	10.18	1127.71		0.0	
		After purging				1137.89			
		Top of Screen 1990				1119.89			
						7.82			feet above (+) or below (-) top screen
		Bottom of Well 1990				1099.89			
		Bottom of Well	4/10/2023		37.30	1100.59			
						0.70			feet sedimentation
		Before Sampling				1137.89			
		Recovery				1137.89			
		Recovery				1137.89			
		Recovery				1137.89			
		Recovery				1137.89			

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Monitoring Well: MW-47 (dg)

Primary Sampling Method: No-Purge for Appendix I
 Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1099.82
Well Depth	19.50
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1099.82
Well Depth	18.75
Top Screen	1090.32
Bottom Screen	1080.32
Bottom Well	1080.32
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	12.00
Top sample	1087.82
Bottom sample	1083.82
Turbidity(NTU)	78.40

Red

Date	Time	Water Level	Water Elevation	Notes
4/10/2023	9:10	11.05	1088.77	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte	Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	78.4
Appendix I	Metals	150	150	78.4
Appendix I	VOC	240	240	78.4
Full Appendix II	10 more containers	5620		
TSS	TSS	1000		
Supplemental	BEHP	946		
Supplemental				
Total		400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1099.82	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	19.50		4/10/2023	9:10	11.05	1088.77		0.0	no
			After purging			1099.82			
			Top of Screen 1990			1090.32			
						-1.55			feet above (+) or below (-) top screen
			Bottom of Well 1990			1080.32			
			Bottom of Well	4/10/2023		1081.12			
						0.80			feet sedimentation
			Before Sampling			1099.82			
			Recovery			1099.82			
			Recovery			1099.82			
			Recovery			1099.82			
			Recovery			1099.82			

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Monitoring Well: MW-48A (dg)

Primary Sampling Method: No-Purge for Appendix I
 Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1101.03
Well Depth	20.50
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1101.03
Well Depth	20.10
Top Screen	1090.53
Bottom Screen	1080.53
Bottom Well	1080.53
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	14.00
Top sample	1087.03
Bottom sample	1083.03
Turbidity(NTU)	1000.00

red

Date	Time	Water Level	Water Elevation	Notes
4/10/2023	9:34	11.29	1089.74	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte	Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	1000.00
Appendix I	Metals	150	150	1000.00
Appendix I	VOC	240	240	1000.00
Full Appendix II	10 more containers	5620		
TSS	TSS	1000		
Supplemental	BEHP	946		
Supplemental				
Total		400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1101.03	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	20.50		4/10/2023	9:34	11.29	1089.74		0.0	no
						1101.03			
						1090.53			
						-0.79			feet above (+) or below (-) top screen
						1080.53			
			4/10/2023		20.10	1080.93			
						0.40			feet sedimentation
						1101.03			
						1101.03			
						1101.03			
						1101.03			
						1101.03			

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Monitoring Well: MW-49A (dg)

Primary Sampling Method: No-Purge for Appendix I
 Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1132.5
Well Depth	25.50
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1132.5
Well Depth	24.55
Top Screen	1117.00
Bottom Screen	1107.00
Bottom Well	1007.00
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	18.00
Top sample	1114.50
Bottom sample	1110.50
Turbidity(NTU)	32.60

Date	Time	Water Level	Water Elevation	Notes
4/10/2023	10:01	12.98	1119.52	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte	Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	32.60
Appendix I	Metals	150	150	32.60
Appendix I	VOC	240	240	32.60
Full Appendix II	10 more containers	5620		
TSS	TSS	1000		
Supplemental	BEHP	946		
Supplemental				
Total		400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1132.5	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	25.50		4/10/2023	10:01	12.98	1119.52		0.0	NO
		Before purging				1132.50			
		After purging				1117.00			
		Top of Screen 1990				2.52			feet above (+) or below (-) top screen
		Bottom of Well 1990				1107.00			
		Bottom of Well	4/10/2023		24.60	1107.90			
						0.90			feet sedimentation
		Before Sampling				1132.50			
		Recovery				1132.50			
		Recovery				1132.50			
		Recovery				1132.50			
		Recovery				1132.50			

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Monitoring Well: MW-50 (dg)

Primary Sampling Method: No-Purge for Appendix I
 Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1100.39
Well Depth	22.45
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1100.39
Well Depth	22.60
Top Screen	1082.94
Bottom Screen	1078.11
Bottom Well	1078.11
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	16.00
Top sample	1084.39
Bottom sample	1080.39
Turbidity(NTU)	10.40

Date	Time	Water Level	Water Elevation	Notes
4/10/2023	13:17	11.41	1088.98	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte	Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	10.40
Appendix I	Metals	150	150	10.40
Appendix I	VOC	240	240	10.40
Full Appendix II	10 more containers	5620		
TSS	TSS	1000		
Supplemental	BEHP	946		
Supplemental				
Total		400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1100.39	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	22.45	Before purging	4/10/2023	13:17	11.41	1088.98		0.0	NO
		After purging				1100.39			
		Top of Screen 1990				1082.94			
						6.04	feet above (+) or below (-) top screen		
		Bottom of Well 1990				1078.11			
		Bottom of Well	4/10/2023		22.60	1077.79			
						-0.32	feet sedimentation		
		Before Sampling				1100.39			
		Recovery				1100.39			
		Recovery				1100.39			
		Recovery				1100.39			
		Recovery				1100.39			

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Monitoring Well: MW-51 (ug)

Primary Sampling Method: No-Purge for Appendix I
 Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1116.53
Well Depth	32.02
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1116.53
Well Depth	32.20
Top Screen	1094.51
Bottom Screen	1084.70
Bottom Well	1084.70
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	26.00
Top sample	1090.53
Bottom sample	1086.53
Turbidity(NTU)	206.00

Date	Time	Water Level	Water Elevation	Notes
4/10/2023	9:51	8.66	1107.87	Red

ANALYTES, CONTAINERS, AND VOLUMES

Analyte	Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	206.00
Appendix I	Metals	150	150	206.00
Appendix I	VOC	240	240	206.00
Full Appendix II	10 more containers	5620		
TSS	TSS	1000		
Supplemental	BEHP	946		
Supplemental				
Total		400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1116.53	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	32.02		4/10/2023	9:51	8.66	1107.87		0.0	NO
		Before purging				1116.53			
		After purging				1116.53			
		Top of Screen 1990				1094.51			
						13.36			feet above (+) or below (-) top screen
		Bottom of Well 1990				1084.70			
		Bottom of Well	4/10/2023		32.20	1084.33			
						-0.37			feet sedimentation
		Before Sampling				1116.53			
		Recovery				1116.53			
		Recovery				1116.53			
		Recovery				1116.53			
		Recovery				1116.53			

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Monitoring Well: MW-31R (dg)

Primary Sampling Method: No-Purge for Appendix I
 Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1161.26
Well Depth	32.02
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1161.26
Well Depth	32.00
Top Screen	1139.22
Bottom Screen	1128.91
Bottom Well	1128.91
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	26.00
Top sample	1135.26
Bottom sample	1131.26
Turbidity(NTU)	15.40

Date	Time	Water Level	Water Elevation	Notes
4/10/2023	11:01	21.76	1139.5	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte	Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	15.40
Appendix I	Metals	150	150	15.40
Appendix I	VOC	240	240	15.40
Full Appendix II	10 more containers	5620		
TSS	TSS	1000		
Supplemental	BEHP	946		
Supplemental				
Total		400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1161.26	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	32.02		4/10/2023	11:01	21.76	1139.50		0.0	No
		Before purging				1161.26			
		After purging				1139.22			
		Top of Screen 1990				0.28			feet above (+) or below (-) top screen
		Bottom of Well 1990				1128.91			
		Bottom of Well	4/10/2023		32.00	1129.26			
						0.35			feet sedimentation
		Before Sampling				1161.26			
		Recovery				1161.26			
		Recovery				1161.26			
		Recovery				1161.26			
		Recovery				1161.26			

**RURAL IOWA SANITARY LANDFILL
PERMIT # 42-SDP-1-72P**

4/10/2023

Sampled by: T. Whipple

Weather conditions: : Sunny, windy, 26-40 degrees

IDNR Form 542-1324

Date	Time	Type	Flowing	Quantity	Discolored	Odor	Litter
		groundwater diversion tile	no	submerged	No	No	no
							Turbidity (NTU)

GWD-1

No GU in Oct 2022 per IDNR

IDNR Form 542-1324

Date	Time	Type	Flowing	Quantity	Discolored	Odor	Litter
		groundwater diversion tile	no	buried	No	No	no
							Turbidity (NTU)

GWD-2

No GU in Oct 2022 per IDNR

IDNR Form 542-1324

Date	Time	Type	Flowing	Quantity	Discolored	Odor	Litter
4/10/2023	9:19	groundwater diversion tile	yes	250ml/10 sec	No	No	no
							Turbidity (NTU)
							22.50

GWD-3

No GU in Oct 2022 per IDNR

IDNR Form 542-1324

Date	Time	Type	Flowing	Quantity	Discolored	Odor	Litter
10/17/2022	12:26	detention outfall	NO	250ml/20 sec	No	No	no
							Turbidity (NTU)

PECS-1

IDNR Form 542-1324

Date	Time	Type	Flowing	Quantity	Discolored	Odor	Litter
10/17/2022	12:05	groundwater tile	NO	pooled - VOC only	No	No	no
							Turbidity (NTU)

ACM Tile-1

**RURAL IOWA SANITARY LANDFILL
PERMIT # 42-SDP-1-72P**

10/27/2023

Sampled by: T. Whipple

Weather conditions: : Overcast, windy, 40 degrees

IDNR Form 542-1322

Monitoring Well: **MW-7 (dg)**

Primary Sampling Method:
Secondary Sampling Method:

No-Purge for Appendix I
Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1109.64
Well Depth	25.00
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1109.64
Well Depth	25.30
Top Screen	1089.64
Bottom Screen	1084.64
Bottom Well	1084.64
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	22.00
Top sample	1087.64
Bottom sample	1083.64
Turbidity(NTU)	7.13

Date	Time	Water Level	Water Elevation	Notes
10/27/2023	8:35	19.29	1090.35	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte	Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	7.13
Appendix I	Metals	150	150	7.13
Appendix I	VOC	240	240	7.13
Full Appendix II	10 more containers	5620		
TSS	TSS	1000		
Supplemental	BEHP	946		
Supplemental				
Total		400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1109.64	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	25.00	Before purging	10/27/2023	8:35	19.29	1090.35		0.0	NO
		After purging				1109.64			
		Top of Screen 1990				1089.64			
						0.71			feet above (+) or below (-) top screen
		Bottom of Well 1990				1084.64			
		Bottom of Well	10/27/2023		25.30	1084.34			
						-0.30			feet sedimentation
		Before Sampling				1109.64			
		Recovery				1109.64			
		Recovery				1109.64			
		Recovery				1109.64			
		Recovery				1109.64			

IDNR Form 542-1322

Monitoring Well: MW-7A (dg)

Primary Sampling Method:
Secondary Sampling Method:

No-Purge for Appendix I
Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1105.29
Well Depth	22.90
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1105.29
Well Depth	22.90
Top Screen	1092.39
Bottom Screen	1082.64
Bottom Well	1082.64
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	17.00
Top sample	1088.29
Bottom sample	1084.29
Turbidity(NTU)	1.90

Date	Time	Water Level	Water Elevation	Notes
10/27/2023	8:52	15.01	1090.28	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte	Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	1.90
Appendix I	Metals	150	150	1.90
Appendix I	VOC	240	240	1.90
Full Appendix II	10 more containers	5620		
TSS	TSS	1000		
Supplemental	BEHP	946		
Supplemental				
Total		400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1105.29	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	22.90	Before purging	10/27/2023	8:52	15.01	1090.28		0.0	NO
		After purging				1105.29			
		Top of Screen 1990				1092.39			
						-2.11			feet above (+) or below (-) top screen
		Bottom of Well 1990				1082.39			
		Bottom of Well	10/27/2023		22.80	1082.49			
						0.10			feet sedimentation
		Before Sampling				1105.29			
		Recovery				1105.29			
		Recovery				1105.29			
		Recovery				1105.29			
		Recovery				1105.29			

IDNR Form 542-1322

Monitoring Well: MW-7B (dg) N

Primary Sampling Method: No-Purge for Appendix I
 Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1105.23
Well Depth	22.90
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1105.23
Well Depth	22.65
Top Screen	1092.33
Bottom Screen	1082.33
Bottom Well	1082.33
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	17.00
Top sample	1088.23
Bottom sample	1084.23
Turbidity(NTU)	423.40

Date	Time	Water Level	Water Elevation	Notes
10/27/2023	8:58	15.2	1090.03	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte	Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	423.40
Appendix I	Metals	150	150	423.40
Appendix I	VOC	240	240	423.40
Full Appendix II	10 more containers	5620		
TSS	TSS	1000		
Supplemental	BEHP	946		
Supplemental				
Total		400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1105.23	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	22.90	Before purging	10/27/2023	8:58	15.20	1090.03		0.0	No
		After purging				1105.23			
		Top of Screen 1990				1092.33			
						-2.30	feet above (+) or below (-) top screen		
		Bottom of Well 1990				1082.33			
		Bottom of Well	10/27/2023		22.65	1082.58			
						0.25	feet sedimentation		
		Before Sampling				1105.23			
		Recovery				1105.23			
		Recovery				1105.23			
		Recovery				1105.23			
		Recovery				1105.23			

IDNR Form 542-1322

Monitoring Well: MW-7C (dg) W

Primary Sampling Method: No-Purge for Appendix I
 Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1109.79
Well Depth	28.70
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1109.79
Well Depth	28.40
Top Screen	1091.09
Bottom Screen	1081.09
Bottom Well	1081.09
Sampler Length (ft)	
Sampler Volume (mL)	440.00
Feet cordage	
Top sample	1109.79
Bottom sample	1109.79
Turbidity(NTU)	

Date	Time	Water Level	Water Elevation	Notes
10/27/2023		19.65	1090.14	WL ONLY

ANALYTES, CONTAINERS, AND VOLUMES

Analyte	Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10		0
Appendix I	Metals	150		0
Appendix I	VOC	240		0
Full Appendix II	10 more containers	5620		
TSS	TSS	1000		
Supplemental	BEHP	946		
Supplemental				
Total		0	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1109.79	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	28.70	Before purging	10/27/2023		19.65	1090.14			
Capped	YES	After purging				1109.79			
Standing Water	NO	Top of Screen 1990				1091.09			
Litter	NO					-0.95			feet above (+) or below (-) top screen
Level Tape	Solinst	Bottom of Well 1990				1081.09			
Equipment	Disposable Bailer	Bottom of Well	10/27/2023			1109.79			
						28.70			feet sedimentation
		Before Sampling				1109.79			
		Recovery				1109.79			
		Recovery				1109.79			
		Recovery				1109.79			
		Recovery				1109.79			

IDNR Form 542-1322

Monitoring Well: MW-8 (dg)

Primary Sampling Method: No-Purge for Appendix I
 Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1109.6
Well Depth	45.50
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1109.6
Well Depth	44.60
Top Screen	1069.10
Bottom Screen	1064.10
Bottom Well	1064.10
Sampler Length (ft)	
Sampler Volume (mL)	440.00
Feet cordage	
Top sample	1109.60
Bottom sample	1109.60
Turbidity(NTU)	

Date	Time	Water Level	Water Elevation	Notes
10/27/2023		17.33	1092.27	WL ONLY

ANALYTES, CONTAINERS, AND VOLUMES

Analyte	Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	0
Appendix I	Metals	150	150	0
Appendix I	VOC	240	240	0
Full Appendix II	10 more containers	5620		
TSS	TSS	1000		
Supplemental	BEHP	946		
Supplemental				
Total		400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1109.6	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	45.50		10/27/2023		17.33	1092.27			
		Before purging				1109.60			
		After purging				1109.60			
		Top of Screen 1990				1069.10			
						23.17			feet above (+) or below (-) top screen
		Bottom of Well 1990				1064.10			
		Bottom of Well	10/27/2023			1109.60			
						45.50			feet sedimentation
		Before Sampling				1109.60			
		Recovery				1109.60			
		Recovery				1109.60			
		Recovery				1109.60			
		Recovery				1109.60			

IDNR Form 542-1322

Monitoring Well: MW-9 (dg)

Primary Sampling Method: No-Purge for Appendix I
 Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1119.77
Well Depth	18.00
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1119.77
Well Depth	17.45
Top Screen	1106.77
Bottom Screen	1101.77
Bottom Well	1101.77
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	14.00
Top sample	1105.77
Bottom sample	1101.77
Turbidity(NTU)	2.70

Date	Time	Water Level	Water Elevation	Notes
10/27/2023	9:28	13.91	1105.86	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte	Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	2.70
Appendix I	Metals	150	150	2.70
Appendix I	VOC	240	240	2.70
Full Appendix II	10 more containers	5620		
TSS	TSS	1000		
Supplemental	BEHP	946		
Supplemental				
Total		400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1119.77	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	18.00	Before purging	10/27/2023	9:28	13.91	1105.86		0.0	
		After purging				1119.77			
		Top of Screen 1990				1106.77			
						-0.91			feet above (+) or below (-) top screen
		Bottom of Well 1990				1101.77			
		Bottom of Well	10/27/2023		17.50	1102.27			
						0.50			feet sedimentation
		Before Sampling				1119.77			Appendix I Metals
		Recovery				1119.77			Appendix II
		Recovery				1119.77			
		Recovery				1119.77			
		Recovery				1119.77			

IDNR Form 542-1322

Monitoring Well: MW-211 (dg)

Primary Sampling Method: No-Purge for Appendix I
 Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1139.26
Well Depth	27.53
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1139.26
Well Depth	27.80
Top Screen	1121.73
Bottom Screen	1111.73
Bottom Well	1111.73
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	22.00
Top sample	1117.26
Bottom sample	1113.26
Turbidity(NTU)	14.95

Date	Time	Water Level	Water Elevation	Notes
10/27/2023	9:43	15.32	1123.94	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte	Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	14.95
Appendix I	Metals	150	150	14.95
Appendix I	VOC	240	240	14.95
Full Appendix II	10 more containers	5620		
TSS	TSS	1000		
Supplemental	BEHP	946		
Supplemental				
Total		400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1139.26	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	27.53	Before purging	10/27/2023	9:43	15.32	1123.94	7	3.5	No
		After purging				1139.26			
		Top of Screen 1990				1121.73			
						2.21			feet above (+) or below (-) top screen
		Bottom of Well 1990				1111.73			
		Bottom of Well	10/27/2023		27.80	1111.46			
						-0.27			feet sedimentation
		Before Sampling				1139.26			
		Recovery				1139.26			
		Recovery				1139.26			
		Recovery				1139.26			
		Recovery				1139.26			

IDNR Form 542-1322

Monitoring Well: MW-13R (dg)

Primary Sampling Method: No-Purge for Appendix I
 Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1147.71
Well Depth	21.99
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1147.71
Well Depth	22.10
Top Screen	1135.72
Bottom Screen	1125.72
Bottom Well	1125.72
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	16.00
Top sample	1131.71
Bottom sample	1127.71
Turbidity(NTU)	4.80

Date	Time	Water Level	Water Elevation	Notes
10/27/2023	12:17	13.07	1134.64	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte	Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	4.80
Appendix I	Metals	150	150	4.80
Appendix I	VOC	240	240	4.80
Full Appendix II	10 more containers	5620		
TSS	TSS	1000		
Supplemental	BEHP	946		
Supplemental	(3+4)-methyl phenol			
Total		400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1147.71	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	21.99	Before purging	10/27/2023	12:17	13.07	1134.64	5	3.4	No
		After purging				1147.71			
		Top of Screen 1990				1135.72			
						-1.08			feet above (+) or below (-) top screen
		Bottom of Well 1990				1125.72			
		Bottom of Well	10/27/2023		22.10	1125.61			
						-0.11			feet sedimentation
		Before Sampling				1147.71			
		Recovery				1147.71			
		Recovery				1147.71			
		Recovery				1147.71			
		Recovery				1147.71			

IDNR Form 542-1322

Monitoring Well: MW-14 (dg)

Primary Sampling Method: No-Purge for Appendix I
 Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1155.28
Well Depth	15.00
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1155.28
Well Depth	15.00
Top Screen	1145.28
Bottom Screen	1140.28
Bottom Well	1140.28
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	12.00
Top sample	1143.28
Bottom sample	1139.28
Turbidity(NTU)	7.23

Date	Time	Water Level	Water Elevation	Notes
10/27/2023	13:25	12.05	1143.23	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte	Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	7.23
Appendix I	Metals	150	150	7.23
Appendix I	VOC	240	240	7.23
Full Appendix II	10 more containers	5620		
TSS	TSS	1000		
Supplemental	BEHP	946		
Supplemental				
Total		400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1155.28	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	15.00	Before purging	10/27/2023	13:25	12.05	1143.23	2.5	5.2	No
		After purging				1155.28			
		Top of Screen 1990				1145.28			
						-2.05			feet above (+) or below (-) top screen
		Bottom of Well 1990				1140.28			
		Bottom of Well	10/27/2023		15.00	1140.28			
						0.00			feet sedimentation
		Before Sampling				1155.28			
		Recovery				1155.28			
		Recovery				1155.28			
		Recovery				1155.28			
		Recovery				1155.28			

IDNR Form 542-1322

Monitoring Well: MW-29 (dg)

Primary Sampling Method: No-Purge for Appendix I
 Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1136.65
Well Depth	19.23
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1136.55
Well Depth	19.15
Top Screen	1127.42
Bottom Screen	1117.42
Bottom Well	1117.42
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	
Top sample	1136.55
Bottom sample	1132.55
Turbidity(NTU)	

Date	Time	Water Level	Water Elevation	Notes
10/27/2023		19.5	1117.05	dry

ANALYTES, CONTAINERS, AND VOLUMES

Analyte	Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10		0.00
Appendix I	Metals	150		0.00
Appendix I	VOC	240		0.00
Full Appendix II	10 more containers	5620		
TSS	TSS	1000		
Supplemental	BEHP	946		
Supplemental				
Total		0	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1136.65	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	19.23		10/27/2023	0:00	19.50	1117.15		0.0	No
		Before purging				1136.65			
		After purging				1127.42			
		Top of Screen 1990				-10.27			feet above (+) or below (-) top screen
		Bottom of Well 1990				1117.42			
		Bottom of Well	10/27/2023		19.50	1117.15			
						-0.27			feet sedimentation
		Before Sampling				1136.65			
		Recovery				1136.65			
		Recovery				1136.65			
		Recovery				1136.65			
		Recovery				1136.65			

IDNR Form 542-1322

Monitoring Well: MW-33 (dg)

Primary Sampling Method: No-Purge for Appendix I
 Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1115.86
Well Depth	22.58
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1115.89
Well Depth	21.75
Top Screen	1103.28
Bottom Screen	1093.28
Bottom Well	1093.28
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	18.00
Top sample	1097.89
Bottom sample	1093.89
Turbidity(NTU)	4.49

Date	Time	Water Level	Water Elevation	Notes
10/27/2023	9:09	18.23	1097.66	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte	Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	4.49
Appendix I	Metals	150	150	4.49
Appendix I	VOC	240	240	4.49
Full Appendix II	10 more containers	5620		
TSS	TSS	1000		
Supplemental	BEHP	946		
Supplemental				
Total		400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1115.86	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	22.58	Before purging	10/27/2023	9:09	18.23	1097.63		0.0	No
		After purging				1115.86			
		Top of Screen 1990				1103.28			
						-5.65			feet above (+) or below (-) top screen
		Bottom of Well 1990				1093.28			
		Bottom of Well	10/27/2023		21.80	1094.06			
						0.78			feet sedimentation
		Before Sampling				1115.86			
		Recovery				1115.86			
		Recovery				1115.86			
		Recovery				1115.86			
		Recovery				1115.86			

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Monitoring Well: MW-35R (dg)

Primary Sampling Method: No-Purge for Appendix I
 Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1123.59
Well Depth	15.05
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1123.59
Well Depth	15.05
Top Screen	1113.57
Bottom Screen	1108.54
Bottom Well	1108.54
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	11.00
Top sample	1112.59
Bottom sample	1108.59
Turbidity(NTU)	10.05

Date	Time	Water Level	Water Elevation	Notes
10/27/2023	13:50	12.19	1111.4	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte	Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	10.05
Appendix I	Metals	150	150	10.05
Appendix I	VOC	240	240	10.05
Full Appendix II	10 more containers	5620		
TSS	TSS	1000		
Supplemental	BEHP	946	946	
Supplemental				
Total		1346	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1123.59	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	15.05	Before purging	10/27/2023	13:50	12.19	1111.40	1.5	3.2	Dry
		After purging				1123.59			
		Top of Screen 1990				1113.57			
						-2.17	feet above (+) or below (-) top screen		
		Bottom of Well 1990				1108.54			
		Bottom of Well	10/27/2023		15.00	1108.59			
						0.05	feet sedimentation		
		Before Sampling				1123.59			
		Recovery				1123.59			
		Recovery				1123.59			
		Recovery				1123.59			
		Recovery				1123.59			

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Monitoring Well: MW-36 (ug)

Primary Sampling Method: No-Purge for Appendix I
 Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1151.02
Well Depth	72.00
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1151.28
Well Depth	71.18
Top Screen	1089.84
Bottom Screen	1079.84
Bottom Well	1079.02
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	65.00
Top sample	1086.28
Bottom sample	1082.28
Turbidity(NTU)	2.60

Date	Time	Water Level	Water Elevation	Notes
10/27/2023	12:34	34.8	1116.48	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte	Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	2.60
Appendix I	Metals	150	150	2.60
Appendix I	VOC	240	240	2.60
Full Appendix II	10 more containers	5620		
TSS	TSS	1000		
Supplemental	BEHP	946		
Supplemental				
Total		400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1151.02	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	72.00	Before purging	10/27/2023	12:34	34.80	1116.22		0.0	
		After purging				1151.02			
		Top of Screen 1990				1089.84			
						26.38			feet above (+) or below (-) top screen
		Bottom of Well 1990				1079.84			
		Bottom of Well	10/27/2023		71.40	1079.62			
						-0.22			feet sedimentation
		Before Sampling				1151.02			
		Recovery				1151.02			
		Recovery				1151.02			
		Recovery				1151.02			
		Recovery				1151.02			

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Monitoring Well: MW-37 (ug)

Primary Sampling Method: No-Purge for Appendix I
 Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1151.28
Well Depth	29.50
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1151.28
Well Depth	29.35
Top Screen	1141.78
Bottom Screen	1121.78
Bottom Well	1121.78
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	23.00
Top sample	1128.28
Bottom sample	1124.28
Turbidity(NTU)	84.67

Date	Time	Water Level	Water Elevation	Notes
10/27/2023	12:42	21.85	1129.43	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte	Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	84.67
Appendix I	Metals	150	150	84.67
Appendix I	VOC	240	240	84.67
Full Appendix II	10 more containers	5620		
TSS	TSS	1000		
Supplemental	BEHP	946		
Supplemental				
Total		400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1151.28	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	29.50		10/27/2023	12:42	21.85	1129.43		0.0	No
			After purging			1151.28			
			Top of Screen 1990			1141.78			
						-12.35			feet above (+) or below (-) top screen
			Bottom of Well 1990			1121.78			
			Bottom of Well	10/27/2023	29.30	1121.98			
						0.20			feet sedimentation
			Before Sampling			1151.28			
			Recovery			1151.28			
			Recovery			1151.28			
			Recovery			1151.28			
			Recovery			1151.28			

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Monitoring Well: MW-39 (ug)

Primary Sampling Method: No-Purge for Appendix I
 Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1153.09
Well Depth	36.30
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1153.09
Well Depth	36.60
Top Screen	1126.79
Bottom Screen	1116.79
Bottom Well	1116.79
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	33.00
Top sample	1120.09
Bottom sample	1116.09
Turbidity(NTU)	1.76

Date	Time	Water Level	Water Elevation	Notes
10/27/2023	13:01	21.56	1131.53	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte	Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	1.76
Appendix I	Metals	150	150	1.76
Appendix I	VOC	240	240	1.76
Full Appendix II	10 more containers	5620		
TSS	TSS	1000		
Supplemental	BEHP	946		
Supplemental				
Total		400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1153.09	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	36.30	Before purging	10/27/2023	13:01	21.56	1131.53		0.0	No
		After purging				1153.09			
		Top of Screen 1990				1126.79			
						4.74			feet above (+) or below (-) top screen
		Bottom of Well 1990				1116.79			
		Bottom of Well	10/27/2023		36.80	1116.29			
						-0.50			feet sedimentation
		Before Sampling				1153.09			
		Recovery				1153.09			
		Recovery				1153.09			
		Recovery				1153.09			
		Recovery				1153.09			

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Monitoring Well: MW-40 (ug)

Primary Sampling Method: No-Purge for Appendix I
 Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1137.89
Well Depth	38.00
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1137.89
Well Depth	37.55
Top Screen	1119.89
Bottom Screen	1099.89
Bottom Well	1099.89
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	31.00
Top sample	1106.89
Bottom sample	1102.89
Turbidity(NTU)	5.88

Date	Time	Water Level	Water Elevation	Notes
10/27/2023	12:00	27.29	1110.6	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte	Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	5.88
Appendix I	Metals	150	150	5.88
Appendix I	VOC	240	240	5.88
Full Appendix II	10 more containers	5620		
TSS	TSS	1000		
Supplemental	BEHP	946		
Supplemental				
Total		400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1137.89	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	38.00	Before purging	10/27/2023	12:00	27.29	1110.60		0.0	
		After purging				1137.89			
		Top of Screen 1990				1119.89			
						-9.29			feet above (+) or below (-) top screen
		Bottom of Well 1990				1099.89			
		Bottom of Well	10/27/2023		37.30	1100.59			
						0.70			feet sedimentation
		Before Sampling				1137.89			
		Recovery				1137.89			
		Recovery				1137.89			
		Recovery				1137.89			
		Recovery				1137.89			

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Monitoring Well: MW-47 (dg)

Primary Sampling Method: No-Purge for Appendix I
 Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1099.82
Well Depth	19.50
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1099.82
Well Depth	18.75
Top Screen	1090.32
Bottom Screen	1080.32
Bottom Well	1080.32
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	12.00
Top sample	1087.82
Bottom sample	1083.82
Turbidity(NTU)	8.44

Date	Time	Water Level	Water Elevation	Notes
10/27/2023	11:23	10.83	1088.99	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte	Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	8.44
Appendix I	Metals	150	150	8.44
Appendix I	VOC	240	240	8.44
Full Appendix II	10 more containers	5620		
TSS	TSS	1000		
Supplemental	BEHP	946		
Supplemental				
Total		400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1099.82	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	19.50		10/27/2023	11:23	10.83	1088.99		0.0	no
		Before purging				1099.82			
		After purging				1090.32			
		Top of Screen 1990				-1.33			feet above (+) or below (-) top screen
		Bottom of Well 1990				1080.32			
		Bottom of Well	10/27/2023		18.70	1081.12			
						0.80			feet sedimentation
		Before Sampling				1099.82			
		Recovery				1099.82			
		Recovery				1099.82			
		Recovery				1099.82			
		Recovery				1099.82			

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Monitoring Well: MW-48A (dg)

Primary Sampling Method: No-Purge for Appendix I
 Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1101.03
Well Depth	20.50
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1101.03
Well Depth	20.10
Top Screen	1090.53
Bottom Screen	1080.53
Bottom Well	1080.53
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	14.00
Top sample	1087.03
Bottom sample	1083.03
Turbidity(NTU)	74.53

Date	Time	Water Level	Water Elevation	Notes
10/27/2023	10:41	11.8	1089.23	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte	Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	74.53
Appendix I	Metals	150	150	74.53
Appendix I	VOC	240	240	74.53
Full Appendix II	10 more containers	5620		
TSS	TSS	1000		
Supplemental	BEHP	946		
Supplemental				
Total		400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1101.03	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	20.50		10/27/2023	10:41	11.80	1089.23		0.0	no
		Before purging				1101.03			
		After purging				1101.03			
		Top of Screen 1990				1090.53			
						-1.30			feet above (+) or below (-) top screen
		Bottom of Well 1990				1080.53			
		Bottom of Well	10/27/2023		20.10	1080.93			
						0.40			feet sedimentation
		Before Sampling				1101.03			
		Recovery				1101.03			
		Recovery				1101.03			
		Recovery				1101.03			
		Recovery				1101.03			

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Monitoring Well: MW-49A (dg)

Primary Sampling Method: No-Purge for Appendix I
 Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1132.5
Well Depth	25.50
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1132.5
Well Depth	24.55
Top Screen	1117.00
Bottom Screen	1107.00
Bottom Well	1007.00
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	19.00
Top sample	1113.50
Bottom sample	1109.50
Turbidity(NTU)	6.47

Date	Time	Water Level	Water Elevation	Notes
10/27/2023	10:08	16.50	1116	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte	Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	6.47
Appendix I	Metals	150	150	6.47
Appendix I	VOC	240	240	6.47
Full Appendix II	10 more containers	5620		
TSS	TSS	1000		
Supplemental	BEHP	946		
Supplemental				
Total		400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1132.5	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	25.50		10/27/2023	10:08	16.50	1116.00		0.0	NO
		Before purging				1132.50			
		After purging				1117.00			
		Top of Screen 1990				-1.00			feet above (+) or below (-) top screen
		Bottom of Well 1990				1107.00			
		Bottom of Well	10/27/2023		24.60	1107.90			
						0.90			feet sedimentation
		Before Sampling				1132.50			
		Recovery				1132.50			
		Recovery				1132.50			
		Recovery				1132.50			
		Recovery				1132.50			

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Monitoring Well: MW-50 (dg)

Primary Sampling Method: No-Purge for Appendix I
 Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1100.39
Well Depth	22.45
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1100.39
Well Depth	22.60
Top Screen	1082.94
Bottom Screen	1078.11
Bottom Well	1078.11
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	17.00
Top sample	1083.39
Bottom sample	1079.39
Turbidity(NTU)	2.65

Date	Time	Water Level	Water Elevation	Notes
10/27/2023	10:53	12.20	1088.19	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte	Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	2.65
Appendix I	Metals	150	150	2.65
Appendix I	VOC	240	240	2.65
Full Appendix II	10 more containers	5620		
TSS	TSS	1000		
Supplemental	BEHP	946		
Supplemental				
Total		400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1100.39	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	22.45	Before purging	10/27/2023	10:53	12.20	1088.19		0.0	NO
		After purging				1100.39			
		Top of Screen 1990				1082.94			
						5.25	feet above (+) or below (-) top screen		
		Bottom of Well 1990				1078.11			
		Bottom of Well	10/27/2023		22.60	1077.79			
						-0.32	feet sedimentation		
		Before Sampling				1100.39			
		Recovery				1100.39			
		Recovery				1100.39			
		Recovery				1100.39			
		Recovery				1100.39			

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Monitoring Well: MW-51 (ug)

Primary Sampling Method: No-Purge for Appendix I
 Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1116.53
Well Depth	32.02
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1116.53
Well Depth	32.20
Top Screen	1094.51
Bottom Screen	1084.70
Bottom Well	1084.70
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	26.00
Top sample	1090.53
Bottom sample	1086.53
Turbidity(NTU)	13.11

Date	Time	Water Level	Water Elevation	Notes
10/27/2023	10:25	14.61	1101.92	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte	Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	13.11
Appendix I	Metals	150	150	13.11
Appendix I	VOC	240	240	13.11
Full Appendix II	10 more containers	5620		
TSS	TSS	1000		
Supplemental	BEHP	946		
Supplemental				
Total		400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1116.53	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	32.02		10/27/2023	10:25	14.61	1101.92		0.0	NO
		Before purging				1116.53			
		After purging				1116.53			
		Top of Screen 1990				1094.51			
						7.41			feet above (+) or below (-) top screen
		Bottom of Well 1990				1084.70			
		Bottom of Well	10/27/2023		32.20	1084.33			
						-0.37			feet sedimentation
		Before Sampling				1116.53			
		Recovery				1116.53			
		Recovery				1116.53			
		Recovery				1116.53			
		Recovery				1116.53			

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Monitoring Well: MW-31R (dg)

Primary Sampling Method: No-Purge for Appendix I
 Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1161.26
Well Depth	32.02
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1161.26
Well Depth	32.00
Top Screen	1139.22
Bottom Screen	1128.91
Bottom Well	1128.91
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	26.00
Top sample	1135.26
Bottom sample	1131.26
Turbidity(NTU)	9.48

Date	Time	Water Level	Water Elevation	Notes
10/27/2023	14:30	22.95	1138.31	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte	Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	9.48
Appendix I	Metals	150	150	9.48
Appendix I	VOC	240	240	9.48
Full Appendix II	10 more containers	5620	5620	
TSS	TSS	1000		
Supplemental	BEHP	946		
Supplemental				
Total		400	5620	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1161.26	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	32.02	Before purging	10/27/2023	14:30	22.95	1138.31	5	3.4	No
		After purging	10/27/2023	14:49	24.30	1136.96			
		Top of Screen 1990				1139.22			
						-0.91	feet above (+) or below (-) top screen		
		Bottom of Well 1990				1128.91			
		Bottom of Well	10/27/2023		32.00	1129.26			
						0.35	feet sedimentation		
		Before Sampling				1161.26			
		Recovery				1161.26			
		Recovery				1161.26			
		Recovery				1161.26			
		Recovery				1161.26			

**RURAL IOWA SANITARY LANDFILL
PERMIT # 42-SDP-1-72P**

10/27/2023

Sampled by: T. Whipple

Weather conditions: : Overcast, windy, 40 degrees

IDNR Form 542-1324

Date	Time	Type	Flowing	Quantity	Discolored	Odor	Litter
GU-1		groundwater diversion tile	no	submerged	No	No	no
No GU in Oct 2022 per IDNR							Turbidity (NTU)

IDNR Form 542-1324

Date	Time	Type	Flowing	Quantity	Discolored	Odor	Litter
GU-2		groundwater diversion tile	no	buried	No	No	no
No GU in Oct 2022 per IDNR							Turbidity (NTU)

IDNR Form 542-1324

Date	Time	Type	Flowing	Quantity	Discolored	Odor	Litter
GU-3	10/27/2023	11:06 groundwater diversion tile	yes	250ml/20 sec	No	No	no
No GU in Oct 2022 per IDNR							Turbidity (NTU)
							1.49

IDNR Form 542-1324

Date	Time	Type	Flowing	Quantity	Discolored	Odor	Litter
PECS-1	10/27/2023		detention outfall	NO	No	No	no
							Turbidity (NTU)

IDNR Form 542-1324

Date	Time	Type	Flowing	Quantity	Discolored	Odor	Litter
ACM Tile-1	10/27/2023		groundwater tile	NO	No	No	no
							Turbidity (NTU)

Attachment B

Revised Table 12 – Original Landfill

Table 12
Leachate Depth - Active Landfill
Annual Water Quality Report
Rural Iowa Sanitary Landfill
Permit No.42-SDP-01-72P

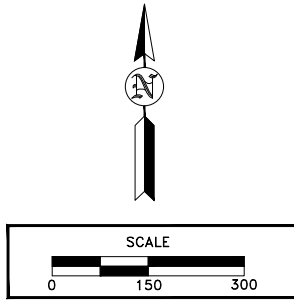
Monitoring Point	Dates											
	1-05-23 ⁽¹⁾	FEB ⁽²⁾	MAR ⁽²⁾	4-10-23 ⁽¹⁾	MAY ⁽²⁾	JUNE ⁽²⁾	7-07-23 ⁽¹⁾	AUG ⁽²⁾	SEP ⁽²⁾	10-27-23 ⁽¹⁾	NOV ⁽²⁾	DEC ⁽²⁾
LW-1	21.6	21.5	21.8	21.67	21.45	21.44	21.7	21.85	21.9	22	22	21.85
LW-2	4.4	4.39	4.5	4	4.35	4.34	3.75	3.8	3.76	3.8	3.82	3.85
LW-5	13.35	10.5	10.65	11.63	10.36	10.4	12.2	12.35	12.58	13.75	13.75	13.5
LW-6	25.27	23.6	23.5	24.65	23.3	23.4	25.04	25.26	25.67	26.15	25.86	25.87
LW-8	36.3	35.8	36	36.42	36.42	36.1	35.85	35.9	36	36.4	36.58	36.4
LW-10	15.9	15.35	15.65	15.45	15.55	15.48	15.13	15.35	15.55	15.95	15.65	15.7
LW-12	17.4	16.8	16.8	16.65	16.5	16.74	16.76	16.75	16.68	17.6	17.32	17.38

(1) Measurements by HLW.
(2) Measurement by RIWMA.

Attachment C

Figures – Conceptual Passive Gas Venting Plan

LEGEND	
	PROPERTY BOUNDARY
	WASTE BOUNDARY
	PROPOSED WASTE BOUNDARY
	EXISTING 10 FT CONTOUR
	EXISTING 2 FT CONTOUR
	PROPOSED TOP OF LINER 10 FT CONTOUR
	PROPOSED TOP OF LINER 2 FT CONTOUR
	GROUNDWATER DIVERSION PIPE
	LEACHATE COLLECTION SYSTEM
	TILE/STORMWATER PIPE
	INTAKE
	PROPOSED GAS VENT LOCATION



- NOTES:
1. CONTOURS WITHIN CONSTRUCTION AREA FROM FIELD SURVEY CONDUCTED JULY 26, 2023.
 2. CONTOURS OUTSIDE CONSTRUCTION AREA FROM DRONE SURVEY CONDUCTED JUNE 26, 2018.
 3. TRENCHES 1, 2, AND 3 REPRESENT ACTIVE LANDFILLING AREA.

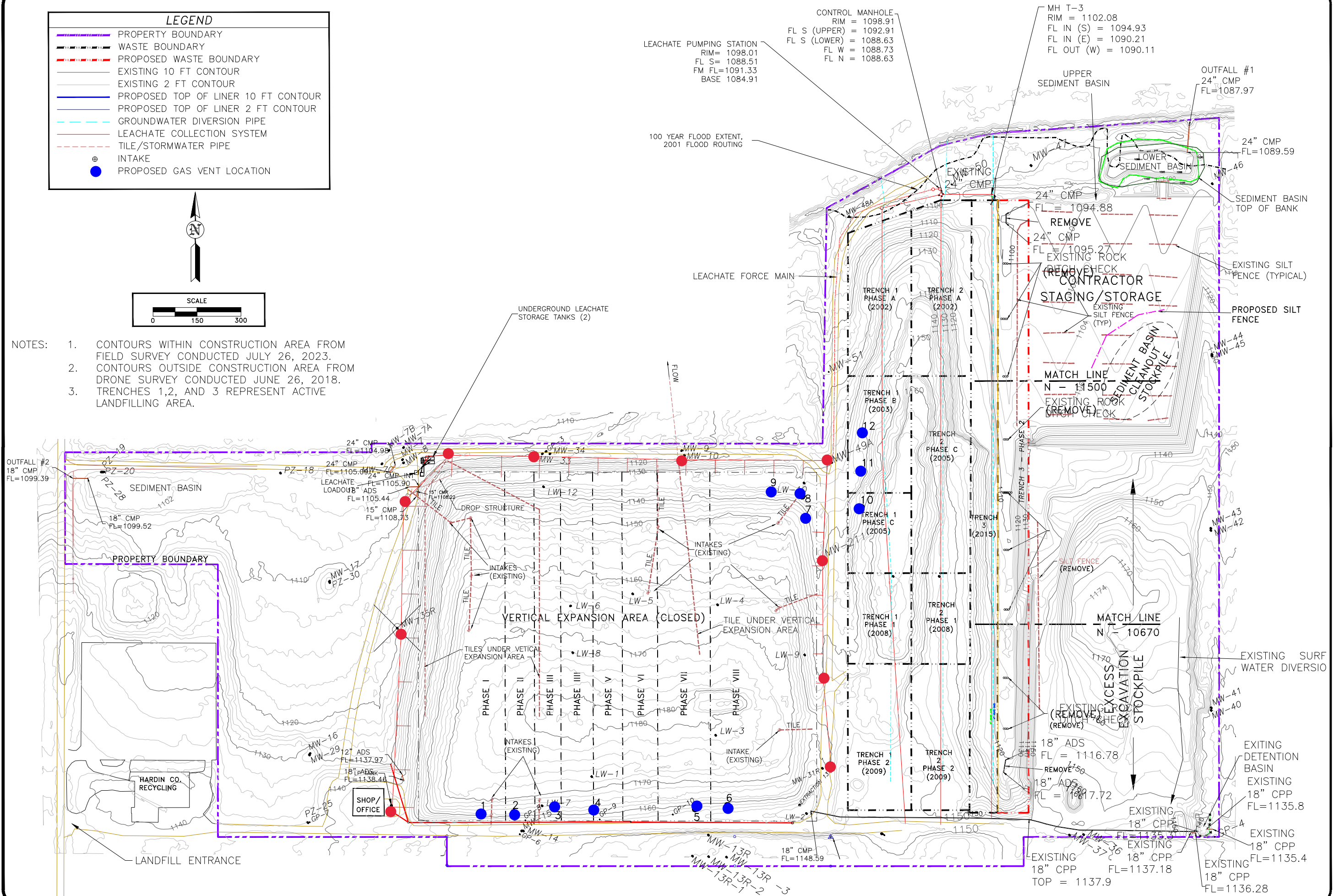
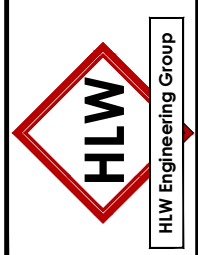
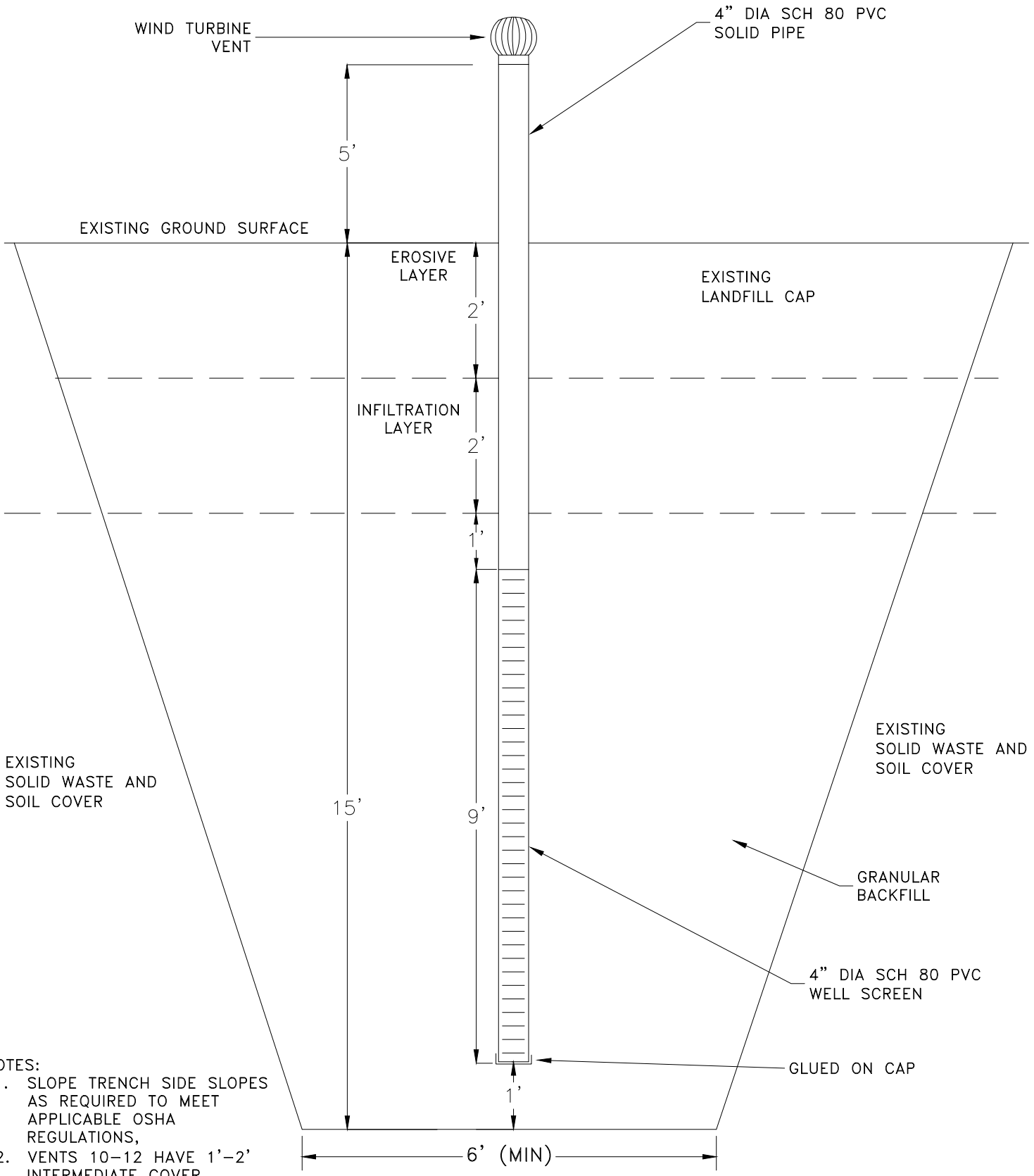


FIGURE: 1	
REVISION	NO.
DRAWN	PROJECT NO.
JGH	6006-23B
DATE	DATE
	2/19/24

OVERALL SITE PLAN
 GAS VENT INSTALLATION
 RURAL IOWA SANITARY LANDFILL
 HARDIN COUNTY, IOWA

HLW Engineering Group
 204 West Broad Street, P.O. Box 314
 Story City, Iowa 50248
 Phone: (515) 733-4144
 FAX: (515) 733-4146





- NOTES:
1. SLOPE TRENCH SIDE SLOPES AS REQUIRED TO MEET APPLICABLE OSHA REGULATIONS,
 2. VENTS 10-12 HAVE 1'-2' INTERMEDIATE COVER INSTEAD OF A 4' SOIL CAP.

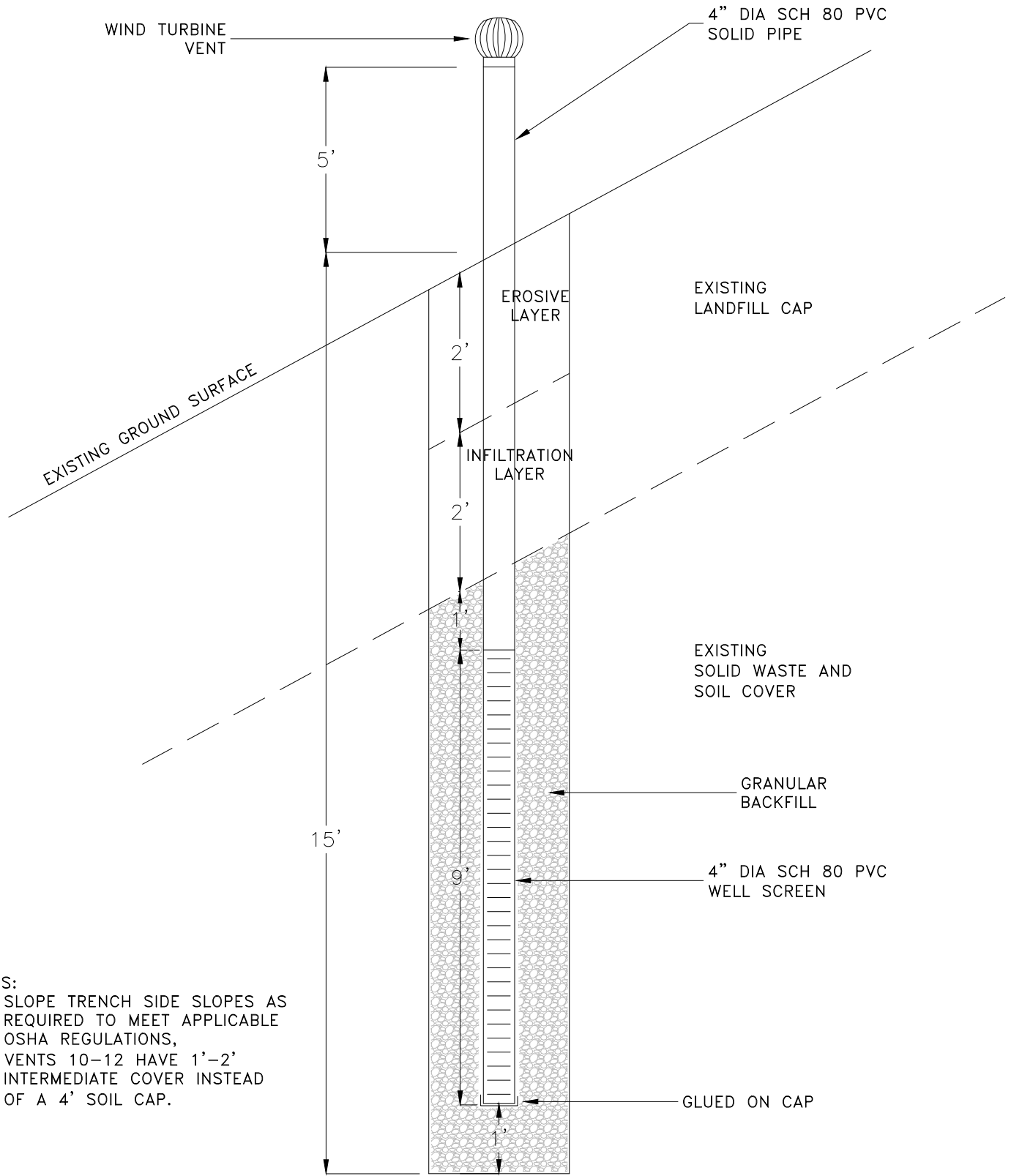
NOT TO SCALE



CROSS SECTION A-A
GAS VENT INSTALLATION

RURAL IOWA SANITARY LANDFILL
HARDIN COUNTY, IOWA

FIGURE: 2	
REVISION	NO. DATE
DRAWN JGH	PROJECT NO. 6006-23B DATE 2/23/24



- NOTES:
1. SLOPE TRENCH SIDE SLOPES AS REQUIRED TO MEET APPLICABLE OSHA REGULATIONS,
 2. VENTS 10-12 HAVE 1'-2' INTERMEDIATE COVER INSTEAD OF A 4' SOIL CAP.

NOT TO SCALE

CROSS SECTION B-B
GAS VENT INSTALLATION

RURAL IOWA SANITARY LANDFILL
HARDIN COUNTY, IOWA

FIGURE: 3

REVISION	NO.	DATE
DRAWN JGH	PROJECT NO. 6006-23B	DATE 2/23/24

