

Water Quality Monitoring Report First 2021 Semi-Annual Event

Trail Ridge Landfill

Trail Ridge Landfill, Inc.



April 23, 2021

PREPARED FOR:

Trail Ridge Landfill, Inc.
5110 US Highway 301
Baldwin, FL 32234

PREPARED BY:



Carlson Environmental Consultants
305 South Main Street
Monroe, North Carolina 28112

STATEMENT OF GEOLOGIC REVIEW

In general accordance with Chapter 62-701, Florida Administrative Code (F.A.C.), Solid Waste Management Facilities, this Groundwater Monitoring Report – Semi-Annual Monitoring Event – February 2021 for the Trail Ridge Landfill, located in Baldwin, Florida, has been reviewed, signed and sealed by a registered Professional Geologist in the State of Florida, and is consistent with standard principles related to groundwater monitoring



Ken E. Guilbeault, P.G.
Florida License # 2907

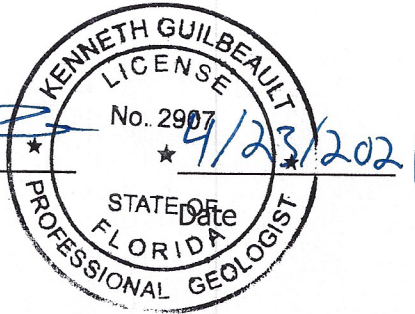
**CEC**

TABLE OF CONTENTS

1	INTRODUCTION	1
1.1	Site Location and Description	1
2	GROUNDWATER ELEVATION DATA	4
2.1	Groundwater Elevations and Flow Directions	4
3	MONITORING PROGRAM	9
3.1	Groundwater Monitoring Program.....	9
3.2	Surface Water Monitoring Program.....	13
3.3	Sample Collection Analysis.....	14
4	WATER QUALITY MONITORING RESULTS.....	15
4.1	Quality Assurance and Quality Control (QA/QC) Results.....	15
4.2	Surficial Aquifer Groundwater Quality	16
4.2.1	Metals Exceedances	16
4.2.2	Inorganic Parameters Exceedances	19
4.2.3	Organic Parameters Exceedances.....	20
4.3	Surface Water Quality	21
4.3.1	Metals Exceedances	21
4.3.2	General Chemistry Exceedances.....	22
5	DISCUSSION AND RECOMMENDATIONS	25

LIST OF FIGURES

Figure 1.	Site Location Map, Trail Ridge Landfill, Baldwin, Florida	2
Figure 2.	Existing Water Quality Monitoring Sites, Trail Ridge Landfill, Baldwin, Florida	3
Figure 3.	February 2021 Shallow Water Table Level Map, Trail Ridge Landfill, Baldwin, Florida	6
Figure 4.	February 2021 Intermediate Zone Potentiometric Map, Trail Ridge Landfill, Baldwin, Florida	7
Figure 5.	February 2021 Deep Zone Potentiometric Map, Trail Ridge Landfill, Baldwin, Florida	8

LIST OF TABLES

Table 1.	Groundwater Elevation Measurements, February 15, 2021	5
Table 2	Active Surficial Aquifer Monitoring Wells at the Trail Ridge Landfill.....	10
Table 3.	Existing Monitoring Well and Piezometer Construction Details	11
Table 4.	Summary of February 2021 Shallow Surficial Groundwater Quality Results	17
Table 5.	Summary of February 2021 Intermediate Surficial Groundwater Quality Results	18
Table 6.	Summary of February 2021 Surface Water Quality Results.....	23
Table 7.	Surface Water Quality Standard Calculations, Trail Ridge Landfill.....	24

LIST OF APPENDICES

Appendix A:	Laboratory Analytical Results and Field Forms
Appendix B:	Compact Disk Containing Report in .PDF Format and ADaPT File



Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

DEP Form #: 62-701 900(31), F.A.C.

Form Title: Water Quality Monitoring Certification

Effective Date: January 6, 2010

Incorporated in Rule 62-701 510(9), F.A.C.

WATER QUALITY MONITORING CERTIFICATION

PART I GENERAL INFORMATION

(1) Facility Name Trailridge Landfill, Inc.

Address 5110 U.S. Highway 301

City Baldwin, FL

Zip 32234

County Duval

Telephone Number ()

(2) WACS Facility ID 33628

(3) DEP Permit Number 0013495-025-SO-01

(4) Authorized Representative's Name Eric Parker

Title Environmental Manager

Address 5110 U.S. Highway 301

City Baldwin, FL

Zip 32234

County Duval

Telephone Number (904) 748-6006

Email address (if available) eparker1@wm.com

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submission of false information including the possibility of fine and imprisonment.

4-23-21
(Date)

Eric Parker
(Owner or Authorized Representative's Signature)

PART II QUALITY ASSURANCE REQUIREMENTS

Sampling Organization Professional Tech Support Service (Pro Tech)

Analytical Lab NELAC / HRS Certification # Florida E87052

Lab Name Advanced Environmental Laboratories, Inc. (AEL)

Address 6681 Southpoint Parkway, Jacksonville, FL 32216

Phone Number (904) 363-9350

Email address (if available) jallen@aellab.com

Northwest District
160 Government Center
Pensacola, FL 32501-5794
850-595-8360

Northeast District
7825 Baymeadows Way, Ste. 200 B
Jacksonville, FL 32256-7590
904-807-3300

Central District
3319 Maguire Blvd., Ste. 232
Orlando, FL 32803-3767
407-894-7555

Southwest District
13051 N. Telecom Pky.
Temple Terrace, FL
813-632-7600

South District
2295 Victoria Ave., Ste. 364
Fort Myers, FL 33902-2549
239-332-6975

Southeast District
400 North Congress Ave.
West Palm Beach, FL 33401
561-681-6600

1 INTRODUCTION

The Trail Ridge Landfill (Site) is owned by the City of Jacksonville and operated by Trail Ridge Landfill, Inc. (a Waste Management Company) in accordance with Florida Department of Environmental Protection (FDEP) Operation Permit Number 0013493-025-SO-01 issued June 16, 2014 and minor mods 0013493-028-SO-MM and 0013493-029-SO-MM issued April 5, 2019 and September 16, 2019 respectively. The Permit expires on June 16, 2034. The Site is an active municipal solid waste landfill that serves the City of Jacksonville, Duval County, and Northeast Florida.

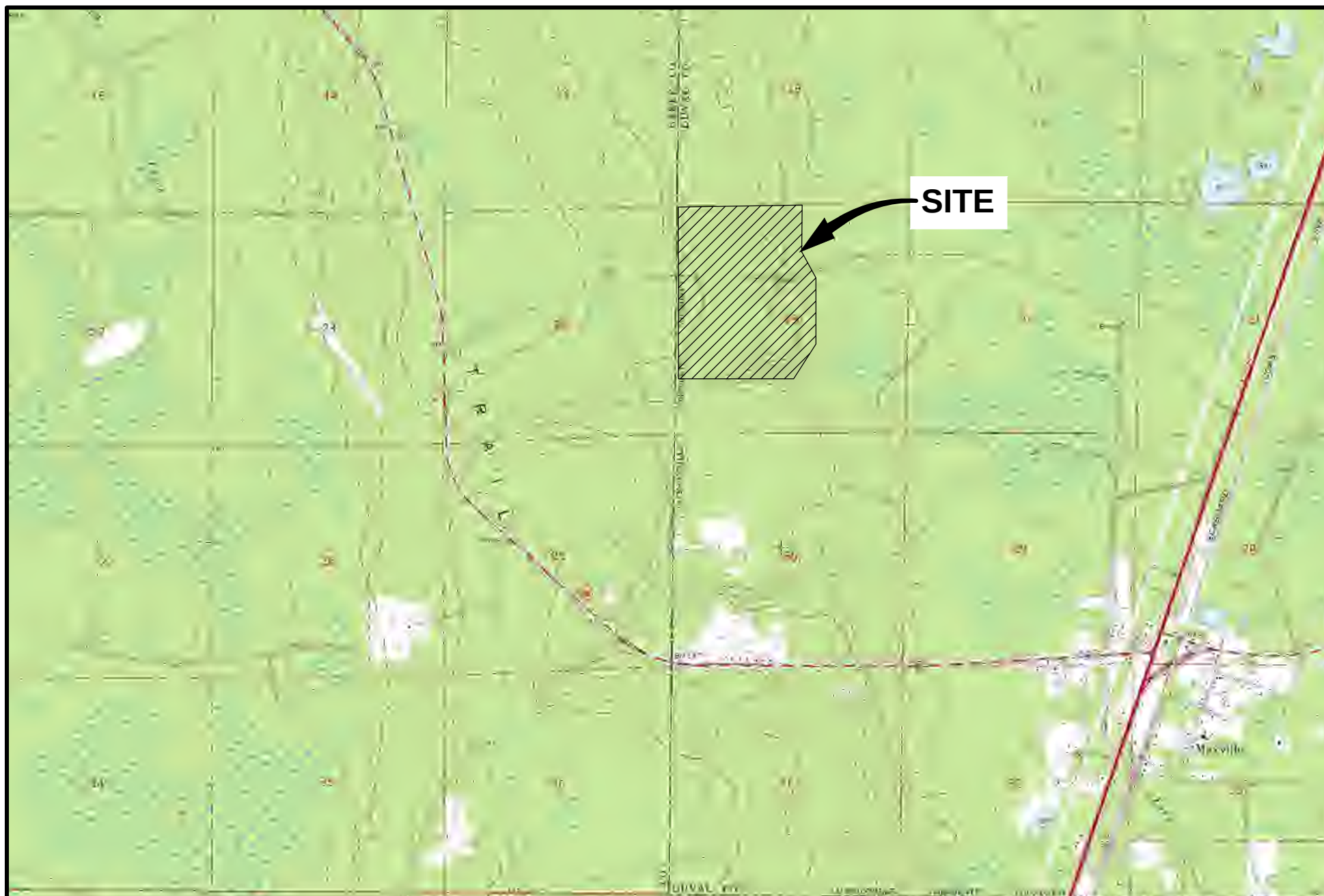
Carlson Environmental Consultants, PC (CEC) has been retained to report the results of semi-annual groundwater and surface water monitoring at the Site in accordance with the Water Quality Monitoring Plan (Appendix 3) of the referenced permit.

This report presents the methods and findings of the first 2021 semi-annual groundwater monitoring event conducted on February 15, 16, and 17, 2021 (Appendix A). An electronic data deliverable (EDD) of the results in "ADaPT format" is attached as Appendix B. This EDD has been verified as uploadable into the latest version of ADaPT.

The following sections include general information concerning the Site history and setting, an evaluation of surficial aquifer groundwater flow, and groundwater and surface water quality conditions at the Site. Laboratory analytical data are summarized, evaluated, and compared to historical data where appropriate.

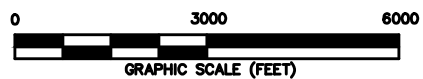
1.1 Site Location and Description

The Site is located near the town of Baldwin approximately five miles southwest of the intersection of US-301 and I-10 in southwestern Duval County along the border with Baker County, Florida (Figure 1). The Facility is an active municipal solid waste landfill with a total disposal area of approximately 427 acres that accepts waste from the City of Jacksonville and Duval County. The Facility operates a waste tire processing facility and active gas collection system, and the Facility design includes wetland mitigation, a stormwater management system, and environmental monitoring systems for groundwater, surface water, and methane gas (Figure 2). As of this report, waste has been placed in Phases 1-6 only. The stormwater management system for Phases 6-14 has been completed, although vegetation is still filling in for this area. A site location map is provided in Figure 1.



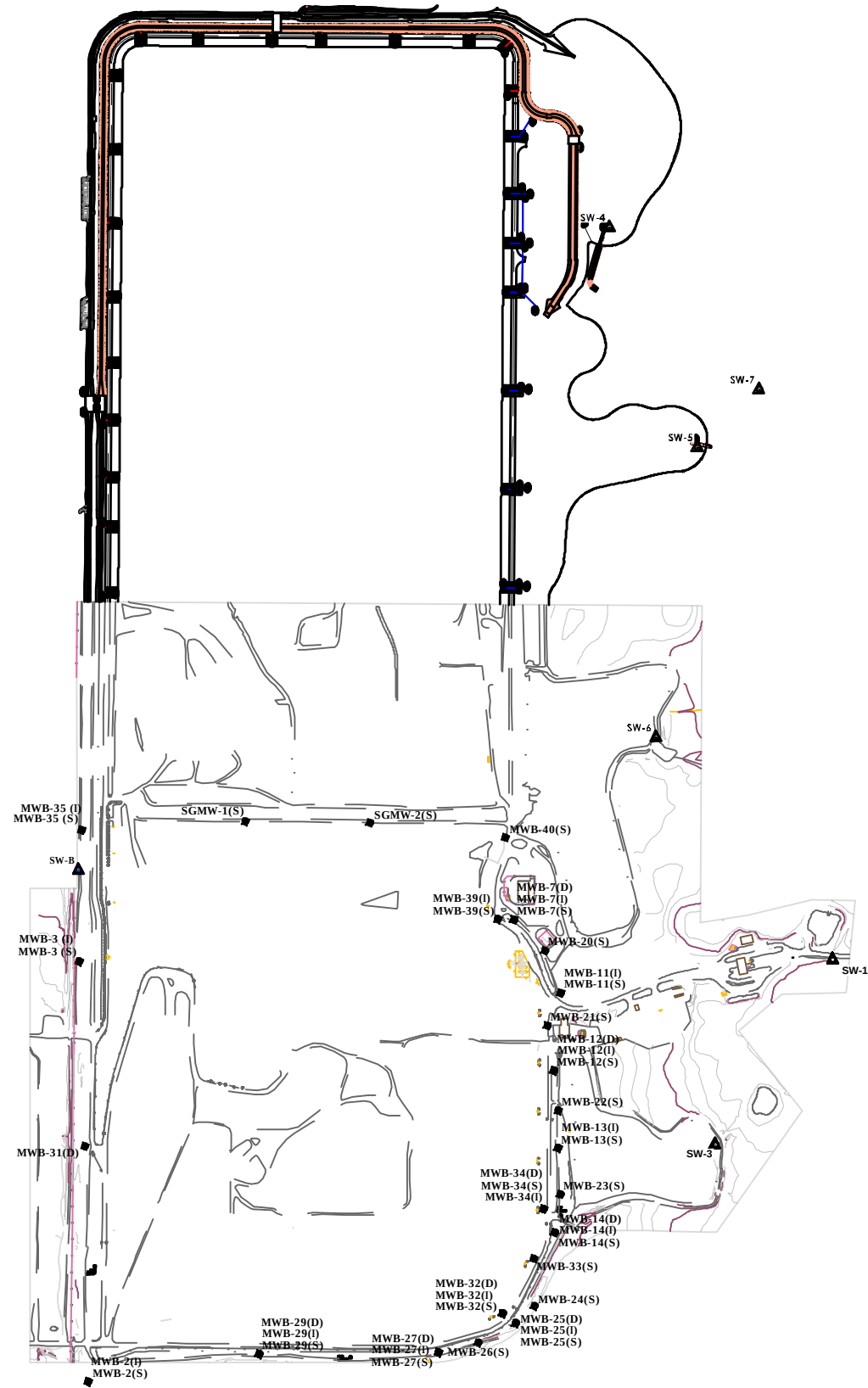
NOTES:

1. BACKGROUND IMAGE FROM USGS 7.5 MINUTE QUADRANGLE;
MAXVILLE, FL 1970 (PHOTOINSPECTED 1984.)



CEC

**FIGURE 1:
SITE LOCATION
TRAIL RIDGE LANDFILL
JACKSONVILLE, FL**

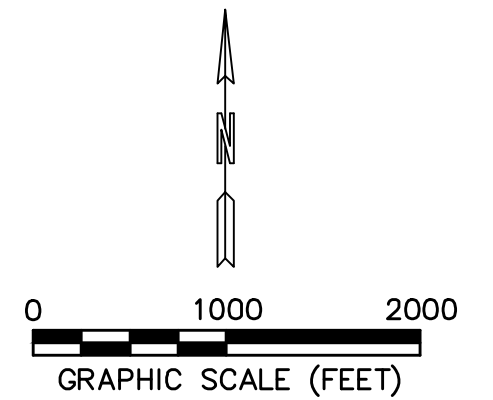


LEGEND

- 2' CONTOURS
- 10' CONTOURS
- ◆ MWB-3 GROUNDWATER MONITORING WELL
 - (S) SHALLOW LEVEL WELL
 - (I) INTERMEDIATE LEVEL WELL
 - (D) DEEP LEVEL WELL
- ▲ SW-B SURFACE WATER SAMPLING POINT

NOTES:

1. THE TOPOGRAPHIC MAP WAS PREPARED BY SOUTHERN RESOURCES MAPPING CORPORATION FROM A PHOTOGRAPHIC FLY OVER COMPLETED JANUARY 25, 2017 AND WAS COMPILED IN FEBRUARY 2017.
2. BASE MAP OF NORTHERN PORTION OF EXPANSION AREA PROVIDED BY CDM AND IS BASED ON CONFORMED CONSTRUCTION DRAWINGS FOR THE EXPANSION AREA RETENTION PONDS. THIS PORTION OF THE MAP IS NOT AN AS-BUILT AND LOCATIONS ARE APPROXIMATE.



CEC

FIGURE 2:
SITE LAYOUT AND SAMPLING LOCATIONS
TRAIL RIDGE LANDFILL
JACKSONVILLE, FL

2 GROUNDWATER ELEVATION DATA

For this semi-annual report, CEC performed the groundwater flow assessment of the surficial aquifer using groundwater depth to water measurements obtained on February 15, 2021. Atlantic Coast Consulting, Inc. (ACC) field personnel measured water levels in Site monitoring wells prior to purging and sampling activities in accordance with procedures described in the facility permit. Water levels were measured at active groundwater monitoring wells at the Site within a 24-hour period to evaluate static groundwater conditions across the entire Site. Field personnel opened the monitoring wells to allow groundwater levels to equilibrate to atmospheric conditions, and then measured the depth to groundwater to within 0.01 feet relative to the top of the inner PVC well casing using an electronic water level indicator. CEC calculated water table elevations at each well to evaluate the general direction of groundwater flow in the uppermost aquifer underlying the Site. The calculations were performed by taking the difference between the measured depth to groundwater and the top of casing elevation surveyed for each well. Table 1 lists the monitoring locations, depths to water, and groundwater elevations.

2.1 Groundwater Elevations and Flow Directions

CEC calculated groundwater elevations based on water levels measured on February 15, 2021, and top of well casing elevations surveyed relative to the National Geodetic Vertical Datum (NGVD) (Table 2). Figures 3, 4, and 5 show shallow, intermediate, and deep potentiometric contours for the surficial aquifer, respectively. Horizontal groundwater flow beneath the Site in the uppermost aquifer is to the east at shallow, intermediate, and deep depths. The vertical groundwater flow is slightly downward on the western side (high ground) and slightly upward on the east side (low ground). The direction of groundwater flow is consistent with measurements from previous monitoring events.

Table 1 - Water Level Measurements
Trail Ridge Landfill, Jacksonville, Florida
February 2021

Well ID	TOC Elevation	Depth to Water	Groundwater Elevation
	(ft MSL)	(ft BTOC)	(ft MSL)
Shallow Wells			
MWB-2(S)	146.64	7.09	139.55
MWB-3(S)	154.38	7.25	147.13
MWB-7(S)	123.29	9.46	113.83
MWB-11(S)	120.81	10.56	110.25
MWB-12(S)	124.63	8.87	115.76
MWB-13(S)	126.05	12.58	113.47
MWB-14(S)	126.05	NM	NM
MWB-20(S)	121.01	7.73	113.28
MWB-21(S)	122.84	9.30	113.54
MWB-22(S)	126.97	11.14	115.83
MWB-23(S)	125.34	12.9	112.44
MWB-24(S)	126.04	6.45	119.59
MWB-25(S)	125.22	6.56	118.66
MWB-26(S)	126.55	5.95	120.60
MWB-27(S)	128.42	6.28	122.14
MWB-29(S)	138.02	7.16	130.86
MWB-32(S)	124.64	6.98	117.66
MWB-33(S)	125.90	9.07	116.83
MWB-34(S)	125.78	7.31	118.47
MWB-35(S)	147.79	4.79	143.00
MWB-39(S)	126.85	13.62	113.23
MWB-40(S)	115.41	9.89	105.52
SGMW-1(S)R	140.30	15.43	124.87
SGMW-2(S)	130.55	14.76	115.79
Intermediate Wells			
MWB-2(I)	145.73	10.67	135.06
MWB-3(I)	151.86	13.71	138.15
MWB-7(I)	121.53	7.43	114.10
MWB-11(IR)	120.43	14.74	105.69
MWB-12(I)	124.62	9.08	115.54
MWB-13(I)	125.98	16.18	109.80
MWB-14(I)	125.92	10.50	115.42
MWB-25(I)	124.03	6.67	117.36
MWB-27(I)	128.63	8.18	120.45
MWB-29(I)	138.08	8.12	129.96
MWB-32(I)	124.79	8.30	116.49
MWB-34(I)	125.80	9.23	116.57
MWB-35(I)	147.93	8.23	139.70
MWB-39(I)	126.76	12.28	114.48
Deep Wells			
MWB-7(D)	121.65	3.75	117.90
MWB-12(D)	124.56	7.32	117.24
MWB-14(D)	125.87	10.57	115.30
MWB-25(D)	124.64	7.34	117.30
MWB-27(D)	128.88	8.55	120.33
MWB-29(D)	138.18	8.23	129.95
MWB-31(D)	156.15	18.48	137.67
MWB-32(D)	124.93	8.55	116.38
MWB-34(D)	125.92	9.47	116.45

Notes:

TOC - top of casing; ft BTOC - feet below top of casing; ft MSL - feet above mean sea level; NM - Not Measured

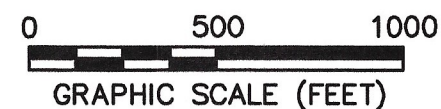
Depth to water measurements collected by ACC on February 15, 2021. Top of casing elevations based on groundwater well survey data provided in August 2017 by Golder, CDM, Pro-Tech, and CEC 2018.

LEGEND

- 2' CONTOURS
- 10' CONTOURS
- POTENTIOMETRIC CONTOURS AT 5 FOOT ELEVATION INTERVALS
- 114.00
- 0.01
- GROUNDWATER FLOW DIRECTION WITH HORIZONTAL FLOW GRADIENT
- MWB-3(S)
- 148.17
- GROUNDWATER MONITORING WELL
- WATERTABLE ELEVATION (IN FEET AMSL)
- SW-B
- SURFACE WATER SAMPLING POINT

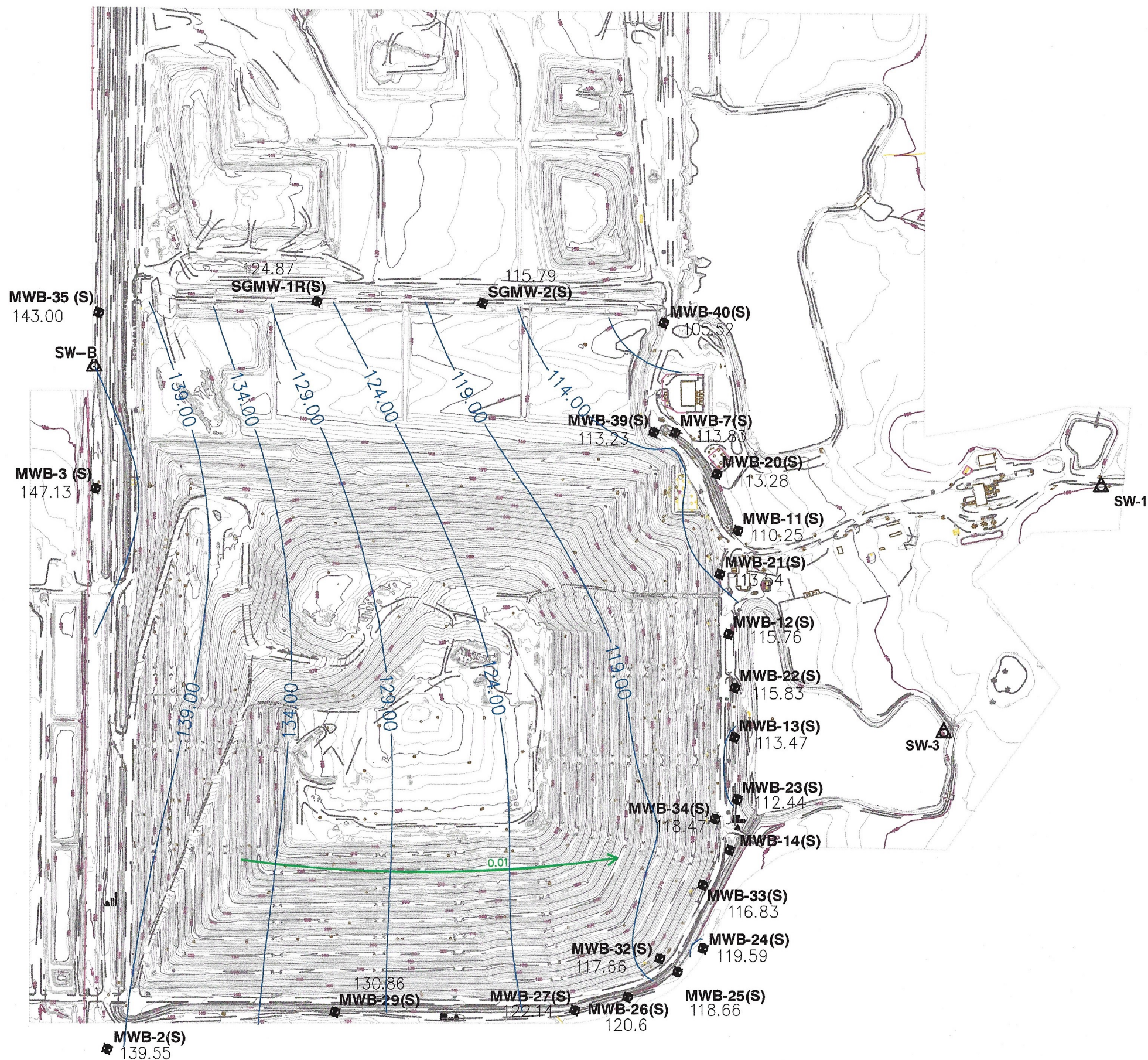
NOTES:

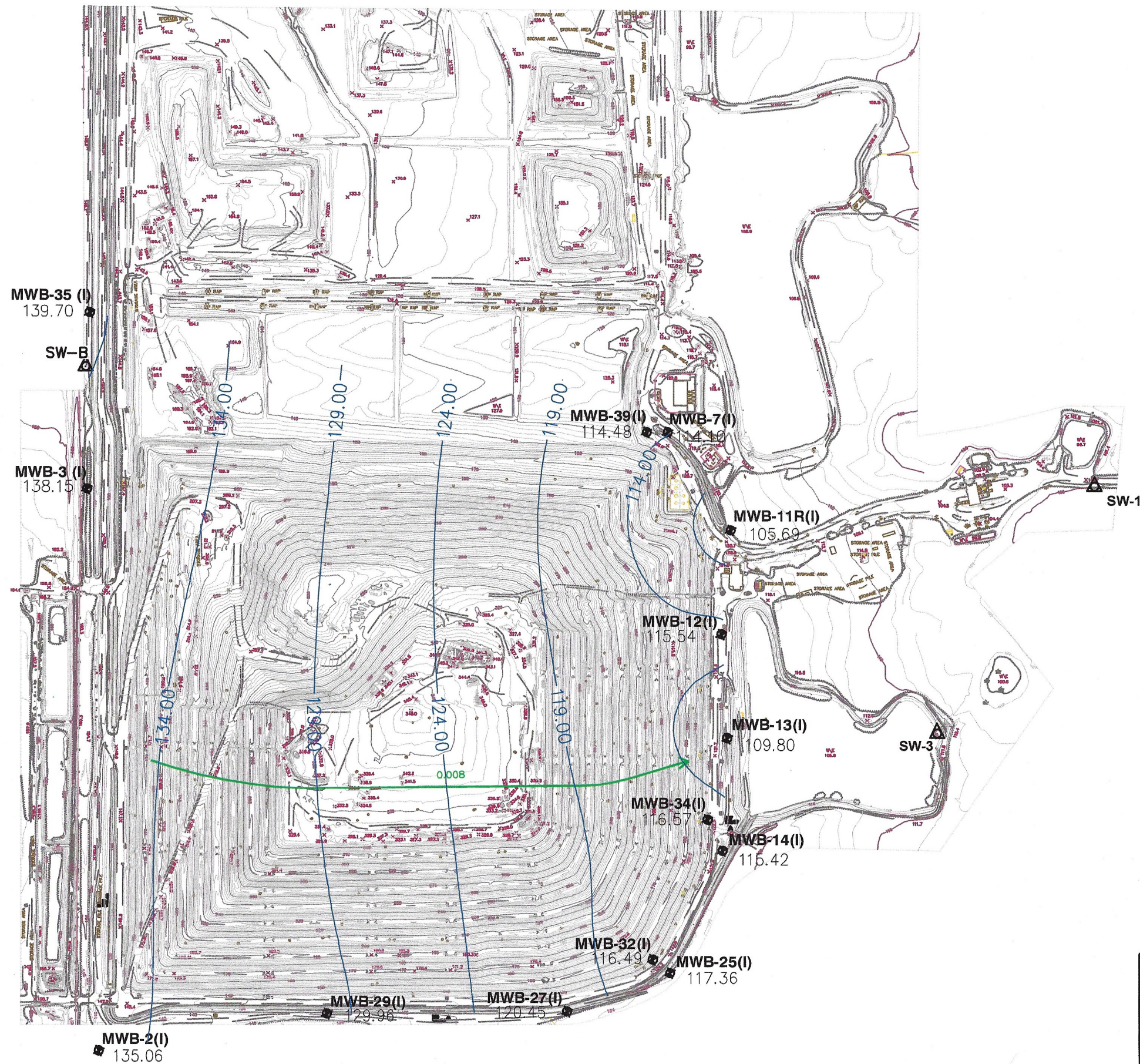
1. THE TOPOGRAPHIC MAP WAS PREPARED BY SOUTHERN RESOURCES MAPPING COORPORATION FROM A PHOTOGRAPHIC FLY OVER COMPLETED JANUARY 25, 2017 AND WAS COMPILED IN FEBRUARY 2017.
2. MWB-14(S)* WAS UNABLE TO BE READ DUE TO A PUMP IN THE MONITORING WELL AT OR ABOVE THE WATER TABLE.



CEC

FIGURE 3:
SHALLOW WELLS
POTENTIOMETRIC MAP 02/15/2021
TRAIL RIDGE LANDFILL
JACKSONVILLE, FL



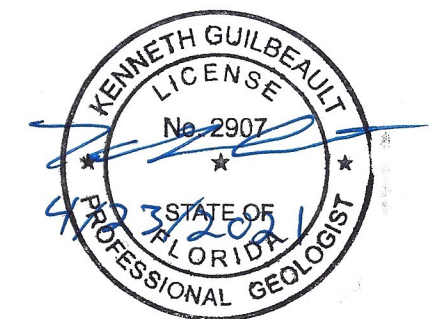
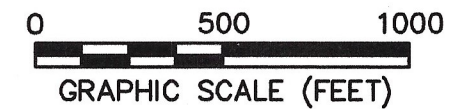


LEGEND

- 2' CONTOURS
- 10' CONTOURS
- 134.00 — POTENTIOMETRIC CONTOURS AT 5 FOOT ELEVATION INTERVALS
- 0.01 — GROUNDWATER FLOW DIRECTION WITH HORIZONTAL FLOW GRADIENT
- MWB-3(I) GROUNDWATER MONITORING WELL
- 148.17 WATERTABLE ELEVATION (IN FEET AMSL)
- SW-B SURFACE WATER SAMPLING POINT

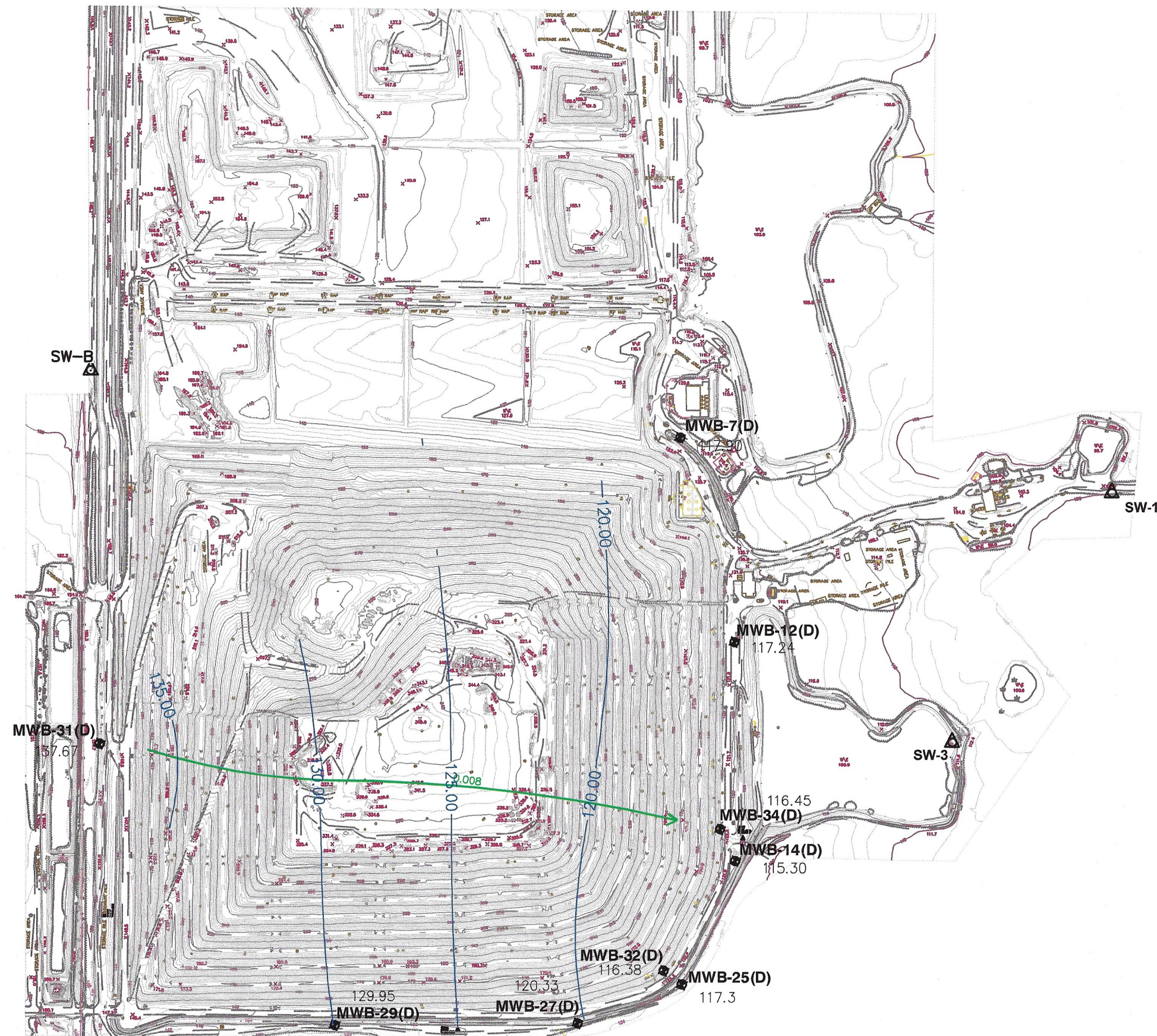
NOTES:

1. THE TOPOGRAPHIC MAP WAS PREPARED BY SOUTHERN RESOURCES MAPPING CORPORATION FROM A PHOTOGRAPHIC FLY OVER COMPLETED JANUARY 25, 2017 AND WAS COMPILED IN FEBRUARY 2017.



CEC

FIGURE 4:
INTERMEDIATE WELLS
POTENTIOMETRIC MAP 02/15/2021
TRAIL RIDGE LANDFILL
JACKSONVILLE, FL



LEGEND

- 2' CONTOURS
- 10' CONTOURS
- 125.00 POTENTIOMETRIC CONTOURS AT 5 FOOT ELEVATION INTERVALS
- 0.01 GROUNDWATER FLOW DIRECTION WITH HORIZONTAL FLOW GRADIENT
- MWB-7(D) GROUNDWATER MONITORING WELL
- 148.17 WATERTABLE ELEVATION (IN FEET AMSL)
- SW-B SURFACE WATER SAMPLING POINT

NOTES:

1. THE TOPOGRAPHIC MAP WAS PREPARED BY SOUTHERN RESOURCES MAPPING COOPERATION FROM A PHOTOGRAPHIC FLY OVER COMPLETED JANUARY 25, 2017 AND WAS COMPILED IN FEBRUARY 2017.

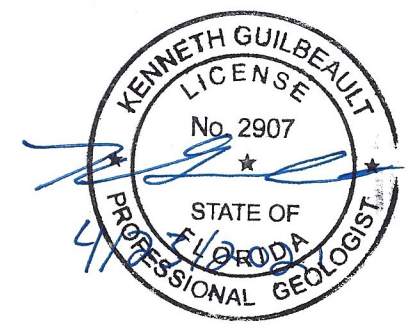
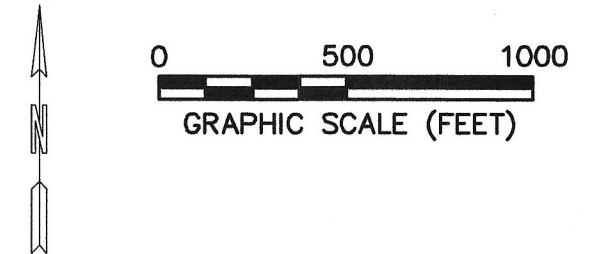




FIGURE 5:
DEEP WELLS
POTENTIOMETRIC MAP 02/15/2021
TRAIL RIDGE LANDFILL
JACKSONVILLE, FL

3 MONITORING PROGRAM

Groundwater and surface water monitoring events are conducted concurrently on a semi-annual basis prior to March 30th and September 30th of each year. Figure 2 shows the Site layout and groundwater monitoring well and surface water sampling locations. Semi-annual reporting of the results of groundwater and surface water sampling is performed in accordance with the Site's solid waste permit, water quality monitoring plan, and rule 62-701.510 (8)(a).

3.1 Groundwater Monitoring Program

The current Site groundwater monitoring system consists of twenty-nine (29) groundwater monitoring wells screened at shallow (S) and intermediate (I) depths within the uppermost, surficial aquifer. Additionally, there are eighteen (18) piezometers screened at the shallow (S), intermediate (I), and deep (D) depths within the uppermost surficial aquifer used for monitoring groundwater levels at the site. The background and compliance wells are listed in Table 2. Table 3 lists the construction detail summary for the monitoring wells and piezometers comprising the monitoring system.

Table 2 Active Surficial Aquifer Monitoring Wells
at the Trail Ridge Landfill

Upper Surficial Aquifer Zone	Intermediate Surficial Aquifer Zone	Deep Surficial Aquifer Zone
Background Monitoring Wells		
MWB-2S	MWB-2I	
MWB-3S	MWB-3I	
Compliance/Detection Monitoring Wells		
MWB-11S	MWB-11IR	
MWB-12S	MWB-12I	
MWB-13S	MWB-13I	
MWB-20S		
MWB-21S		
MWB-22S		
MWB-27S	MWB-27I	
MWB-29S	MWB-29I	
MWB-32S	MWB-32I	
MWB-33S		
MWB-34S	MWB-34I	
MWB-35S	MWB-35I	
MWB-39S	MWB-39I	
MWB-40S		
SGMW-1SR		
SGMW-2S		
Piezometers (Water Level Only)		
MWB-7S	MWB-7I	MWB-7D
		MWB-12D
MWB-14S	MWB-14I	MWB-14D
MWB-23S		
MWB-24S		
MWB-25S	MWB-25I	MWB-25I
MWB-26S		
		MWB-27D
		MWB-29D
		MWB-31D
		MWB-32D
		MWB-34D

Notes:

1. Wells listed on a single row of the table are located in a single cluster of wells.

Table 3 - Existing Monitoring Well Details
Trail Ridge Landfill, Jacksonville, FL

Well ID	Well Designation ¹	Monitored Phase ¹	Approximate State Plane Coordinates (ft) ¹		Well Diameter ¹	Total Well Depth ¹	Top of Casing Elevation (ft TOC) ²	Well Screen Interval ³
			Eastings (X)	Northings (Y)				
MWB-2(S)	Background	Phases 3/4/5	324,826	2,141,385	2	17.5	146.64	5.04-20.4
MWB-3(S)	Background	Phases 1/2	324,772	2,143,945	2	18	154.38	5.54-20.54
MWB-7(S)	Water Levels Only		327,418	2,144,201	2	16.5	123.29	4.19-19.19
MWB-11(S)	Compliance	Phase I	327,704	2,143,755	2	18	120.81	5.31-20.31
MWB-12(S)	Compliance	Phase I	327,662	2,143,281	2	25	124.63	11.73-26.73
MWB-13(S)	Compliance	Phase 3/4	327,688	2,142,808	2	24.6	126.05	11.56-26.56
MWB-14(S)	Water Levels Only		327,667	2,142,295	2	16.5	126.05	4.15-19.15
MWB-20(S)	Compliance	Phase I	327,608	2,144,012	2	18	121.01	5.11-20.11
MWB-21(S)	Compliance	Phase I	327,621	2,143,556	2	18	122.84	4.84-19.84
MWB-22(S)	Compliance	Phase I	327,690	2,143,036	2	25	126.97	12.47-27.47
MWB-23(S)	Water Levels Only		327,701	2,142,527	2	25	125.34	12.84-27.84
MWB-24(S)	Water Levels Only		327,543	2,141,846	2	16.5	126.04	5.34-20.34
MWB-25(S)	Water Levels Only		327,428	2,141,740	2	17.2	125.22	5.32-20.32
MWB-26(S)	Water Levels Only		327,201	2,141,623	2	16.5	126.55	3.65-18.65
MWB-27(S)	Compliance	Phase 5	326,960	2,141,564	2	16.3	128.42	3.32-18.32
MWB-29(S)	Compliance	Phase 5	325,866	2,141,554	2	16.5	138.02	4.02-19.02
MWB-32(S)	Detection	Phase 5	327,348	2,141,801	2	22.0	124.64	14.90 to 19.90
MWB-33(S)	Detection	Phase 3/4	327,541	2,142,136	2	22.3	125.90	10.30 to 20.30
MWB-34(S)	Detection	Phase 3/4	327,599	2,142,438	2	20.0	125.78	13.36 to 18.36
MWB-35(S)	Background	Phases 6/7	324,786	2,144,747	2	15	147.79	10.00 to 15.00
MWB-39(S)	Detection	Phase 6	327,321	2,144,202	2	21	126.85	11.00 to 21.00
MWB-40(S)	Detection	Phase 6	327,367	2,144,702	2	21	115.41	11.00 to 21.00
SGMW-1(S)R	Temp. Detection	Phase 6	325,783	2,144,798	2	15	140.30	5.00 to 15.00
SGMW-2(S)	Temp. Detection	Phase 6	326,540	2,144,792	2	15	130.55	5.00 to 15.00
MWB-2(I)	Background	Phases 3/4/5	324,812	2,141,383	2	59.8	145.73	56.19-61.69
MWB-3(I)	Background	Phases 1/2	324,788	2,143,973	2	60	151.86	55.56-60.86
MWB-7(I)	Water Levels Only		327,425	2,144,196	2	63.3	121.53	59.82-65.12
MWB-11(I)	Compliance	Phase I	327,687	2,143,758	2	60	120.43	56.4-61.9
MWB-12(I)	Compliance	Phase I	327,664	2,143,273	2	69.6	124.62	65.92-71.42
MWB-13(I)	Compliance	Phase 3/4	327,687	2,142,802	2	58.6	125.98	55.48-60.48
MWB-14(I)	Water Levels Only		327,668	2,142,306	2	60	125.92	57.52-62.52
MWB-25(I)	Water Levels Only		327,442	2,141,746	2	58.3	124.03	55.23-60.23
MWB-27(I)	Compliance	Phase 5	326,945	2,141,567	2	60.1	128.63	57.23-62.23
MWB-29(I)	Compliance	Phase 5	325,871	2,141,554	2	60	138.08	57.68-62.68
MWB-32(I)	Detection	Phase 5	327,393	2,141,831	2	62.2	124.79	54.56 to 64.56
MWB-34(I)	Detection	Phase 3/4	327,598	2,142,433	2	60	125.80	43.95 to 53.95
MWB-35(I)	Background	Phases 6/7	324,786	2,144,747	2	60	147.93	50.00 to 60.00
MWB-39(I)	Detection	Phase 6	327,321	2,144,202	2	60	126.76	55.00 to 60.00
MWB-7(D)	Water Levels Only					130.32 ³	121.65	111.63-116.63
MWB-12(D)	Water Levels Only						124.56	109.28-114.68
MWB-14(D)	Water Levels Only					111.47 ³	125.87	103.47-108.47
MWB-25(D)	Water Levels Only						124.64	103.54-108.54
MWB-27(D)	Water Levels Only						128.88	104.78-109.78
MWB-29(D)	Water Levels Only						138.18	106.78-111.78
MWB-31(D)	Water Levels Only						156.15	126.65-131.65
MWB-32(D)	Water Levels Only						124.93	98.81 to 108.81
MWB-34(D)	Water Levels Only						125.92	90.78 to 100.78

1. From Appendix G, Water Quality Monitoring Program for the Trail Ridge Landfill, CDM 2014 unless otherwise noted.
2. From February 2017 Event - Semiannual Groundwater and Surface Water Monitoring Report, Golder, 2017.
3. From Pro-Tech, provided August 2017.

The current permit requires semi-annual sampling of the background and detection shallow zone monitoring wells for the field and laboratory parameters listed below.

Field Parameters

- Static Water Level (before purging)
- Specific Conductivity
- pH
- Dissolved Oxygen
- Turbidity
- Temperature
- Color and sheens by observation
- ORP

Laboratory Parameters

- Chlorides
- Nitrate
- Total Dissolved Solids (TDS)
- Iron
- Sodium
- Mercury
- Ammonia – N, Total
- Parameters listed in the 1991 version of 40 CFR 258, Appendix I

The current permit requires semi-annual sampling of the background and detection intermediate zone monitoring wells for the field and laboratory parameters listed below.

Field Parameters

- Static Water Level (before purging)
- Specific Conductivity
- pH
- Dissolved Oxygen
- Turbidity
- Temperature
- ORP

Laboratory Parameters

- Chlorides
- Nitrate
- Total Dissolved Solids (TDS)
- Iron
- Sodium
- Ammonia – N, Total

If the results of the analysis for the intermediate zone monitoring wells indicates that leachate is impacting groundwater (elevated concentrations of the sampled constituents), then the well(s) in question will be sampled in the next sampling event for the parameters listed in 62-701-510 (7)(a), FAC.

3.2 Surface Water Monitoring Program

The Site surface water monitoring system consists of seven surface water monitoring locations: SW-1, SW-3, SW-4, SW-5, SW-6, SW-7 and SW-B (Figure 2). SW-4 monitors the new retention pond associated with an interceptor ditch which is designed to capture shallow groundwater and surface water migrating on to the Trail Ridge property from the west. SW-5 and SW-6 monitor the new retention pond that captures runoff from the expansion areas (Phases 6-14). SW-7 is a point that is further downgradient of the ponds. SW-B is intended to be a background water quality sampling point and is located in the outer interceptor ditch on the southwestern side of the expansion area.

The current permit requires semi-annual sampling of the surface water locations for the field and laboratory parameters listed below.

Field Parameters

- Static Water Level (before purging)
- Specific Conductivity
- pH
- Dissolved Oxygen
- Turbidity
- Temperature
- Color and sheens by observation
- ORP

Laboratory Parameters

- Unionized Ammonia as N
- Total Hardness as CaCO₃
- Biochemical Oxygen Demand (BOD₅)
- Copper
- Iron
- Mercury
- Nitrate/Nitrogen
- Zinc
- Total Dissolved Solids (TDS)
- Total Organic Carbon (TOC)
- Fecal Coliform
- Total Phosphorus
- Chlorophyll-a
- Total Nitrogen
- Chemical Oxygen Demand (COD)
- Total Suspended Solids (TSS)
- Parameters listed in the 1991 version of 40 CFR 258, Appendix I

3.3 Sample Collection Analysis

Groundwater and surface water sampling was conducted in accordance with F.A.C. Chapter 62-160 and FDEP's Standard Operating Procedures for Field Activities (DEP-SOP-001/01). ACC field personnel collected groundwater and surface water samples for laboratory analysis from monitoring locations listed in Sections 3.1 and 3.2 on February 15, 16, and 17, 2021.

Groundwater monitoring wells that were sampled were purged with dedicated QED bladder pumps with Teflon-lined tubing extending to the top of the well casing. Wells were purged using low-flow sampling methods; a minimum of one well volume was purged prior to stabilization for wells where the water table is located within the well screen. Field parameters including static water level, pH, specific conductance, temperature, turbidity, dissolved oxygen, oxidation-reduction potential and color/sheen (by observation) were recorded during purging and prior to sampling. Once purging was complete, ACC field personnel collected groundwater samples from the dedicated pumps and tubing in laboratory-provided containers, and placed the samples in coolers with ice. On February 17, 2021, surface water samples were collected from the surface water monitoring points using a laboratory-provided container. Instrument calibration records (FD 9000-8) and completed groundwater sampling logs (FD 9000-24) are provided along with the laboratory report in Appendix A.

Advanced Environmental Laboratories, Inc. (AEL), a Florida-certified laboratory (DOH Certification #E82001[AEL-G] and #E82574[AEL-JAX] [FL NELAC Certification]) analyzed groundwater and surface water samples collected in February 15, 16, and 17, 2021, for the parameters identified in Section II and Section III, respectively, of the facility permit Water Quality Monitoring Plan.

4 WATER QUALITY MONITORING RESULTS

This section summarizes the results of the groundwater and surface water quality sampling for the first semi-annual sampling event performed February 15, 16, and 17, 2021.

4.1 Quality Assurance and Quality Control (QA/QC) Results

ACC field personnel submitted the samples with trip blanks in coolers containing volatile organic compound (VOC) samples to AEL for analysis. The samples were received in good condition, properly preserved, and at proper temperatures. The laboratory provided additional QA/QC including analysis of method blanks, surrogates, laboratory control samples/laboratory control sample duplicates (LCS/LCSD), and matrix spike/matrix spike duplicates (MS/MSD). The QA/QC results for the laboratory reports associated with groundwater and surface water monitoring points from AEL Report J2102184 are summarized below:

- Several analytes were detected between method detection limits (MDLs) and practical quantitation limits (PQLs); these detections were qualified with an "I."
- The fecal coliform results for samples J2102184-031, J2102184-034, and J2102184-035 are greater than the reported amount. The backup analyst was unaware that the large tray size should be used for the samples of this type.
- The matrix spike duplicate recovery of NH₃ for J2102184001 was outside control criteria. Recoveries in the Laboratory Control Sample (LCS), Matrix Spike (MS), and %RPD were acceptable, which indicates the analytical batch was in control. The matrix spike outlier suggests a potential low bias in this matrix. No further corrective action was required.
- The MS recoveries of Nitrite and Nitrate for J2102223001 and J2102184006 (nitrate) were outside control criteria. Recoveries in the LCS and LCSD were acceptable, which indicates the analytical batch was in control. The MS outlier suggests a potential high bias in this matrix. The offending analytes were not detected in the client sample. No further corrective action is required.
- The MS recovery of chloride for J212184006 was outside control criteria. Recoveries in the LCS and LCSD were acceptable, which indicates the analytical batch was in control. The MS outlier suggests a potential high bias in the matrix. The affected sample is qualified accordingly.
- The upper control criterion was exceeded for antimony in continuing calibration verification (CCV) standards for analytical batch 210222R indicating increased sensitivity. The client samples reported in this batch did not contain the analytes in question. Since the apparent problem equates to a potential high bias, the data quality is not affected. No further corrective action was required.
- The MS recoveries of selenium for J2102184027 were outside control criteria due to the presence of target analytes in the sample. Recovery in the LCS was acceptable, which indicates the analytical batch was in control. The matrix spike outlier suggests a potential high bias in this matrix. The affected sample is qualified to indicate matrix interference.
- The matrix spike recoveries of nitrate + nitrite for J2102184034 were outside control criteria. Recoveries in the LCS and %RPD were acceptable, which indicates the analytical batch was in control. The MS outliers suggest a potential low bias in this matrix. No further corrective action was required.

- The RPD for the following analytes in the replicate matrix spike analyses of J2102184016 was outside control criteria: TDS. Failing RPD indicates inconsistency in the parent sample matrix. All spike recoveries in the MB and associated LCS were within acceptable limits, indicating the analytical batch was in control. No further corrective action was needed. The data have been qualified to reflect the RPD.
- Other QA/QC issues were not identified; therefore, the remaining results from the February 2020 event are considered acceptable without qualification.

4.2 Surficial Aquifer Groundwater Quality

The groundwater quality detections and exceedances of the primary or secondary drinking water standards (PDWS or SDWS) are summarized in Tables 4 and 5. In accordance with Chapter 62-701, FAC, groundwater results were compared to their respective PDWS or SDWS established in Chapter 62-550, FAC and incorporated via reference in Chapter 62-520, FAC. For this routine groundwater monitoring report, groundwater cleanup target levels (GCTLs) in Rule 62-777, FAC, were used for constituents that do not have a PDWS or SDWS to evaluate if a parameter is significantly above background levels. GCTLs are used as a screening tool for potential anomalies in the concentration data that may require further consideration or review. Appendix A includes the laboratory analytical data and field forms.

4.2.1 Metals Exceedances

Iron and sodium at some wells exceeded the applicable standards. These parameters are discussed below.

4.2.1.1 Iron

The concentration of iron in the groundwater at the Site in the shallow and intermediate surficial aquifer ranged from non-detected to 4,300 micrograms per liter ($\mu\text{g/L}$) during the first 2021 semi-annual sampling event. Detectable iron concentrations exceeded the SDWS of 300 $\mu\text{g/L}$ in:

- Background monitoring wells MWB-2I, MWB-3S, and MWB-3I
- Shallow Wells: MWB-11S, MWB-13S, MWB-21S, MWB-29S, MWB-32S, MWB-33S, MWB-34S, MWB-39S, MWB-40S, SGMW-1SR, and SGMW-2S
- Intermediate Wells: MWB-27I, MWB-29I, and MWB-35I

The iron exceedances during the February 2021 sampling event were consistent with historical data. Based on this data, it appears that the presence of iron in the groundwater at most wells is not directly related to the landfill operations, but is related to the dissolution of naturally-occurring iron from the soil.

Table 4. Summary of Shallow Groundwater Quality Analytical Results (Detected Parameters Only)
Trail Ridge Landfill, February 2021

Parameter	Units	MCL	Standard	MWB-2S	MWB-3S	MWB-11S	MWB-12S	MWB-13S	MWB-20S	MWB-21S	MWB-22S	MWB-27S	MWB-29S	MWB-32S	MWB-33S	MWB-34S	MWB-35S	MWB-39S	MWB-40S	SGMW-1SR	SGMW-2S
Volatile Organic Compounds																					
Acetone	ug/L	NS	NS	0.5 U	0.5 U	1.7 I	1.9 I	0.5 U	0.5 U	58	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.77 I	1.7 I	4.3	46	3.7
Benzene	ug/L	1	PDWS	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.81 I	0.25 U	0.25 U	0.25 U
Chloroform	ug/L	NS	NS	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.7 I	0.5 U
cis-1,2-Dichloroethene	ug/L	70	PDWS	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.57 I	0.5 U	0.5 U	0.5 U
Vinyl Chloride	ug/L	1	PDWS	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	1.1	0.25 U	0.25 U	0.25 U
Metals																					
Barium	ug/L	2000	PDWS	4.2 I	17	36	3 U	3 I	6.5 I	35	3 I	6 I	9.6 I	16	10 I	13	3 U	26	110	280	72
Chromium	ug/L	100	PDWS	5 U	5 U	5 U	5 U	6.3 I	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	9.4 I	10 I	5 U
Cobalt	ug/L	NS	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.3 I	3.6 I	1 U
Iron	ug/L	300	SDWS	280 I	690 I	1300	200 U	430 I	200 U	2000	200 U	200 U	380 I	2000	770 I	1300	200 U	800 I	660 I	4300	570 I
Lead	ug/L	15	PDWS	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3.3 I	3 U
Mercury	ug/L	2	PDWS	0.021 I	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 I	0.011 U	0.018 I	0.011 U	0.011 U	0.015 I	0.011 U	0.011 U	0.011 I	0.028 I
Nickel	ug/L	100	PDWS	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	22 I	16 I	10 U
Selenium	ug/L	50	PDWS	1.2 U	1.2 U	5.1	19	5.6	1.9 I	1.2 U	1.2 U	1.2 U	1.2 U	1.8 I	1.2 U	7.4	1.2 U	1.2 U	1.7 I,J	1.2 U	1.2 U
Sodium	mg/L	160	PDWS	1.2 I	6.6	11	16	45	59	8.6	57	7.7	10	7.2	8.1	98	2.1 I	57	280	43	3.4
Vanadium	ug/L	NS	NS	2 U	2 U	5.7 I	48	44	13	2 U	3.3 I	37	3 I	23	9.4	74	2 U	2.1 I	13	7.7 I	5.5 I
General Chemistry																					
Ammonia (N)	mg/L	NS	NS	0.035 U	0.035 U	0.06 I	0.035 U	0.035 U	2	0.48	0.07 I	0.035 U	0.17	0.68	1.4	0.035 U	0.035 U	4.3	8.9	0.16	0.05 I
Chloride	mg/L	250	SDWS	2 U	14	17	19	97	98	15	93	8.2	14	17	15	140	3.8 I	120 J	510	110	3.7 I
Nitrate (N)	mg/L	10	PDWS	0.2 U	0.2 U	0.36 I	0.38 I	0.61 I	1.1	0.2 U	0.2 U	4	0.2 U	0.2 U	0.2 U	13	0.2 U	0.2 U	1 U	0.2 U	0.2 U
Residues- Filterable (TDS)	mg/L	500	SDWS	44	39	88	230	340	260	190	380	170	87	89	140	900	47	270	1200	400	56
Field Parameters																					
Dissolved Oxygen	mg/L	NS	NS	2.6	1.2	0.6	1.3	1.5	0.6	0.3	0.3	0.6	0.1	0.3	0.5	0.3	0.1	0.1	0.5	0.8	0.4
pH	SU	6.5-8.5	SDWS	4.88	4.34	4.22	6.13	5.97	4.99	5.59	6.21	5.82	4.94	5.34	5.72	6.55	4.91	4.81	5.63	5.66	5
Specific Conductance	umhos/cm	NS	NS	23	87	142	311	613	428	315	658	162	121	164	247	1479	34	517	2197	526	49
Temperature, Water	Deg C	NS	NS	18	19	20.2	20.1	23.4	21.4	21.4	20.4	17.5	17.9	18.8	18.8	20.3	20.9	21.4	20.8	16.3	17.4
Turbidity	NTU	NS	NS	28.17	3.3	4.96	4.83	6.08	11.15	4.22	4.26	12.17	2.83	4.51	4.6	5.22	4.26	4.03	3.89	15.48	5.95

Notes:

1. PDWS = Primary Drinking Water Standard (62-550 F.A.C.)
2. SDWS = Secondary Drinking Water Standard (62-550 F.A.C.)
3. Groundwater Clean-Up Target Level (62-777 F.A.C.) are used for screening purposes only to evaluate if a parameter is significantly above background levels.
4. NS = No numeric standard has been set for this analyte.
5. mg/L = milligrams per liter
6. ug/L = micrograms per liter
7. NTU = nephelometric turbidity units
8. umhos/cm = micromhos per centimeter
9. Yellow shaded values indicate parameter concentrations exceed primary, secondary drinking water standards, or groundwater cleanup target levels.
10. deg C = degrees Celsius
11. U = Analyte concentration was below the laboratory detection limit (value shown).
12. I = Analyte concentration was between the laboratory detection limit and laboratory practical quantitation limit.
13. V = Analyte was detected in the sample and associated method blank.

Table 5. Summary of Intermediate Groundwater Quality Analytical Results (Detected Parameters Only)
Trail Ridge Landfill, February 2021

Parameter	Units	MCL	Standard	MWB-2I	MWB-3I	MWB-11I (R)	MWB-12I	MWB-13I	MWB-27I	MWB-29I	MWB-32I	MWB-34I	MWB-35I	MWB-39I
Volatile Organic Compounds														
Acetone	ug/L	NS	NS	---	---	---	---	---	---	---	---	---	---	---
Benzene	ug/L	1	PDWS	---	---	---	---	---	---	---	---	---	---	---
Chloroform	ug/L	NS	NS	---	---	---	---	---	---	---	---	---	---	---
cis-1,2-Dichloroethene	ug/L	70	PDWS	---	---	---	---	---	---	---	---	---	---	---
Vinyl Chloride	ug/L	1	PDWS	---	---	---	---	---	---	---	---	---	---	---
Metals														
Barium	ug/L	2000	PDWS	---	---	---	---	---	---	---	---	---	---	---
Chromium	ug/L	100	PDWS	---	---	---	---	---	---	---	---	---	---	---
Cobalt	ug/L	NS	NS	---	---	---	---	---	---	---	---	---	---	---
Iron	ug/L	300	SDWS	330 I	660 I	270 I	200 U	290 I	390 I	320 I	280 I	250 I	370 I	230 I
Lead	ug/L	15	PDWS	---	---	---	---	---	---	---	---	---	---	---
Mercury	ug/L	2	PDWS	---	---	---	---	---	---	---	---	---	---	---
Nickel	ug/L	100	PDWS	---	---	---	---	---	---	---	---	---	---	---
Selenium	ug/L	50	PDWS	---	---	---	---	---	---	---	---	---	---	---
Sodium	mg/L	160	PDWS	4.5	3.6	3.3	3.4	3.4	3.2	3.3	3.1 I	3.7	2.4 I	3.4
Vanadium	ug/L	NS	NS	---	---	---	---	---	---	---	---	---	---	---
General Chemistry														
Ammonia (N)	mg/L	NS	NS	0.05 I	0.035 U	0.035 U	0.13 J	0.09	0.16	0.07 I	0.035 U	0.06 I	0.05 I	0.035 U
Chloride	mg/L	250	SDWS	6.9 I	5.7 I,J	4.8 I	4.4 I	4.6 I	4.7 I	5.2 I	5.1 I	5.1 I,J	2 U	4.2 I
Nitrate (N)	mg/L	10	PDWS	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.3 I,J	0.2 U	0.2 U
Residues- Filterable (TDS)	mg/L	500	SDWS	30	21	41	58	62	29	71	42 J	44	26	49
Field Parameters														
Dissolved Oxygen	mg/L	NS	NS	0.5	0.6	0.2	0.3	0.2	0.4	0.3	0.3	0.3	0.3	0.5
pH	SU	6.5-8.5	SDWS	4.76	4.66	4.88	5.22	5.08	5.43	5.08	5.22	5.14	4.75	5.17
Specific Conductance	umhos/cm	NS	NS	42	43	36	43	39	53	44	43	52	40	43
Temperature, Water	Deg C	NS	NS	20.2	21.3	23.4	23.5	24.9	19.5	21.2	19.1	22.7	22.5	23.1
Turbidity	NTU	NS	NS	2.88	2.25	3.57	3.89	4.32	3.21	11.85	3.89	3.02	3.33	3.21

Notes:

1. PDWS = Primary Drinking Water Standard (62-550 F.A.C.)
2. SDWS = Secondary Drinking Water Standard (62-550 F.A.C.)
3. Groundwater Clean-Up Target Level (62-777 F.A.C.) are used for screening purposes only to evaluate if a parameter is significantly above background levels.
4. NS = No numeric standard has been set for this analyte.
5. mg/L = milligrams per liter
6. ug/L = micrograms per liter
7. NTU = nephelometric turbidity units
8. umhos/cm = micromhos per centimeter
9. Yellow shaded values indicate parameter concentrations exceed primary, secondary drinking water standards, or groundwater cleanup target levels.
10. deg C = degrees Celsius
11. U = Analyte concentration was below the laboratory detection limit (value shown).
12. I = Analyte concentration was between the laboratory detection limit and laboratory practical quantitation limit.
13. V = Analyte was detected in the sample and associated method blank.

4.2.1.2 Sodium

The FDEP PDWS of 160 mg/L for sodium was exceeded at detection well MWB-40S (280 mg/L). The MWB-40S concentration was not consistent with historical concentrations. CEC notified FDEP of the exceedance on March 11, 2021.

Based on the results, a field evaluation was conducted during the 4th quarter of 2020 in the area of MWB-39S and MWB-40S. During the evaluation two liquid seeps were noted in areas adjacent to MWB-39S and MWB-40S on the slide slope terraces. A French-drain was quickly installed connecting the two seeps and then a sump and pump were installed to remove the liquid. The sump was connected to the leachate force main. There is no evidence these seeps affected other wells at this time and no additional seeps were noted during the evaluation. There is no evidence this release has affected any other wells at this time, including the intermediate well MWB-39I in the same location as MWB-39S, and thus the impacts remain contained to a small area. TRL proposes to monitor MWB-39S and MWB-40S to ensure no other wells are impacted and concentrations decline.

4.2.1.3 Vanadium

Vanadium was detected in detection well MWB-34S (74 µg/L). The detection for MWB-34S was consistent with historical concentrations

4.2.2 Inorganic Parameters Exceedances

Chloride, nitrate, TDS, and pH at some wells exceeded the applicable standards. These parameters are discussed below.

4.2.2.1 Chloride

The FDEP SDWS of 250 mg/L for chloride was exceeded at detection well MWB-40S (510 mg/L).

Based on the results, a field evaluation was conducted during the 4th quarter of 2020 in the area of MWB-39S and MWB-40S. During the evaluation two liquid seeps were noted in areas adjacent to MWB-39S and MWB-40S on the slide slope terraces. A French-drain was quickly installed connecting the two seeps and then a sump and pump were installed to remove the liquid. The sump was connected to the leachate force main. There is no evidence these seeps affected other wells at this time and no additional seeps were noted during the evaluation. There is no evidence this release has affected any other wells at this time, including the intermediate well MWB-39I in the same location as MWB-39S, and thus the impacts remain contained to a small area. TRL proposes to monitor MWB-39S and MWB-40S to ensure no other wells are impacted and concentrations decline.

4.2.2.2 Nitrate

The FDEP PDWS of 10 mg/L for Nitrate was exceeded at detection well MWB-34S (13 mg/L). The PDWS exceedance for nitrate at MWB-34S has been historically detected and reported to the FDEP.

Detection well MWB-34S continues to show minor impacts with elevated nitrate that exceed the PDWS. The prior exceedances and detections were attributed to a leachate release that occurred in January 2017 which was quickly repaired. Additional information was provided in previous

semiannual monitoring reports. There is no evidence this release has affected any other wells at this time, including the intermediate well MWB-34I in the same location, and thus the impacts remain contained to a small area. TRL proposes to monitor MWB-34S to ensure no other wells are impacted and concentrations continue to decline.

4.2.2.3 TDS

The FDEP SDWS of 500 mg/L for total dissolved solids (TDS) was exceeded at detection well MWB-34S (900 mg/L), and MWB-40S (1,200 mg/L). The SDWS exceedance for TDS at MWB-34S has been historically detected and reported to FDEP.

Based on the results, a field evaluation was conducted during the 4th quarter of 2020 in the area of MWB-39S and MWB-40S (discussed above). Two liquid seeps were discovered and repairs were made quickly. There is no evidence these seeps affected other wells at this time and no additional seeps were noted during the evaluation. There is no evidence this release has affected any other wells at this time, including the intermediate well MWB-39I in the same location as MWB-39S, and thus the impacts remain contained to a small area. TRL proposes to monitor MWB-39S and MWB-40S to ensure no other wells are impacted and concentrations decline.

The TDS concentration in MWB-34S continued an overall decreasing trend since 2017. This well continues to show minor impacts with elevated TDS that exceed the SDWS. The prior exceedances and detections were attributed to a leachate release that occurred in January 2017 which was quickly repaired. Additional information was provided in previous semiannual monitoring reports. There is no evidence this release has affected any other wells at this time, including the intermediate well MWB-34I in the same location, and thus the impacts remain contained to a small area. TRL proposes to monitor MWB-34S to ensure no other wells are impacted and concentrations continue to decline.

4.2.2.4 pH

The FDEP SDWS range of 6.5 units to 8.5 units for pH was not met at background monitoring wells or detection monitoring wells during the first semi-annual 2021 sampling event.

Low groundwater pH in this region is the result of low pH in precipitation, rapid recharge, and little buffering capacity of the surficial sands. The pH levels observed at the Site are characteristic of the groundwater in this region of Florida.

4.2.3 Organic Parameters Exceedances

4.2.3.1 Vinyl chloride

Vinyl chloride was detected in monitoring well MWB-39S (1.1 µg/L) at the PDWS of 1 µg/L. The concentration of vinyl chloride in the sample collected from MWB-39S is not considered to exceed the PDWS based on the rounding method described in FDEP Rounding Analytical Data for Site Rehabilitation Completion memorandum dated November 17, 2011.

4.2.3.1 Other Detected Volatile Organic Compounds

During the first semi-annual 2021 monitoring event there were some low level volatile organic compound (VOC) detections below FDEP water quality standards for the following parameters: acetone, benzene, chloroform, and cis-1,2-dichloroethene (see Table 4). These compounds will

continue to be monitored to confirm that concentrations remain below their respective regulatory standards.

4.3 Surface Water Quality

Surface water analytical results were compared to Class III WQS. Standards are provided in Tables 6 and 7. In some cases, F.A.C. Chapter 62-302.530 requires calculations for Class III standards based on sample hardness.

4.3.1 Metals Exceedances

With regard to the exceedances of metal water quality standards in the expansion area sampling points SW-4 through SW-7, the initial detections occurred during the first sampling event at these new ponds in 1H 2018. The majority of these exceedances were confirmed during a confirmation resampling event conducted in April 2018. In May and June 2018, TRL conducted a source investigation and submitted an Alternate Source Demonstration (ASD) to FDEP in July 2018. The ASD concluded elevated metal concentrations observed in the expansion area surface water ponds were likely associated with elevated turbidity and caused by contaminated run-on from the Chemours property and disturbance of native soils caused primarily by ongoing construction of the stormwater system. There was no evidence the exceedances were related to landfilling operations in Phase 6.

Additional sampling to evaluate run-on was conducted and TRL submitted an initial data summary to the Department on October 16, 2018. This data further supported the premise that run-on from Chemours is a significant source of sediment and contamination.

Iron and lead at some surface water locations exceeded the applicable standards. These parameters are discussed below.

4.3.1.1 Iron

Iron was detected above the Class III WQS of 1,000 µg/L at surface water location SW-3 (2,200 µg/L) and SW-6 (1,200 µg/L). The iron exceedances have been previously reported to the FDEP.

4.3.1.2 Lead

Lead was detected above the calculated Class III WQS at surface water locations SW-1 (8.7 I µg/L), SW-3 (21 µg/L), SW-5 (4.8 I µg/L), and SW-6 (13 µg/L). Lead exceedances have been previously reported to the FDEP. Lead is sporadically detected at these locations and has been attributed to elevated turbidity during past semi-annual monitoring events. The turbidity was elevated for February 2021 at the surface water locations SW-1 (63.84 NTU), SW-3 (88.32 NTU), SW-5 (35.35 NTU), and SW-6 (83.9 NTU) during the February 2021 monitoring event. Turbidity could be attributed to storm events during the week of sampling causing the surface water to become turbid. Lead was not detected in any other surface water sampling locations during this event.

4.3.2 General Chemistry Exceedances

Dissolved oxygen and turbidity at some surface water locations exceeded the applicable standards. These parameters are discussed below.

4.3.2.1 Dissolved Oxygen

Dissolved oxygen was detected below the Class III WQS of greater than 5 mg/L at surface water locations SW-3 (4.9 mg/L) and SW-6 (1.4 mg/L). These concentrations are consistent with historical data. Surface water points have historically been below this threshold on a sporadic basis.

4.3.2.2 Turbidity

Turbidity was detected above the Class III WQS of not greater than 29 NTU above background at surface water locations SW-1 (63.84 NTU), SW-3 (88.32 NTU), SW-5 (35.35 NTU), and SW-6 (83.9 NTU). These concentrations are lower than or consistent with historical data.

Table 6. Summary of Surface Water Quality Analytical Results (Detected Parameters Only)
Trail Ridge Landfill, February 2021

Parameter	MCL	Units	SW-1	SW-3	SW-4	SW-5	SW-6	SW-7	SW-B
Volatile Organic Compounds									
2-Butanone	120000	ug/L	0.25 U	0.25 U	0.25 U	0.69 I	0.25 U	0.25 U	0.25 U
Acetone	1700	ug/L	0.5 U	0.7 I	0.5 U	4.7	5	0.5 U	2.2
Chloromethane	470.8	ug/L	0.48 I	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Metals									
Barium	NS	ug/L	28	39	16	27	59	21	7 I
Chromium	See Below	ug/L	7.5 I	15 I	5 U	5 U	11 I	5 U	5 U
Calculated Chromium MCL	Calculated	ug/L	59.028911	120.12229	62.0812031	81.2067998	93.1763021	55.9413134	32.1489778
Cobalt	NS	ug/L	1 I	2 I	1 U	1 U	1 I	1 U	1 U
Iron	1000	ug/L	1000	2200	430 I	210 I	1200	700 I	200 U
Lead	See Below	ug/L	8.7 I	21	3 U	4.8 I	13	3 U	3 U
Calculated Lead MCL	Calculated	ug/L	1.76687157	5.33099942	1.91089879	2.90083653	3.59200846	1.62532073	0.6870998
Magnesium	NS	mg/L	2.1	4.8	1.4	2.2	3.4	1.5	0.57
Mercury	0.012	ug/L	0.097 I	0.069 I	0.011 U	0.021 I	0.062 I	0.011 U	0.011 U
Nickel	See Below	ug/L	10 U	14 I	10 U	10 U	10 U	10 U	10 U
Calculated Nickel MCL	Calculated	ug/L	35.2862009	73.5082363	37.1725266	49.0568177	56.5432815	33.3813272	18.836811
Selenium	5	ug/L	1.3 I	2.5 I	1.2 U	1.2 U	2.3 I	1.2 U	1.2 U
Vanadium	NS	ug/L	13	28	3 I	4.6 I	15	3.2 I	2 U
General Chemistry									
Ammonia (N)	See Below	mg/L	0.2	0.53	0.035 U	0.09	0.59	0.035 U	0.035 U
Calculated TAN Criteria	Calculated	mg/L	6.48297125	3.96183335	2.64125869	2.8108633	7.36063906	6.08165643	9.45174475
BOD	NS	mg/L	4.5	11	2 U	5.6	10	2 U	2 U
Calcium	NS	mg/L	22	52	25	34	39	21	11
Carbon- Total Organic	NS	mg/L	32	25	9	12	17	15	10
COD	NS	mg/L	190	180	41	64	120	62	41
Hardness	NS	mg/L	63	150	67	93	110	59	30
Nitrate (N)	NS	mg/L	0.93	2.5	0.2 U	0.24 I	0.2 U	0.2 U	0.2 U
Nitrogen- Total Kjeldahl	NS	mg/L	2.2	4.8	0.53	1.2	2	0.76	0.34 I
Residues- Filterable (TDS)	NS	mg/L	230	370	130	160	270	97	70
Residues- Nonfilterable (TSS)	NS	mg/L	30	110	6.2	26	60	6.5	1.8 I
Field Parameters									
Dissolved Oxygen	>5.0	mg/L	8.4	4.9	9.3	7.9	1.4	6	9.02
pH	6.0-8.5	SU	7.13	7.73	7.97	7.93	7	7.27	6.62
Specific Conductance	1275	umhos/cm	213	463	168	239	325	153	82
Temperature, Water	NS	Deg C	14.2	16.4	15.9	15.8	13.1	14	10.8
Turbidity	29	NTU	63.84	88.32	12.79	35.35	83.9	14.02	3.51

Notes:

1. Parameter MCL is a Surface Water Criterion (Chapter 62-302 F.A.C.).
2. I = Analyte detected below quantitation limits.
3. U = Analyte concentration was below the laboratory detection limit (value shown).
4. Turbidity MCL is 29 NTUs over background levels. For comparison purposes, a background turbidity of 0 NTU was assumed in this table. However it is known that upgradient industrial properties contribute a high sediment load to Ponds 3 and 4 through run-on to the expansion area of the Trail Ridge property.
5. MCL = Maximum Contamination Level.
6. Yellow shaded values indicate parameter concentrations exceed MCL
7. mg/L = milligrams per liter.
8. ug/L = micrograms per liter.
9. umhos/cm = micromhos/centimeter
10. NTU = nephelometric turbidity units.
11. NS = No numeric standard has been set for this analyte.
12. Parameter MCL is calculated by the following formula: $Pb < e^{(1.273 * [ln Hardness] - 4.705)}$.
13. Parameter MCL is calculated by the following formula: $TAN < 2.5 * (0.8876 * ((0.0278 / (1 + 10^{(7.688 - pH)})) + (1.1994 / (1 + 10^{(pH - 7.688)}))) * 2.126 * 10^{(0.028 * (20 - temp))})$

Table 7 - Surface Water Quality Standard Calculations
Trail Ridge Landfill, Jacksonville, Florida
February 2021

Parameter	Units	WQS Class I & Class III	SW-1		SW-3		SW-4		SW-5		SW-6		SW-7		SW-B		Total Hardness ¹ InH ²
			63		150		67		93		110		59		30		
			4.14		5.01		4.20		4.53		4.70		4.08		3.40		
			Result (total)	Std	Result (total)	Std	Result (total)	Std	Result (total)	Std	Result (total)	Std	Result (total)	Std	Result (total)	Std	
Cadmium	ug/L	Measured ≤ e(0.7409[lnH]-4.719)	0.5 U	0.2	0.5 U	0.4	0.5 U	0.2	0.5 U	0.3	0.5 U	0.3	0.5 U	0.2	0.5 U	0.1	
Chromium	ug/L	Measured ≤ e(0.819[lnH]+0.6848)	7.5 I	59	15 I	120	5 U	62	5 U	81	11 I	93	5 U	56	5 U	32	
Copper	ug/L	Measured ≤ e(0.8545[lnH]-1.702)	10 U	6.3	10 U	13.2	10 U	6.6	10 U	8.8	10 U	10.1	10 U	5.9	10 U	3.3	
Lead	ug/L	Measured ≤ e(1.273[lnH]- 4.705)	8.7 I	1.8	21	5.3	3 U	1.9	4.8 I	2.9	13	3.6	3 U	1.6	3 U	0.7	
Nickel	ug/L	Measured ≤ e(0.846[lnH]+0.0584)	10 U	35	14 I	74	10 U	37	10 U	49	10 U	57	10 U	33	10 U	19	
Zinc	ug/L	Measured ≤ e(0.8473[lnH]+0.884)	50 U	81	50 U	169	50 U	85	50 U	113	50 U	130	50 U	77	50 U	43	

Notes:

ug/L - micrograms per liter

WQS - Water Quality Standard, Class I (potable), Class III (freshwater) provided in FDEP Chapter 62-302

*- According to FDEP Rule 62-302.530, if H is less than 25 than 25 shall be used in the calculations

¹ - Total hardness (H) is reported in mg/L of CaCO3 in the laboratory report

² - "ln H" means the natural logarithm of total hardness expressed as mg/L of CaCO3

I - result is qualified because the detection was between method detection limits and practical quantitation limits.

U - Not Detected.

Bold values indicate detections above the laboratory detection limit; yellow cells indicate result exceeded WQS.

^{NS} - Not Sampled (Dry)

5 DISCUSSION AND RECOMMENDATIONS

Except as noted, analyte detections and the exceedances observed during this event for both groundwater and surface water are consistent with historical conditions and/or background water quality.

The analytical results from analysis of the groundwater samples shows the following:

- The iron exceedances during the February 2021 sampling event were consistent with historical data. Based on this data, it appears that the presence of iron in the groundwater at most wells is not directly related to the landfill operations, but is related to the dissolution of naturally-occurring iron from the soil.
- The FDEP PDWS for sodium was exceeded at detection well MWB-40S. The MWB-40S concentration was not consistent with historical concentrations. CEC notified FDEP of the exceedance on March 11, 2021.
 - Based on the results, a field evaluation was conducted during the 4th quarter of 2020 in the area of MWB-39S and MWB-40S (discussed above). Two liquid seeps were discovered and repairs were made quickly. There is no evidence these seeps affected other wells at this time and no additional seeps were noted during the evaluation. There is no evidence this release has affected any other wells at this time, including the intermediate well MWB-39I in the same location as MWB-39S, and thus the impacts remain contained to a small area. TRL proposes to monitor MWB-39S and MWB-40S to ensure no other wells are impacted and concentrations decline.
- Vanadium was detected in detection well MWB-34S. The detections at MWB-34S was consistent with historical concentrations.
- The FDEP SDWS for chloride was exceeded at detection wells MWB-40S.
 - Based on the results, a field evaluation was conducted during the 4th quarter of 2020 in the area of MWB-39S and MWB-40S (discussed above). Two liquid seeps were discovered and repairs were made quickly. There is no evidence these seeps affected other wells at this time and no additional seeps were noted during the evaluation. There is no evidence this release has affected any other wells at this time, including the intermediate well MWB-39I in the same location as MWB-39S, and thus the impacts remain contained to a small area. TRL proposes to monitor MWB-39S and MWB-40S to ensure no other wells are impacted and concentrations decline.
- The FDEP PDWS for nitrate was exceeded at detection wells MWB-34S. The PDWS exceedance for nitrate at MWB-34S has been historically detected and reported to the FDEP.
 - Monitoring well MWB-34S continues to show minor impacts with elevated nitrate that exceed the PDWS. The prior exceedances and detections were attributed to a leachate release that occurred in January 2017 which was quickly repaired. Additional information was provided in previous semiannual monitoring reports.

There is no evidence this release has affected any other wells at this time, including the intermediate well MWB-34I in the same location, and thus the impacts remain contained to a small area. TRL proposes to monitor MWB-34S to ensure no other wells are impacted and concentrations decline.

- The FDEP SDWS for TDS was exceeded at detection wells MWB-34S and MWB-40S.
 - The TDS concentration in MWB-34S continued an overall decreasing trend since 2017. The TDS exceedances at MWB-34S were attributed to a leachate release that occurred in January 2017 which was quickly repaired. There is no evidence this release has affected any other wells at this time, including the intermediate well MWB-34I in the same location, and thus the impacts remain contained to a small area.
 - The TDS concentrations at MWB-40S was consistent with recent concentrations. Based on the results, a field evaluation was conducted during the 4th quarter of 2020 in the area of MWB-39S and MWB-40S (discussed above). Two liquid seeps were discovered and repairs were made quickly. There is no evidence these seeps affected other wells at this time and no additional seeps were noted during the evaluation. There is no evidence this release has affected any other wells at this time, including the intermediate well MWB-39I in the same location as MWB-39S, and thus the impacts remain contained to a small area. TRL proposes to monitor MWB-39S and MWB-40S to ensure no other wells are impacted and concentrations decline.
- The FDEP SDWS range of 6.5 units to 8.5 units for pH was not met at background monitoring wells or detection monitoring wells during the first semi-annual 2021 sampling event. The low pH levels in select monitoring wells are attributed to Florida's ambient groundwater quality characteristics due to low pH rainfall, rapid recharge, and the limited buffering capability of Florida's sandy soils.
- Vinyl chloride was detected in monitoring well MWB-39S at the PDWS. The concentration of vinyl chloride in the sample collected from MWB-39S is not considered to exceed the PDWS based on the rounding method described in FDEP Rounding Analytical Data for Site Rehabilitation Completion memorandum dated November 17, 2011.

The analytical results from analysis of the surface water samples shows the following:

- Iron was detected above the Class III WQS at surface water location SW-3 and SW-6. The iron exceedances have been previously reported to the FDEP.
- Lead was detected above the calculated Class III WQS at surface water locations SW-1, SW-3, SW-5, and SW-6. Lead exceedances have been previously reported to the FDEP. Lead is sporadically detected at these locations and has been attributed to elevated turbidity during past semi-annual monitoring events. The turbidity was elevated for February 2021 at the surface water locations SW-1 (63.84 NTU), SW-3 (88.32 NTU), SW-5 (35.35 NTU), and SW-6 (83.9 NTU) during the February 2021 monitoring event. Turbidity could be attributed to storm events during the week of sampling causing the surface water to become turbid. Lead was not detected in any other surface water sampling locations during this event.

- Dissolved oxygen was detected below the Class III WQS at surface water locations SW-3 and SW-6. These concentrations are consistent with historical data. Surface water points have historically been below this threshold on a sporadic basis.
- Turbidity was detected above the Class III WQS of not greater than 29 NTU above background at surface water locations SW-1 (63.84 NTU), SW-3 (88.32 NTU), SW-5 (35.35 NTU), and SW-6 (83.9 NTU). These concentrations are lower than or consistent with historical data.

Detection monitoring should continue as outlined in the WQMP. The next sampling event should be conducted prior to September 30, 2021, per the facility's permit and is currently scheduled for August 2021.

APPENDIX A

LABORATORY ANALYTICAL RESULTS AND FIELD FORMS



Advanced Environmental Laboratories, Inc
6681 Southpoint Pkwy Jacksonville, FL 32216
Payments: P.O. Box 551580 Jacksonville, FL 32255-1580
Phone: (904)363-9350
Fax: (904)363-9354

March 1, 2021

Eric B. Fuller
City of Jacksonville
214 North Hogan Street
10th Floor
Jacksonville, FL 32202

RE: Workorder: J2102184 Trail Ridge Landfill

Dear Eric Fuller:

Enclosed are the analytical results for sample(s) received by the laboratory between Tuesday, February 16, 2021 and Wednesday, February 17, 2021. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. The analytical results for the samples contained in this report were submitted for analysis as outlined by the Chain of Custody and results pertain only to these samples.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Jerry Allen', is positioned above the typed name.

Jerry Allen - Project Manager
JAllen@aellab.com

Enclosures

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



SAMPLE SUMMARY

Workorder: J2102184 Trail Ridge Landfill

Lab ID	Sample ID	Matrix	Date Collected	Date Received
J2102184001	MWB-12I	Water	2/15/2021 07:10	2/16/2021 07:55
J2102184002	MWB-13I	Water	2/15/2021 08:43	2/16/2021 07:55
J2102184003	MWB-27I	Water	2/15/2021 09:42	2/16/2021 07:55
J2102184004	MWB-29I	Water	2/15/2021 10:44	2/16/2021 07:55
J2102184005	MWB-2I	Water	2/15/2021 11:44	2/16/2021 07:55
J2102184006	MWB-3I	Water	2/15/2021 13:37	2/16/2021 07:55
J2102184007	MWB-12S	Water	2/15/2021 07:38	2/16/2021 07:55
J2102184008	MWB-22S	Water	2/15/2021 08:11	2/16/2021 07:55
J2102184009	MWB-13S	Water	2/15/2021 09:12	2/16/2021 07:55
J2102184010	MWB-27S	Water	2/15/2021 10:11	2/16/2021 07:55
J2102184011	MWB-29S	Water	2/15/2021 11:13	2/16/2021 07:55
J2102184012	MWB-2S	Water	2/15/2021 12:21	2/16/2021 07:55
J2102184013	MWB-3S	Water	2/15/2021 13:01	2/16/2021 07:55
J2102184014	TRIP	Water	2/15/2021 00:00	2/16/2021 07:55
J2102184015	MWB-34I	Water	2/16/2021 07:41	2/17/2021 10:20
J2102184016	MWB-32I	Water	2/16/2021 09:16	2/17/2021 10:20
J2102184017	MWB-11I (R)	Water	2/16/2021 10:19	2/17/2021 10:20
J2102184018	MWB-39I	Water	2/16/2021 12:01	2/17/2021 10:20
J2102184019	MWB-35I	Water	2/16/2021 13:57	2/17/2021 10:20
J2102184020	MWB-21S	Water	2/16/2021 07:10	2/17/2021 10:20
J2102184021	MWB-34S	Water	2/16/2021 08:11	2/17/2021 10:20
J2102184022	MWB-33S	Water	2/16/2021 08:43	2/17/2021 10:20
J2102184023	MWB-32S	Water	2/16/2021 09:46	2/17/2021 10:20
J2102184024	MWB-11S	Water	2/16/2021 10:49	2/17/2021 10:20
J2102184025	MWB-20S	Water	2/16/2021 11:21	2/17/2021 10:20
J2102184026	MWB-39S	Water	2/16/2021 12:31	2/17/2021 10:20
J2102184027	MWB-40S	Water	2/16/2021 13:09	2/17/2021 10:20
J2102184028	MWB-35S	Water	2/16/2021 14:42	2/17/2021 10:20
J2102184029	TRIP #2	Water	2/16/2021 00:00	2/17/2021 10:20
J2102184030	SW-1	Water	2/17/2021 12:00	2/17/2021 12:55
J2102184031	SW-3	Water	2/17/2021 11:11	2/17/2021 12:55
J2102184032	SW-4	Water	2/17/2021 10:25	2/17/2021 12:55
J2102184033	SW-7	Water	2/17/2021 09:55	2/17/2021 12:55
J2102184034	SW-5	Water	2/17/2021 09:35	2/17/2021 12:55
J2102184035	SW-6	Water	2/17/2021 09:10	2/17/2021 12:55

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



SAMPLE SUMMARY

Workorder: J2102184 Trail Ridge Landfill

Lab ID	Sample ID	Matrix	Date Collected	Date Received
J2102184036	SW-B	Water	2/17/2021 08:50	2/17/2021 12:55
J2102184037	SGMW-1SR	Water	2/17/2021 08:01	2/17/2021 12:55
J2102184038	SGMW-2S	Water	2/17/2021 07:28	2/17/2021 12:55
J2102184039	EQUIPMENT BLANK #2	Water	2/17/2021 08:30	2/17/2021 12:55
J2102184040	TRIP BLANK 3	Water	2/17/2021 00:00	2/17/2021 12:55
J2102184041	EQUIPMENT BLANK #1	Water	2/17/2021 08:20	2/17/2021 12:55

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184001**

Date Received: 02/16/21 07:55 Matrix: Water

Sample ID: **MWB-12I**

Date Collected: 02/15/21 07:10

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
METALS								
Analysis Desc: SW846 6010B Analysis, Water			Preparation Method: SW-846 3010A					
			Analytical Method: SW-846 6010					
Iron	200	U	ug/L	1	800	200	2/18/2021 11:14	J
Sodium	3.4		mg/L	1	3.2	0.80	2/18/2021 11:14	J
WET CHEMISTRY								
Analysis Desc: IC,E300.0, Water			Analytical Method: EPA 300.0					
Chloride	4.4	I	mg/L	1	8.0	2.0	2/16/2021 10:42	J
Nitrate (as N)	0.20	U	mg/L	1	0.80	0.20	2/16/2021 10:42	J
Analysis Desc: Ammonia,E350.1, Water			Analytical Method: EPA 350.1					
Ammonia (N)	0.13	J4	mg/L	2	0.080	0.035	2/24/2021 12:54	G
Analysis Desc: Tot Dissolved Solids, SM2540C			Analytical Method: SM 2540 C					
Total Dissolved Solids	58		mg/L	1	10	10	2/18/2021 14:30	J

Lab ID: **J2102184002**

Date Received: 02/16/21 07:55 Matrix: Water

Sample ID: **MWB-13I**

Date Collected: 02/15/21 08:43

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
METALS								
Analysis Desc: SW846 6010B Analysis, Water			Preparation Method: SW-846 3010A					
			Analytical Method: SW-846 6010					
Iron	290	I	ug/L	1	800	200	2/18/2021 11:26	J
Sodium	3.4		mg/L	1	3.2	0.80	2/18/2021 11:26	J
WET CHEMISTRY								
Analysis Desc: IC,E300.0, Water			Analytical Method: EPA 300.0					
Chloride	4.6	I	mg/L	1	8.0	2.0	2/16/2021 11:03	J
Nitrate (as N)	0.20	U	mg/L	1	0.80	0.20	2/16/2021 11:03	J

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184002**

Date Received: 02/16/21 07:55 Matrix: Water

Sample ID: **MWB-13I**

Date Collected: 02/15/21 08:43

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Analysis Desc: Ammonia,E350.1,Water		Analytical Method: EPA 350.1						
Ammonia (N)	0.09		mg/L	2	0.080	0.035	2/24/2021 17:12	G
Analysis Desc: Tot Dissolved Solids,SM2540C		Analytical Method: SM 2540 C						
Total Dissolved Solids	62		mg/L	1	10	10	2/18/2021 14:30	J

Lab ID: **J2102184003**

Date Received: 02/16/21 07:55 Matrix: Water

Sample ID: **MWB-27I**

Date Collected: 02/15/21 09:42

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
METALS								
Analysis Desc: SW846 6010B Analysis,Water		Preparation Method: SW-846 3010A						
		Analytical Method: SW-846 6010						
Iron	390	I	ug/L	1	800	200	2/18/2021 11:30	J
Sodium	3.2		mg/L	1	3.2	0.80	2/18/2021 11:30	J

WET CHEMISTRY

Analysis Desc: IC,E300.0,Water		Analytical Method: EPA 300.0						
Chloride	4.7	I	mg/L	1	8.0	2.0	2/16/2021 11:24	J
Nitrate (as N)	0.20	U	mg/L	1	0.80	0.20	2/16/2021 11:24	J
Analysis Desc: Ammonia,E350.1,Water		Analytical Method: EPA 350.1						
Ammonia (N)	0.16		mg/L	2	0.080	0.035	2/24/2021 13:00	G
Analysis Desc: Tot Dissolved Solids,SM2540C		Analytical Method: SM 2540 C						
Total Dissolved Solids	29		mg/L	1	10	10	2/18/2021 14:30	J

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184004**

Date Received: 02/16/21 07:55 Matrix: Water

Sample ID: **MWB-29I**

Date Collected: 02/15/21 10:44

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
METALS								
Analysis Desc: SW846 6010B Analysis, Water			Preparation Method: SW-846 3010A Analytical Method: SW-846 6010					
Iron	320	I	ug/L	1	800	200	2/18/2021 11:34	J
Sodium	3.3		mg/L	1	3.2	0.80	2/18/2021 11:34	J
WET CHEMISTRY								
Analysis Desc: IC,E300.0, Water			Analytical Method: EPA 300.0					
Chloride	5.2	I	mg/L	1	8.0	2.0	2/16/2021 11:45	J
Nitrate (as N)	0.20	U	mg/L	1	0.80	0.20	2/16/2021 11:45	J
Analysis Desc: Ammonia,E350.1, Water			Analytical Method: EPA 350.1					
Ammonia (N)	0.07	I	mg/L	2	0.080	0.035	2/24/2021 13:01	G
Analysis Desc: Tot Dissolved Solids, SM2540C			Analytical Method: SM 2540 C					
Total Dissolved Solids	71		mg/L	1	10	10	2/18/2021 14:30	J

Lab ID: **J2102184005**

Date Received: 02/16/21 07:55 Matrix: Water

Sample ID: **MWB-2I**

Date Collected: 02/15/21 11:44

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
METALS								
Analysis Desc: SW846 6010B Analysis, Water			Preparation Method: SW-846 3010A Analytical Method: SW-846 6010					
Iron	330	I	ug/L	1	800	200	2/18/2021 11:38	J
Sodium	4.5		mg/L	1	3.2	0.80	2/18/2021 11:38	J
WET CHEMISTRY								
Analysis Desc: IC,E300.0, Water			Analytical Method: EPA 300.0					
Chloride	6.9	I	mg/L	1	8.0	2.0	2/16/2021 12:06	J
Nitrate (as N)	0.20	U	mg/L	1	0.80	0.20	2/16/2021 12:06	J

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184005**

Date Received: 02/16/21 07:55 Matrix: Water

Sample ID: **MWB-2I**

Date Collected: 02/15/21 11:44

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Analysis Desc: Ammonia,E350.1,Water		Analytical Method: EPA 350.1						
Ammonia (N)	0.05	I	mg/L	2	0.080	0.035	2/24/2021 13:02	G
Analysis Desc: Tot Dissolved Solids,SM2540C		Analytical Method: SM 2540 C						
Total Dissolved Solids	30		mg/L	1	10	10	2/18/2021 14:30	J

Lab ID: **J2102184006**

Date Received: 02/16/21 07:55 Matrix: Water

Sample ID: **MWB-3I**

Date Collected: 02/15/21 13:37

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
METALS								
Analysis Desc: SW846 6010B Analysis,Water	Preparation Method: SW-846 3010A							
	Analytical Method: SW-846 6010							
Iron	660	I	ug/L	1	800	200	2/18/2021 11:42	J
Sodium	3.6		mg/L	1	3.2	0.80	2/18/2021 11:42	J
WET CHEMISTRY								
Analysis Desc: IC,E300.0,Water	Analytical Method: EPA 300.0							
Chloride	5.7	I,J4	mg/L	1	8.0	2.0	2/16/2021 13:09	J
Nitrate (as N)	0.20	U	mg/L	1	0.80	0.20	2/16/2021 13:09	J
Analysis Desc: Ammonia,E350.1,Water	Analytical Method: EPA 350.1							
Ammonia (N)	0.035	U	mg/L	2	0.080	0.035	2/24/2021 13:04	G
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM 2540 C							
Total Dissolved Solids	21		mg/L	1	10	10	2/18/2021 14:30	J

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184007**

Date Received: 02/16/21 07:55 Matrix: Water

Sample ID: **MWB-12S**

Date Collected: 02/15/21 07:38

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
METALS								
Analysis Desc: SW846 6010B			Preparation Method: SW-846 3010A					
Analysis, Water			Analytical Method: SW-846 6010					
Arsenic	8.0	U	ug/L	1	32	8.0	2/18/2021 11:46	J
Barium	3.0	U	ug/L	1	12	3.0	2/18/2021 11:46	J
Beryllium	2.0	U	ug/L	1	8.0	2.0	2/18/2021 11:46	J
Cadmium	0.50	U	ug/L	1	2.0	0.50	2/18/2021 11:46	J
Chromium	5.0	U	ug/L	1	20	5.0	2/18/2021 11:46	J
Cobalt	1.0	U	ug/L	1	4.0	1.0	2/18/2021 11:46	J
Copper	10	U	ug/L	1	40	10	2/18/2021 11:46	J
Iron	200	U	ug/L	1	800	200	2/18/2021 11:46	J
Lead	3.0	U	ug/L	1	12	3.0	2/18/2021 11:46	J
Nickel	10	U	ug/L	1	40	10	2/18/2021 11:46	J
Silver	8.0	U	ug/L	1	32	8.0	2/18/2021 11:46	J
Sodium	16		mg/L	1	3.2	0.80	2/18/2021 11:46	J
Vanadium	48		ug/L	1	8.0	2.0	2/18/2021 11:46	J
Zinc	50	U	ug/L	1	200	50	2/18/2021 11:46	J
Analysis Desc: SW846 6020B			Preparation Method: SW-846 3010A					
Analysis, Total			Analytical Method: SW-846 6020					
Antimony	1.0	U	ug/L	1	4.0	1.0	2/25/2021 23:03	J
Selenium	19		ug/L	1	5.0	1.2	2/22/2021 17:45	J
Thallium	0.25	U	ug/L	1	1.0	0.25	2/22/2021 17:45	J
Analysis Desc: SW846 7470A			Preparation Method: SW-846 7470A					
Analysis, Water			Analytical Method: SW-846 7470A					
Mercury	0.011	U	ug/L	1	0.10	0.011	2/18/2021 15:28	J
VOLATILES								
Analysis Desc: 8260B VOCs Analysis,			Preparation Method: SW-846 5030B					
Water			Analytical Method: SW-846 8260B					
1,1,1,2-Tetrachloroethane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 14:46	J
1,1,1-Trichloroethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:46	J
1,1,2,2-Tetrachloroethane	0.20	U	ug/L	1	1.0	0.20	2/16/2021 14:46	J
1,1,2-Trichloroethane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 14:46	J
1,1-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 14:46	J
1,1-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:46	J
1,2,3-Trichloropropane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 14:46	J

Report ID: 1037887 - 292367

Page 8 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184007**

Date Received: 02/16/21 07:55 Matrix: Water

Sample ID: **MWB-12S**

Date Collected: 02/15/21 07:38

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
1,2-Dibromo-3-Chloropropane	1.2	U	ug/L	1	5.0	1.2	2/16/2021 14:46	J
1,2-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:46	J
1,2-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 14:46	J
1,2-Dichloropropane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 14:46	J
1,4-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:46	J
2-Butanone (MEK)	0.25	U	ug/L	1	1.0	0.25	2/16/2021 14:46	J
2-Hexanone	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:46	J
4-Methyl-2-pentanone (MIBK)	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:46	J
Acetone	1.9	I	ug/L	1	2.0	0.50	2/16/2021 14:46	J
Acrylonitrile	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:46	J
Benzene	0.25	U	ug/L	1	1.0	0.25	2/16/2021 14:46	J
Bromochloromethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:46	J
Bromodichloromethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:46	J
Bromoform	0.25	U	ug/L	1	1.0	0.25	2/16/2021 14:46	J
Bromomethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:46	J
Carbon Disulfide	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:46	J
Carbon Tetrachloride	0.25	U	ug/L	1	1.0	0.25	2/16/2021 14:46	J
Chlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:46	J
Chloroethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:46	J
Chloroform	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:46	J
Chloromethane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 14:46	J
Dibromochloromethane	0.20	U	ug/L	1	1.0	0.20	2/16/2021 14:46	J
Dibromomethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:46	J
Ethylbenzene	0.25	U	ug/L	1	1.0	0.25	2/16/2021 14:46	J
Ethylene Dibromide (EDB)	0.25	U	ug/L	1	1.0	0.25	2/16/2021 14:46	J
Iodomethane (Methyl Iodide)	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:46	J
Methylene Chloride	1.2	U	ug/L	1	5.0	1.2	2/16/2021 14:46	J
Styrene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:46	J
Tetrachloroethylene (PCE)	0.25	U	ug/L	1	1.0	0.25	2/16/2021 14:46	J
Toluene	0.25	U	ug/L	1	1.0	0.25	2/16/2021 14:46	J
Trichloroethene	0.25	U	ug/L	1	1.0	0.25	2/16/2021 14:46	J
Trichlorofluoromethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:46	J
Vinyl Acetate	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:46	J
Vinyl Chloride	0.25	U	ug/L	1	1.0	0.25	2/16/2021 14:46	J
Xylene (Total)	0.75	U	ug/L	1	3.0	0.75	2/16/2021 14:46	J
cis-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:46	J
cis-1,3-Dichloropropene	0.20	U	ug/L	1	1.0	0.20	2/16/2021 14:46	J
trans-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:46	J
trans-1,3-Dichloropropylene	0.20	U	ug/L	1	1.0	0.20	2/16/2021 14:46	J
trans-1,4-Dichloro-2-butene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:46	J

Report ID: 1037887 - 292367

Page 9 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184007**

Date Received: 02/16/21 07:55 Matrix: Water

Sample ID: **MWB-12S**

Date Collected: 02/15/21 07:38

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
1,2-Dichloroethane-d4 (S)	103		%	1	70-128		2/16/2021 14:46	
Toluene-d8 (S)	106		%	1	77-119		2/16/2021 14:46	
Bromofluorobenzene (S)	108		%	1	86-123		2/16/2021 14:46	

Analysis Desc: 8260B SIM Analysis, Water

Preparation Method: SW-846 5030B

Analytical Method: SW-846 8260B (SIM)

1,2-Dibromo-3-Chloropropane	0.050	U	ug/L	1	0.20	0.050	2/16/2021 14:46	J
Ethylene Dibromide (EDB)	0.019	U	ug/L	1	0.10	0.019	2/16/2021 14:46	J
1,2-Dichloroethane-d4 (S)	98		%	1	77-125		2/16/2021 14:46	
Toluene-d8 (S)	103		%	1	80-121		2/16/2021 14:46	
Bromofluorobenzene (S)	107		%	1	80-129		2/16/2021 14:46	

WET CHEMISTRY

Analysis Desc: IC,E300.0,Water

Analytical Method: EPA 300.0

Chloride	19		mg/L	1	8.0	2.0	2/16/2021 13:51	J
Nitrate (as N)	0.38	I	mg/L	1	0.80	0.20	2/16/2021 13:51	J

Analysis Desc: Ammonia,E350.1,Water

Analytical Method: EPA 350.1

Ammonia (N)	0.035	U	mg/L	2	0.080	0.035	2/24/2021 13:05	G
-------------	--------------	----------	------	----------	-------	-------	-----------------	---

Analysis Desc: Tot Dissolved Solids,SM2540C

Analytical Method: SM 2540 C

Total Dissolved Solids	230		mg/L	1	10	10	2/18/2021 14:30	J
------------------------	------------	--	------	----------	----	----	-----------------	---

Lab ID: **J2102184008**

Date Received: 02/16/21 07:55 Matrix: Water

Sample ID: **MWB-22S**

Date Collected: 02/15/21 08:11

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
------------	---------	------	-------	----	--------------	--------------	----------	-----

METALS

Analysis Desc: SW846 6010B Analysis,Water

Preparation Method: SW-846 3010A

Analytical Method: SW-846 6010

Arsenic	8.0	U	ug/L	1	32	8.0	2/18/2021 11:50	J
Barium	3.0	I	ug/L	1	12	3.0	2/18/2021 11:50	J
Beryllium	2.0	U	ug/L	1	8.0	2.0	2/18/2021 11:50	J

Report ID: 1037887 - 292367

Page 10 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184008**

Date Received: 02/16/21 07:55 Matrix: Water

Sample ID: **MWB-22S**

Date Collected: 02/15/21 08:11

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Cadmium	0.50	U	ug/L	1	2.0	0.50	2/18/2021 11:50	J
Chromium	5.0	U	ug/L	1	20	5.0	2/18/2021 11:50	J
Cobalt	1.0	U	ug/L	1	4.0	1.0	2/18/2021 11:50	J
Copper	10	U	ug/L	1	40	10	2/18/2021 11:50	J
Iron	200	U	ug/L	1	800	200	2/18/2021 11:50	J
Lead	3.0	U	ug/L	1	12	3.0	2/18/2021 11:50	J
Nickel	10	U	ug/L	1	40	10	2/18/2021 11:50	J
Silver	8.0	U	ug/L	1	32	8.0	2/18/2021 11:50	J
Sodium	57		mg/L	1	3.2	0.80	2/18/2021 11:50	J
Vanadium	3.3	I	ug/L	1	8.0	2.0	2/18/2021 11:50	J
Zinc	50	U	ug/L	1	200	50	2/18/2021 11:50	J

Analysis Desc: SW846 6020B
Analysis, Total

Preparation Method: SW-846 3010A

Analytical Method: SW-846 6020

Antimony	1.0	U	ug/L	1	4.0	1.0	2/22/2021 17:50	J
Selenium	1.2	U	ug/L	1	5.0	1.2	2/22/2021 17:50	J
Thallium	0.25	U	ug/L	1	1.0	0.25	2/22/2021 17:50	J

Analysis Desc: SW846 7470A
Analysis, Water

Preparation Method: SW-846 7470A

Analytical Method: SW-846 7470A

Mercury	0.011	U	ug/L	1	0.10	0.011	2/18/2021 15:31	J
---------	-------	---	------	---	------	-------	-----------------	---

VOLATILES

Analysis Desc: 8260B VOCs Analysis,
Water

Preparation Method: SW-846 5030B

Analytical Method: SW-846 8260B

1,1,1,2-Tetrachloroethane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 15:14	J
1,1,1-Trichloroethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:14	J
1,1,2,2-Tetrachloroethane	0.20	U	ug/L	1	1.0	0.20	2/16/2021 15:14	J
1,1,2-Trichloroethane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 15:14	J
1,1-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 15:14	J
1,1-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:14	J
1,2,3-Trichloropropane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 15:14	J
1,2-Dibromo-3-Chloropropane	1.2	U	ug/L	1	5.0	1.2	2/16/2021 15:14	J
1,2-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:14	J
1,2-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 15:14	J
1,2-Dichloropropane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 15:14	J
1,4-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:14	J
2-Butanone (MEK)	0.25	U	ug/L	1	1.0	0.25	2/16/2021 15:14	J
2-Hexanone	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:14	J

Report ID: 1037887 - 292367

Page 11 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184008**

Date Received: 02/16/21 07:55 Matrix: Water

Sample ID: **MWB-22S**

Date Collected: 02/15/21 08:11

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
4-Methyl-2-pentanone (MIBK)	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:14	J
Acetone	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:14	J
Acrylonitrile	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:14	J
Benzene	0.25	U	ug/L	1	1.0	0.25	2/16/2021 15:14	J
Bromochloromethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:14	J
Bromodichloromethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:14	J
Bromoform	0.25	U	ug/L	1	1.0	0.25	2/16/2021 15:14	J
Bromomethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:14	J
Carbon Disulfide	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:14	J
Carbon Tetrachloride	0.25	U	ug/L	1	1.0	0.25	2/16/2021 15:14	J
Chlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:14	J
Chloroethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:14	J
Chloroform	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:14	J
Chloromethane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 15:14	J
Dibromochloromethane	0.20	U	ug/L	1	1.0	0.20	2/16/2021 15:14	J
Dibromomethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:14	J
Ethylbenzene	0.25	U	ug/L	1	1.0	0.25	2/16/2021 15:14	J
Ethylene Dibromide (EDB)	0.25	U	ug/L	1	1.0	0.25	2/16/2021 15:14	J
Iodomethane (Methyl Iodide)	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:14	J
Methylene Chloride	1.2	U	ug/L	1	5.0	1.2	2/16/2021 15:14	J
Styrene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:14	J
Tetrachloroethylene (PCE)	0.25	U	ug/L	1	1.0	0.25	2/16/2021 15:14	J
Toluene	0.25	U	ug/L	1	1.0	0.25	2/16/2021 15:14	J
Trichloroethene	0.25	U	ug/L	1	1.0	0.25	2/16/2021 15:14	J
Trichlorofluoromethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:14	J
Vinyl Acetate	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:14	J
Vinyl Chloride	0.25	U	ug/L	1	1.0	0.25	2/16/2021 15:14	J
Xylene (Total)	0.75	U	ug/L	1	3.0	0.75	2/16/2021 15:14	J
cis-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:14	J
cis-1,3-Dichloropropene	0.20	U	ug/L	1	1.0	0.20	2/16/2021 15:14	J
trans-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:14	J
trans-1,3-Dichloropropylene	0.20	U	ug/L	1	1.0	0.20	2/16/2021 15:14	J
trans-1,4-Dichloro-2-butene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:14	J
1,2-Dichloroethane-d4 (S)	104		%	1	70-128		2/16/2021 15:14	
Toluene-d8 (S)	105		%	1	77-119		2/16/2021 15:14	
Bromofluorobenzene (S)	109		%	1	86-123		2/16/2021 15:14	

Analysis Desc: 8260B SIM Analysis,
Water

Preparation Method: SW-846 5030B

Analytical Method: SW-846 8260B (SIM)

1,2-Dibromo-3-Chloropropane	0.050	U	ug/L	1	0.20	0.050	2/16/2021 15:14	J
-----------------------------	-------	---	------	---	------	-------	-----------------	---

Report ID: 1037887 - 292367

Page 12 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184008**

Date Received: 02/16/21 07:55 Matrix: Water

Sample ID: **MWB-22S**

Date Collected: 02/15/21 08:11

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Ethylene Dibromide (EDB)	0.019	U	ug/L	1	0.10	0.019	2/16/2021 15:14	J
1,2-Dichloroethane-d4 (S)	99		%	1	77-125		2/16/2021 15:14	
Toluene-d8 (S)	103		%	1	80-121		2/16/2021 15:14	
Bromofluorobenzene (S)	108		%	1	80-129		2/16/2021 15:14	

WET CHEMISTRY

Analysis Desc: IC,E300.0,Water

Analytical Method: EPA 300.0

Chloride	93		mg/L	1	8.0	2.0	2/16/2021 14:12	J
Nitrate (as N)	0.20	U	mg/L	1	0.80	0.20	2/16/2021 14:12	J

Analysis Desc: Ammonia,E350.1,Water

Analytical Method: EPA 350.1

Ammonia (N)	0.07	I	mg/L	2	0.080	0.035	2/24/2021 13:06	G
-------------	-------------	----------	-------------	----------	-------	-------	-----------------	---

Analysis Desc: Tot Dissolved Solids,SM2540C

Analytical Method: SM 2540 C

Total Dissolved Solids	380		mg/L	1	10	10	2/18/2021 14:30	J
------------------------	------------	--	-------------	----------	----	----	-----------------	---

Lab ID: **J2102184009**

Date Received: 02/16/21 07:55 Matrix: Water

Sample ID: **MWB-13S**

Date Collected: 02/15/21 09:12

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
METALS								
Analysis Desc: SW846 6010B Analysis,Water				Preparation Method: SW-846 3010A				
				Analytical Method: SW-846 6010				
Arsenic	8.0	U	ug/L	1	32	8.0	2/18/2021 13:07	J
Barium	3.0	I	ug/L	1	12	3.0	2/18/2021 13:07	J
Beryllium	2.0	U	ug/L	1	8.0	2.0	2/18/2021 13:07	J
Cadmium	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:07	J
Chromium	6.3	I	ug/L	1	20	5.0	2/18/2021 13:07	J
Cobalt	1.0	U	ug/L	1	4.0	1.0	2/18/2021 13:07	J
Copper	10	U	ug/L	1	40	10	2/18/2021 13:07	J
Iron	430	I	ug/L	1	800	200	2/18/2021 13:07	J
Lead	3.0	U	ug/L	1	12	3.0	2/18/2021 13:07	J
Nickel	10	U	ug/L	1	40	10	2/18/2021 13:07	J
Silver	8.0	U	ug/L	1	32	8.0	2/18/2021 13:07	J

Report ID: 1037887 - 292367

Page 13 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184009**

Date Received: 02/16/21 07:55 Matrix: Water

Sample ID: **MWB-13S**

Date Collected: 02/15/21 09:12

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Sodium	45		mg/L	1	3.2	0.80	2/18/2021 13:07	J
Vanadium	44		ug/L	1	8.0	2.0	2/18/2021 13:07	J
Zinc	50	U	ug/L	1	200	50	2/18/2021 13:07	J
Analysis Desc: SW846 6020B		Preparation Method: SW-846 3010A						
Analysis, Total		Analytical Method: SW-846 6020						
Antimony	1.0	U	ug/L	1	4.0	1.0	2/22/2021 18:06	J
Selenium	5.6		ug/L	1	5.0	1.2	2/22/2021 18:06	J
Thallium	0.25	U	ug/L	1	1.0	0.25	2/22/2021 18:06	J
Analysis Desc: SW846 7470A		Preparation Method: SW-846 7470A						
Analysis, Water		Analytical Method: SW-846 7470A						
Mercury	0.011	U	ug/L	1	0.10	0.011	2/18/2021 15:34	J

VOLATILES

Analysis Desc: 8260B VOCs Analysis, Water		Preparation Method: SW-846 5030B						
		Analytical Method: SW-846 8260B						
1,1,1,2-Tetrachloroethane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 15:43	J
1,1,1-Trichloroethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:43	J
1,1,2,2-Tetrachloroethane	0.20	U	ug/L	1	1.0	0.20	2/16/2021 15:43	J
1,1,2-Trichloroethane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 15:43	J
1,1-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 15:43	J
1,1-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:43	J
1,2,3-Trichloropropane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 15:43	J
1,2-Dibromo-3-Chloropropane	1.2	U	ug/L	1	5.0	1.2	2/16/2021 15:43	J
1,2-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:43	J
1,2-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 15:43	J
1,2-Dichloropropane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 15:43	J
1,4-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:43	J
2-Butanone (MEK)	0.25	U	ug/L	1	1.0	0.25	2/16/2021 15:43	J
2-Hexanone	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:43	J
4-Methyl-2-pentanone (MIBK)	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:43	J
Acetone	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:43	J
Acrylonitrile	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:43	J
Benzene	0.25	U	ug/L	1	1.0	0.25	2/16/2021 15:43	J
Bromochloromethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:43	J
Bromodichloromethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:43	J
Bromoform	0.25	U	ug/L	1	1.0	0.25	2/16/2021 15:43	J
Bromomethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:43	J

Report ID: 1037887 - 292367

Page 14 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184009**

Date Received: 02/16/21 07:55 Matrix: Water

Sample ID: **MWB-13S**

Date Collected: 02/15/21 09:12

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Carbon Disulfide	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:43	J
Carbon Tetrachloride	0.25	U	ug/L	1	1.0	0.25	2/16/2021 15:43	J
Chlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:43	J
Chloroethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:43	J
Chloroform	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:43	J
Chloromethane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 15:43	J
Dibromochloromethane	0.20	U	ug/L	1	1.0	0.20	2/16/2021 15:43	J
Dibromomethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:43	J
Ethylbenzene	0.25	U	ug/L	1	1.0	0.25	2/16/2021 15:43	J
Ethylene Dibromide (EDB)	0.25	U	ug/L	1	1.0	0.25	2/16/2021 15:43	J
Iodomethane (Methyl Iodide)	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:43	J
Methylene Chloride	1.2	U	ug/L	1	5.0	1.2	2/16/2021 15:43	J
Styrene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:43	J
Tetrachloroethylene (PCE)	0.25	U	ug/L	1	1.0	0.25	2/16/2021 15:43	J
Toluene	0.25	U	ug/L	1	1.0	0.25	2/16/2021 15:43	J
Trichloroethene	0.25	U	ug/L	1	1.0	0.25	2/16/2021 15:43	J
Trichlorofluoromethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:43	J
Vinyl Acetate	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:43	J
Vinyl Chloride	0.25	U	ug/L	1	1.0	0.25	2/16/2021 15:43	J
Xylene (Total)	0.75	U	ug/L	1	3.0	0.75	2/16/2021 15:43	J
cis-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:43	J
cis-1,3-Dichloropropene	0.20	U	ug/L	1	1.0	0.20	2/16/2021 15:43	J
trans-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:43	J
trans-1,3-Dichloropropylene	0.20	U	ug/L	1	1.0	0.20	2/16/2021 15:43	J
trans-1,4-Dichloro-2-butene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 15:43	J
1,2-Dichloroethane-d4 (S)	105		%	1	70-128		2/16/2021 15:43	
Toluene-d8 (S)	103		%	1	77-119		2/16/2021 15:43	
Bromofluorobenzene (S)	108		%	1	86-123		2/16/2021 15:43	

Analysis Desc: 8260B SIM Analysis,
Water

Preparation Method: SW-846 5030B

Analytical Method: SW-846 8260B (SIM)

1,2-Dibromo-3-Chloropropane	0.050	U	ug/L	1	0.20	0.050	2/16/2021 15:43	J
Ethylene Dibromide (EDB)	0.019	U	ug/L	1	0.10	0.019	2/16/2021 15:43	J
1,2-Dichloroethane-d4 (S)	101		%	1	77-125		2/16/2021 15:43	
Toluene-d8 (S)	101		%	1	80-121		2/16/2021 15:43	
Bromofluorobenzene (S)	107		%	1	80-129		2/16/2021 15:43	

WET CHEMISTRY

Analysis Desc: IC,E300.0,Water

Analytical Method: EPA 300.0

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184009**

Date Received: 02/16/21 07:55 Matrix: Water

Sample ID: **MWB-13S**

Date Collected: 02/15/21 09:12

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Chloride	97		mg/L	1	8.0	2.0	2/16/2021 14:33	J
Nitrate (as N)	0.61	I	mg/L	1	0.80	0.20	2/16/2021 14:33	J
Analysis Desc: Ammonia,E350.1,Water Analytical Method: EPA 350.1								
Ammonia (N)	0.035	U	mg/L	2	0.080	0.035	2/24/2021 13:07	G
Analysis Desc: Tot Dissolved Solids,SM2540C Analytical Method: SM 2540 C								
Total Dissolved Solids	340		mg/L	1	10	10	2/18/2021 14:30	J

Lab ID: **J2102184010**

Date Received: 02/16/21 07:55 Matrix: Water

Sample ID: **MWB-27S**

Date Collected: 02/15/21 10:11

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
METALS								
Analysis Desc: SW846 6010B Preparation Method: SW-846 3010A								
Analysis,Water Analytical Method: SW-846 6010								
Arsenic	8.0	U	ug/L	1	32	8.0	2/18/2021 13:11	J
Barium	6.0	I	ug/L	1	12	3.0	2/18/2021 13:11	J
Beryllium	2.0	U	ug/L	1	8.0	2.0	2/18/2021 13:11	J
Cadmium	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:11	J
Chromium	5.0	U	ug/L	1	20	5.0	2/18/2021 13:11	J
Cobalt	1.0	U	ug/L	1	4.0	1.0	2/18/2021 13:11	J
Copper	10	U	ug/L	1	40	10	2/18/2021 13:11	J
Iron	200	U	ug/L	1	800	200	2/18/2021 13:11	J
Lead	3.0	U	ug/L	1	12	3.0	2/18/2021 13:11	J
Nickel	10	U	ug/L	1	40	10	2/18/2021 13:11	J
Silver	8.0	U	ug/L	1	32	8.0	2/18/2021 13:11	J
Sodium	7.7		mg/L	1	3.2	0.80	2/18/2021 13:11	J
Vanadium	37		ug/L	1	8.0	2.0	2/18/2021 13:11	J
Zinc	50	U	ug/L	1	200	50	2/18/2021 13:11	J
Analysis Desc: SW846 6020B Preparation Method: SW-846 3010A								
Analysis,Total Analytical Method: SW-846 6020								
Antimony	1.0	U	ug/L	1	4.0	1.0	2/22/2021 18:11	J

Report ID: 1037887 - 292367

Page 16 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184010**

Date Received: 02/16/21 07:55 Matrix: Water

Sample ID: **MWB-27S**

Date Collected: 02/15/21 10:11

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Selenium	1.2	U	ug/L	1	5.0	1.2	2/22/2021 18:11	J
Thallium	0.25	U	ug/L	1	1.0	0.25	2/22/2021 18:11	J

Analysis Desc: SW846 7470A
Analysis, Water

Preparation Method: SW-846 7470A
Analytical Method: SW-846 7470A

Mercury	0.011	I	ug/L	1	0.10	0.011	2/18/2021 15:37	J
---------	--------------	----------	-------------	----------	------	-------	-----------------	---

VOLATILES

Analysis Desc: 8260B VOCs Analysis,
Water

Preparation Method: SW-846 5030B
Analytical Method: SW-846 8260B

1,1,1,2-Tetrachloroethane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 16:12	J
1,1,1-Trichloroethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:12	J
1,1,2,2-Tetrachloroethane	0.20	U	ug/L	1	1.0	0.20	2/16/2021 16:12	J
1,1,2-Trichloroethane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 16:12	J
1,1-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 16:12	J
1,1-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:12	J
1,2,3-Trichloropropane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 16:12	J
1,2-Dibromo-3-Chloropropane	1.2	U	ug/L	1	5.0	1.2	2/16/2021 16:12	J
1,2-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:12	J
1,2-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 16:12	J
1,2-Dichloropropane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 16:12	J
1,4-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:12	J
2-Butanone (MEK)	0.25	U	ug/L	1	1.0	0.25	2/16/2021 16:12	J
2-Hexanone	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:12	J
4-Methyl-2-pentanone (MIBK)	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:12	J
Acetone	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:12	J
Acrylonitrile	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:12	J
Benzene	0.25	U	ug/L	1	1.0	0.25	2/16/2021 16:12	J
Bromochloromethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:12	J
Bromodichloromethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:12	J
Bromoform	0.25	U	ug/L	1	1.0	0.25	2/16/2021 16:12	J
Bromomethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:12	J
Carbon Disulfide	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:12	J
Carbon Tetrachloride	0.25	U	ug/L	1	1.0	0.25	2/16/2021 16:12	J
Chlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:12	J
Chloroethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:12	J
Chloroform	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:12	J
Chloromethane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 16:12	J
Dibromochloromethane	0.20	U	ug/L	1	1.0	0.20	2/16/2021 16:12	J

Report ID: 1037887 - 292367

Page 17 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184010**

Date Received: 02/16/21 07:55 Matrix: Water

Sample ID: **MWB-27S**

Date Collected: 02/15/21 10:11

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Dibromomethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:12	J
Ethylbenzene	0.25	U	ug/L	1	1.0	0.25	2/16/2021 16:12	J
Ethylene Dibromide (EDB)	0.25	U	ug/L	1	1.0	0.25	2/16/2021 16:12	J
Iodomethane (Methyl Iodide)	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:12	J
Methylene Chloride	1.2	U	ug/L	1	5.0	1.2	2/16/2021 16:12	J
Styrene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:12	J
Tetrachloroethylene (PCE)	0.25	U	ug/L	1	1.0	0.25	2/16/2021 16:12	J
Toluene	0.25	U	ug/L	1	1.0	0.25	2/16/2021 16:12	J
Trichloroethene	0.25	U	ug/L	1	1.0	0.25	2/16/2021 16:12	J
Trichlorofluoromethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:12	J
Vinyl Acetate	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:12	J
Vinyl Chloride	0.25	U	ug/L	1	1.0	0.25	2/16/2021 16:12	J
Xylene (Total)	0.75	U	ug/L	1	3.0	0.75	2/16/2021 16:12	J
cis-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:12	J
cis-1,3-Dichloropropene	0.20	U	ug/L	1	1.0	0.20	2/16/2021 16:12	J
trans-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:12	J
trans-1,3-Dichloropropylene	0.20	U	ug/L	1	1.0	0.20	2/16/2021 16:12	J
trans-1,4-Dichloro-2-butene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:12	J
1,2-Dichloroethane-d4 (S)	106		%	1	70-128		2/16/2021 16:12	
Toluene-d8 (S)	104		%	1	77-119		2/16/2021 16:12	
Bromofluorobenzene (S)	108		%	1	86-123		2/16/2021 16:12	

Analysis Desc: 8260B SIM Analysis,
Water

Preparation Method: SW-846 5030B

Analytical Method: SW-846 8260B (SIM)

1,2-Dibromo-3-Chloropropane	0.050	U	ug/L	1	0.20	0.050	2/16/2021 16:12	J
Ethylene Dibromide (EDB)	0.019	U	ug/L	1	0.10	0.019	2/16/2021 16:12	J
1,2-Dichloroethane-d4 (S)	101		%	1	77-125		2/16/2021 16:12	
Toluene-d8 (S)	102		%	1	80-121		2/16/2021 16:12	
Bromofluorobenzene (S)	106		%	1	80-129		2/16/2021 16:12	

WET CHEMISTRY

Analysis Desc: IC,E300.0,Water

Analytical Method: EPA 300.0

Chloride	8.2		mg/L	1	8.0	2.0	2/16/2021 14:54	J
Nitrate (as N)	4.0		mg/L	1	0.80	0.20	2/16/2021 14:54	J

Analysis Desc: Ammonia,E350.1,Water

Analytical Method: EPA 350.1

Ammonia (N)	0.035	U	mg/L	2	0.080	0.035	2/24/2021 13:16	G
-------------	-------	---	------	---	-------	-------	-----------------	---

Analysis Desc: Tot Dissolved
Solids,SM2540C

Analytical Method: SM 2540 C

Report ID: 1037887 - 292367

Page 18 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184010**

Date Received: 02/16/21 07:55 Matrix: Water

Sample ID: **MWB-27S**

Date Collected: 02/15/21 10:11

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Total Dissolved Solids	170		mg/L	1	10	10	2/18/2021 14:30	J

Lab ID: **J2102184011**

Date Received: 02/16/21 07:55 Matrix: Water

Sample ID: **MWB-29S**

Date Collected: 02/15/21 11:13

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
------------	---------	------	-------	----	-----------------	-----------------	----------	-----

METALS

Analysis Desc: SW846 6010B
Analysis, Water

Preparation Method: SW-846 3010A

Analytical Method: SW-846 6010

Arsenic	8.0	U	ug/L	1	32	8.0	2/18/2021 13:15	J
Barium	9.6	I	ug/L	1	12	3.0	2/18/2021 13:15	J
Beryllium	2.0	U	ug/L	1	8.0	2.0	2/18/2021 13:15	J
Cadmium	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:15	J
Chromium	5.0	U	ug/L	1	20	5.0	2/18/2021 13:15	J
Cobalt	1.0	U	ug/L	1	4.0	1.0	2/18/2021 13:15	J
Copper	10	U	ug/L	1	40	10	2/18/2021 13:15	J
Iron	380	I	ug/L	1	800	200	2/18/2021 13:15	J
Lead	3.0	U	ug/L	1	12	3.0	2/18/2021 13:15	J
Nickel	10	U	ug/L	1	40	10	2/18/2021 13:15	J
Silver	8.0	U	ug/L	1	32	8.0	2/18/2021 13:15	J
Sodium	10		mg/L	1	3.2	0.80	2/18/2021 13:15	J
Vanadium	3.0	I	ug/L	1	8.0	2.0	2/18/2021 13:15	J
Zinc	50	U	ug/L	1	200	50	2/18/2021 13:15	J

Analysis Desc: SW846 6020B
Analysis, Total

Preparation Method: SW-846 3010A

Analytical Method: SW-846 6020

Antimony	1.0	U	ug/L	1	4.0	1.0	2/22/2021 18:16	J
Selenium	1.2	U	ug/L	1	5.0	1.2	2/22/2021 18:16	J
Thallium	0.25	U	ug/L	1	1.0	0.25	2/22/2021 18:16	J

Analysis Desc: SW846 7470A
Analysis, Water

Preparation Method: SW-846 7470A

Analytical Method: SW-846 7470A

Mercury	0.011	U	ug/L	1	0.10	0.011	2/18/2021 15:40	J
---------	--------------	----------	-------------	----------	------	-------	-----------------	---

Report ID: 1037887 - 292367

Page 19 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184011**

Date Received: 02/16/21 07:55 Matrix: Water

Sample ID: **MWB-29S**

Date Collected: 02/15/21 11:13

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
VOLATILES								
Analysis Desc: 8260B VOCs Analysis, Water			Preparation Method: SW-846 5030B					
			Analytical Method: SW-846 8260B					
1,1,1,2-Tetrachloroethane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 16:41	J
1,1,1-Trichloroethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:41	J
1,1,2,2-Tetrachloroethane	0.20	U	ug/L	1	1.0	0.20	2/16/2021 16:41	J
1,1,2-Trichloroethane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 16:41	J
1,1-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 16:41	J
1,1-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:41	J
1,2,3-Trichloropropane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 16:41	J
1,2-Dibromo-3-Chloropropane	1.2	U	ug/L	1	5.0	1.2	2/16/2021 16:41	J
1,2-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:41	J
1,2-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 16:41	J
1,2-Dichloropropane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 16:41	J
1,4-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:41	J
2-Butanone (MEK)	0.25	U	ug/L	1	1.0	0.25	2/16/2021 16:41	J
2-Hexanone	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:41	J
4-Methyl-2-pentanone (MIBK)	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:41	J
Acetone	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:41	J
Acrylonitrile	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:41	J
Benzene	0.25	U	ug/L	1	1.0	0.25	2/16/2021 16:41	J
Bromochloromethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:41	J
Bromodichloromethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:41	J
Bromoform	0.25	U	ug/L	1	1.0	0.25	2/16/2021 16:41	J
Bromomethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:41	J
Carbon Disulfide	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:41	J
Carbon Tetrachloride	0.25	U	ug/L	1	1.0	0.25	2/16/2021 16:41	J
Chlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:41	J
Chloroethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:41	J
Chloroform	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:41	J
Chloromethane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 16:41	J
Dibromochloromethane	0.20	U	ug/L	1	1.0	0.20	2/16/2021 16:41	J
Dibromomethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:41	J
Ethylbenzene	0.25	U	ug/L	1	1.0	0.25	2/16/2021 16:41	J
Ethylene Dibromide (EDB)	0.25	U	ug/L	1	1.0	0.25	2/16/2021 16:41	J
Iodomethane (Methyl Iodide)	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:41	J
Methylene Chloride	1.2	U	ug/L	1	5.0	1.2	2/16/2021 16:41	J
Styrene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:41	J
Tetrachloroethylene (PCE)	0.25	U	ug/L	1	1.0	0.25	2/16/2021 16:41	J

Report ID: 1037887 - 292367

Page 20 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184011**

Date Received: 02/16/21 07:55 Matrix: Water

Sample ID: **MWB-29S**

Date Collected: 02/15/21 11:13

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Toluene	0.25	U	ug/L	1	1.0	0.25	2/16/2021 16:41	J
Trichloroethene	0.25	U	ug/L	1	1.0	0.25	2/16/2021 16:41	J
Trichlorofluoromethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:41	J
Vinyl Acetate	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:41	J
Vinyl Chloride	0.25	U	ug/L	1	1.0	0.25	2/16/2021 16:41	J
Xylene (Total)	0.75	U	ug/L	1	3.0	0.75	2/16/2021 16:41	J
cis-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:41	J
cis-1,3-Dichloropropene	0.20	U	ug/L	1	1.0	0.20	2/16/2021 16:41	J
trans-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:41	J
trans-1,3-Dichloropropylene	0.20	U	ug/L	1	1.0	0.20	2/16/2021 16:41	J
trans-1,4-Dichloro-2-butene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 16:41	J
1,2-Dichloroethane-d4 (S)	106		%	1	70-128		2/16/2021 16:41	
Toluene-d8 (S)	105		%	1	77-119		2/16/2021 16:41	
Bromofluorobenzene (S)	104		%	1	86-123		2/16/2021 16:41	

Analysis Desc: 8260B SIM Analysis,
Water

Preparation Method: SW-846 5030B

Analytical Method: SW-846 8260B (SIM)

1,2-Dibromo-3-Chloropropane	0.050	U	ug/L	1	0.20	0.050	2/16/2021 16:41	J
Ethylene Dibromide (EDB)	0.019	U	ug/L	1	0.10	0.019	2/16/2021 16:41	J
1,2-Dichloroethane-d4 (S)	101		%	1	77-125		2/16/2021 16:41	
Toluene-d8 (S)	103		%	1	80-121		2/16/2021 16:41	
Bromofluorobenzene (S)	103		%	1	80-129		2/16/2021 16:41	

WET CHEMISTRY

Analysis Desc: IC,E300.0,Water

Analytical Method: EPA 300.0

Chloride	14		mg/L	1	8.0	2.0	2/16/2021 15:15	J
Nitrate (as N)	0.20	U	mg/L	1	0.80	0.20	2/16/2021 15:15	J

Analysis Desc: Ammonia,E350.1,Water

Analytical Method: EPA 350.1

Ammonia (N)	0.17		mg/L	2	0.080	0.035	2/24/2021 13:20	G
-------------	------	--	------	---	-------	-------	-----------------	---

Analysis Desc: Tot Dissolved
Solids,SM2540C

Analytical Method: SM 2540 C

Total Dissolved Solids	87		mg/L	1	10	10	2/18/2021 14:30	J
------------------------	----	--	------	---	----	----	-----------------	---

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184012** Date Received: 02/16/21 07:55 Matrix: Water
Sample ID: **MWB-2S** Date Collected: 02/15/21 12:21

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
METALS								
Analysis Desc: SW846 6010B			Preparation Method: SW-846 3010A					
Analysis, Water			Analytical Method: SW-846 6010					
Arsenic	8.0	U	ug/L	1	32	8.0	2/18/2021 13:19	J
Barium	4.2	I	ug/L	1	12	3.0	2/18/2021 13:19	J
Beryllium	2.0	U	ug/L	1	8.0	2.0	2/18/2021 13:19	J
Cadmium	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:19	J
Chromium	5.0	U	ug/L	1	20	5.0	2/18/2021 13:19	J
Cobalt	1.0	U	ug/L	1	4.0	1.0	2/18/2021 13:19	J
Copper	10	U	ug/L	1	40	10	2/18/2021 13:19	J
Iron	280	I	ug/L	1	800	200	2/18/2021 13:19	J
Lead	3.0	U	ug/L	1	12	3.0	2/18/2021 13:19	J
Nickel	10	U	ug/L	1	40	10	2/18/2021 13:19	J
Silver	8.0	U	ug/L	1	32	8.0	2/18/2021 13:19	J
Sodium	1.2	I	mg/L	1	3.2	0.80	2/18/2021 13:19	J
Vanadium	2.0	U	ug/L	1	8.0	2.0	2/18/2021 13:19	J
Zinc	50	U	ug/L	1	200	50	2/18/2021 13:19	J
Analysis Desc: SW846 6020B			Preparation Method: SW-846 3010A					
Analysis, Total			Analytical Method: SW-846 6020					
Antimony	1.0	U	ug/L	1	4.0	1.0	2/22/2021 18:21	J
Selenium	1.2	U	ug/L	1	5.0	1.2	2/22/2021 18:21	J
Thallium	0.25	U	ug/L	1	1.0	0.25	2/22/2021 18:21	J
Analysis Desc: SW846 7470A			Preparation Method: SW-846 7470A					
Analysis, Water			Analytical Method: SW-846 7470A					
Mercury	0.021	I	ug/L	1	0.10	0.011	2/18/2021 15:44	J
VOLATILES								
Analysis Desc: 8260B VOCs Analysis,			Preparation Method: SW-846 5030B					
Water			Analytical Method: SW-846 8260B					
1,1,1,2-Tetrachloroethane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 17:10	J
1,1,1-Trichloroethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:10	J
1,1,2,2-Tetrachloroethane	0.20	U	ug/L	1	1.0	0.20	2/16/2021 17:10	J
1,1,2-Trichloroethane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 17:10	J
1,1-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 17:10	J
1,1-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:10	J
1,2,3-Trichloropropane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 17:10	J

Report ID: 1037887 - 292367

Page 22 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184012**

Date Received: 02/16/21 07:55 Matrix: Water

Sample ID: **MWB-2S**

Date Collected: 02/15/21 12:21

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
1,2-Dibromo-3-Chloropropane	1.2	U	ug/L	1	5.0	1.2	2/16/2021 17:10	J
1,2-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:10	J
1,2-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 17:10	J
1,2-Dichloropropane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 17:10	J
1,4-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:10	J
2-Butanone (MEK)	0.25	U	ug/L	1	1.0	0.25	2/16/2021 17:10	J
2-Hexanone	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:10	J
4-Methyl-2-pentanone (MIBK)	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:10	J
Acetone	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:10	J
Acrylonitrile	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:10	J
Benzene	0.25	U	ug/L	1	1.0	0.25	2/16/2021 17:10	J
Bromochloromethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:10	J
Bromodichloromethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:10	J
Bromoform	0.25	U	ug/L	1	1.0	0.25	2/16/2021 17:10	J
Bromomethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:10	J
Carbon Disulfide	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:10	J
Carbon Tetrachloride	0.25	U	ug/L	1	1.0	0.25	2/16/2021 17:10	J
Chlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:10	J
Chloroethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:10	J
Chloroform	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:10	J
Chloromethane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 17:10	J
Dibromochloromethane	0.20	U	ug/L	1	1.0	0.20	2/16/2021 17:10	J
Dibromomethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:10	J
Ethylbenzene	0.25	U	ug/L	1	1.0	0.25	2/16/2021 17:10	J
Ethylene Dibromide (EDB)	0.25	U	ug/L	1	1.0	0.25	2/16/2021 17:10	J
Iodomethane (Methyl Iodide)	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:10	J
Methylene Chloride	1.2	U	ug/L	1	5.0	1.2	2/16/2021 17:10	J
Styrene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:10	J
Tetrachloroethylene (PCE)	0.25	U	ug/L	1	1.0	0.25	2/16/2021 17:10	J
Toluene	0.25	U	ug/L	1	1.0	0.25	2/16/2021 17:10	J
Trichloroethene	0.25	U	ug/L	1	1.0	0.25	2/16/2021 17:10	J
Trichlorofluoromethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:10	J
Vinyl Acetate	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:10	J
Vinyl Chloride	0.25	U	ug/L	1	1.0	0.25	2/16/2021 17:10	J
Xylene (Total)	0.75	U	ug/L	1	3.0	0.75	2/16/2021 17:10	J
cis-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:10	J
cis-1,3-Dichloropropene	0.20	U	ug/L	1	1.0	0.20	2/16/2021 17:10	J
trans-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:10	J
trans-1,3-Dichloropropylene	0.20	U	ug/L	1	1.0	0.20	2/16/2021 17:10	J
trans-1,4-Dichloro-2-butene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:10	J

Report ID: 1037887 - 292367

Page 23 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184012**

Date Received: 02/16/21 07:55 Matrix: Water

Sample ID: **MWB-2S**

Date Collected: 02/15/21 12:21

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
1,2-Dichloroethane-d4 (S)	107		%	1	70-128		2/16/2021 17:10	
Toluene-d8 (S)	106		%	1	77-119		2/16/2021 17:10	
Bromofluorobenzene (S)	109		%	1	86-123		2/16/2021 17:10	

Analysis Desc: 8260B SIM Analysis,
Water

Preparation Method: SW-846 5030B

Analytical Method: SW-846 8260B (SIM)

1,2-Dibromo-3-Chloropropane	0.050	U	ug/L	1	0.20	0.050	2/16/2021 17:10	J
Ethylene Dibromide (EDB)	0.019	U	ug/L	1	0.10	0.019	2/16/2021 17:10	J
1,2-Dichloroethane-d4 (S)	103		%	1	77-125		2/16/2021 17:10	
Toluene-d8 (S)	104		%	1	80-121		2/16/2021 17:10	
Bromofluorobenzene (S)	108		%	1	80-129		2/16/2021 17:10	

WET CHEMISTRY

Analysis Desc: IC,E300.0,Water

Analytical Method: EPA 300.0

Chloride	2.0	U	mg/L	1	8.0	2.0	2/16/2021 15:36	J
Nitrate (as N)	0.20	U	mg/L	1	0.80	0.20	2/16/2021 15:36	J

Analysis Desc: Ammonia,E350.1,Water

Analytical Method: EPA 350.1

Ammonia (N)	0.035	U	mg/L	2	0.080	0.035	2/24/2021 13:21	G
-------------	--------------	----------	------	----------	-------	-------	-----------------	---

Analysis Desc: Tot Dissolved
Solids,SM2540C

Analytical Method: SM 2540 C

Total Dissolved Solids	44		mg/L	1	10	10	2/18/2021 14:30	J
------------------------	-----------	--	------	----------	----	----	-----------------	---

Lab ID: **J2102184013**

Date Received: 02/16/21 07:55 Matrix: Water

Sample ID: **MWB-3S**

Date Collected: 02/15/21 13:01

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
------------	---------	------	-------	----	-----------------	-----------------	----------	-----

METALS

Analysis Desc: SW846 6010B
Analysis,Water

Preparation Method: SW-846 3010A

Analytical Method: SW-846 6010

Arsenic	8.0	U	ug/L	1	32	8.0	2/18/2021 13:23	J
Barium	17		ug/L	1	12	3.0	2/18/2021 13:23	J
Beryllium	2.0	U	ug/L	1	8.0	2.0	2/18/2021 13:23	J

Report ID: 1037887 - 292367

Page 24 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184013**

Date Received: 02/16/21 07:55 Matrix: Water

Sample ID: **MWB-3S**

Date Collected: 02/15/21 13:01

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Cadmium	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:23	J
Chromium	5.0	U	ug/L	1	20	5.0	2/18/2021 13:23	J
Cobalt	1.0	U	ug/L	1	4.0	1.0	2/18/2021 13:23	J
Copper	10	U	ug/L	1	40	10	2/18/2021 13:23	J
Iron	690	I	ug/L	1	800	200	2/18/2021 13:23	J
Lead	3.0	U	ug/L	1	12	3.0	2/18/2021 13:23	J
Nickel	10	U	ug/L	1	40	10	2/18/2021 13:23	J
Silver	8.0	U	ug/L	1	32	8.0	2/18/2021 13:23	J
Sodium	6.6		mg/L	1	3.2	0.80	2/18/2021 13:23	J
Vanadium	2.0	U	ug/L	1	8.0	2.0	2/18/2021 13:23	J
Zinc	50	U	ug/L	1	200	50	2/18/2021 13:23	J

Analysis Desc: SW846 6020B
Analysis, Total

Preparation Method: SW-846 3010A

Analytical Method: SW-846 6020

Antimony	1.0	U	ug/L	1	4.0	1.0	2/22/2021 18:27	J
Selenium	1.2	U	ug/L	1	5.0	1.2	2/22/2021 18:27	J
Thallium	0.25	U	ug/L	1	1.0	0.25	2/22/2021 18:27	J

Analysis Desc: SW846 7470A
Analysis, Water

Preparation Method: SW-846 7470A

Analytical Method: SW-846 7470A

Mercury	0.011	U	ug/L	1	0.10	0.011	2/18/2021 15:47	J
---------	-------	---	------	---	------	-------	-----------------	---

VOLATILES

Analysis Desc: 8260B VOCs Analysis,
Water

Preparation Method: SW-846 5030B

Analytical Method: SW-846 8260B

1,1,1,2-Tetrachloroethane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 17:39	J
1,1,1-Trichloroethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:39	J
1,1,2,2-Tetrachloroethane	0.20	U	ug/L	1	1.0	0.20	2/16/2021 17:39	J
1,1,2-Trichloroethane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 17:39	J
1,1-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 17:39	J
1,1-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:39	J
1,2,3-Trichloropropane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 17:39	J
1,2-Dibromo-3-Chloropropane	1.2	U	ug/L	1	5.0	1.2	2/16/2021 17:39	J
1,2-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:39	J
1,2-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 17:39	J
1,2-Dichloropropane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 17:39	J
1,4-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:39	J
2-Butanone (MEK)	0.25	U	ug/L	1	1.0	0.25	2/16/2021 17:39	J
2-Hexanone	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:39	J

Report ID: 1037887 - 292367

Page 25 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184013**

Date Received: 02/16/21 07:55 Matrix: Water

Sample ID: **MWB-3S**

Date Collected: 02/15/21 13:01

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
4-Methyl-2-pentanone (MIBK)	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:39	J
Acetone	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:39	J
Acrylonitrile	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:39	J
Benzene	0.25	U	ug/L	1	1.0	0.25	2/16/2021 17:39	J
Bromochloromethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:39	J
Bromodichloromethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:39	J
Bromoform	0.25	U	ug/L	1	1.0	0.25	2/16/2021 17:39	J
Bromomethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:39	J
Carbon Disulfide	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:39	J
Carbon Tetrachloride	0.25	U	ug/L	1	1.0	0.25	2/16/2021 17:39	J
Chlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:39	J
Chloroethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:39	J
Chloroform	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:39	J
Chloromethane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 17:39	J
Dibromochloromethane	0.20	U	ug/L	1	1.0	0.20	2/16/2021 17:39	J
Dibromomethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:39	J
Ethylbenzene	0.25	U	ug/L	1	1.0	0.25	2/16/2021 17:39	J
Ethylene Dibromide (EDB)	0.25	U	ug/L	1	1.0	0.25	2/16/2021 17:39	J
Iodomethane (Methyl Iodide)	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:39	J
Methylene Chloride	1.2	U	ug/L	1	5.0	1.2	2/16/2021 17:39	J
Styrene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:39	J
Tetrachloroethylene (PCE)	0.25	U	ug/L	1	1.0	0.25	2/16/2021 17:39	J
Toluene	0.25	U	ug/L	1	1.0	0.25	2/16/2021 17:39	J
Trichloroethene	0.25	U	ug/L	1	1.0	0.25	2/16/2021 17:39	J
Trichlorofluoromethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:39	J
Vinyl Acetate	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:39	J
Vinyl Chloride	0.25	U	ug/L	1	1.0	0.25	2/16/2021 17:39	J
Xylene (Total)	0.75	U	ug/L	1	3.0	0.75	2/16/2021 17:39	J
cis-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:39	J
cis-1,3-Dichloropropene	0.20	U	ug/L	1	1.0	0.20	2/16/2021 17:39	J
trans-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:39	J
trans-1,3-Dichloropropylene	0.20	U	ug/L	1	1.0	0.20	2/16/2021 17:39	J
trans-1,4-Dichloro-2-butene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 17:39	J
1,2-Dichloroethane-d4 (S)	102		%	1	70-128		2/16/2021 17:39	
Toluene-d8 (S)	105		%	1	77-119		2/16/2021 17:39	
Bromofluorobenzene (S)	108		%	1	86-123		2/16/2021 17:39	

Analysis Desc: 8260B SIM Analysis,
Water

Preparation Method: SW-846 5030B

Analytical Method: SW-846 8260B (SIM)

1,2-Dibromo-3-Chloropropane	0.050	U	ug/L	1	0.20	0.050	2/16/2021 17:39	J
-----------------------------	-------	---	------	---	------	-------	-----------------	---

Report ID: 1037887 - 292367

Page 26 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184013**

Date Received: 02/16/21 07:55 Matrix: Water

Sample ID: **MWB-3S**

Date Collected: 02/15/21 13:01

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Ethylene Dibromide (EDB)	0.019	U	ug/L	1	0.10	0.019	2/16/2021 17:39	J
1,2-Dichloroethane-d4 (S)	98		%	1	77-125		2/16/2021 17:39	
Toluene-d8 (S)	102		%	1	80-121		2/16/2021 17:39	
Bromofluorobenzene (S)	106		%	1	80-129		2/16/2021 17:39	

WET CHEMISTRY

Analysis Desc: IC,E300.0,Water Analytical Method: EPA 300.0

Chloride	14		mg/L	1	8.0	2.0	2/16/2021 15:58	J
Nitrate (as N)	0.20	U	mg/L	1	0.80	0.20	2/16/2021 15:58	J

Analysis Desc: Ammonia,E350.1,Water Analytical Method: EPA 350.1

Ammonia (N)	0.035	U	mg/L	2	0.080	0.035	2/24/2021 13:22	G
-------------	--------------	----------	-------------	----------	-------	-------	-----------------	---

Analysis Desc: Tot Dissolved Solids,SM2540C Analytical Method: SM 2540 C

Total Dissolved Solids	39		mg/L	1	10	10	2/18/2021 14:30	J
------------------------	-----------	--	-------------	----------	----	----	-----------------	---

Lab ID: **J2102184014**

Date Received: 02/16/21 07:55 Matrix: Water

Sample ID: **TRIP**

Date Collected: 02/15/21 00:00

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
VOLATILES								
Analysis Desc: 8260B VOCs Analysis, Water					Preparation Method: SW-846 5030B			
					Analytical Method: SW-846 8260B			
1,1,1,2-Tetrachloroethane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 14:17	J
1,1,1-Trichloroethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:17	J
1,1,2,2-Tetrachloroethane	0.20	U	ug/L	1	1.0	0.20	2/16/2021 14:17	J
1,1,2-Trichloroethane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 14:17	J
1,1-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 14:17	J
1,1-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:17	J
1,2,3-Trichloropropane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 14:17	J
1,2-Dibromo-3-Chloropropane	1.2	U	ug/L	1	5.0	1.2	2/16/2021 14:17	J
1,2-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:17	J
1,2-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 14:17	J
1,2-Dichloropropane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 14:17	J

Report ID: 1037887 - 292367

Page 27 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184014**

Date Received: 02/16/21 07:55 Matrix: Water

Sample ID: **TRIP**

Date Collected: 02/15/21 00:00

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
1,4-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:17	J
2-Butanone (MEK)	0.25	U	ug/L	1	1.0	0.25	2/16/2021 14:17	J
2-Hexanone	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:17	J
4-Methyl-2-pentanone (MIBK)	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:17	J
Acetone	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:17	J
Acrylonitrile	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:17	J
Benzene	0.25	U	ug/L	1	1.0	0.25	2/16/2021 14:17	J
Bromochloromethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:17	J
Bromodichloromethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:17	J
Bromoform	0.25	U	ug/L	1	1.0	0.25	2/16/2021 14:17	J
Bromomethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:17	J
Carbon Disulfide	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:17	J
Carbon Tetrachloride	0.25	U	ug/L	1	1.0	0.25	2/16/2021 14:17	J
Chlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:17	J
Chloroethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:17	J
Chloroform	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:17	J
Chloromethane	0.25	U	ug/L	1	1.0	0.25	2/16/2021 14:17	J
Dibromochloromethane	0.20	U	ug/L	1	1.0	0.20	2/16/2021 14:17	J
Dibromomethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:17	J
Ethylbenzene	0.25	U	ug/L	1	1.0	0.25	2/16/2021 14:17	J
Ethylene Dibromide (EDB)	0.25	U	ug/L	1	1.0	0.25	2/16/2021 14:17	J
Iodomethane (Methyl Iodide)	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:17	J
Methylene Chloride	1.2	U	ug/L	1	5.0	1.2	2/16/2021 14:17	J
Styrene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:17	J
Tetrachloroethylene (PCE)	0.25	U	ug/L	1	1.0	0.25	2/16/2021 14:17	J
Toluene	0.25	U	ug/L	1	1.0	0.25	2/16/2021 14:17	J
Trichloroethene	0.25	U	ug/L	1	1.0	0.25	2/16/2021 14:17	J
Trichlorofluoromethane	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:17	J
Vinyl Acetate	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:17	J
Vinyl Chloride	0.25	U	ug/L	1	1.0	0.25	2/16/2021 14:17	J
Xylene (Total)	0.75	U	ug/L	1	3.0	0.75	2/16/2021 14:17	J
cis-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:17	J
cis-1,3-Dichloropropene	0.20	U	ug/L	1	1.0	0.20	2/16/2021 14:17	J
trans-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:17	J
trans-1,3-Dichloropropylene	0.20	U	ug/L	1	1.0	0.20	2/16/2021 14:17	J
trans-1,4-Dichloro-2-butene	0.50	U	ug/L	1	2.0	0.50	2/16/2021 14:17	J
1,2-Dichloroethane-d4 (S)	106		%	1	70-128		2/16/2021 14:17	
Toluene-d8 (S)	106		%	1	77-119		2/16/2021 14:17	
Bromofluorobenzene (S)	109		%	1	86-123		2/16/2021 14:17	

Report ID: 1037887 - 292367

Page 28 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184014**

Date Received: 02/16/21 07:55 Matrix: Water

Sample ID: **TRIP**

Date Collected: 02/15/21 00:00

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Analysis Desc: 8260B SIM Analysis, Water		Preparation Method: SW-846 5030B Analytical Method: SW-846 8260B (SIM)						
1,2-Dibromo-3-Chloropropane	0.050	U	ug/L	1	0.20	0.050	2/16/2021 14:17	J
Ethylene Dibromide (EDB)	0.019	U	ug/L	1	0.10	0.019	2/16/2021 14:17	J
1,2-Dichloroethane-d4 (S)	101		%	1	77-125		2/16/2021 14:17	
Toluene-d8 (S)	104		%	1	80-121		2/16/2021 14:17	
Bromofluorobenzene (S)	107		%	1	80-129		2/16/2021 14:17	

Lab ID: **J2102184015**

Date Received: 02/17/21 10:20 Matrix: Water

Sample ID: **MWB-34I**

Date Collected: 02/16/21 07:41

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
METALS								
Analysis Desc: SW846 6010B Analysis, Water		Preparation Method: SW-846 3010A Analytical Method: SW-846 6010						
Iron	250	I	ug/L	1	800	200	2/18/2021 13:27	J
Sodium	3.7		mg/L	1	3.2	0.80	2/18/2021 13:27	J
WET CHEMISTRY								
Analysis Desc: IC,E300.0, Water		Analytical Method: EPA 300.0						
Chloride	5.1	I,J4	mg/L	1	8.0	2.0	2/18/2021 01:13	J
Nitrate (as N)	0.30	I,J4	mg/L	1	0.80	0.20	2/18/2021 01:13	J
Analysis Desc: Ammonia,E350.1, Water		Analytical Method: EPA 350.1						
Ammonia (N)	0.06	I	mg/L	2	0.080	0.035	2/24/2021 13:23	G
Analysis Desc: Tot Dissolved Solids, SM2540C		Analytical Method: SM 2540 C						
Total Dissolved Solids	44		mg/L	1	10	10	2/18/2021 14:30	J

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184016**

Date Received: 02/17/21 10:20 Matrix: Water

Sample ID: **MWB-32I**

Date Collected: 02/16/21 09:16

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
METALS								
Analysis Desc: SW846 6010B Analysis, Water			Preparation Method: SW-846 3010A Analytical Method: SW-846 6010					
Iron	280	I	ug/L	1	800	200	2/18/2021 13:31	J
Sodium	3.1	I	mg/L	1	3.2	0.80	2/18/2021 13:31	J
WET CHEMISTRY								
Analysis Desc: IC,E300.0, Water			Analytical Method: EPA 300.0					
Chloride	5.1	I	mg/L	1	8.0	2.0	2/17/2021 21:43	J
Nitrate (as N)	0.20	U	mg/L	1	0.80	0.20	2/17/2021 21:43	J
Analysis Desc: Ammonia,E350.1, Water			Analytical Method: EPA 350.1					
Ammonia (N)	0.035	U	mg/L	2	0.080	0.035	2/24/2021 13:25	G
Analysis Desc: Tot Dissolved Solids, SM2540C			Analytical Method: SM 2540 C					
Total Dissolved Solids	42	J4	mg/L	1	10	10	2/19/2021 09:00	J

Lab ID: **J2102184017**

Date Received: 02/17/21 10:20 Matrix: Water

Sample ID: **MWB-11I (R)**

Date Collected: 02/16/21 10:19

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
METALS								
Analysis Desc: SW846 6010B Analysis, Water			Preparation Method: SW-846 3010A Analytical Method: SW-846 6010					
Iron	270	I	ug/L	1	800	200	2/18/2021 13:35	J
Sodium	3.3		mg/L	1	3.2	0.80	2/18/2021 13:35	J
WET CHEMISTRY								
Analysis Desc: IC,E300.0, Water			Analytical Method: EPA 300.0					
Chloride	4.8	I	mg/L	1	8.0	2.0	2/17/2021 22:04	J
Nitrate (as N)	0.20	U	mg/L	1	0.80	0.20	2/17/2021 22:04	J

Report ID: 1037887 - 292367

Page 30 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184017** Date Received: 02/17/21 10:20 Matrix: Water
Sample ID: **MWB-111 (R)** Date Collected: 02/16/21 10:19

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Analysis Desc: Ammonia,E350.1,Water		Analytical Method: EPA 350.1						
Ammonia (N)	0.035	U	mg/L	2	0.080	0.035	2/24/2021 13:26	G
Analysis Desc: Tot Dissolved Solids,SM2540C		Analytical Method: SM 2540 C						
Total Dissolved Solids	41		mg/L	1	10	10	2/19/2021 09:00	J

Lab ID: **J2102184018** Date Received: 02/17/21 10:20 Matrix: Water
Sample ID: **MWB-391** Date Collected: 02/16/21 12:01

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Analysis Desc: SW846 6010B Analysis,Water		Preparation Method: SW-846 3010A Analytical Method: SW-846 6010						
Iron	230	I	ug/L	1	800	200	2/18/2021 13:39	J
Sodium	3.4		mg/L	1	3.2	0.80	2/18/2021 13:39	J

WET CHEMISTRY

Analysis Desc: IC,E300.0,Water		Analytical Method: EPA 300.0						
Chloride	4.2	I	mg/L	1	8.0	2.0	2/17/2021 22:25	J
Nitrate (as N)	0.20	U	mg/L	1	0.80	0.20	2/17/2021 22:25	J
Analysis Desc: Ammonia,E350.1,Water		Analytical Method: EPA 350.1						
Ammonia (N)	0.035	U	mg/L	2	0.080	0.035	2/24/2021 13:27	G
Analysis Desc: Tot Dissolved Solids,SM2540C		Analytical Method: SM 2540 C						
Total Dissolved Solids	49		mg/L	1	10	10	2/19/2021 09:00	J

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184019**

Date Received: 02/17/21 10:20 Matrix: Water

Sample ID: **MWB-35I**

Date Collected: 02/16/21 13:57

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
METALS								
Analysis Desc: SW846 6010B Analysis, Water			Preparation Method: SW-846 3010A Analytical Method: SW-846 6010					
Iron	370	I	ug/L	1	800	200	2/18/2021 13:51	J
Sodium	2.4	I	mg/L	1	3.2	0.80	2/18/2021 13:51	J
WET CHEMISTRY								
Analysis Desc: IC,E300.0, Water			Analytical Method: EPA 300.0					
Chloride	2.0	U	mg/L	1	8.0	2.0	2/17/2021 22:46	J
Nitrate (as N)	0.20	U	mg/L	1	0.80	0.20	2/17/2021 22:46	J
Analysis Desc: Ammonia,E350.1, Water			Analytical Method: EPA 350.1					
Ammonia (N)	0.05	I	mg/L	2	0.080	0.035	2/24/2021 13:28	G
Analysis Desc: Tot Dissolved Solids, SM2540C			Analytical Method: SM 2540 C					
Total Dissolved Solids	26		mg/L	1	10	10	2/19/2021 09:00	J

Lab ID: **J2102184020**

Date Received: 02/17/21 10:20 Matrix: Water

Sample ID: **MWB-21S**

Date Collected: 02/16/21 07:10

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
METALS								
Analysis Desc: SW846 6010B Analysis, Water			Preparation Method: SW-846 3010A Analytical Method: SW-846 6010					
Arsenic	8.0	U	ug/L	1	32	8.0	2/23/2021 10:43	J
Barium	35		ug/L	1	12	3.0	2/23/2021 10:43	J
Beryllium	2.0	U	ug/L	1	8.0	2.0	2/23/2021 10:43	J
Cadmium	0.50	U	ug/L	1	2.0	0.50	2/23/2021 10:43	J
Chromium	5.0	U	ug/L	1	20	5.0	2/23/2021 10:43	J
Cobalt	1.0	U	ug/L	1	4.0	1.0	2/23/2021 10:43	J
Copper	10	U	ug/L	1	40	10	2/23/2021 10:43	J
Iron	2000		ug/L	1	800	200	2/23/2021 10:43	J
Lead	3.0	U	ug/L	1	12	3.0	2/23/2021 10:43	J

Report ID: 1037887 - 292367

Page 32 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184020**

Date Received: 02/17/21 10:20 Matrix: Water

Sample ID: **MWB-21S**

Date Collected: 02/16/21 07:10

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Nickel	10	U	ug/L	1	40	10	2/23/2021 10:43	J
Silver	8.0	U	ug/L	1	32	8.0	2/23/2021 10:43	J
Sodium	8.6		mg/L	1	3.2	0.80	2/23/2021 10:43	J
Vanadium	2.0	U	ug/L	1	8.0	2.0	2/23/2021 10:43	J
Zinc	50	U	ug/L	1	200	50	2/23/2021 10:43	J

Analysis Desc: SW846 6020B
Analysis, Total

Preparation Method: SW-846 3010A

Analytical Method: SW-846 6020

Antimony	1.0	U	ug/L	1	4.0	1.0	2/22/2021 18:32	J
Selenium	1.2	U	ug/L	1	5.0	1.2	2/22/2021 18:32	J
Thallium	0.25	U	ug/L	1	1.0	0.25	2/22/2021 18:32	J

Analysis Desc: SW846 7470A
Analysis, Water

Preparation Method: SW-846 7470A

Analytical Method: SW-846 7470A

Mercury	0.011	U	ug/L	1	0.10	0.011	2/18/2021 15:50	J
---------	-------	---	------	---	------	-------	-----------------	---

VOLATILES

Analysis Desc: 8260B VOCs Analysis,
Water

Preparation Method: SW-846 5030B

Analytical Method: SW-846 8260B

1,1,1,2-Tetrachloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 14:45	J
1,1,1-Trichloroethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 14:45	J
1,1,2,2-Tetrachloroethane	0.20	U	ug/L	1	1.0	0.20	2/18/2021 14:45	J
1,1,2-Trichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 14:45	J
1,1-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 14:45	J
1,1-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 14:45	J
1,2,3-Trichloropropane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 14:45	J
1,2-Dibromo-3-Chloropropane	1.2	U	ug/L	1	5.0	1.2	2/18/2021 14:45	J
1,2-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 14:45	J
1,2-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 14:45	J
1,2-Dichloropropane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 14:45	J
1,4-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 14:45	J
2-Butanone (MEK)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 14:45	J
2-Hexanone	0.50	U	ug/L	1	2.0	0.50	2/18/2021 14:45	J
4-Methyl-2-pentanone (MIBK)	0.50	U	ug/L	1	2.0	0.50	2/18/2021 14:45	J
Acetone	58		ug/L	1	2.0	0.50	2/18/2021 14:45	J
Acrylonitrile	0.50	U	ug/L	1	2.0	0.50	2/18/2021 14:45	J
Benzene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 14:45	J
Bromochloromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 14:45	J
Bromodichloromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 14:45	J

Report ID: 1037887 - 292367

Page 33 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184020**

Date Received: 02/17/21 10:20 Matrix: Water

Sample ID: **MWB-21S**

Date Collected: 02/16/21 07:10

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Bromoform	0.25	U	ug/L	1	1.0	0.25	2/18/2021 14:45	J
Bromomethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 14:45	J
Carbon Disulfide	0.50	U	ug/L	1	2.0	0.50	2/18/2021 14:45	J
Carbon Tetrachloride	0.25	U	ug/L	1	1.0	0.25	2/18/2021 14:45	J
Chlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 14:45	J
Chloroethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 14:45	J
Chloroform	0.50	U	ug/L	1	2.0	0.50	2/18/2021 14:45	J
Chloromethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 14:45	J
Dibromochloromethane	0.20	U	ug/L	1	1.0	0.20	2/18/2021 14:45	J
Dibromomethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 14:45	J
Ethylbenzene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 14:45	J
Ethylene Dibromide (EDB)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 14:45	J
Iodomethane (Methyl Iodide)	0.50	U	ug/L	1	2.0	0.50	2/18/2021 14:45	J
Methylene Chloride	1.2	U	ug/L	1	5.0	1.2	2/18/2021 14:45	J
Styrene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 14:45	J
Tetrachloroethylene (PCE)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 14:45	J
Toluene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 14:45	J
Trichloroethene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 14:45	J
Trichlorofluoromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 14:45	J
Vinyl Acetate	0.50	U	ug/L	1	2.0	0.50	2/18/2021 14:45	J
Vinyl Chloride	0.25	U	ug/L	1	1.0	0.25	2/18/2021 14:45	J
Xylene (Total)	0.75	U	ug/L	1	3.0	0.75	2/18/2021 14:45	J
cis-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 14:45	J
cis-1,3-Dichloropropene	0.20	U	ug/L	1	1.0	0.20	2/18/2021 14:45	J
trans-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 14:45	J
trans-1,3-Dichloropropylene	0.20	U	ug/L	1	1.0	0.20	2/18/2021 14:45	J
trans-1,4-Dichloro-2-butene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 14:45	J
1,2-Dichloroethane-d4 (S)	107		%	1	70-128		2/18/2021 14:45	
Toluene-d8 (S)	106		%	1	77-119		2/18/2021 14:45	
Bromofluorobenzene (S)	109		%	1	86-123		2/18/2021 14:45	

Analysis Desc: 8260B SIM Analysis,
Water

Preparation Method: SW-846 5030B

Analytical Method: SW-846 8260B (SIM)

1,2-Dibromo-3-Chloropropane	0.050	U	ug/L	1	0.20	0.050	2/18/2021 14:45	J
Ethylene Dibromide (EDB)	0.019	U	ug/L	1	0.10	0.019	2/18/2021 14:45	J
1,2-Dichloroethane-d4 (S)	103		%	1	77-125		2/18/2021 14:45	
Toluene-d8 (S)	103		%	1	80-121		2/18/2021 14:45	
Bromofluorobenzene (S)	107		%	1	80-129		2/18/2021 14:45	

WET CHEMISTRY

Report ID: 1037887 - 292367

Page 34 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184020**

Date Received: 02/17/21 10:20 Matrix: Water

Sample ID: **MWB-21S**

Date Collected: 02/16/21 07:10

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Analysis Desc: IC,E300.0,Water		Analytical Method: EPA 300.0						
Chloride	15		mg/L	1	8.0	2.0	2/17/2021 23:49	J
Nitrate (as N)	0.20	U	mg/L	1	0.80	0.20	2/17/2021 23:49	J
Analysis Desc: Ammonia,E350.1,Water		Analytical Method: EPA 350.1						
Ammonia (N)	0.48		mg/L	2	0.080	0.035	2/24/2021 13:29	G
Analysis Desc: Tot Dissolved Solids,SM2540C		Analytical Method: SM 2540 C						
Total Dissolved Solids	190		mg/L	1	10	10	2/18/2021 14:30	J

Lab ID: **J2102184021**

Date Received: 02/17/21 10:20 Matrix: Water

Sample ID: **MWB-34S**

Date Collected: 02/16/21 08:11

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
METALS								
Analysis Desc: SW846 6010B		Preparation Method: SW-846 3010A						
Analysis,Water		Analytical Method: SW-846 6010						
Arsenic	8.0	U	ug/L	1	32	8.0	2/23/2021 11:11	J
Barium	13		ug/L	1	12	3.0	2/23/2021 11:11	J
Beryllium	2.0	U	ug/L	1	8.0	2.0	2/23/2021 11:11	J
Cadmium	0.50	U	ug/L	1	2.0	0.50	2/23/2021 11:11	J
Chromium	5.0	U	ug/L	1	20	5.0	2/23/2021 11:11	J
Cobalt	1.0	U	ug/L	1	4.0	1.0	2/23/2021 11:11	J
Copper	10	U	ug/L	1	40	10	2/23/2021 11:11	J
Iron	1300		ug/L	1	800	200	2/23/2021 11:11	J
Lead	3.0	U	ug/L	1	12	3.0	2/23/2021 11:11	J
Nickel	10	U	ug/L	1	40	10	2/23/2021 11:11	J
Silver	8.0	U	ug/L	1	32	8.0	2/23/2021 11:11	J
Sodium	98		mg/L	1	3.2	0.80	2/23/2021 11:11	J
Vanadium	74		ug/L	1	8.0	2.0	2/23/2021 11:11	J
Zinc	50	U	ug/L	1	200	50	2/23/2021 11:11	J

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184021**

Date Received: 02/17/21 10:20 Matrix: Water

Sample ID: **MWB-34S**

Date Collected: 02/16/21 08:11

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Analysis Desc: SW846 6020B		Preparation Method: SW-846 3010A						
Analysis, Total		Analytical Method: SW-846 6020						
Antimony	1.0	U	ug/L	1	4.0	1.0	2/25/2021 23:09	J
Selenium	7.4		ug/L	1	5.0	1.2	2/22/2021 18:37	J
Thallium	0.25	U	ug/L	1	1.0	0.25	2/22/2021 18:37	J

Analysis Desc: SW846 7470A Preparation Method: SW-846 7470A
Analysis, Water Analytical Method: SW-846 7470A

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Mercury	0.011	U	ug/L	1	0.10	0.011	2/18/2021 16:13	J

VOLATILES

Analysis Desc: 8260B VOCs Analysis, Water Preparation Method: SW-846 5030B
Analytical Method: SW-846 8260B

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
1,1,1,2-Tetrachloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 15:13	J
1,1,1-Trichloroethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:13	J
1,1,2,2-Tetrachloroethane	0.20	U	ug/L	1	1.0	0.20	2/18/2021 15:13	J
1,1,2-Trichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 15:13	J
1,1-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 15:13	J
1,1-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:13	J
1,2,3-Trichloropropane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 15:13	J
1,2-Dibromo-3-Chloropropane	1.2	U	ug/L	1	5.0	1.2	2/18/2021 15:13	J
1,2-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:13	J
1,2-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 15:13	J
1,2-Dichloropropane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 15:13	J
1,4-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:13	J
2-Butanone (MEK)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 15:13	J
2-Hexanone	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:13	J
4-Methyl-2-pentanone (MIBK)	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:13	J
Acetone	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:13	J
Acrylonitrile	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:13	J
Benzene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 15:13	J
Bromochloromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:13	J
Bromodichloromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:13	J
Bromoform	0.25	U	ug/L	1	1.0	0.25	2/18/2021 15:13	J
Bromomethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:13	J
Carbon Disulfide	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:13	J
Carbon Tetrachloride	0.25	U	ug/L	1	1.0	0.25	2/18/2021 15:13	J
Chlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:13	J
Chloroethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:13	J

Report ID: 1037887 - 292367

Page 36 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184021**

Date Received: 02/17/21 10:20 Matrix: Water

Sample ID: **MWB-34S**

Date Collected: 02/16/21 08:11

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Chloroform	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:13	J
Chloromethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 15:13	J
Dibromochloromethane	0.20	U	ug/L	1	1.0	0.20	2/18/2021 15:13	J
Dibromomethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:13	J
Ethylbenzene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 15:13	J
Ethylene Dibromide (EDB)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 15:13	J
Iodomethane (Methyl Iodide)	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:13	J
Methylene Chloride	1.2	U	ug/L	1	5.0	1.2	2/18/2021 15:13	J
Styrene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:13	J
Tetrachloroethylene (PCE)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 15:13	J
Toluene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 15:13	J
Trichloroethene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 15:13	J
Trichlorofluoromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:13	J
Vinyl Acetate	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:13	J
Vinyl Chloride	0.25	U	ug/L	1	1.0	0.25	2/18/2021 15:13	J
Xylene (Total)	0.75	U	ug/L	1	3.0	0.75	2/18/2021 15:13	J
cis-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:13	J
cis-1,3-Dichloropropene	0.20	U	ug/L	1	1.0	0.20	2/18/2021 15:13	J
trans-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:13	J
trans-1,3-Dichloropropylene	0.20	U	ug/L	1	1.0	0.20	2/18/2021 15:13	J
trans-1,4-Dichloro-2-butene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:13	J
1,2-Dichloroethane-d4 (S)	105		%	1	70-128		2/18/2021 15:13	
Toluene-d8 (S)	104		%	1	77-119		2/18/2021 15:13	
Bromofluorobenzene (S)	111		%	1	86-123		2/18/2021 15:13	

Analysis Desc: 8260B SIM Analysis,
Water

Preparation Method: SW-846 5030B

Analytical Method: SW-846 8260B (SIM)

1,2-Dibromo-3-Chloropropane	0.050	U	ug/L	1	0.20	0.050	2/18/2021 15:13	J
Ethylene Dibromide (EDB)	0.019	U	ug/L	1	0.10	0.019	2/18/2021 15:13	J
1,2-Dichloroethane-d4 (S)	100		%	1	77-125		2/18/2021 15:13	
Toluene-d8 (S)	101		%	1	80-121		2/18/2021 15:13	
Bromofluorobenzene (S)	109		%	1	80-129		2/18/2021 15:13	

WET CHEMISTRY

Analysis Desc: IC,E300.0,Water

Analytical Method: EPA 300.0

Chloride	140		mg/L	5	40	10	2/18/2021 00:09	J
Nitrate (as N)	13		mg/L	5	4.0	1.0	2/18/2021 00:09	J

Analysis Desc: Ammonia,E350.1,Water

Analytical Method: EPA 350.1

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184021**
Sample ID: **MWB-34S**

Date Received: 02/17/21 10:20 Matrix: Water
Date Collected: 02/16/21 08:11

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Ammonia (N)	0.035	U	mg/L	2	0.080	0.035	2/24/2021 13:39	G
Analysis Desc: Tot Dissolved Solids, SM2540C		Analytical Method: SM 2540 C						
Total Dissolved Solids	900		mg/L	1	10	10	2/18/2021 14:30	J

Lab ID: **J2102184022**
Sample ID: **MWB-33S**

Date Received: 02/17/21 10:20 Matrix: Water
Date Collected: 02/16/21 08:43

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
METALS								
Analysis Desc: SW846 6010B Analysis, Water		Preparation Method: SW-846 3010A Analytical Method: SW-846 6010						
Arsenic	8.0	U	ug/L	1	32	8.0	2/23/2021 11:15	J
Barium	10	I	ug/L	1	12	3.0	2/23/2021 11:15	J
Beryllium	2.0	U	ug/L	1	8.0	2.0	2/23/2021 11:15	J
Cadmium	0.50	U	ug/L	1	2.0	0.50	2/23/2021 11:15	J
Chromium	5.0	U	ug/L	1	20	5.0	2/23/2021 11:15	J
Cobalt	1.0	U	ug/L	1	4.0	1.0	2/23/2021 11:15	J
Copper	10	U	ug/L	1	40	10	2/23/2021 11:15	J
Iron	770	I	ug/L	1	800	200	2/23/2021 11:15	J
Lead	3.0	U	ug/L	1	12	3.0	2/23/2021 11:15	J
Nickel	10	U	ug/L	1	40	10	2/23/2021 11:15	J
Silver	8.0	U	ug/L	1	32	8.0	2/23/2021 11:15	J
Sodium	8.1		mg/L	1	3.2	0.80	2/23/2021 11:15	J
Vanadium	9.4		ug/L	1	8.0	2.0	2/23/2021 11:15	J
Zinc	50	U	ug/L	1	200	50	2/23/2021 11:15	J

Analysis Desc: SW846 6020B Analysis, Total
Preparation Method: SW-846 3010A
Analytical Method: SW-846 6020

Antimony	1.0	U	ug/L	1	4.0	1.0	2/22/2021 18:42	J
Selenium	1.2	U	ug/L	1	5.0	1.2	2/22/2021 18:42	J
Thallium	0.25	U	ug/L	1	1.0	0.25	2/22/2021 18:42	J

Report ID: 1037887 - 292367

Page 38 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184022**

Date Received: 02/17/21 10:20 Matrix: Water

Sample ID: **MWB-33S**

Date Collected: 02/16/21 08:43

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Analysis Desc: SW846 7470A		Preparation Method: SW-846 7470A						
Analysis, Water		Analytical Method: SW-846 7470A						
Mercury	0.011	U	ug/L	1	0.10	0.011	2/18/2021 16:16	J

VOLATILES

Analysis Desc: 8260B VOCs Analysis, Water		Preparation Method: SW-846 5030B						
		Analytical Method: SW-846 8260B						
1,1,1,2-Tetrachloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 15:42	J
1,1,1-Trichloroethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:42	J
1,1,2,2-Tetrachloroethane	0.20	U	ug/L	1	1.0	0.20	2/18/2021 15:42	J
1,1,2-Trichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 15:42	J
1,1-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 15:42	J
1,1-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:42	J
1,2,3-Trichloropropane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 15:42	J
1,2-Dibromo-3-Chloropropane	1.2	U	ug/L	1	5.0	1.2	2/18/2021 15:42	J
1,2-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:42	J
1,2-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 15:42	J
1,2-Dichloropropane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 15:42	J
1,4-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:42	J
2-Butanone (MEK)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 15:42	J
2-Hexanone	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:42	J
4-Methyl-2-pentanone (MIBK)	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:42	J
Acetone	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:42	J
Acrylonitrile	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:42	J
Benzene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 15:42	J
Bromochloromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:42	J
Bromodichloromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:42	J
Bromoform	0.25	U	ug/L	1	1.0	0.25	2/18/2021 15:42	J
Bromomethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:42	J
Carbon Disulfide	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:42	J
Carbon Tetrachloride	0.25	U	ug/L	1	1.0	0.25	2/18/2021 15:42	J
Chlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:42	J
Chloroethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:42	J
Chloroform	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:42	J
Chloromethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 15:42	J
Dibromochloromethane	0.20	U	ug/L	1	1.0	0.20	2/18/2021 15:42	J
Dibromomethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:42	J
Ethylbenzene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 15:42	J
Ethylene Dibromide (EDB)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 15:42	J

Report ID: 1037887 - 292367

Page 39 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184022**

Date Received: 02/17/21 10:20 Matrix: Water

Sample ID: **MWB-33S**

Date Collected: 02/16/21 08:43

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Iodomethane (Methyl Iodide)	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:42	J
Methylene Chloride	1.2	U	ug/L	1	5.0	1.2	2/18/2021 15:42	J
Styrene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:42	J
Tetrachloroethylene (PCE)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 15:42	J
Toluene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 15:42	J
Trichloroethene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 15:42	J
Trichlorofluoromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:42	J
Vinyl Acetate	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:42	J
Vinyl Chloride	0.25	U	ug/L	1	1.0	0.25	2/18/2021 15:42	J
Xylene (Total)	0.75	U	ug/L	1	3.0	0.75	2/18/2021 15:42	J
cis-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:42	J
cis-1,3-Dichloropropene	0.20	U	ug/L	1	1.0	0.20	2/18/2021 15:42	J
trans-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:42	J
trans-1,3-Dichloropropylene	0.20	U	ug/L	1	1.0	0.20	2/18/2021 15:42	J
trans-1,4-Dichloro-2-butene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 15:42	J
1,2-Dichloroethane-d4 (S)	104		%	1	70-128		2/18/2021 15:42	
Toluene-d8 (S)	105		%	1	77-119		2/18/2021 15:42	
Bromofluorobenzene (S)	111		%	1	86-123		2/18/2021 15:42	

Analysis Desc: 8260B SIM Analysis,
Water

Preparation Method: SW-846 5030B

Analytical Method: SW-846 8260B (SIM)

1,2-Dibromo-3-Chloropropane	0.050	U	ug/L	1	0.20	0.050	2/18/2021 15:42	J
Ethylene Dibromide (EDB)	0.019	U	ug/L	1	0.10	0.019	2/18/2021 15:42	J
1,2-Dichloroethane-d4 (S)	100		%	1	77-125		2/18/2021 15:42	
Toluene-d8 (S)	104		%	1	80-121		2/18/2021 15:42	
Bromofluorobenzene (S)	109		%	1	80-129		2/18/2021 15:42	

WET CHEMISTRY

Analysis Desc: IC,E300.0,Water

Analytical Method: EPA 300.0

Chloride	15		mg/L	1	8.0	2.0	2/18/2021 00:31	J
Nitrate (as N)	0.20	U	mg/L	1	0.80	0.20	2/18/2021 00:31	J

Analysis Desc: Ammonia,E350.1,Water

Analytical Method: EPA 350.1

Ammonia (N)	1.4		mg/L	2	0.080	0.035	2/24/2021 13:42	G
-------------	-----	--	------	---	-------	-------	-----------------	---

Analysis Desc: Tot Dissolved
Solids,SM2540C

Analytical Method: SM 2540 C

Total Dissolved Solids	140		mg/L	1	10	10	2/19/2021 09:00	J
------------------------	-----	--	------	---	----	----	-----------------	---

Report ID: 1037887 - 292367

Page 40 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184023**

Date Received: 02/17/21 10:20 Matrix: Water

Sample ID: **MWB-32S**

Date Collected: 02/16/21 09:46

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
METALS								
Analysis Desc: SW846 6010B			Preparation Method: SW-846 3010A					
Analysis, Water			Analytical Method: SW-846 6010					
Arsenic	8.0	U	ug/L	1	32	8.0	2/23/2021 11:19	J
Barium	16		ug/L	1	12	3.0	2/23/2021 11:19	J
Beryllium	2.0	U	ug/L	1	8.0	2.0	2/23/2021 11:19	J
Cadmium	0.50	U	ug/L	1	2.0	0.50	2/23/2021 11:19	J
Chromium	5.0	U	ug/L	1	20	5.0	2/23/2021 11:19	J
Cobalt	1.0	U	ug/L	1	4.0	1.0	2/23/2021 11:19	J
Copper	10	U	ug/L	1	40	10	2/23/2021 11:19	J
Iron	2000		ug/L	1	800	200	2/23/2021 11:19	J
Lead	3.0	U	ug/L	1	12	3.0	2/23/2021 11:19	J
Nickel	10	U	ug/L	1	40	10	2/23/2021 11:19	J
Silver	8.0	U	ug/L	1	32	8.0	2/23/2021 11:19	J
Sodium	7.2		mg/L	1	3.2	0.80	2/23/2021 11:19	J
Vanadium	23		ug/L	1	8.0	2.0	2/23/2021 11:19	J
Zinc	50	U	ug/L	1	200	50	2/23/2021 11:19	J
Analysis Desc: SW846 6020B			Preparation Method: SW-846 3010A					
Analysis, Total			Analytical Method: SW-846 6020					
Antimony	1.0	U	ug/L	1	4.0	1.0	2/22/2021 18:48	J
Selenium	1.8	I	ug/L	1	5.0	1.2	2/22/2021 18:48	J
Thallium	0.25	U	ug/L	1	1.0	0.25	2/22/2021 18:48	J
Analysis Desc: SW846 7470A			Preparation Method: SW-846 7470A					
Analysis, Water			Analytical Method: SW-846 7470A					
Mercury	0.018	I	ug/L	1	0.10	0.011	2/18/2021 16:19	J
VOLATILES								
Analysis Desc: 8260B VOCs Analysis, Water			Preparation Method: SW-846 5030B					
			Analytical Method: SW-846 8260B					
1,1,1,2-Tetrachloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 16:11	J
1,1,1-Trichloroethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:11	J
1,1,2,2-Tetrachloroethane	0.20	U	ug/L	1	1.0	0.20	2/18/2021 16:11	J
1,1,2-Trichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 16:11	J
1,1-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 16:11	J
1,1-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:11	J
1,2,3-Trichloropropane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 16:11	J

Report ID: 1037887 - 292367

Page 41 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184023**

Date Received: 02/17/21 10:20 Matrix: Water

Sample ID: **MWB-32S**

Date Collected: 02/16/21 09:46

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
1,2-Dibromo-3-Chloropropane	1.2	U	ug/L	1	5.0	1.2	2/18/2021 16:11	J
1,2-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:11	J
1,2-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 16:11	J
1,2-Dichloropropane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 16:11	J
1,4-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:11	J
2-Butanone (MEK)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 16:11	J
2-Hexanone	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:11	J
4-Methyl-2-pentanone (MIBK)	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:11	J
Acetone	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:11	J
Acrylonitrile	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:11	J
Benzene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 16:11	J
Bromochloromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:11	J
Bromodichloromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:11	J
Bromoform	0.25	U	ug/L	1	1.0	0.25	2/18/2021 16:11	J
Bromomethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:11	J
Carbon Disulfide	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:11	J
Carbon Tetrachloride	0.25	U	ug/L	1	1.0	0.25	2/18/2021 16:11	J
Chlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:11	J
Chloroethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:11	J
Chloroform	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:11	J
Chloromethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 16:11	J
Dibromochloromethane	0.20	U	ug/L	1	1.0	0.20	2/18/2021 16:11	J
Dibromomethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:11	J
Ethylbenzene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 16:11	J
Ethylene Dibromide (EDB)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 16:11	J
Iodomethane (Methyl Iodide)	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:11	J
Methylene Chloride	1.2	U	ug/L	1	5.0	1.2	2/18/2021 16:11	J
Styrene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:11	J
Tetrachloroethylene (PCE)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 16:11	J
Toluene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 16:11	J
Trichloroethene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 16:11	J
Trichlorofluoromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:11	J
Vinyl Acetate	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:11	J
Vinyl Chloride	0.25	U	ug/L	1	1.0	0.25	2/18/2021 16:11	J
Xylene (Total)	0.75	U	ug/L	1	3.0	0.75	2/18/2021 16:11	J
cis-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:11	J
cis-1,3-Dichloropropene	0.20	U	ug/L	1	1.0	0.20	2/18/2021 16:11	J
trans-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:11	J
trans-1,3-Dichloropropylene	0.20	U	ug/L	1	1.0	0.20	2/18/2021 16:11	J
trans-1,4-Dichloro-2-butene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:11	J

Report ID: 1037887 - 292367

Page 42 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184023**

Date Received: 02/17/21 10:20 Matrix: Water

Sample ID: **MWB-32S**

Date Collected: 02/16/21 09:46

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
1,2-Dichloroethane-d4 (S)	109		%	1	70-128		2/18/2021 16:11	
Toluene-d8 (S)	106		%	1	77-119		2/18/2021 16:11	
Bromofluorobenzene (S)	109		%	1	86-123		2/18/2021 16:11	

Analysis Desc: 8260B SIM Analysis, Water

Preparation Method: SW-846 5030B

Analytical Method: SW-846 8260B (SIM)

1,2-Dibromo-3-Chloropropane	0.050	U	ug/L	1	0.20	0.050	2/18/2021 16:11	J
Ethylene Dibromide (EDB)	0.019	U	ug/L	1	0.10	0.019	2/18/2021 16:11	J
1,2-Dichloroethane-d4 (S)	104		%	1	77-125		2/18/2021 16:11	
Toluene-d8 (S)	104		%	1	80-121		2/18/2021 16:11	
Bromofluorobenzene (S)	108		%	1	80-129		2/18/2021 16:11	

WET CHEMISTRY

Analysis Desc: IC,E300.0,Water

Analytical Method: EPA 300.0

Chloride	17		mg/L	1	8.0	2.0	2/18/2021 00:52	J
Nitrate (as N)	0.20	U	mg/L	1	0.80	0.20	2/18/2021 00:52	J

Analysis Desc: Ammonia,E350.1,Water

Analytical Method: EPA 350.1

Ammonia (N)	0.68		mg/L	2	0.080	0.035	2/24/2021 13:43	G
-------------	-------------	--	------	----------	-------	-------	-----------------	---

Analysis Desc: Tot Dissolved Solids,SM2540C

Analytical Method: SM 2540 C

Total Dissolved Solids	89		mg/L	1	10	10	2/19/2021 09:00	J
------------------------	-----------	--	------	----------	----	----	-----------------	---

Lab ID: **J2102184024**

Date Received: 02/17/21 10:20 Matrix: Water

Sample ID: **MWB-11S**

Date Collected: 02/16/21 10:49

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
------------	---------	------	-------	----	--------------	--------------	----------	-----

METALS

Analysis Desc: SW846 6010B Analysis,Water

Preparation Method: SW-846 3010A

Analytical Method: SW-846 6010

Arsenic	8.0	U	ug/L	1	32	8.0	2/23/2021 11:23	J
Barium	36		ug/L	1	12	3.0	2/23/2021 11:23	J
Beryllium	2.0	U	ug/L	1	8.0	2.0	2/23/2021 11:23	J

Report ID: 1037887 - 292367

Page 43 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184024**

Date Received: 02/17/21 10:20 Matrix: Water

Sample ID: **MWB-11S**

Date Collected: 02/16/21 10:49

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Cadmium	0.50	U	ug/L	1	2.0	0.50	2/23/2021 11:23	J
Chromium	5.0	U	ug/L	1	20	5.0	2/23/2021 11:23	J
Cobalt	1.0	U	ug/L	1	4.0	1.0	2/23/2021 11:23	J
Copper	10	U	ug/L	1	40	10	2/23/2021 11:23	J
Iron	1300		ug/L	1	800	200	2/23/2021 11:23	J
Lead	3.0	U	ug/L	1	12	3.0	2/23/2021 11:23	J
Nickel	10	U	ug/L	1	40	10	2/23/2021 11:23	J
Silver	8.0	U	ug/L	1	32	8.0	2/23/2021 11:23	J
Sodium	11		mg/L	1	3.2	0.80	2/23/2021 11:23	J
Vanadium	5.7	I	ug/L	1	8.0	2.0	2/23/2021 11:23	J
Zinc	50	U	ug/L	1	200	50	2/23/2021 11:23	J

Analysis Desc: SW846 6020B
Analysis, Total

Preparation Method: SW-846 3010A

Analytical Method: SW-846 6020

Antimony	1.0	U	ug/L	1	4.0	1.0	2/22/2021 18:53	J
Selenium	5.1		ug/L	1	5.0	1.2	2/22/2021 18:53	J
Thallium	0.25	U	ug/L	1	1.0	0.25	2/22/2021 18:53	J

Analysis Desc: SW846 7470A
Analysis, Water

Preparation Method: SW-846 7470A

Analytical Method: SW-846 7470A

Mercury	0.011	U	ug/L	1	0.10	0.011	2/18/2021 16:23	J
---------	-------	---	------	---	------	-------	-----------------	---

VOLATILES

Analysis Desc: 8260B VOCs Analysis,
Water

Preparation Method: SW-846 5030B

Analytical Method: SW-846 8260B

1,1,1,2-Tetrachloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 16:40	J
1,1,1-Trichloroethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:40	J
1,1,2,2-Tetrachloroethane	0.20	U	ug/L	1	1.0	0.20	2/18/2021 16:40	J
1,1,2-Trichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 16:40	J
1,1-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 16:40	J
1,1-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:40	J
1,2,3-Trichloropropane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 16:40	J
1,2-Dibromo-3-Chloropropane	1.2	U	ug/L	1	5.0	1.2	2/18/2021 16:40	J
1,2-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:40	J
1,2-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 16:40	J
1,2-Dichloropropane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 16:40	J
1,4-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:40	J
2-Butanone (MEK)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 16:40	J
2-Hexanone	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:40	J

Report ID: 1037887 - 292367

Page 44 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184024**

Date Received: 02/17/21 10:20 Matrix: Water

Sample ID: **MWB-11S**

Date Collected: 02/16/21 10:49

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
4-Methyl-2-pentanone (MIBK)	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:40	J
Acetone	1.7	I	ug/L	1	2.0	0.50	2/18/2021 16:40	J
Acrylonitrile	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:40	J
Benzene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 16:40	J
Bromochloromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:40	J
Bromodichloromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:40	J
Bromoform	0.25	U	ug/L	1	1.0	0.25	2/18/2021 16:40	J
Bromomethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:40	J
Carbon Disulfide	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:40	J
Carbon Tetrachloride	0.25	U	ug/L	1	1.0	0.25	2/18/2021 16:40	J
Chlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:40	J
Chloroethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:40	J
Chloroform	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:40	J
Chloromethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 16:40	J
Dibromochloromethane	0.20	U	ug/L	1	1.0	0.20	2/18/2021 16:40	J
Dibromomethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:40	J
Ethylbenzene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 16:40	J
Ethylene Dibromide (EDB)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 16:40	J
Iodomethane (Methyl Iodide)	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:40	J
Methylene Chloride	1.2	U	ug/L	1	5.0	1.2	2/18/2021 16:40	J
Styrene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:40	J
Tetrachloroethylene (PCE)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 16:40	J
Toluene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 16:40	J
Trichloroethene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 16:40	J
Trichlorofluoromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:40	J
Vinyl Acetate	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:40	J
Vinyl Chloride	0.25	U	ug/L	1	1.0	0.25	2/18/2021 16:40	J
Xylene (Total)	0.75	U	ug/L	1	3.0	0.75	2/18/2021 16:40	J
cis-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:40	J
cis-1,3-Dichloropropene	0.20	U	ug/L	1	1.0	0.20	2/18/2021 16:40	J
trans-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:40	J
trans-1,3-Dichloropropylene	0.20	U	ug/L	1	1.0	0.20	2/18/2021 16:40	J
trans-1,4-Dichloro-2-butene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 16:40	J
1,2-Dichloroethane-d4 (S)	106		%	1	70-128		2/18/2021 16:40	
Toluene-d8 (S)	105		%	1	77-119		2/18/2021 16:40	
Bromofluorobenzene (S)	113		%	1	86-123		2/18/2021 16:40	

Analysis Desc: 8260B SIM Analysis,
Water

Preparation Method: SW-846 5030B

Analytical Method: SW-846 8260B (SIM)

1,2-Dibromo-3-Chloropropane	0.050	U	ug/L	1	0.20	0.050	2/18/2021 16:40	J
-----------------------------	-------	---	------	---	------	-------	-----------------	---

Report ID: 1037887 - 292367

Page 45 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184024**

Date Received: 02/17/21 10:20 Matrix: Water

Sample ID: **MWB-11S**

Date Collected: 02/16/21 10:49

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Ethylene Dibromide (EDB)	0.019	U	ug/L	1	0.10	0.019	2/18/2021 16:40	J
1,2-Dichloroethane-d4 (S)	102		%	1	77-125		2/18/2021 16:40	
Toluene-d8 (S)	102		%	1	80-121		2/18/2021 16:40	
Bromofluorobenzene (S)	111		%	1	80-129		2/18/2021 16:40	

WET CHEMISTRY

Analysis Desc: IC,E300.0,Water

Analytical Method: EPA 300.0

Chloride	17		mg/L	1	8.0	2.0	2/18/2021 01:55	J
Nitrate (as N)	0.36	I	mg/L	1	0.80	0.20	2/18/2021 01:55	J

Analysis Desc: Ammonia,E350.1,Water

Analytical Method: EPA 350.1

Ammonia (N)	0.06	I	mg/L	2	0.080	0.035	2/24/2021 13:44	G
-------------	-------------	----------	------	----------	-------	-------	-----------------	---

Analysis Desc: Tot Dissolved
Solids,SM2540C

Analytical Method: SM 2540 C

Total Dissolved Solids	88		mg/L	1	10	10	2/19/2021 09:00	J
------------------------	-----------	--	------	----------	----	----	-----------------	---

Lab ID: **J2102184025**

Date Received: 02/17/21 10:20 Matrix: Water

Sample ID: **MWB-20S**

Date Collected: 02/16/21 11:21

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
------------	---------	------	-------	----	-----------------	-----------------	----------	-----

METALS

Analysis Desc: SW846 6010B
Analysis,Water

Preparation Method: SW-846 3010A

Analytical Method: SW-846 6010

Arsenic	8.0	U	ug/L	1	32	8.0	2/23/2021 11:27	J
Barium	6.5	I	ug/L	1	12	3.0	2/23/2021 11:27	J
Beryllium	2.0	U	ug/L	1	8.0	2.0	2/23/2021 11:27	J
Cadmium	0.50	U	ug/L	1	2.0	0.50	2/23/2021 11:27	J
Chromium	5.0	U	ug/L	1	20	5.0	2/23/2021 11:27	J
Cobalt	1.0	U	ug/L	1	4.0	1.0	2/23/2021 11:27	J
Copper	10	U	ug/L	1	40	10	2/23/2021 11:27	J
Iron	200	U	ug/L	1	800	200	2/23/2021 11:27	J
Lead	3.0	U	ug/L	1	12	3.0	2/23/2021 11:27	J
Nickel	10	U	ug/L	1	40	10	2/23/2021 11:27	J
Silver	8.0	U	ug/L	1	32	8.0	2/23/2021 11:27	J

Report ID: 1037887 - 292367

Page 46 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184025**

Date Received: 02/17/21 10:20 Matrix: Water

Sample ID: **MWB-20S**

Date Collected: 02/16/21 11:21

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Sodium	59		mg/L	1	3.2	0.80	2/23/2021 11:27	J
Vanadium	13		ug/L	1	8.0	2.0	2/23/2021 11:27	J
Zinc	50	U	ug/L	1	200	50	2/23/2021 11:27	J
Analysis Desc: SW846 6020B		Preparation Method: SW-846 3010A						
Analysis, Total		Analytical Method: SW-846 6020						
Antimony	1.0	U	ug/L	1	4.0	1.0	2/22/2021 19:09	J
Selenium	1.9	I	ug/L	1	5.0	1.2	2/22/2021 19:09	J
Thallium	0.25	U	ug/L	1	1.0	0.25	2/22/2021 19:09	J
Analysis Desc: SW846 7470A		Preparation Method: SW-846 7470A						
Analysis, Water		Analytical Method: SW-846 7470A						
Mercury	0.011	U	ug/L	1	0.10	0.011	2/18/2021 16:26	J

VOLATILES

Analysis Desc: 8260B VOCs Analysis, Water		Preparation Method: SW-846 5030B						
		Analytical Method: SW-846 8260B						
1,1,1,2-Tetrachloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 17:09	J
1,1,1-Trichloroethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 17:09	J
1,1,2,2-Tetrachloroethane	0.20	U	ug/L	1	1.0	0.20	2/18/2021 17:09	J
1,1,2-Trichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 17:09	J
1,1-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 17:09	J
1,1-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 17:09	J
1,2,3-Trichloropropane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 17:09	J
1,2-Dibromo-3-Chloropropane	1.2	U	ug/L	1	5.0	1.2	2/18/2021 17:09	J
1,2-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 17:09	J
1,2-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 17:09	J
1,2-Dichloropropane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 17:09	J
1,4-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 17:09	J
2-Butanone (MEK)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 17:09	J
2-Hexanone	0.50	U	ug/L	1	2.0	0.50	2/18/2021 17:09	J
4-Methyl-2-pentanone (MIBK)	0.50	U	ug/L	1	2.0	0.50	2/18/2021 17:09	J
Acetone	0.50	U	ug/L	1	2.0	0.50	2/18/2021 17:09	J
Acrylonitrile	0.50	U	ug/L	1	2.0	0.50	2/18/2021 17:09	J
Benzene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 17:09	J
Bromochloromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 17:09	J
Bromodichloromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 17:09	J
Bromoform	0.25	U	ug/L	1	1.0	0.25	2/18/2021 17:09	J
Bromomethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 17:09	J

Report ID: 1037887 - 292367

Page 47 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184025**

Date Received: 02/17/21 10:20 Matrix: Water

Sample ID: **MWB-20S**

Date Collected: 02/16/21 11:21

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Carbon Disulfide	0.50	U	ug/L	1	2.0	0.50	2/18/2021 17:09	J
Carbon Tetrachloride	0.25	U	ug/L	1	1.0	0.25	2/18/2021 17:09	J
Chlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 17:09	J
Chloroethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 17:09	J
Chloroform	0.50	U	ug/L	1	2.0	0.50	2/18/2021 17:09	J
Chloromethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 17:09	J
Dibromochloromethane	0.20	U	ug/L	1	1.0	0.20	2/18/2021 17:09	J
Dibromomethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 17:09	J
Ethylbenzene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 17:09	J
Ethylene Dibromide (EDB)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 17:09	J
Iodomethane (Methyl Iodide)	0.50	U	ug/L	1	2.0	0.50	2/18/2021 17:09	J
Methylene Chloride	1.2	U	ug/L	1	5.0	1.2	2/18/2021 17:09	J
Styrene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 17:09	J
Tetrachloroethylene (PCE)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 17:09	J
Toluene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 17:09	J
Trichloroethene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 17:09	J
Trichlorofluoromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 17:09	J
Vinyl Acetate	0.50	U	ug/L	1	2.0	0.50	2/18/2021 17:09	J
Vinyl Chloride	0.25	U	ug/L	1	1.0	0.25	2/18/2021 17:09	J
Xylene (Total)	0.75	U	ug/L	1	3.0	0.75	2/18/2021 17:09	J
cis-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 17:09	J
cis-1,3-Dichloropropene	0.20	U	ug/L	1	1.0	0.20	2/18/2021 17:09	J
trans-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 17:09	J
trans-1,3-Dichloropropylene	0.20	U	ug/L	1	1.0	0.20	2/18/2021 17:09	J
trans-1,4-Dichloro-2-butene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 17:09	J
1,2-Dichloroethane-d4 (S)	104		%	1	70-128		2/18/2021 17:09	
Toluene-d8 (S)	105		%	1	77-119		2/18/2021 17:09	
Bromofluorobenzene (S)	111		%	1	86-123		2/18/2021 17:09	

Analysis Desc: 8260B SIM Analysis,
Water

Preparation Method: SW-846 5030B

Analytical Method: SW-846 8260B (SIM)

1,2-Dibromo-3-Chloropropane	0.050	U	ug/L	1	0.20	0.050	2/18/2021 17:09	J
Ethylene Dibromide (EDB)	0.019	U	ug/L	1	0.10	0.019	2/18/2021 17:09	J
1,2-Dichloroethane-d4 (S)	99		%	1	77-125		2/18/2021 17:09	
Toluene-d8 (S)	103		%	1	80-121		2/18/2021 17:09	
Bromofluorobenzene (S)	109		%	1	80-129		2/18/2021 17:09	

WET CHEMISTRY

Analysis Desc: IC,E300.0,Water

Analytical Method: EPA 300.0

Report ID: 1037887 - 292367

Page 48 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184025**

Date Received: 02/17/21 10:20 Matrix: Water

Sample ID: **MWB-20S**

Date Collected: 02/16/21 11:21

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Chloride	98		mg/L	1	8.0	2.0	2/18/2021 02:16	J
Nitrate (as N)	1.1		mg/L	1	0.80	0.20	2/18/2021 02:16	J
Analysis Desc: Ammonia,E350.1,Water		Analytical Method: EPA 350.1						
Ammonia (N)	2.0		mg/L	2	0.080	0.035	2/24/2021 13:46	G
Analysis Desc: Tot Dissolved Solids,SM2540C		Analytical Method: SM 2540 C						
Total Dissolved Solids	260		mg/L	1	10	10	2/19/2021 09:00	J

Lab ID: **J2102184026**

Date Received: 02/17/21 10:20 Matrix: Water

Sample ID: **MWB-39S**

Date Collected: 02/16/21 12:31

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
METALS								
Analysis Desc: SW846 6010B Analysis,Water		Preparation Method: SW-846 3010A Analytical Method: SW-846 6010						
Arsenic	8.0	U	ug/L	1	32	8.0	2/23/2021 11:31	J
Barium	26		ug/L	1	12	3.0	2/23/2021 11:31	J
Beryllium	2.0	U	ug/L	1	8.0	2.0	2/23/2021 11:31	J
Cadmium	0.50	U	ug/L	1	2.0	0.50	2/23/2021 11:31	J
Chromium	5.0	U	ug/L	1	20	5.0	2/23/2021 11:31	J
Cobalt	1.0	U	ug/L	1	4.0	1.0	2/23/2021 11:31	J
Copper	10	U	ug/L	1	40	10	2/23/2021 11:31	J
Iron	800	I	ug/L	1	800	200	2/23/2021 11:31	J
Lead	3.0	U	ug/L	1	12	3.0	2/23/2021 11:31	J
Nickel	10	U	ug/L	1	40	10	2/23/2021 11:31	J
Silver	8.0	U	ug/L	1	32	8.0	2/23/2021 11:31	J
Sodium	57		mg/L	1	3.2	0.80	2/23/2021 11:31	J
Vanadium	2.1	I	ug/L	1	8.0	2.0	2/23/2021 11:31	J
Zinc	50	U	ug/L	1	200	50	2/23/2021 11:31	J
Analysis Desc: SW846 6020B Analysis,Total		Preparation Method: SW-846 3010A Analytical Method: SW-846 6020						
Antimony	1.0	U	ug/L	1	4.0	1.0	2/22/2021 19:14	J

Report ID: 1037887 - 292367

Page 49 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184026**

Date Received: 02/17/21 10:20 Matrix: Water

Sample ID: **MWB-39S**

Date Collected: 02/16/21 12:31

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Selenium	1.2	U	ug/L	1	5.0	1.2	2/22/2021 19:14	J
Thallium	0.25	U	ug/L	1	1.0	0.25	2/22/2021 19:14	J

Analysis Desc: SW846 7470A
Analysis, Water

Preparation Method: SW-846 7470A
Analytical Method: SW-846 7470A

Mercury	0.011	U	ug/L	1	0.10	0.011	2/18/2021 16:29	J
---------	--------------	----------	-------------	----------	------	-------	-----------------	---

VOLATILES

Analysis Desc: 8260B VOCs Analysis,
Water

Preparation Method: SW-846 5030B
Analytical Method: SW-846 8260B

1,1,1,2-Tetrachloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 17:38	J
1,1,1-Trichloroethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 17:38	J
1,1,2,2-Tetrachloroethane	0.20	U	ug/L	1	1.0	0.20	2/18/2021 17:38	J
1,1,2-Trichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 17:38	J
1,1-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 17:38	J
1,1-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 17:38	J
1,2,3-Trichloropropane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 17:38	J
1,2-Dibromo-3-Chloropropane	1.2	U	ug/L	1	5.0	1.2	2/18/2021 17:38	J
1,2-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 17:38	J
1,2-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 17:38	J
1,2-Dichloropropane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 17:38	J
1,4-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 17:38	J
2-Butanone (MEK)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 17:38	J
2-Hexanone	0.50	U	ug/L	1	2.0	0.50	2/18/2021 17:38	J
4-Methyl-2-pentanone (MIBK)	0.50	U	ug/L	1	2.0	0.50	2/18/2021 17:38	J
Acetone	1.7	I	ug/L	1	2.0	0.50	2/18/2021 17:38	J
Acrylonitrile	0.50	U	ug/L	1	2.0	0.50	2/18/2021 17:38	J
Benzene	0.81	I	ug/L	1	1.0	0.25	2/18/2021 17:38	J
Bromochloromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 17:38	J
Bromodichloromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 17:38	J
Bromoform	0.25	U	ug/L	1	1.0	0.25	2/18/2021 17:38	J
Bromomethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 17:38	J
Carbon Disulfide	0.50	U	ug/L	1	2.0	0.50	2/18/2021 17:38	J
Carbon Tetrachloride	0.25	U	ug/L	1	1.0	0.25	2/18/2021 17:38	J
Chlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 17:38	J
Chloroethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 17:38	J
Chloroform	0.50	U	ug/L	1	2.0	0.50	2/18/2021 17:38	J
Chloromethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 17:38	J
Dibromochloromethane	0.20	U	ug/L	1	1.0	0.20	2/18/2021 17:38	J

Report ID: 1037887 - 292367

Page 50 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184026**

Date Received: 02/17/21 10:20 Matrix: Water

Sample ID: **MWB-39S**

Date Collected: 02/16/21 12:31

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Dibromomethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 17:38	J
Ethylbenzene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 17:38	J
Ethylene Dibromide (EDB)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 17:38	J
Iodomethane (Methyl Iodide)	0.50	U	ug/L	1	2.0	0.50	2/18/2021 17:38	J
Methylene Chloride	1.2	U	ug/L	1	5.0	1.2	2/18/2021 17:38	J
Styrene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 17:38	J
Tetrachloroethylene (PCE)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 17:38	J
Toluene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 17:38	J
Trichloroethene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 17:38	J
Trichlorofluoromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 17:38	J
Vinyl Acetate	0.50	U	ug/L	1	2.0	0.50	2/18/2021 17:38	J
Vinyl Chloride	1.1		ug/L	1	1.0	0.25	2/18/2021 17:38	J
Xylene (Total)	0.75	U	ug/L	1	3.0	0.75	2/18/2021 17:38	J
cis-1,2-Dichloroethylene	0.57	I	ug/L	1	2.0	0.50	2/18/2021 17:38	J
cis-1,3-Dichloropropene	0.20	U	ug/L	1	1.0	0.20	2/18/2021 17:38	J
trans-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 17:38	J
trans-1,3-Dichloropropylene	0.20	U	ug/L	1	1.0	0.20	2/18/2021 17:38	J
trans-1,4-Dichloro-2-butene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 17:38	J
1,2-Dichloroethane-d4 (S)	104		%	1	70-128		2/18/2021 17:38	
Toluene-d8 (S)	107		%	1	77-119		2/18/2021 17:38	
Bromofluorobenzene (S)	107		%	1	86-123		2/18/2021 17:38	

Analysis Desc: 8260B SIM Analysis,
Water

Preparation Method: SW-846 5030B

Analytical Method: SW-846 8260B (SIM)

1,2-Dibromo-3-Chloropropane	0.050	U	ug/L	1	0.20	0.050	2/18/2021 17:38	J
Ethylene Dibromide (EDB)	0.019	U	ug/L	1	0.10	0.019	2/18/2021 17:38	J
1,2-Dichloroethane-d4 (S)	100		%	1	77-125		2/18/2021 17:38	
Toluene-d8 (S)	105		%	1	80-121		2/18/2021 17:38	
Bromofluorobenzene (S)	106		%	1	80-129		2/18/2021 17:38	

WET CHEMISTRY

Analysis Desc: IC,E300.0,Water

Analytical Method: EPA 300.0

Chloride	120	J4	mg/L	1	8.0	2.0	2/18/2021 04:22	J
Nitrate (as N)	0.20	U	mg/L	1	0.80	0.20	2/18/2021 04:22	J

Analysis Desc: Ammonia,E350.1,Water

Analytical Method: EPA 350.1

Ammonia (N)	4.3		mg/L	10	0.40	0.17	2/24/2021 17:13	G
-------------	-----	--	------	----	------	------	-----------------	---

Analysis Desc: Tot Dissolved
Solids,SM2540C

Analytical Method: SM 2540 C

Report ID: 1037887 - 292367

Page 51 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184026**

Date Received: 02/17/21 10:20 Matrix: Water

Sample ID: **MWB-39S**

Date Collected: 02/16/21 12:31

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Total Dissolved Solids	270		mg/L	1	10	10	2/19/2021 09:00	J

Lab ID: **J2102184027**

Date Received: 02/17/21 10:20 Matrix: Water

Sample ID: **MWB-40S**

Date Collected: 02/16/21 13:09

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
------------	---------	------	-------	----	-----------------	-----------------	----------	-----

METALS

Analysis Desc: SW846 6010B
Analysis, Water

Preparation Method: SW-846 3010A

Analytical Method: SW-846 6010

Arsenic	8.0	U	ug/L	1	32	8.0	2/23/2021 11:35	J
Barium	110		ug/L	1	12	3.0	2/23/2021 11:35	J
Beryllium	2.0	U	ug/L	1	8.0	2.0	2/23/2021 11:35	J
Cadmium	0.50	U	ug/L	1	2.0	0.50	2/23/2021 11:35	J
Chromium	9.4	I	ug/L	1	20	5.0	2/23/2021 11:35	J
Cobalt	1.3	I	ug/L	1	4.0	1.0	2/23/2021 11:35	J
Copper	10	U	ug/L	1	40	10	2/23/2021 11:35	J
Iron	660	I	ug/L	1	800	200	2/23/2021 11:35	J
Lead	3.0	U	ug/L	1	12	3.0	2/23/2021 11:35	J
Nickel	22	I	ug/L	1	40	10	2/23/2021 11:35	J
Silver	8.0	U	ug/L	1	32	8.0	2/23/2021 11:35	J
Sodium	280		mg/L	1	3.2	0.80	2/23/2021 11:35	J
Vanadium	13		ug/L	1	8.0	2.0	2/23/2021 11:35	J
Zinc	50	U	ug/L	1	200	50	2/23/2021 11:35	J

Analysis Desc: SW846 6020B
Analysis, Total

Preparation Method: SW-846 3010A

Analytical Method: SW-846 6020

Antimony	1.0	U	ug/L	1	4.0	1.0	2/25/2021 08:53	J
Selenium	1.7	I, J4	ug/L	1	5.0	1.2	2/25/2021 08:53	J
Thallium	0.25	U	ug/L	1	1.0	0.25	2/25/2021 08:53	J

Analysis Desc: SW846 7470A
Analysis, Water

Preparation Method: SW-846 7470A

Analytical Method: SW-846 7470A

Mercury	0.011	U	ug/L	1	0.10	0.011	2/18/2021 16:32	J
---------	--------------	----------	-------------	----------	------	-------	-----------------	---

Report ID: 1037887 - 292367

Page 52 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184027**

Date Received: 02/17/21 10:20 Matrix: Water

Sample ID: **MWB-40S**

Date Collected: 02/16/21 13:09

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
VOLATILES								
Analysis Desc: 8260B VOCs Analysis, Water			Preparation Method: SW-846 5030B					
			Analytical Method: SW-846 8260B					
1,1,1,2-Tetrachloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 18:07	J
1,1,1-Trichloroethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 18:07	J
1,1,2,2-Tetrachloroethane	0.20	U	ug/L	1	1.0	0.20	2/18/2021 18:07	J
1,1,2-Trichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 18:07	J
1,1-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 18:07	J
1,1-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 18:07	J
1,2,3-Trichloropropane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 18:07	J
1,2-Dibromo-3-Chloropropane	1.2	U	ug/L	1	5.0	1.2	2/18/2021 18:07	J
1,2-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 18:07	J
1,2-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 18:07	J
1,2-Dichloropropane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 18:07	J
1,4-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 18:07	J
2-Butanone (MEK)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 18:07	J
2-Hexanone	0.50	U	ug/L	1	2.0	0.50	2/18/2021 18:07	J
4-Methyl-2-pentanone (MIBK)	0.50	U	ug/L	1	2.0	0.50	2/18/2021 18:07	J
Acetone	4.3		ug/L	1	2.0	0.50	2/18/2021 18:07	J
Acrylonitrile	0.50	U	ug/L	1	2.0	0.50	2/18/2021 18:07	J
Benzene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 18:07	J
Bromochloromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 18:07	J
Bromodichloromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 18:07	J
Bromoform	0.25	U	ug/L	1	1.0	0.25	2/18/2021 18:07	J
Bromomethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 18:07	J
Carbon Disulfide	0.50	U	ug/L	1	2.0	0.50	2/18/2021 18:07	J
Carbon Tetrachloride	0.25	U	ug/L	1	1.0	0.25	2/18/2021 18:07	J
Chlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 18:07	J
Chloroethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 18:07	J
Chloroform	0.50	U	ug/L	1	2.0	0.50	2/18/2021 18:07	J
Chloromethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 18:07	J
Dibromochloromethane	0.20	U	ug/L	1	1.0	0.20	2/18/2021 18:07	J
Dibromomethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 18:07	J
Ethylbenzene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 18:07	J
Ethylene Dibromide (EDB)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 18:07	J
Iodomethane (Methyl Iodide)	0.50	U	ug/L	1	2.0	0.50	2/18/2021 18:07	J
Methylene Chloride	1.2	U	ug/L	1	5.0	1.2	2/18/2021 18:07	J
Styrene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 18:07	J
Tetrachloroethylene (PCE)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 18:07	J

Report ID: 1037887 - 292367

Page 53 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184027**

Date Received: 02/17/21 10:20 Matrix: Water

Sample ID: **MWB-40S**

Date Collected: 02/16/21 13:09

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Toluene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 18:07	J
Trichloroethene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 18:07	J
Trichlorofluoromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 18:07	J
Vinyl Acetate	0.50	U	ug/L	1	2.0	0.50	2/18/2021 18:07	J
Vinyl Chloride	0.25	U	ug/L	1	1.0	0.25	2/18/2021 18:07	J
Xylene (Total)	0.75	U	ug/L	1	3.0	0.75	2/18/2021 18:07	J
cis-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 18:07	J
cis-1,3-Dichloropropene	0.20	U	ug/L	1	1.0	0.20	2/18/2021 18:07	J
trans-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 18:07	J
trans-1,3-Dichloropropylene	0.20	U	ug/L	1	1.0	0.20	2/18/2021 18:07	J
trans-1,4-Dichloro-2-butene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 18:07	J
1,2-Dichloroethane-d4 (S)	104		%	1	70-128		2/18/2021 18:07	
Toluene-d8 (S)	108		%	1	77-119		2/18/2021 18:07	
Bromofluorobenzene (S)	110		%	1	86-123		2/18/2021 18:07	

Analysis Desc: 8260B SIM Analysis,
Water

Preparation Method: SW-846 5030B

Analytical Method: SW-846 8260B (SIM)

1,2-Dibromo-3-Chloropropane	0.050	U	ug/L	1	0.20	0.050	2/18/2021 18:07	J
Ethylene Dibromide (EDB)	0.019	U	ug/L	1	0.10	0.019	2/18/2021 18:07	J
1,2-Dichloroethane-d4 (S)	99		%	1	77-125		2/18/2021 18:07	
Toluene-d8 (S)	106		%	1	80-121		2/18/2021 18:07	
Bromofluorobenzene (S)	109		%	1	80-129		2/18/2021 18:07	

WET CHEMISTRY

Analysis Desc: IC,E300.0,Water

Analytical Method: EPA 300.0

Chloride	510		mg/L	5	40	10	2/18/2021 02:37	J
Nitrate (as N)	1.0	U	mg/L	5	4.0	1.0	2/18/2021 02:37	J

Analysis Desc: Ammonia,E350.1,Water

Analytical Method: EPA 350.1

Ammonia (N)	8.9		mg/L	10	0.40	0.17	2/24/2021 17:23	G
-------------	-----	--	------	----	------	------	-----------------	---

Analysis Desc: Tot Dissolved
Solids,SM2540C

Analytical Method: SM 2540 C

Total Dissolved Solids	1200		mg/L	1	10	10	2/19/2021 09:00	J
------------------------	------	--	------	---	----	----	-----------------	---

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184028**

Date Received: 02/17/21 10:20 Matrix: Water

Sample ID: **MWB-35S**

Date Collected: 02/16/21 14:42

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
METALS								
Analysis Desc: SW846 6010B			Preparation Method: SW-846 3010A					
Analysis, Water			Analytical Method: SW-846 6010					
Arsenic	8.0	U	ug/L	1	32	8.0	2/23/2021 11:39	J
Barium	3.0	U	ug/L	1	12	3.0	2/23/2021 11:39	J
Beryllium	2.0	U	ug/L	1	8.0	2.0	2/23/2021 11:39	J
Cadmium	0.50	U	ug/L	1	2.0	0.50	2/23/2021 11:39	J
Chromium	5.0	U	ug/L	1	20	5.0	2/23/2021 11:39	J
Cobalt	1.0	U	ug/L	1	4.0	1.0	2/23/2021 11:39	J
Copper	10	U	ug/L	1	40	10	2/23/2021 11:39	J
Iron	200	U	ug/L	1	800	200	2/23/2021 11:39	J
Lead	3.0	U	ug/L	1	12	3.0	2/23/2021 11:39	J
Nickel	10	U	ug/L	1	40	10	2/23/2021 11:39	J
Silver	8.0	U	ug/L	1	32	8.0	2/23/2021 11:39	J
Sodium	2.1	I	mg/L	1	3.2	0.80	2/23/2021 11:39	J
Vanadium	2.0	U	ug/L	1	8.0	2.0	2/23/2021 11:39	J
Zinc	50	U	ug/L	1	200	50	2/23/2021 11:39	J
Analysis Desc: SW846 6020B			Preparation Method: SW-846 3010A					
Analysis, Total			Analytical Method: SW-846 6020					
Antimony	1.0	U	ug/L	1	4.0	1.0	2/25/2021 09:10	J
Selenium	1.2	U	ug/L	1	5.0	1.2	2/25/2021 09:10	J
Thallium	0.25	U	ug/L	1	1.0	0.25	2/25/2021 09:10	J
Analysis Desc: SW846 7470A			Preparation Method: SW-846 7470A					
Analysis, Water			Analytical Method: SW-846 7470A					
Mercury	0.015	I	ug/L	1	0.10	0.011	2/18/2021 16:35	J
VOLATILES								
Analysis Desc: 8260B VOCs Analysis, Water			Preparation Method: SW-846 5030B					
			Analytical Method: SW-846 8260B					
1,1,1,2-Tetrachloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 18:36	J
1,1,1-Trichloroethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 18:36	J
1,1,2,2-Tetrachloroethane	0.20	U	ug/L	1	1.0	0.20	2/18/2021 18:36	J
1,1,2-Trichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 18:36	J
1,1-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 18:36	J
1,1-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 18:36	J
1,2,3-Trichloropropane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 18:36	J

Report ID: 1037887 - 292367

Page 55 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184028**

Date Received: 02/17/21 10:20 Matrix: Water

Sample ID: **MWB-35S**

Date Collected: 02/16/21 14:42

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
1,2-Dibromo-3-Chloropropane	1.2	U	ug/L	1	5.0	1.2	2/18/2021 18:36	J
1,2-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 18:36	J
1,2-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 18:36	J
1,2-Dichloropropane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 18:36	J
1,4-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 18:36	J
2-Butanone (MEK)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 18:36	J
2-Hexanone	0.50	U	ug/L	1	2.0	0.50	2/18/2021 18:36	J
4-Methyl-2-pentanone (MIBK)	0.50	U	ug/L	1	2.0	0.50	2/18/2021 18:36	J
Acetone	0.77	I	ug/L	1	2.0	0.50	2/18/2021 18:36	J
Acrylonitrile	0.50	U	ug/L	1	2.0	0.50	2/18/2021 18:36	J
Benzene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 18:36	J
Bromochloromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 18:36	J
Bromodichloromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 18:36	J
Bromoform	0.25	U	ug/L	1	1.0	0.25	2/18/2021 18:36	J
Bromomethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 18:36	J
Carbon Disulfide	0.50	U	ug/L	1	2.0	0.50	2/18/2021 18:36	J
Carbon Tetrachloride	0.25	U	ug/L	1	1.0	0.25	2/18/2021 18:36	J
Chlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 18:36	J
Chloroethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 18:36	J
Chloroform	0.50	U	ug/L	1	2.0	0.50	2/18/2021 18:36	J
Chloromethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 18:36	J
Dibromochloromethane	0.20	U	ug/L	1	1.0	0.20	2/18/2021 18:36	J
Dibromomethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 18:36	J
Ethylbenzene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 18:36	J
Ethylene Dibromide (EDB)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 18:36	J
Iodomethane (Methyl Iodide)	0.50	U	ug/L	1	2.0	0.50	2/18/2021 18:36	J
Methylene Chloride	1.2	U	ug/L	1	5.0	1.2	2/18/2021 18:36	J
Styrene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 18:36	J
Tetrachloroethylene (PCE)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 18:36	J
Toluene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 18:36	J
Trichloroethene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 18:36	J
Trichlorofluoromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 18:36	J
Vinyl Acetate	0.50	U	ug/L	1	2.0	0.50	2/18/2021 18:36	J
Vinyl Chloride	0.25	U	ug/L	1	1.0	0.25	2/18/2021 18:36	J
Xylene (Total)	0.75	U	ug/L	1	3.0	0.75	2/18/2021 18:36	J
cis-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 18:36	J
cis-1,3-Dichloropropene	0.20	U	ug/L	1	1.0	0.20	2/18/2021 18:36	J
trans-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 18:36	J
trans-1,3-Dichloropropylene	0.20	U	ug/L	1	1.0	0.20	2/18/2021 18:36	J
trans-1,4-Dichloro-2-butene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 18:36	J

Report ID: 1037887 - 292367

Page 56 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184028**

Date Received: 02/17/21 10:20 Matrix: Water

Sample ID: **MWB-35S**

Date Collected: 02/16/21 14:42

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
1,2-Dichloroethane-d4 (S)	102		%	1	70-128		2/18/2021 18:36	
Toluene-d8 (S)	105		%	1	77-119		2/18/2021 18:36	
Bromofluorobenzene (S)	108		%	1	86-123		2/18/2021 18:36	

Analysis Desc: 8260B SIM Analysis,
Water

Preparation Method: SW-846 5030B

Analytical Method: SW-846 8260B (SIM)

1,2-Dibromo-3-Chloropropane	0.050	U	ug/L	1	0.20	0.050	2/18/2021 18:36	J
Ethylene Dibromide (EDB)	0.019	U	ug/L	1	0.10	0.019	2/18/2021 18:36	J
1,2-Dichloroethane-d4 (S)	98		%	1	77-125		2/18/2021 18:36	
Toluene-d8 (S)	103		%	1	80-121		2/18/2021 18:36	
Bromofluorobenzene (S)	107		%	1	80-129		2/18/2021 18:36	

WET CHEMISTRY

Analysis Desc: IC,E300.0,Water

Analytical Method: EPA 300.0

Chloride	3.8	I	mg/L	1	8.0	2.0	2/18/2021 02:58	J
Nitrate (as N)	0.20	U	mg/L	1	0.80	0.20	2/18/2021 02:58	J

Analysis Desc: Ammonia,E350.1,Water

Analytical Method: EPA 350.1

Ammonia (N)	0.035	U	mg/L	2	0.080	0.035	2/24/2021 17:24	G
-------------	--------------	----------	------	----------	-------	-------	-----------------	---

Analysis Desc: Tot Dissolved
Solids,SM2540C

Analytical Method: SM 2540 C

Total Dissolved Solids	47		mg/L	1	10	10	2/19/2021 09:00	J
------------------------	-----------	--	------	----------	----	----	-----------------	---

Lab ID: **J2102184029**

Date Received: 02/17/21 10:20 Matrix: Water

Sample ID: **TRIP #2**

Date Collected: 02/16/21 00:00

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
------------	---------	------	-------	----	-----------------	-----------------	----------	-----

VOLATILES

Analysis Desc: 8260B VOCs Analysis,
Water

Preparation Method: SW-846 5030B

Analytical Method: SW-846 8260B

1,1,1,2-Tetrachloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 13:18	J
1,1,1-Trichloroethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:18	J
1,1,2,2-Tetrachloroethane	0.20	U	ug/L	1	1.0	0.20	2/18/2021 13:18	J

Report ID: 1037887 - 292367

Page 57 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184029**

Date Received: 02/17/21 10:20 Matrix: Water

Sample ID: **TRIP #2**

Date Collected: 02/16/21 00:00

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
1,1,2-Trichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 13:18	J
1,1-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 13:18	J
1,1-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:18	J
1,2,3-Trichloropropane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 13:18	J
1,2-Dibromo-3-Chloropropane	1.2	U	ug/L	1	5.0	1.2	2/18/2021 13:18	J
1,2-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:18	J
1,2-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 13:18	J
1,2-Dichloropropane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 13:18	J
1,4-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:18	J
2-Butanone (MEK)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 13:18	J
2-Hexanone	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:18	J
4-Methyl-2-pentanone (MIBK)	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:18	J
Acetone	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:18	J
Acrylonitrile	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:18	J
Benzene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 13:18	J
Bromochloromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:18	J
Bromodichloromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:18	J
Bromoform	0.25	U	ug/L	1	1.0	0.25	2/18/2021 13:18	J
Bromomethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:18	J
Carbon Disulfide	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:18	J
Carbon Tetrachloride	0.25	U	ug/L	1	1.0	0.25	2/18/2021 13:18	J
Chlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:18	J
Chloroethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:18	J
Chloroform	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:18	J
Chloromethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 13:18	J
Dibromochloromethane	0.20	U	ug/L	1	1.0	0.20	2/18/2021 13:18	J
Dibromomethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:18	J
Ethylbenzene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 13:18	J
Ethylene Dibromide (EDB)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 13:18	J
Iodomethane (Methyl Iodide)	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:18	J
Methylene Chloride	1.2	U	ug/L	1	5.0	1.2	2/19/2021 15:00	J
Styrene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:18	J
Tetrachloroethylene (PCE)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 13:18	J
Toluene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 13:18	J
Trichloroethene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 13:18	J
Trichlorofluoromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:18	J
Vinyl Acetate	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:18	J
Vinyl Chloride	0.25	U	ug/L	1	1.0	0.25	2/18/2021 13:18	J
Xylene (Total)	0.75	U	ug/L	1	3.0	0.75	2/18/2021 13:18	J
cis-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:18	J

Report ID: 1037887 - 292367

Page 58 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184029**
Sample ID: **TRIP #2**

Date Received: 02/17/21 10:20 Matrix: Water
Date Collected: 02/16/21 00:00

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
cis-1,3-Dichloropropene	0.20	U	ug/L	1	1.0	0.20	2/18/2021 13:18	J
trans-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:18	J
trans-1,3-Dichloropropylene	0.20	U	ug/L	1	1.0	0.20	2/18/2021 13:18	J
trans-1,4-Dichloro-2-butene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:18	J
1,2-Dichloroethane-d4 (S)	98		%	1	70-128		2/18/2021 13:18	
Toluene-d8 (S)	105		%	1	77-119		2/18/2021 13:18	
Bromofluorobenzene (S)	108		%	1	86-123		2/18/2021 13:18	

Analysis Desc: 8260B SIM Analysis,
Water

Preparation Method: SW-846 5030B

Analytical Method: SW-846 8260B (SIM)

1,2-Dibromo-3-Chloropropane	0.050	U	ug/L	1	0.20	0.050	2/18/2021 13:18	J
Ethylene Dibromide (EDB)	0.019	U	ug/L	1	0.10	0.019	2/18/2021 13:18	J
1,2-Dichloroethane-d4 (S)	94		%	1	77-125		2/18/2021 13:18	
Toluene-d8 (S)	103		%	1	80-121		2/18/2021 13:18	
Bromofluorobenzene (S)	106		%	1	80-129		2/18/2021 13:18	

Lab ID: **J2102184030**
Sample ID: **SW-1**

Date Received: 02/17/21 12:55 Matrix: Water
Date Collected: 02/17/21 12:00

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
------------	---------	------	-------	----	-----------------	-----------------	----------	-----

FIELD PARAMETERS

Analysis Desc: Data entry of field
measurements

Analytical Method: Field Measurements

Temperature	14.2		°C	1			2/25/2021 13:28	J^
pH	7.13		SU	1			2/25/2021 13:28	J^

METALS

Analysis Desc: EPA 245.1
Analysis, Water

Preparation Method: EPA 245.1

Analytical Method: EPA 245.1

Mercury	0.000097	I	mg/L	1	0.00010	0.000011	2/24/2021 14:52	J
---------	----------	---	------	---	---------	----------	-----------------	---

Analysis Desc: SW846 6010B
Analysis, Water

Preparation Method: SW-846 3010A

Analytical Method: SW-846 6010

Arsenic	8.0	U	ug/L	1	32	8.0	2/23/2021 11:51	J
---------	-----	---	------	---	----	-----	-----------------	---

Report ID: 1037887 - 292367

Page 59 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184030**

Date Received: 02/17/21 12:55 Matrix: Water

Sample ID: **SW-1**

Date Collected: 02/17/21 12:00

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Barium	28		ug/L	1	12	3.0	2/23/2021 11:51	J
Beryllium	2.0	U	ug/L	1	8.0	2.0	2/23/2021 11:51	J
Cadmium	0.50	U	ug/L	1	2.0	0.50	2/23/2021 11:51	J
Calcium	22		mg/L	1	0.80	0.20	2/23/2021 11:51	J
Chromium	7.5	I	ug/L	1	20	5.0	2/23/2021 11:51	J
Cobalt	1.0	I	ug/L	1	4.0	1.0	2/23/2021 11:51	J
Copper	10	U	ug/L	1	40	10	2/23/2021 11:51	J
Iron	1000		ug/L	1	800	200	2/23/2021 11:51	J
Lead	8.7	I	ug/L	1	12	3.0	2/23/2021 11:51	J
Magnesium	2.1		mg/L	1	0.40	0.10	2/23/2021 11:51	J
Nickel	10	U	ug/L	1	40	10	2/23/2021 11:51	J
Silver	8.0	U	ug/L	1	32	8.0	2/23/2021 11:51	J
Total Hardness (as CaCO3)	63		mg/L	1	0.16	0.10	2/23/2021 11:51	J
Vanadium	13		ug/L	1	8.0	2.0	2/23/2021 11:51	J
Zinc	50	U	ug/L	1	200	50	2/23/2021 11:51	J

Analysis Desc: SW846 6020B
Analysis, Total

Preparation Method: SW-846 3010A

Analytical Method: SW-846 6020

Antimony	1.0	U	ug/L	1	4.0	1.0	2/25/2021 09:27	J
Selenium	1.3	I	ug/L	1	5.0	1.2	2/25/2021 09:27	J
Thallium	0.25	U	ug/L	1	1.0	0.25	2/25/2021 09:27	J

Microbiology

Analysis Desc: Fecal
Coliform, SM9223B, Water

Analytical Method: COLILERT-18 (Fecal Coliforms)

Coliform Fecal	200		MPN/100 mL	1	1	1	2/17/2021 15:21	J
----------------	-----	--	---------------	---	---	---	-----------------	---

VOLATILES

Analysis Desc: 8260B VOCs Analysis,
Water

Preparation Method: SW-846 5030B

Analytical Method: SW-846 8260B

1,1,1,2-Tetrachloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 19:05	J
1,1,1-Trichloroethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:05	J
1,1,2,2-Tetrachloroethane	0.20	U	ug/L	1	1.0	0.20	2/18/2021 19:05	J
1,1,2-Trichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 19:05	J
1,1-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 19:05	J
1,1-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:05	J
1,2,3-Trichloropropane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 19:05	J
1,2-Dibromo-3-Chloropropane	1.2	U	ug/L	1	5.0	1.2	2/18/2021 19:05	J

Report ID: 1037887 - 292367

Page 60 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184030**

Date Received: 02/17/21 12:55 Matrix: Water

Sample ID: **SW-1**

Date Collected: 02/17/21 12:00

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
1,2-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:05	J
1,2-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 19:05	J
1,2-Dichloropropane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 19:05	J
1,4-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:05	J
2-Butanone (MEK)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 19:05	J
2-Hexanone	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:05	J
4-Methyl-2-pentanone (MIBK)	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:05	J
Acetone	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:05	J
Acrylonitrile	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:05	J
Benzene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 19:05	J
Bromochloromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:05	J
Bromodichloromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:05	J
Bromoform	0.25	U	ug/L	1	1.0	0.25	2/18/2021 19:05	J
Bromomethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:05	J
Carbon Disulfide	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:05	J
Carbon Tetrachloride	0.25	U	ug/L	1	1.0	0.25	2/18/2021 19:05	J
Chlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:05	J
Chloroethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:05	J
Chloroform	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:05	J
Chloromethane	0.48	I	ug/L	1	1.0	0.25	2/18/2021 19:05	J
Dibromochloromethane	0.20	U	ug/L	1	1.0	0.20	2/18/2021 19:05	J
Dibromomethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:05	J
Ethylbenzene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 19:05	J
Ethylene Dibromide (EDB)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 19:05	J
Iodomethane (Methyl Iodide)	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:05	J
Methylene Chloride	1.2	U	ug/L	1	5.0	1.2	2/18/2021 19:05	J
Styrene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:05	J
Tetrachloroethylene (PCE)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 19:05	J
Toluene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 19:05	J
Trichloroethene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 19:05	J
Trichlorofluoromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:05	J
Vinyl Acetate	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:05	J
Vinyl Chloride	0.25	U	ug/L	1	1.0	0.25	2/18/2021 19:05	J
Xylene (Total)	0.75	U	ug/L	1	3.0	0.75	2/18/2021 19:05	J
cis-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:05	J
cis-1,3-Dichloropropene	0.20	U	ug/L	1	1.0	0.20	2/18/2021 19:05	J
trans-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:05	J
trans-1,3-Dichloropropylene	0.20	U	ug/L	1	1.0	0.20	2/18/2021 19:05	J
trans-1,4-Dichloro-2-butene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:05	J
1,2-Dichloroethane-d4 (S)	104		%	1	70-128		2/18/2021 19:05	

Report ID: 1037887 - 292367

Page 61 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184030**

Date Received: 02/17/21 12:55 Matrix: Water

Sample ID: **SW-1**

Date Collected: 02/17/21 12:00

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Toluene-d8 (S)	106		%	1	77-119		2/18/2021 19:05	
Bromofluorobenzene (S)	108		%	1	86-123		2/18/2021 19:05	
Analysis Desc: 8260B SIM Analysis, Water		Preparation Method: SW-846 5030B Analytical Method: SW-846 8260B (SIM)						
1,2-Dibromo-3-Chloropropane	0.050	U	ug/L	1	0.20	0.050	2/18/2021 19:05	J
Ethylene Dibromide (EDB)	0.019	U	ug/L	1	0.10	0.019	2/18/2021 19:05	J
1,2-Dichloroethane-d4 (S)	100		%	1	77-125		2/18/2021 19:05	
Toluene-d8 (S)	104		%	1	80-121		2/18/2021 19:05	
Bromofluorobenzene (S)	107		%	1	80-129		2/18/2021 19:05	

WET CHEMISTRY

Analysis Desc: Total Nitrogen, Calculated, Water		Analytical Method: Calculation						
Total Nitrogen	2.2		mg/L	1	0.20	0.12	2/25/2021 13:28	G
Analysis Desc: Unionized Ammonia, DEP SOP, Water		Analytical Method: DEP SOP 10/03/83						
Unionized Ammonia	0.00082	I	mg/L	1	0.050	0.00015	2/25/2021 13:28	G
Analysis Desc: IC, E300.0, Water		Analytical Method: EPA 300.0						
Nitrate (as N)	0.93		mg/L	1	0.80	0.20	2/18/2021 05:04	J
Analysis Desc: Ammonia, E350.1, Water		Analytical Method: EPA 350.1						
Ammonia (N)	0.20		mg/L	2	0.080	0.035	2/24/2021 13:50	G
Analysis Desc: TKN, E351.2, Water		Preparation Method: Copper Sulfate Digestion Analytical Method: EPA 351.2						
Total Kjeldahl Nitrogen	2.2		mg/L	1	0.50	0.20	2/23/2021 10:41	G
Analysis Desc: Total Phosphorus, E365.4, Analysis		Preparation Method: Copper Sulfate Digestion Analytical Method: EPA 365.4						
Total Phosphorus (as P)	0.50	U	mg/L	1	1.0	0.50	2/23/2021 10:41	G
Analysis Desc: COD, E410.4, Water		Analytical Method: EPA 410.4						
Chemical Oxygen Demand	190		mg/L	1	20	10	2/19/2021 15:05	G
Analysis Desc: Chlorophyll A, SM10200H, Water		Analytical Method: SM 10200 H						
Corrected Chlorophyll A	92	1	mg/m3	1	3.0	2.5	2/24/2021 17:45	G

Report ID: 1037887 - 292367

Page 62 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184030**

Date Received: 02/17/21 12:55 Matrix: Water

Sample ID: **SW-1**

Date Collected: 02/17/21 12:00

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Analysis Desc: Tot Dissolved Solids,SM2540C		Analytical Method: SM 2540 C						
Total Dissolved Solids	230		mg/L	1	10	10	2/19/2021 09:00	J
Analysis Desc: TSS,SM2540D,Water		Analytical Method: SM 2540D						
Total Suspended Solids	30		mg/L	1	2.0	1.0	2/18/2021 14:21	J
Analysis Desc: Nitrate+Nitrite,SM4500NO3F,W		Analytical Method: SM 4500NO3-F						
Nitrate + Nitrite	0.50	U	mg/L	5	1.0	0.50	2/23/2021 14:55	G
Analysis Desc: BOD,SM5210B,Water		Analytical Method: SM 5210B						
Biochemical Oxygen Demand	4.5		mg/L	1	2.0	2.0	2/18/2021 08:53	J
Analysis Desc: TOC,SM5310B,Water		Analytical Method: SM 5310B						
Total Organic Carbon	32		mg/L	1	2.0	1.0	2/19/2021 13:29	G

Lab ID: **J2102184031**

Date Received: 02/17/21 12:55 Matrix: Water

Sample ID: **SW-3**

Date Collected: 02/17/21 11:11

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
FIELD PARAMETERS								
Analysis Desc: Data entry of field measurements		Analytical Method: Field Measurements						
Temperature	16.4		°C	1			2/25/2021 13:29	J^
pH	7.73		SU	1			2/25/2021 13:29	J^
METALS								
Analysis Desc: EPA 245.1 Analysis,Water		Preparation Method: EPA 245.1 Analytical Method: EPA 245.1						
Mercury	0.000069	I	mg/L	1	0.00010	0.000011	2/24/2021 15:08	J
Analysis Desc: SW846 6010B Analysis,Water		Preparation Method: SW-846 3010A Analytical Method: SW-846 6010						
Arsenic	8.0	U	ug/L	1	32	8.0	2/23/2021 11:55	J

Report ID: 1037887 - 292367

Page 63 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184031**

Date Received: 02/17/21 12:55 Matrix: Water

Sample ID: **SW-3**

Date Collected: 02/17/21 11:11

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Barium	39		ug/L	1	12	3.0	2/23/2021 11:55	J
Beryllium	2.0	U	ug/L	1	8.0	2.0	2/23/2021 11:55	J
Cadmium	0.50	U	ug/L	1	2.0	0.50	2/23/2021 11:55	J
Calcium	52		mg/L	1	0.80	0.20	2/23/2021 11:55	J
Chromium	15	I	ug/L	1	20	5.0	2/23/2021 11:55	J
Cobalt	2.0	I	ug/L	1	4.0	1.0	2/23/2021 11:55	J
Copper	10	U	ug/L	1	40	10	2/23/2021 11:55	J
Iron	2200		ug/L	1	800	200	2/23/2021 11:55	J
Lead	21		ug/L	1	12	3.0	2/23/2021 11:55	J
Magnesium	4.8		mg/L	1	0.40	0.10	2/23/2021 11:55	J
Nickel	14	I	ug/L	1	40	10	2/23/2021 11:55	J
Silver	8.0	U	ug/L	1	32	8.0	2/23/2021 11:55	J
Total Hardness (as CaCO3)	150		mg/L	1	0.16	0.10	2/23/2021 11:55	J
Vanadium	28		ug/L	1	8.0	2.0	2/23/2021 11:55	J
Zinc	50	U	ug/L	1	200	50	2/23/2021 11:55	J

Analysis Desc: SW846 6020B
Analysis, Total

Preparation Method: SW-846 3010A

Analytical Method: SW-846 6020

Antimony	1.0	U	ug/L	1	4.0	1.0	2/25/2021 21:32	J
Selenium	2.5	I	ug/L	1	5.0	1.2	2/25/2021 21:32	J
Thallium	0.25	U	ug/L	1	1.0	0.25	2/25/2021 21:32	J

Microbiology

Analysis Desc: Fecal
Coliform, SM9223B, Water

Analytical Method: COLILERT-18 (Fecal Coliforms)

Coliform Fecal	200	J4,2	MPN/100 mL	1	1	1	2/17/2021 15:21	J
----------------	-----	------	---------------	---	---	---	-----------------	---

VOLATILES

Analysis Desc: 8260B VOCs Analysis,
Water

Preparation Method: SW-846 5030B

Analytical Method: SW-846 8260B

1,1,1,2-Tetrachloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 19:34	J
1,1,1-Trichloroethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:34	J
1,1,2,2-Tetrachloroethane	0.20	U	ug/L	1	1.0	0.20	2/18/2021 19:34	J
1,1,2-Trichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 19:34	J
1,1-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 19:34	J
1,1-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:34	J
1,2,3-Trichloropropane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 19:34	J
1,2-Dibromo-3-Chloropropane	1.2	U	ug/L	1	5.0	1.2	2/18/2021 19:34	J

Report ID: 1037887 - 292367

Page 64 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184031**

Date Received: 02/17/21 12:55 Matrix: Water

Sample ID: **SW-3**

Date Collected: 02/17/21 11:11

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
1,2-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:34	J
1,2-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 19:34	J
1,2-Dichloropropane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 19:34	J
1,4-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:34	J
2-Butanone (MEK)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 19:34	J
2-Hexanone	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:34	J
4-Methyl-2-pentanone (MIBK)	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:34	J
Acetone	0.70	I	ug/L	1	2.0	0.50	2/18/2021 19:34	J
Acrylonitrile	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:34	J
Benzene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 19:34	J
Bromochloromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:34	J
Bromodichloromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:34	J
Bromoform	0.25	U	ug/L	1	1.0	0.25	2/18/2021 19:34	J
Bromomethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:34	J
Carbon Disulfide	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:34	J
Carbon Tetrachloride	0.25	U	ug/L	1	1.0	0.25	2/18/2021 19:34	J
Chlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:34	J
Chloroethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:34	J
Chloroform	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:34	J
Chloromethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 19:34	J
Dibromochloromethane	0.20	U	ug/L	1	1.0	0.20	2/18/2021 19:34	J
Dibromomethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:34	J
Ethylbenzene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 19:34	J
Ethylene Dibromide (EDB)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 19:34	J
Iodomethane (Methyl Iodide)	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:34	J
Methylene Chloride	1.2	U	ug/L	1	5.0	1.2	2/18/2021 19:34	J
Styrene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:34	J
Tetrachloroethylene (PCE)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 19:34	J
Toluene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 19:34	J
Trichloroethene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 19:34	J
Trichlorofluoromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:34	J
Vinyl Acetate	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:34	J
Vinyl Chloride	0.25	U	ug/L	1	1.0	0.25	2/18/2021 19:34	J
Xylene (Total)	0.75	U	ug/L	1	3.0	0.75	2/18/2021 19:34	J
cis-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:34	J
cis-1,3-Dichloropropene	0.20	U	ug/L	1	1.0	0.20	2/18/2021 19:34	J
trans-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:34	J
trans-1,3-Dichloropropylene	0.20	U	ug/L	1	1.0	0.20	2/18/2021 19:34	J
trans-1,4-Dichloro-2-butene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 19:34	J
1,2-Dichloroethane-d4 (S)	104		%	1	70-128		2/18/2021 19:34	

Report ID: 1037887 - 292367

Page 65 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184031**

Date Received: 02/17/21 12:55 Matrix: Water

Sample ID: **SW-3**

Date Collected: 02/17/21 11:11

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Toluene-d8 (S)	107		%	1	77-119		2/18/2021 19:34	
Bromofluorobenzene (S)	109		%	1	86-123		2/18/2021 19:34	
Analysis Desc: 8260B SIM Analysis, Water		Preparation Method: SW-846 5030B Analytical Method: SW-846 8260B (SIM)						
1,2-Dibromo-3-Chloropropane	0.050	U	ug/L	1	0.20	0.050	2/18/2021 19:34	J
Ethylene Dibromide (EDB)	0.019	U	ug/L	1	0.10	0.019	2/18/2021 19:34	J
1,2-Dichloroethane-d4 (S)	104		%	1	77-125		2/18/2021 19:34	
Toluene-d8 (S)	107		%	1	80-121		2/18/2021 19:34	
Bromofluorobenzene (S)	109		%	1	80-129		2/18/2021 19:34	

WET CHEMISTRY

Analysis Desc: Total Nitrogen, Calculated, Water		Analytical Method: Calculation						
Total Nitrogen	6.8		mg/L	1	0.20	0.12	2/25/2021 13:29	G
Analysis Desc: Unionized Ammonia, DEP SOP, Water		Analytical Method: DEP SOP 10/03/83						
Unionized Ammonia	0.010	I	mg/L	1	0.050	0.00068	2/25/2021 13:29	G
Analysis Desc: IC, E300.0, Water		Analytical Method: EPA 300.0						
Nitrate (as N)	2.5		mg/L	1	0.80	0.20	2/18/2021 05:25	J
Analysis Desc: Ammonia, E350.1, Water		Analytical Method: EPA 350.1						
Ammonia (N)	0.53		mg/L	2	0.080	0.035	2/24/2021 13:51	G
Analysis Desc: TKN, E351.2, Water		Preparation Method: Copper Sulfate Digestion Analytical Method: EPA 351.2						
Total Kjeldahl Nitrogen	4.8		mg/L	1	0.50	0.20	2/23/2021 10:41	G
Analysis Desc: Total Phosphorus, E365.4, Analysis		Preparation Method: Copper Sulfate Digestion Analytical Method: EPA 365.4						
Total Phosphorus (as P)	0.50	U	mg/L	1	1.0	0.50	2/23/2021 10:41	G
Analysis Desc: COD, E410.4, Water		Analytical Method: EPA 410.4						
Chemical Oxygen Demand	180		mg/L	1	20	10	2/19/2021 15:05	G
Analysis Desc: Chlorophyll A, SM10200H, Water		Analytical Method: SM 10200 H						
Corrected Chlorophyll A	550		mg/m3	1	3.0	2.5	2/24/2021 17:45	G

Report ID: 1037887 - 292367

Page 66 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184031**
Sample ID: **SW-3**

Date Received: 02/17/21 12:55 Matrix: Water
Date Collected: 02/17/21 11:11

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Analysis Desc: Tot Dissolved Solids,SM2540C		Analytical Method: SM 2540 C						
Total Dissolved Solids	370		mg/L	1	10	10	2/19/2021 09:00	J
Analysis Desc: TSS,SM2540D,Water		Analytical Method: SM 2540D						
Total Suspended Solids	110		mg/L	1	2.0	1.0	2/18/2021 14:21	J
Analysis Desc: Nitrate+Nitrite,SM4500NO3F,W		Analytical Method: SM 4500NO3-F						
Nitrate + Nitrite	2.0		mg/L	5	1.0	0.50	2/23/2021 14:56	G
Analysis Desc: BOD,SM5210B,Water		Analytical Method: SM 5210B						
Biochemical Oxygen Demand	11		mg/L	1	2.0	2.0	2/18/2021 08:56	J
Analysis Desc: TOC,SM5310B,Water		Analytical Method: SM 5310B						
Total Organic Carbon	25		mg/L	1	2.0	1.0	2/19/2021 13:41	G

Lab ID: **J2102184032**
Sample ID: **SW-4**

Date Received: 02/17/21 12:55 Matrix: Water
Date Collected: 02/17/21 10:25

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
FIELD PARAMETERS								
Analysis Desc: Data entry of field measurements		Analytical Method: Field Measurements						
Temperature	15.9		°C	1			2/25/2021 13:30	J^
pH	7.97		SU	1			2/25/2021 13:30	J^
METALS								
Analysis Desc: EPA 245.1 Analysis,Water		Preparation Method: EPA 245.1 Analytical Method: EPA 245.1						
Mercury	0.000011	U	mg/L	1	0.00010	0.000011	2/24/2021 15:12	J
Analysis Desc: SW846 6010B Analysis,Water		Preparation Method: SW-846 3010A Analytical Method: SW-846 6010						
Arsenic	8.0	U	ug/L	1	32	8.0	2/23/2021 11:59	J

Report ID: 1037887 - 292367

Page 67 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184032**

Date Received: 02/17/21 12:55 Matrix: Water

Sample ID: **SW-4**

Date Collected: 02/17/21 10:25

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Barium	16		ug/L	1	12	3.0	2/23/2021 11:59	J
Beryllium	2.0	U	ug/L	1	8.0	2.0	2/23/2021 11:59	J
Cadmium	0.50	U	ug/L	1	2.0	0.50	2/23/2021 11:59	J
Calcium	25		mg/L	1	0.80	0.20	2/23/2021 11:59	J
Chromium	5.0	U	ug/L	1	20	5.0	2/23/2021 11:59	J
Cobalt	1.0	U	ug/L	1	4.0	1.0	2/23/2021 11:59	J
Copper	10	U	ug/L	1	40	10	2/23/2021 11:59	J
Iron	430	I	ug/L	1	800	200	2/23/2021 11:59	J
Lead	3.0	U	ug/L	1	12	3.0	2/23/2021 11:59	J
Magnesium	1.4		mg/L	1	0.40	0.10	2/23/2021 11:59	J
Nickel	10	U	ug/L	1	40	10	2/23/2021 11:59	J
Silver	8.0	U	ug/L	1	32	8.0	2/23/2021 11:59	J
Total Hardness (as CaCO3)	67		mg/L	1	0.16	0.10	2/23/2021 11:59	J
Vanadium	3.0	I	ug/L	1	8.0	2.0	2/23/2021 11:59	J
Zinc	50	U	ug/L	1	200	50	2/23/2021 11:59	J

Analysis Desc: SW846 6020B
Analysis, Total

Preparation Method: SW-846 3010A

Analytical Method: SW-846 6020

Antimony	1.0	U	ug/L	1	4.0	1.0	2/25/2021 21:38	J
Selenium	1.2	U	ug/L	1	5.0	1.2	2/25/2021 21:38	J
Thallium	0.25	U	ug/L	1	1.0	0.25	2/25/2021 21:38	J

Microbiology

Analysis Desc: Fecal
Coliform, SM9223B, Water

Analytical Method: COLILERT-18 (Fecal Coliforms)

Coliform Fecal	59		MPN/100 mL	1	1	1	2/17/2021 15:21	J
----------------	----	--	---------------	---	---	---	-----------------	---

VOLATILES

Analysis Desc: 8260B VOCs Analysis,
Water

Preparation Method: SW-846 5030B

Analytical Method: SW-846 8260B

1,1,1,2-Tetrachloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 20:03	J
1,1,1-Trichloroethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:03	J
1,1,2,2-Tetrachloroethane	0.20	U	ug/L	1	1.0	0.20	2/18/2021 20:03	J
1,1,2-Trichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 20:03	J
1,1-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 20:03	J
1,1-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:03	J
1,2,3-Trichloropropane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 20:03	J
1,2-Dibromo-3-Chloropropane	1.2	U	ug/L	1	5.0	1.2	2/18/2021 20:03	J

Report ID: 1037887 - 292367

Page 68 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184032**

Date Received: 02/17/21 12:55 Matrix: Water

Sample ID: **SW-4**

Date Collected: 02/17/21 10:25

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
1,2-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:03	J
1,2-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 20:03	J
1,2-Dichloropropane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 20:03	J
1,4-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:03	J
2-Butanone (MEK)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 20:03	J
2-Hexanone	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:03	J
4-Methyl-2-pentanone (MIBK)	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:03	J
Acetone	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:03	J
Acrylonitrile	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:03	J
Benzene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 20:03	J
Bromochloromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:03	J
Bromodichloromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:03	J
Bromoform	0.25	U	ug/L	1	1.0	0.25	2/18/2021 20:03	J
Bromomethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:03	J
Carbon Disulfide	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:03	J
Carbon Tetrachloride	0.25	U	ug/L	1	1.0	0.25	2/18/2021 20:03	J
Chlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:03	J
Chloroethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:03	J
Chloroform	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:03	J
Chloromethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 20:03	J
Dibromochloromethane	0.20	U	ug/L	1	1.0	0.20	2/18/2021 20:03	J
Dibromomethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:03	J
Ethylbenzene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 20:03	J
Ethylene Dibromide (EDB)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 20:03	J
Iodomethane (Methyl Iodide)	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:03	J
Methylene Chloride	1.2	U	ug/L	1	5.0	1.2	2/18/2021 20:03	J
Styrene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:03	J
Tetrachloroethylene (PCE)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 20:03	J
Toluene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 20:03	J
Trichloroethene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 20:03	J
Trichlorofluoromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:03	J
Vinyl Acetate	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:03	J
Vinyl Chloride	0.25	U	ug/L	1	1.0	0.25	2/18/2021 20:03	J
Xylene (Total)	0.75	U	ug/L	1	3.0	0.75	2/18/2021 20:03	J
cis-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:03	J
cis-1,3-Dichloropropene	0.20	U	ug/L	1	1.0	0.20	2/18/2021 20:03	J
trans-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:03	J
trans-1,3-Dichloropropylene	0.20	U	ug/L	1	1.0	0.20	2/18/2021 20:03	J
trans-1,4-Dichloro-2-butene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:03	J
1,2-Dichloroethane-d4 (S)	103		%	1	70-128		2/18/2021 20:03	

Report ID: 1037887 - 292367

Page 69 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184032**

Date Received: 02/17/21 12:55 Matrix: Water

Sample ID: **SW-4**

Date Collected: 02/17/21 10:25

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Toluene-d8 (S)	104		%	1	77-119		2/18/2021 20:03	
Bromofluorobenzene (S)	108		%	1	86-123		2/18/2021 20:03	
Analysis Desc: 8260B SIM Analysis, Water		Preparation Method: SW-846 5030B Analytical Method: SW-846 8260B (SIM)						
1,2-Dibromo-3-Chloropropane	0.050	U	ug/L	1	0.20	0.050	2/18/2021 20:03	J
Ethylene Dibromide (EDB)	0.019	U	ug/L	1	0.10	0.019	2/18/2021 20:03	J
1,2-Dichloroethane-d4 (S)	98		%	1	77-125		2/18/2021 20:03	
Toluene-d8 (S)	102		%	1	80-121		2/18/2021 20:03	
Bromofluorobenzene (S)	106		%	1	80-129		2/18/2021 20:03	

WET CHEMISTRY

Analysis Desc: Total Nitrogen, Calculated, Water		Analytical Method: Calculation						
Total Nitrogen	0.53		mg/L	1	0.20	0.12	2/25/2021 13:30	G
Analysis Desc: Unionized Ammonia, DEP SOP, Water		Analytical Method: DEP SOP 10/03/83						
Unionized Ammonia	0.0011	U	mg/L	1	0.050	0.0011	2/25/2021 13:30	G
Analysis Desc: IC, E300.0, Water		Analytical Method: EPA 300.0						
Nitrate (as N)	0.20	U	mg/L	1	0.80	0.20	2/18/2021 05:46	J
Analysis Desc: Ammonia, E350.1, Water		Analytical Method: EPA 350.1						
Ammonia (N)	0.035	U	mg/L	2	0.080	0.035	2/24/2021 14:01	G
Analysis Desc: TKN, E351.2, Water		Preparation Method: Copper Sulfate Digestion Analytical Method: EPA 351.2						
Total Kjeldahl Nitrogen	0.53		mg/L	1	0.50	0.20	2/23/2021 10:41	G
Analysis Desc: Total Phosphorus, E365.4, Analysis		Preparation Method: Copper Sulfate Digestion Analytical Method: EPA 365.4						
Total Phosphorus (as P)	0.50	U	mg/L	1	1.0	0.50	2/23/2021 10:41	G
Analysis Desc: COD, E410.4, Water		Analytical Method: EPA 410.4						
Chemical Oxygen Demand	41		mg/L	1	20	10	2/19/2021 15:05	G
Analysis Desc: Chlorophyll A, SM10200H, Water		Analytical Method: SM 10200 H						
Corrected Chlorophyll A	9.3		mg/m3	1	3.0	2.5	2/24/2021 17:45	G

Report ID: 1037887 - 292367

Page 70 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184032**

Date Received: 02/17/21 12:55 Matrix: Water

Sample ID: **SW-4**

Date Collected: 02/17/21 10:25

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Analysis Desc: Tot Dissolved Solids,SM2540C		Analytical Method: SM 2540 C						
Total Dissolved Solids	130		mg/L	1	10	10	2/19/2021 09:00	J
Analysis Desc: TSS,SM2540D,Water		Analytical Method: SM 2540D						
Total Suspended Solids	6.2		mg/L	1	2.0	1.0	2/18/2021 14:21	J
Analysis Desc: Nitrate+Nitrite,SM4500NO3F,W		Analytical Method: SM 4500NO3-F						
Nitrate + Nitrite	0.50	U	mg/L	5	1.0	0.50	2/23/2021 14:57	G
Analysis Desc: BOD,SM5210B,Water		Analytical Method: SM 5210B						
Biochemical Oxygen Demand	2.0	U	mg/L	1	2.0	2.0	2/18/2021 08:59	J
Analysis Desc: TOC,SM5310B,Water		Analytical Method: SM 5310B						
Total Organic Carbon	9.0		mg/L	1	2.0	1.0	2/19/2021 13:52	G

Lab ID: **J2102184033**

Date Received: 02/17/21 12:55 Matrix: Water

Sample ID: **SW-7**

Date Collected: 02/17/21 09:55

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
FIELD PARAMETERS								
Analysis Desc: Data entry of field measurements		Analytical Method: Field Measurements						
Temperature	14		°C	1			2/25/2021 13:30	J^
pH	7.27		SU	1			2/25/2021 13:30	J^
METALS								
Analysis Desc: EPA 245.1 Analysis,Water		Preparation Method: EPA 245.1 Analytical Method: EPA 245.1						
Mercury	0.000011	U	mg/L	1	0.00010	0.000011	2/24/2021 15:15	J
Analysis Desc: SW846 6010B Analysis,Water		Preparation Method: SW-846 3010A Analytical Method: SW-846 6010						
Arsenic	8.0	U	ug/L	1	32	8.0	2/23/2021 12:03	J

Report ID: 1037887 - 292367

Page 71 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184033**

Date Received: 02/17/21 12:55 Matrix: Water

Sample ID: **SW-7**

Date Collected: 02/17/21 09:55

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Barium	21		ug/L	1	12	3.0	2/23/2021 12:03	J
Beryllium	2.0	U	ug/L	1	8.0	2.0	2/23/2021 12:03	J
Cadmium	0.50	U	ug/L	1	2.0	0.50	2/23/2021 12:03	J
Calcium	21		mg/L	1	0.80	0.20	2/23/2021 12:03	J
Chromium	5.0	U	ug/L	1	20	5.0	2/23/2021 12:03	J
Cobalt	1.0	U	ug/L	1	4.0	1.0	2/23/2021 12:03	J
Copper	10	U	ug/L	1	40	10	2/23/2021 12:03	J
Iron	700	I	ug/L	1	800	200	2/23/2021 12:03	J
Lead	3.0	U	ug/L	1	12	3.0	2/23/2021 12:03	J
Magnesium	1.5		mg/L	1	0.40	0.10	2/23/2021 12:03	J
Nickel	10	U	ug/L	1	40	10	2/23/2021 12:03	J
Silver	8.0	U	ug/L	1	32	8.0	2/23/2021 12:03	J
Total Hardness (as CaCO3)	59		mg/L	1	0.16	0.10	2/23/2021 12:03	J
Vanadium	3.2	I	ug/L	1	8.0	2.0	2/23/2021 12:03	J
Zinc	50	U	ug/L	1	200	50	2/23/2021 12:03	J

Analysis Desc: SW846 6020B
Analysis, Total

Preparation Method: SW-846 3010A

Analytical Method: SW-846 6020

Antimony	1.0	U	ug/L	1	4.0	1.0	2/25/2021 21:44	J
Selenium	1.2	U	ug/L	1	5.0	1.2	2/25/2021 21:44	J
Thallium	0.25	U	ug/L	1	1.0	0.25	2/25/2021 21:44	J

Microbiology

Analysis Desc: Fecal
Coliform, SM9223B, Water

Analytical Method: COLILERT-18 (Fecal Coliforms)

Coliform Fecal	59		MPN/100 mL	1	1	1	2/17/2021 15:21	J
----------------	----	--	---------------	---	---	---	-----------------	---

VOLATILES

Analysis Desc: 8260B VOCs Analysis,
Water

Preparation Method: SW-846 5030B

Analytical Method: SW-846 8260B

1,1,1,2-Tetrachloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 20:32	J
1,1,1-Trichloroethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:32	J
1,1,2,2-Tetrachloroethane	0.20	U	ug/L	1	1.0	0.20	2/18/2021 20:32	J
1,1,2-Trichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 20:32	J
1,1-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 20:32	J
1,1-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:32	J
1,2,3-Trichloropropane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 20:32	J
1,2-Dibromo-3-Chloropropane	1.2	U	ug/L	1	5.0	1.2	2/18/2021 20:32	J

Report ID: 1037887 - 292367

Page 72 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184033**

Date Received: 02/17/21 12:55 Matrix: Water

Sample ID: **SW-7**

Date Collected: 02/17/21 09:55

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
1,2-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:32	J
1,2-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 20:32	J
1,2-Dichloropropane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 20:32	J
1,4-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:32	J
2-Butanone (MEK)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 20:32	J
2-Hexanone	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:32	J
4-Methyl-2-pentanone (MIBK)	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:32	J
Acetone	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:32	J
Acrylonitrile	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:32	J
Benzene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 20:32	J
Bromochloromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:32	J
Bromodichloromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:32	J
Bromoform	0.25	U	ug/L	1	1.0	0.25	2/18/2021 20:32	J
Bromomethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:32	J
Carbon Disulfide	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:32	J
Carbon Tetrachloride	0.25	U	ug/L	1	1.0	0.25	2/18/2021 20:32	J
Chlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:32	J
Chloroethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:32	J
Chloroform	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:32	J
Chloromethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 20:32	J
Dibromochloromethane	0.20	U	ug/L	1	1.0	0.20	2/18/2021 20:32	J
Dibromomethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:32	J
Ethylbenzene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 20:32	J
Ethylene Dibromide (EDB)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 20:32	J
Iodomethane (Methyl Iodide)	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:32	J
Methylene Chloride	1.2	U	ug/L	1	5.0	1.2	2/18/2021 20:32	J
Styrene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:32	J
Tetrachloroethylene (PCE)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 20:32	J
Toluene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 20:32	J
Trichloroethene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 20:32	J
Trichlorofluoromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:32	J
Vinyl Acetate	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:32	J
Vinyl Chloride	0.25	U	ug/L	1	1.0	0.25	2/18/2021 20:32	J
Xylene (Total)	0.75	U	ug/L	1	3.0	0.75	2/18/2021 20:32	J
cis-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:32	J
cis-1,3-Dichloropropene	0.20	U	ug/L	1	1.0	0.20	2/18/2021 20:32	J
trans-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:32	J
trans-1,3-Dichloropropylene	0.20	U	ug/L	1	1.0	0.20	2/18/2021 20:32	J
trans-1,4-Dichloro-2-butene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 20:32	J
1,2-Dichloroethane-d4 (S)	103		%	1	70-128		2/18/2021 20:32	

Report ID: 1037887 - 292367

Page 73 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184033**

Date Received: 02/17/21 12:55 Matrix: Water

Sample ID: **SW-7**

Date Collected: 02/17/21 09:55

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Toluene-d8 (S)	106		%	1	77-119		2/18/2021 20:32	
Bromofluorobenzene (S)	109		%	1	86-123		2/18/2021 20:32	
Analysis Desc: 8260B SIM Analysis, Water		Preparation Method: SW-846 5030B						
		Analytical Method: SW-846 8260B (SIM)						
1,2-Dibromo-3-Chloropropane	0.050	U	ug/L	1	0.20	0.050	2/18/2021 20:32	J
Ethylene Dibromide (EDB)	0.019	U	ug/L	1	0.10	0.019	2/18/2021 20:32	J
1,2-Dichloroethane-d4 (S)	99		%	1	77-125		2/18/2021 20:32	
Toluene-d8 (S)	103		%	1	80-121		2/18/2021 20:32	
Bromofluorobenzene (S)	107		%	1	80-129		2/18/2021 20:32	

WET CHEMISTRY

Analysis Desc: Total Nitrogen, Calculated, Water		Analytical Method: Calculation						
Total Nitrogen	0.76		mg/L	1	0.20	0.12	2/25/2021 13:31	G
Analysis Desc: Unionized Ammonia, DEP SOP, Water		Analytical Method: DEP SOP 10/03/83						
Unionized Ammonia	0.00020	U	mg/L	1	0.050	0.00020	2/25/2021 13:31	G
Analysis Desc: IC, E300.0, Water		Analytical Method: EPA 300.0						
Nitrate (as N)	0.20	U	mg/L	1	0.80	0.20	2/18/2021 06:08	J
Analysis Desc: Ammonia, E350.1, Water		Analytical Method: EPA 350.1						
Ammonia (N)	0.035	U	mg/L	2	0.080	0.035	2/24/2021 14:04	G
Analysis Desc: TKN, E351.2, Water		Preparation Method: Copper Sulfate Digestion						
		Analytical Method: EPA 351.2						
Total Kjeldahl Nitrogen	0.76		mg/L	1	0.50	0.20	2/23/2021 10:41	G
Analysis Desc: Total Phosphorus, E365.4, Analysis		Preparation Method: Copper Sulfate Digestion						
		Analytical Method: EPA 365.4						
Total Phosphorus (as P)	0.50	U	mg/L	1	1.0	0.50	2/23/2021 10:41	G
Analysis Desc: COD, E410.4, Water		Analytical Method: EPA 410.4						
Chemical Oxygen Demand	62		mg/L	1	20	10	2/19/2021 15:05	G
Analysis Desc: Chlorophyll A, SM10200H, Water		Analytical Method: SM 10200 H						
Corrected Chlorophyll A	5.3		mg/m3	1	3.0	2.5	2/24/2021 17:45	G

Report ID: 1037887 - 292367

Page 74 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184033**

Date Received: 02/17/21 12:55 Matrix: Water

Sample ID: **SW-7**

Date Collected: 02/17/21 09:55

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Analysis Desc: Tot Dissolved Solids,SM2540C		Analytical Method: SM 2540 C						
Total Dissolved Solids	97		mg/L	1	10	10	2/19/2021 09:00	J
Analysis Desc: TSS,SM2540D,Water		Analytical Method: SM 2540D						
Total Suspended Solids	6.5		mg/L	1	2.0	1.0	2/18/2021 14:21	J
Analysis Desc: Nitrate+Nitrite,SM4500NO3F,W		Analytical Method: SM 4500NO3-F						
Nitrate + Nitrite	0.50	U	mg/L	5	1.0	0.50	2/23/2021 14:58	G
Analysis Desc: BOD,SM5210B,Water		Analytical Method: SM 5210B						
Biochemical Oxygen Demand	2.0	U	mg/L	1	2.0	2.0	2/18/2021 09:01	J
Analysis Desc: TOC,SM5310B,Water		Analytical Method: SM 5310B						
Total Organic Carbon	15		mg/L	1	2.0	1.0	2/19/2021 14:04	G

Lab ID: **J2102184034**

Date Received: 02/17/21 12:55 Matrix: Water

Sample ID: **SW-5**

Date Collected: 02/17/21 09:35

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
FIELD PARAMETERS								
Analysis Desc: Data entry of field measurements		Analytical Method: Field Measurements						
Temperature	15.8		°C	1			2/25/2021 13:31	J^
pH	7.93		SU	1			2/25/2021 13:31	J^
METALS								
Analysis Desc: EPA 245.1 Analysis,Water		Preparation Method: EPA 245.1 Analytical Method: EPA 245.1						
Mercury	0.000021	I	mg/L	1	0.00010	0.000011	2/24/2021 15:35	J
Analysis Desc: SW846 6010B Analysis,Water		Preparation Method: SW-846 3010A Analytical Method: SW-846 6010						
Arsenic	8.0	U	ug/L	1	32	8.0	2/23/2021 12:07	J

Report ID: 1037887 - 292367

Page 75 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184034**

Date Received: 02/17/21 12:55 Matrix: Water

Sample ID: **SW-5**

Date Collected: 02/17/21 09:35

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Barium	27		ug/L	1	12	3.0	2/23/2021 12:07	J
Beryllium	2.0	U	ug/L	1	8.0	2.0	2/23/2021 12:07	J
Cadmium	0.50	U	ug/L	1	2.0	0.50	2/23/2021 12:07	J
Calcium	34		mg/L	1	0.80	0.20	2/23/2021 12:07	J
Chromium	5.0	U	ug/L	1	20	5.0	2/23/2021 12:07	J
Cobalt	1.0	U	ug/L	1	4.0	1.0	2/23/2021 12:07	J
Copper	10	U	ug/L	1	40	10	2/23/2021 12:07	J
Iron	210	I	ug/L	1	800	200	2/23/2021 12:07	J
Lead	4.8	I	ug/L	1	12	3.0	2/23/2021 12:07	J
Magnesium	2.2		mg/L	1	0.40	0.10	2/23/2021 12:07	J
Nickel	10	U	ug/L	1	40	10	2/23/2021 12:07	J
Silver	8.0	U	ug/L	1	32	8.0	2/23/2021 12:07	J
Total Hardness (as CaCO3)	93		mg/L	1	0.16	0.10	2/23/2021 12:07	J
Vanadium	4.6	I	ug/L	1	8.0	2.0	2/23/2021 12:07	J
Zinc	50	U	ug/L	1	200	50	2/23/2021 12:07	J

Analysis Desc: SW846 6020B
Analysis, Total

Preparation Method: SW-846 3010A

Analytical Method: SW-846 6020

Antimony	1.0	U	ug/L	1	4.0	1.0	2/25/2021 21:49	J
Selenium	1.2	U	ug/L	1	5.0	1.2	2/25/2021 21:49	J
Thallium	0.25	U	ug/L	1	1.0	0.25	2/25/2021 21:49	J

Microbiology

Analysis Desc: Fecal
Coliform, SM9223B, Water

Analytical Method: COLILERT-18 (Fecal Coliforms)

Coliform Fecal	200	J4,2	MPN/100 mL	1	1	1	2/17/2021 15:21	J
----------------	-----	------	---------------	---	---	---	-----------------	---

VOLATILES

Analysis Desc: 8260B VOCs Analysis,
Water

Preparation Method: SW-846 5030B

Analytical Method: SW-846 8260B

1,1,1,2-Tetrachloroethane	0.25	U	ug/L	1	1.0	0.25	2/19/2021 01:50	J
1,1,1-Trichloroethane	0.50	U	ug/L	1	2.0	0.50	2/19/2021 01:50	J
1,1,2,2-Tetrachloroethane	0.20	U	ug/L	1	1.0	0.20	2/19/2021 01:50	J
1,1,2-Trichloroethane	0.25	U	ug/L	1	1.0	0.25	2/19/2021 01:50	J
1,1-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/19/2021 01:50	J
1,1-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/19/2021 01:50	J
1,2,3-Trichloropropane	0.25	U	ug/L	1	1.0	0.25	2/19/2021 01:50	J
1,2-Dibromo-3-Chloropropane	1.2	U	ug/L	1	5.0	1.2	2/19/2021 01:50	J

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184034**

Date Received: 02/17/21 12:55 Matrix: Water

Sample ID: **SW-5**

Date Collected: 02/17/21 09:35

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
1,2-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/19/2021 01:50	J
1,2-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/19/2021 01:50	J
1,2-Dichloropropane	0.25	U	ug/L	1	1.0	0.25	2/19/2021 01:50	J
1,4-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/19/2021 01:50	J
2-Butanone (MEK)	0.69	I	ug/L	1	1.0	0.25	2/19/2021 01:50	J
2-Hexanone	0.50	U	ug/L	1	2.0	0.50	2/19/2021 01:50	J
4-Methyl-2-pentanone (MIBK)	0.50	U	ug/L	1	2.0	0.50	2/19/2021 01:50	J
Acetone	4.7		ug/L	1	2.0	0.50	2/19/2021 01:50	J
Acrylonitrile	0.50	U	ug/L	1	2.0	0.50	2/19/2021 01:50	J
Benzene	0.25	U	ug/L	1	1.0	0.25	2/19/2021 01:50	J
Bromochloromethane	0.50	U	ug/L	1	2.0	0.50	2/19/2021 01:50	J
Bromodichloromethane	0.50	U	ug/L	1	2.0	0.50	2/19/2021 01:50	J
Bromoform	0.25	U	ug/L	1	1.0	0.25	2/19/2021 01:50	J
Bromomethane	0.50	U	ug/L	1	2.0	0.50	2/19/2021 01:50	J
Carbon Disulfide	0.50	U	ug/L	1	2.0	0.50	2/19/2021 01:50	J
Carbon Tetrachloride	0.25	U	ug/L	1	1.0	0.25	2/19/2021 01:50	J
Chlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/19/2021 01:50	J
Chloroethane	0.50	U	ug/L	1	2.0	0.50	2/19/2021 01:50	J
Chloroform	0.50	U	ug/L	1	2.0	0.50	2/19/2021 01:50	J
Chloromethane	0.25	U	ug/L	1	1.0	0.25	2/19/2021 01:50	J
Dibromochloromethane	0.20	U	ug/L	1	1.0	0.20	2/19/2021 01:50	J
Dibromomethane	0.50	U	ug/L	1	2.0	0.50	2/19/2021 01:50	J
Ethylbenzene	0.25	U	ug/L	1	1.0	0.25	2/19/2021 01:50	J
Ethylene Dibromide (EDB)	0.25	U	ug/L	1	1.0	0.25	2/19/2021 01:50	J
Iodomethane (Methyl Iodide)	0.50	U	ug/L	1	2.0	0.50	2/19/2021 01:50	J
Methylene Chloride	1.2	U	ug/L	1	5.0	1.2	2/19/2021 01:50	J
Styrene	0.50	U	ug/L	1	2.0	0.50	2/19/2021 01:50	J
Tetrachloroethylene (PCE)	0.25	U	ug/L	1	1.0	0.25	2/19/2021 01:50	J
Toluene	0.25	U	ug/L	1	1.0	0.25	2/19/2021 01:50	J
Trichloroethene	0.25	U	ug/L	1	1.0	0.25	2/19/2021 01:50	J
Trichlorofluoromethane	0.50	U	ug/L	1	2.0	0.50	2/19/2021 01:50	J
Vinyl Acetate	0.50	U	ug/L	1	2.0	0.50	2/19/2021 01:50	J
Vinyl Chloride	0.25	U	ug/L	1	1.0	0.25	2/19/2021 01:50	J
Xylene (Total)	0.75	U	ug/L	1	3.0	0.75	2/19/2021 01:50	J
cis-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/19/2021 01:50	J
cis-1,3-Dichloropropene	0.20	U	ug/L	1	1.0	0.20	2/19/2021 01:50	J
trans-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/19/2021 01:50	J
trans-1,3-Dichloropropylene	0.20	U	ug/L	1	1.0	0.20	2/19/2021 01:50	J
trans-1,4-Dichloro-2-butene	0.50	U	ug/L	1	2.0	0.50	2/19/2021 01:50	J
1,2-Dichloroethane-d4 (S)	103		%	1	70-128		2/19/2021 01:50	

Report ID: 1037887 - 292367

Page 77 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184034**

Date Received: 02/17/21 12:55 Matrix: Water

Sample ID: **SW-5**

Date Collected: 02/17/21 09:35

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Toluene-d8 (S)	105		%	1	77-119		2/19/2021 01:50	
Bromofluorobenzene (S)	108		%	1	86-123		2/19/2021 01:50	
Analysis Desc: 8260B SIM Analysis, Water		Preparation Method: SW-846 5030B Analytical Method: SW-846 8260B (SIM)						
1,2-Dibromo-3-Chloropropane	0.050	U	ug/L	1	0.20	0.050	2/19/2021 01:50	J
Ethylene Dibromide (EDB)	0.019	U	ug/L	1	0.10	0.019	2/19/2021 01:50	J
1,2-Dichloroethane-d4 (S)	99		%	1	77-125		2/19/2021 01:50	
Toluene-d8 (S)	102		%	1	80-121		2/19/2021 01:50	
Bromofluorobenzene (S)	106		%	1	80-129		2/19/2021 01:50	

WET CHEMISTRY

Analysis Desc: Total Nitrogen, Calculated, Water		Analytical Method: Calculation						
Total Nitrogen	1.2		mg/L	1	0.20	0.12	2/25/2021 13:31	G
Analysis Desc: Unionized Ammonia, DEP SOP, Water		Analytical Method: DEP SOP 10/03/83						
Unionized Ammonia	0.0027	I	mg/L	1	0.050	0.0010	2/25/2021 13:31	G
Analysis Desc: IC, E300.0, Water		Analytical Method: EPA 300.0						
Nitrate (as N)	0.24	I	mg/L	1	0.80	0.20	2/18/2021 06:29	J
Analysis Desc: Ammonia, E350.1, Water		Analytical Method: EPA 350.1						
Ammonia (N)	0.09		mg/L	2	0.080	0.035	2/24/2021 14:05	G
Analysis Desc: TKN, E351.2, Water		Preparation Method: Copper Sulfate Digestion Analytical Method: EPA 351.2						
Total Kjeldahl Nitrogen	1.2		mg/L	1	0.50	0.20	2/23/2021 10:41	G
Analysis Desc: Total Phosphorus, E365.4, Analysis		Preparation Method: Copper Sulfate Digestion Analytical Method: EPA 365.4						
Total Phosphorus (as P)	0.50	U	mg/L	1	1.0	0.50	2/23/2021 10:41	G
Analysis Desc: COD, E410.4, Water		Analytical Method: EPA 410.4						
Chemical Oxygen Demand	64		mg/L	1	20	10	2/19/2021 15:05	G
Analysis Desc: Chlorophyll A, SM10200H, Water		Analytical Method: SM 10200 H						
Corrected Chlorophyll A	52		mg/m3	1	3.0	2.5	2/24/2021 17:45	G

Report ID: 1037887 - 292367

Page 78 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184034**

Date Received: 02/17/21 12:55 Matrix: Water

Sample ID: **SW-5**

Date Collected: 02/17/21 09:35

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Analysis Desc: Tot Dissolved Solids,SM2540C		Analytical Method: SM 2540 C						
Total Dissolved Solids	160		mg/L	1	10	10	2/19/2021 09:00	J
Analysis Desc: TSS,SM2540D,Water		Analytical Method: SM 2540D						
Total Suspended Solids	26		mg/L	1	2.0	1.0	2/18/2021 14:21	J
Analysis Desc: Nitrate+Nitrite,SM4500NO3F,W		Analytical Method: SM 4500NO3-F						
Nitrate + Nitrite	0.50	U,J4	mg/L	5	1.0	0.50	2/23/2021 15:01	G
Analysis Desc: BOD,SM5210B,Water		Analytical Method: SM 5210B						
Biochemical Oxygen Demand	5.6		mg/L	1	2.0	2.0	2/18/2021 09:06	J
Analysis Desc: TOC,SM5310B,Water		Analytical Method: SM 5310B						
Total Organic Carbon	12		mg/L	1	2.0	1.0	2/19/2021 14:16	G

Lab ID: **J2102184035**

Date Received: 02/17/21 12:55 Matrix: Water

Sample ID: **SW-6**

Date Collected: 02/17/21 09:10

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
FIELD PARAMETERS								
Analysis Desc: Data entry of field measurements		Analytical Method: Field Measurements						
Temperature	13.1		°C	1			2/25/2021 13:32	J^
pH	7		SU	1			2/25/2021 13:32	J^
METALS								
Analysis Desc: EPA 245.1 Analysis,Water		Preparation Method: EPA 245.1 Analytical Method: EPA 245.1						
Mercury	0.000062	I	mg/L	1	0.00010	0.000011	2/24/2021 15:38	J
Analysis Desc: SW846 6010B Analysis,Water		Preparation Method: SW-846 3010A Analytical Method: SW-846 6010						
Arsenic	8.0	U	ug/L	1	32	8.0	2/23/2021 12:11	J

Report ID: 1037887 - 292367

Page 79 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184035**

Date Received: 02/17/21 12:55 Matrix: Water

Sample ID: **SW-6**

Date Collected: 02/17/21 09:10

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Barium	59		ug/L	1	12	3.0	2/23/2021 12:11	J
Beryllium	2.0	U	ug/L	1	8.0	2.0	2/23/2021 12:11	J
Cadmium	0.50	U	ug/L	1	2.0	0.50	2/23/2021 12:11	J
Calcium	39		mg/L	1	0.80	0.20	2/23/2021 12:11	J
Chromium	11	I	ug/L	1	20	5.0	2/23/2021 12:11	J
Cobalt	1.0	I	ug/L	1	4.0	1.0	2/23/2021 12:11	J
Copper	10	U	ug/L	1	40	10	2/23/2021 12:11	J
Iron	1200		ug/L	1	800	200	2/23/2021 12:11	J
Lead	13		ug/L	1	12	3.0	2/23/2021 12:11	J
Magnesium	3.4		mg/L	1	0.40	0.10	2/23/2021 12:11	J
Nickel	10	U	ug/L	1	40	10	2/23/2021 12:11	J
Silver	8.0	U	ug/L	1	32	8.0	2/23/2021 12:11	J
Total Hardness (as CaCO3)	110		mg/L	1	0.16	0.10	2/23/2021 12:11	J
Vanadium	15		ug/L	1	8.0	2.0	2/23/2021 12:11	J
Zinc	50	U	ug/L	1	200	50	2/23/2021 12:11	J

Analysis Desc: SW846 6020B
Analysis, Total

Preparation Method: SW-846 3010A

Analytical Method: SW-846 6020

Antimony	1.0	U	ug/L	1	4.0	1.0	2/25/2021 21:55	J
Selenium	2.3	I	ug/L	1	5.0	1.2	2/25/2021 21:55	J
Thallium	0.25	U	ug/L	1	1.0	0.25	2/25/2021 21:55	J

Microbiology

Analysis Desc: Fecal
Coliform, SM9223B, Water

Analytical Method: COLILERT-18 (Fecal Coliforms)

Coliform Fecal	200	J4,2	MPN/100 mL	1	1	1	2/17/2021 15:21	J
----------------	-----	------	---------------	---	---	---	-----------------	---

VOLATILES

Analysis Desc: 8260B VOCs Analysis,
Water

Preparation Method: SW-846 5030B

Analytical Method: SW-846 8260B

1,1,1,2-Tetrachloroethane	0.25	U	ug/L	1	1.0	0.25	2/19/2021 02:19	J
1,1,1-Trichloroethane	0.50	U	ug/L	1	2.0	0.50	2/19/2021 02:19	J
1,1,2,2-Tetrachloroethane	0.20	U	ug/L	1	1.0	0.20	2/19/2021 02:19	J
1,1,2-Trichloroethane	0.25	U	ug/L	1	1.0	0.25	2/19/2021 02:19	J
1,1-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/19/2021 02:19	J
1,1-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/19/2021 02:19	J
1,2,3-Trichloropropane	0.25	U	ug/L	1	1.0	0.25	2/19/2021 02:19	J
1,2-Dibromo-3-Chloropropane	1.2	U	ug/L	1	5.0	1.2	2/19/2021 02:19	J

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184035**

Date Received: 02/17/21 12:55 Matrix: Water

Sample ID: **SW-6**

Date Collected: 02/17/21 09:10

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
1,2-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/19/2021 02:19	J
1,2-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/19/2021 02:19	J
1,2-Dichloropropane	0.25	U	ug/L	1	1.0	0.25	2/19/2021 02:19	J
1,4-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/19/2021 02:19	J
2-Butanone (MEK)	0.25	U	ug/L	1	1.0	0.25	2/19/2021 02:19	J
2-Hexanone	0.50	U	ug/L	1	2.0	0.50	2/19/2021 02:19	J
4-Methyl-2-pentanone (MIBK)	0.50	U	ug/L	1	2.0	0.50	2/19/2021 02:19	J
Acetone	5.0		ug/L	1	2.0	0.50	2/19/2021 02:19	J
Acrylonitrile	0.50	U	ug/L	1	2.0	0.50	2/19/2021 02:19	J
Benzene	0.25	U	ug/L	1	1.0	0.25	2/19/2021 02:19	J
Bromochloromethane	0.50	U	ug/L	1	2.0	0.50	2/19/2021 02:19	J
Bromodichloromethane	0.50	U	ug/L	1	2.0	0.50	2/19/2021 02:19	J
Bromoform	0.25	U	ug/L	1	1.0	0.25	2/19/2021 02:19	J
Bromomethane	0.50	U	ug/L	1	2.0	0.50	2/19/2021 02:19	J
Carbon Disulfide	0.50	U	ug/L	1	2.0	0.50	2/19/2021 02:19	J
Carbon Tetrachloride	0.25	U	ug/L	1	1.0	0.25	2/19/2021 02:19	J
Chlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/19/2021 02:19	J
Chloroethane	0.50	U	ug/L	1	2.0	0.50	2/19/2021 02:19	J
Chloroform	0.50	U	ug/L	1	2.0	0.50	2/19/2021 02:19	J
Chloromethane	0.25	U	ug/L	1	1.0	0.25	2/19/2021 02:19	J
Dibromochloromethane	0.20	U	ug/L	1	1.0	0.20	2/19/2021 02:19	J
Dibromomethane	0.50	U	ug/L	1	2.0	0.50	2/19/2021 02:19	J
Ethylbenzene	0.25	U	ug/L	1	1.0	0.25	2/19/2021 02:19	J
Ethylene Dibromide (EDB)	0.25	U	ug/L	1	1.0	0.25	2/19/2021 02:19	J
Iodomethane (Methyl Iodide)	0.50	U	ug/L	1	2.0	0.50	2/19/2021 02:19	J
Methylene Chloride	1.2	U	ug/L	1	5.0	1.2	2/19/2021 02:19	J
Styrene	0.50	U	ug/L	1	2.0	0.50	2/19/2021 02:19	J
Tetrachloroethylene (PCE)	0.25	U	ug/L	1	1.0	0.25	2/19/2021 02:19	J
Toluene	0.25	U	ug/L	1	1.0	0.25	2/19/2021 02:19	J
Trichloroethene	0.25	U	ug/L	1	1.0	0.25	2/19/2021 02:19	J
Trichlorofluoromethane	0.50	U	ug/L	1	2.0	0.50	2/19/2021 02:19	J
Vinyl Acetate	0.50	U	ug/L	1	2.0	0.50	2/19/2021 02:19	J
Vinyl Chloride	0.25	U	ug/L	1	1.0	0.25	2/19/2021 02:19	J
Xylene (Total)	0.75	U	ug/L	1	3.0	0.75	2/19/2021 02:19	J
cis-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/19/2021 02:19	J
cis-1,3-Dichloropropene	0.20	U	ug/L	1	1.0	0.20	2/19/2021 02:19	J
trans-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/19/2021 02:19	J
trans-1,3-Dichloropropylene	0.20	U	ug/L	1	1.0	0.20	2/19/2021 02:19	J
trans-1,4-Dichloro-2-butene	0.50	U	ug/L	1	2.0	0.50	2/19/2021 02:19	J
1,2-Dichloroethane-d4 (S)	103		%	1	70-128		2/19/2021 02:19	

Report ID: 1037887 - 292367

Page 81 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184035**

Date Received: 02/17/21 12:55 Matrix: Water

Sample ID: **SW-6**

Date Collected: 02/17/21 09:10

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Toluene-d8 (S)	106		%	1	77-119		2/19/2021 02:19	
Bromofluorobenzene (S)	107		%	1	86-123		2/19/2021 02:19	
Analysis Desc: 8260B SIM Analysis, Water		Preparation Method: SW-846 5030B Analytical Method: SW-846 8260B (SIM)						
1,2-Dibromo-3-Chloropropane	0.050	U	ug/L	1	0.20	0.050	2/19/2021 02:19	J
Ethylene Dibromide (EDB)	0.019	U	ug/L	1	0.10	0.019	2/19/2021 02:19	J
1,2-Dichloroethane-d4 (S)	99		%	1	77-125		2/19/2021 02:19	
Toluene-d8 (S)	104		%	1	80-121		2/19/2021 02:19	
Bromofluorobenzene (S)	107		%	1	80-129		2/19/2021 02:19	

WET CHEMISTRY

Analysis Desc: Total Nitrogen, Calculated, Water		Analytical Method: Calculation						
Total Nitrogen	2.0		mg/L	1	0.20	0.12	2/25/2021 13:32	G
Analysis Desc: Unionized Ammonia, DEP SOP, Water		Analytical Method: DEP SOP 10/03/83						
Unionized Ammonia	0.0017	I	mg/L	1	0.050	0.00010	2/25/2021 13:32	G
Analysis Desc: IC, E300.0, Water		Analytical Method: EPA 300.0						
Nitrate (as N)	0.20	U	mg/L	1	0.80	0.20	2/18/2021 06:50	J
Analysis Desc: Ammonia, E350.1, Water		Analytical Method: EPA 350.1						
Ammonia (N)	0.59		mg/L	2	0.080	0.035	2/24/2021 14:07	G
Analysis Desc: TKN, E351.2, Water		Preparation Method: Copper Sulfate Digestion Analytical Method: EPA 351.2						
Total Kjeldahl Nitrogen	2.0		mg/L	1	0.50	0.20	2/23/2021 10:41	G
Analysis Desc: Total Phosphorus, E365.4, Analysis		Preparation Method: Copper Sulfate Digestion Analytical Method: EPA 365.4						
Total Phosphorus (as P)	0.50	U	mg/L	1	1.0	0.50	2/23/2021 10:41	G
Analysis Desc: COD, E410.4, Water		Analytical Method: EPA 410.4						
Chemical Oxygen Demand	120		mg/L	1	20	10	2/19/2021 15:05	G
Analysis Desc: Chlorophyll A, SM10200H, Water		Analytical Method: SM 10200 H						
Corrected Chlorophyll A	8.0		mg/m3	1	3.0	2.5	2/24/2021 17:45	G

Report ID: 1037887 - 292367

Page 82 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184035**

Date Received: 02/17/21 12:55 Matrix: Water

Sample ID: **SW-6**

Date Collected: 02/17/21 09:10

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Analysis Desc: Tot Dissolved Solids,SM2540C		Analytical Method: SM 2540 C						
Total Dissolved Solids	270		mg/L	1	10	10	2/19/2021 09:00	J
Analysis Desc: TSS,SM2540D,Water		Analytical Method: SM 2540D						
Total Suspended Solids	60		mg/L	1	2.0	1.0	2/18/2021 14:21	J
Analysis Desc: Nitrate+Nitrite,SM4500NO3F,W		Analytical Method: SM 4500NO3-F						
Nitrate + Nitrite	0.50	U	mg/L	5	1.0	0.50	2/23/2021 15:06	G
Analysis Desc: BOD,SM5210B,Water		Analytical Method: SM 5210B						
Biochemical Oxygen Demand	10		mg/L	1	2.0	2.0	2/18/2021 09:09	J
Analysis Desc: TOC,SM5310B,Water		Analytical Method: SM 5310B						
Total Organic Carbon	17		mg/L	1	2.0	1.0	2/19/2021 14:28	G

Lab ID: **J2102184036**

Date Received: 02/17/21 12:55 Matrix: Water

Sample ID: **SW-B**

Date Collected: 02/17/21 08:50

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
FIELD PARAMETERS								
Analysis Desc: Data entry of field measurements		Analytical Method: Field Measurements						
Temperature	10.8		°C	1			2/25/2021 13:33	J^
pH	6.62		SU	1			2/25/2021 13:33	J^
METALS								
Analysis Desc: EPA 245.1 Analysis,Water		Preparation Method: EPA 245.1 Analytical Method: EPA 245.1						
Mercury	0.000011	U	mg/L	1	0.00010	0.000011	2/24/2021 15:42	J
Analysis Desc: IC,E300.0,Water		Analytical Method: EPA 300.0						
Nitrate (as N)	0.20	U	mg/L	1	0.80	0.20	2/18/2021 07:11	J

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184036**

Date Received: 02/17/21 12:55 Matrix: Water

Sample ID: **SW-B**

Date Collected: 02/17/21 08:50

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Analysis Desc: SW846 6010B		Preparation Method: SW-846 3010A						
Analysis, Water		Analytical Method: SW-846 6010						
Arsenic	8.0	U	ug/L	1	32	8.0	2/23/2021 12:16	J
Barium	7.0	I	ug/L	1	12	3.0	2/23/2021 12:16	J
Beryllium	2.0	U	ug/L	1	8.0	2.0	2/23/2021 12:16	J
Cadmium	0.50	U	ug/L	1	2.0	0.50	2/23/2021 12:16	J
Calcium	11		mg/L	1	0.80	0.20	2/23/2021 12:16	J
Chromium	5.0	U	ug/L	1	20	5.0	2/23/2021 12:16	J
Cobalt	1.0	U	ug/L	1	4.0	1.0	2/23/2021 12:16	J
Copper	10	U	ug/L	1	40	10	2/23/2021 12:16	J
Iron	200	U	ug/L	1	800	200	2/23/2021 12:16	J
Lead	3.0	U	ug/L	1	12	3.0	2/23/2021 12:16	J
Magnesium	0.57		mg/L	1	0.40	0.10	2/23/2021 12:16	J
Nickel	10	U	ug/L	1	40	10	2/23/2021 12:16	J
Silver	8.0	U	ug/L	1	32	8.0	2/23/2021 12:16	J
Total Hardness (as CaCO3)	30		mg/L	1	0.16	0.10	2/23/2021 12:16	J
Vanadium	2.0	U	ug/L	1	8.0	2.0	2/23/2021 12:16	J
Zinc	50	U	ug/L	1	200	50	2/23/2021 12:16	J

Analysis Desc: SW846 6020B
Analysis, Total

Preparation Method: SW-846 3010A
Analytical Method: SW-846 6020

Antimony	1.0	U	ug/L	1	4.0	1.0	2/25/2021 22:01	J
Selenium	1.2	U	ug/L	1	5.0	1.2	2/25/2021 22:01	J
Thallium	0.25	U	ug/L	1	1.0	0.25	2/25/2021 22:01	J

Microbiology

Analysis Desc: Fecal
Coliform, SM9223B, Water

Analytical Method: COLILERT-18 (Fecal Coliforms)

Coliform Fecal	109		MPN/100 mL	1	1	1	2/17/2021 15:21	J
----------------	-----	--	---------------	---	---	---	-----------------	---

VOLATILES

Analysis Desc: 8260B VOCs Analysis,
Water

Preparation Method: SW-846 5030B
Analytical Method: SW-846 8260B

1,1,1,2-Tetrachloroethane	0.25	U	ug/L	1	1.0	0.25	2/19/2021 02:48	J
1,1,1-Trichloroethane	0.50	U	ug/L	1	2.0	0.50	2/19/2021 02:48	J
1,1,2,2-Tetrachloroethane	0.20	U	ug/L	1	1.0	0.20	2/19/2021 02:48	J
1,1,2-Trichloroethane	0.25	U	ug/L	1	1.0	0.25	2/19/2021 02:48	J
1,1-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/19/2021 02:48	J

Report ID: 1037887 - 292367

Page 84 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184036**

Date Received: 02/17/21 12:55 Matrix: Water

Sample ID: **SW-B**

Date Collected: 02/17/21 08:50

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
1,1-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/19/2021 02:48	J
1,2,3-Trichloropropane	0.25	U	ug/L	1	1.0	0.25	2/19/2021 02:48	J
1,2-Dibromo-3-Chloropropane	1.2	U	ug/L	1	5.0	1.2	2/19/2021 02:48	J
1,2-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/19/2021 02:48	J
1,2-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/19/2021 02:48	J
1,2-Dichloropropane	0.25	U	ug/L	1	1.0	0.25	2/19/2021 02:48	J
1,4-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/19/2021 02:48	J
2-Butanone (MEK)	0.25	U	ug/L	1	1.0	0.25	2/19/2021 02:48	J
2-Hexanone	0.50	U	ug/L	1	2.0	0.50	2/19/2021 02:48	J
4-Methyl-2-pentanone (MIBK)	0.50	U	ug/L	1	2.0	0.50	2/19/2021 02:48	J
Acetone	2.2		ug/L	1	2.0	0.50	2/19/2021 02:48	J
Acrylonitrile	0.50	U	ug/L	1	2.0	0.50	2/19/2021 02:48	J
Benzene	0.25	U	ug/L	1	1.0	0.25	2/19/2021 02:48	J
Bromochloromethane	0.50	U	ug/L	1	2.0	0.50	2/19/2021 02:48	J
Bromodichloromethane	0.50	U	ug/L	1	2.0	0.50	2/19/2021 02:48	J
Bromoform	0.25	U	ug/L	1	1.0	0.25	2/19/2021 02:48	J
Bromomethane	0.50	U	ug/L	1	2.0	0.50	2/19/2021 02:48	J
Carbon Disulfide	0.50	U	ug/L	1	2.0	0.50	2/19/2021 02:48	J
Carbon Tetrachloride	0.25	U	ug/L	1	1.0	0.25	2/19/2021 02:48	J
Chlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/19/2021 02:48	J
Chloroethane	0.50	U	ug/L	1	2.0	0.50	2/19/2021 02:48	J
Chloroform	0.50	U	ug/L	1	2.0	0.50	2/19/2021 02:48	J
Chloromethane	0.25	U	ug/L	1	1.0	0.25	2/19/2021 02:48	J
Dibromochloromethane	0.20	U	ug/L	1	1.0	0.20	2/19/2021 02:48	J
Dibromomethane	0.50	U	ug/L	1	2.0	0.50	2/19/2021 02:48	J
Ethylbenzene	0.25	U	ug/L	1	1.0	0.25	2/19/2021 02:48	J
Ethylene Dibromide (EDB)	0.25	U	ug/L	1	1.0	0.25	2/19/2021 02:48	J
Iodomethane (Methyl Iodide)	0.50	U	ug/L	1	2.0	0.50	2/19/2021 02:48	J
Methylene Chloride	1.2	U	ug/L	1	5.0	1.2	2/19/2021 02:48	J
Styrene	0.50	U	ug/L	1	2.0	0.50	2/19/2021 02:48	J
Tetrachloroethylene (PCE)	0.25	U	ug/L	1	1.0	0.25	2/19/2021 02:48	J
Toluene	0.25	U	ug/L	1	1.0	0.25	2/19/2021 02:48	J
Trichloroethene	0.25	U	ug/L	1	1.0	0.25	2/19/2021 02:48	J
Trichlorofluoromethane	0.50	U	ug/L	1	2.0	0.50	2/19/2021 02:48	J
Vinyl Acetate	0.50	U	ug/L	1	2.0	0.50	2/19/2021 02:48	J
Vinyl Chloride	0.25	U	ug/L	1	1.0	0.25	2/19/2021 02:48	J
Xylene (Total)	0.75	U	ug/L	1	3.0	0.75	2/19/2021 02:48	J
cis-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/19/2021 02:48	J
cis-1,3-Dichloropropene	0.20	U	ug/L	1	1.0	0.20	2/19/2021 02:48	J
trans-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/19/2021 02:48	J

Report ID: 1037887 - 292367

Page 85 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184036**

Date Received: 02/17/21 12:55 Matrix: Water

Sample ID: **SW-B**

Date Collected: 02/17/21 08:50

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
trans-1,3-Dichloropropylene	0.20	U	ug/L	1	1.0	0.20	2/19/2021 02:48	J
trans-1,4-Dichloro-2-butene	0.50	U	ug/L	1	2.0	0.50	2/19/2021 02:48	J
1,2-Dichloroethane-d4 (S)	105		%	1	70-128		2/19/2021 02:48	
Toluene-d8 (S)	106		%	1	77-119		2/19/2021 02:48	
Bromofluorobenzene (S)	110		%	1	86-123		2/19/2021 02:48	

Analysis Desc: 8260B SIM Analysis,
Water

Preparation Method: SW-846 5030B

Analytical Method: SW-846 8260B (SIM)

1,2-Dibromo-3-Chloropropane	0.050	U	ug/L	1	0.20	0.050	2/19/2021 02:48	J
Ethylene Dibromide (EDB)	0.019	U	ug/L	1	0.10	0.019	2/19/2021 02:48	J
1,2-Dichloroethane-d4 (S)	101		%	1	77-125		2/19/2021 02:48	
Toluene-d8 (S)	103		%	1	80-121		2/19/2021 02:48	
Bromofluorobenzene (S)	109		%	1	80-129		2/19/2021 02:48	

WET CHEMISTRY

Analysis Desc: Total
Nitrogen, Calculated, Water

Analytical Method: Calculation

Total Nitrogen	0.34		mg/L	1	0.20	0.12	2/25/2021 13:33	G
----------------	-------------	--	-------------	----------	------	------	-----------------	---

Analysis Desc: Unionized
Ammonia, DEP SOP, Water

Analytical Method: DEP SOP 10/03/83

Unionized Ammonia	0.000035	U	mg/L	1	0.050	0.000035	2/25/2021 13:33	G
-------------------	-----------------	----------	-------------	----------	-------	----------	-----------------	---

Analysis Desc: Ammonia, E350.1, Water

Analytical Method: EPA 350.1

Ammonia (N)	0.035	U	mg/L	2	0.080	0.035	2/24/2021 14:08	G
-------------	--------------	----------	-------------	----------	-------	-------	-----------------	---

Analysis Desc: TKN, E351.2, Water

Preparation Method: Copper Sulfate Digestion

Analytical Method: EPA 351.2

Total Kjeldahl Nitrogen	0.34	I	mg/L	1	0.50	0.20	2/23/2021 10:41	G
-------------------------	-------------	----------	-------------	----------	------	------	-----------------	---

Analysis Desc: Total
Phosphorus, E365.4, Analysis

Preparation Method: Copper Sulfate Digestion

Analytical Method: EPA 365.4

Total Phosphorus (as P)	0.50	U	mg/L	1	1.0	0.50	2/23/2021 10:41	G
-------------------------	-------------	----------	-------------	----------	-----	------	-----------------	---

Analysis Desc: COD, E410.4, Water

Analytical Method: EPA 410.4

Chemical Oxygen Demand	41		mg/L	1	20	10	2/19/2021 15:05	G
------------------------	-----------	--	-------------	----------	----	----	-----------------	---

Analysis Desc: Chlorophyll
A, SM10200H, Water

Analytical Method: SM 10200 H

Corrected Chlorophyll A	2.5	U	mg/m3	1	3.0	2.5	2/24/2021 17:45	G
-------------------------	------------	----------	--------------	----------	-----	-----	-----------------	---

Report ID: 1037887 - 292367

Page 86 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184036**

Date Received: 02/17/21 12:55 Matrix: Water

Sample ID: **SW-B**

Date Collected: 02/17/21 08:50

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Analysis Desc: Tot Dissolved Solids,SM2540C		Analytical Method: SM 2540 C						
Total Dissolved Solids	70		mg/L	1	10	10	2/19/2021 09:00	J
Analysis Desc: TSS,SM2540D,Water		Analytical Method: SM 2540D						
Total Suspended Solids	1.8	I	mg/L	1	2.0	1.0	2/18/2021 14:21	J
Analysis Desc: Nitrate+Nitrite,SM4500NO3F,W		Analytical Method: SM 4500NO3-F						
Nitrate + Nitrite	0.50	U	mg/L	5	1.0	0.50	2/23/2021 15:07	G
Analysis Desc: BOD,SM5210B,Water		Analytical Method: SM 5210B						
Biochemical Oxygen Demand	2.0	U	mg/L	1	2.0	2.0	2/18/2021 09:23	J
Analysis Desc: TOC,SM5310B,Water		Analytical Method: SM 5310B						
Total Organic Carbon	10		mg/L	1	2.0	1.0	2/19/2021 14:40	G

Lab ID: **J2102184037**

Date Received: 02/17/21 12:55 Matrix: Water

Sample ID: **SGMW-1SR**

Date Collected: 02/17/21 08:01

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
METALS								
Analysis Desc: SW846 6010B		Preparation Method: SW-846 3010A						
Analysis,Water		Analytical Method: SW-846 6010						
Arsenic	8.0	U	ug/L	1	32	8.0	2/23/2021 12:20	J
Barium	280		ug/L	1	12	3.0	2/23/2021 12:20	J
Beryllium	2.0	U	ug/L	1	8.0	2.0	2/23/2021 12:20	J
Cadmium	0.50	U	ug/L	1	2.0	0.50	2/23/2021 12:20	J
Chromium	10	I	ug/L	1	20	5.0	2/23/2021 12:20	J
Cobalt	3.6	I	ug/L	1	4.0	1.0	2/23/2021 12:20	J
Copper	10	U	ug/L	1	40	10	2/23/2021 12:20	J
Iron	4300		ug/L	1	800	200	2/23/2021 12:20	J
Lead	3.3	I	ug/L	1	12	3.0	2/23/2021 12:20	J
Nickel	16	I	ug/L	1	40	10	2/23/2021 12:20	J
Silver	8.0	U	ug/L	1	32	8.0	2/23/2021 12:20	J

Report ID: 1037887 - 292367

Page 87 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184037**

Date Received: 02/17/21 12:55 Matrix: Water

Sample ID: **SGMW-1SR**

Date Collected: 02/17/21 08:01

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Sodium	43		mg/L	1	3.2	0.80	2/23/2021 12:20	J
Vanadium	7.7	I	ug/L	1	8.0	2.0	2/23/2021 12:20	J
Zinc	50	U	ug/L	1	200	50	2/23/2021 12:20	J

Analysis Desc: SW846 6020B
Analysis, Total

Preparation Method: SW-846 3010A
Analytical Method: SW-846 6020

Antimony	1.0	U	ug/L	1	4.0	1.0	2/25/2021 10:06	J
Selenium	1.2	U	ug/L	1	5.0	1.2	2/25/2021 10:06	J
Thallium	0.25	U	ug/L	1	1.0	0.25	2/25/2021 10:06	J

Analysis Desc: SW846 7470A
Analysis, Water

Preparation Method: SW-846 7470A
Analytical Method: SW-846 7470A

Mercury	0.011	I	ug/L	1	0.10	0.011	2/23/2021 14:14	J
---------	-------	---	------	---	------	-------	-----------------	---

VOLATILES

Analysis Desc: IC,E300.0, Water

Analytical Method: EPA 300.0

Chloride	110		mg/L	1	8.0	2.0	2/18/2021 11:19	J
Nitrate (as N)	0.20	U	mg/L	1	0.80	0.20	2/18/2021 11:19	J

Analysis Desc: 8260B VOCs Analysis,
Water

Preparation Method: SW-846 5030B
Analytical Method: SW-846 8260B

1,1,1,2-Tetrachloroethane	0.25	U	ug/L	1	1.0	0.25	2/19/2021 03:17	J
1,1,1-Trichloroethane	0.50	U	ug/L	1	2.0	0.50	2/19/2021 03:17	J
1,1,2,2-Tetrachloroethane	0.20	U	ug/L	1	1.0	0.20	2/19/2021 03:17	J
1,1,2-Trichloroethane	0.25	U	ug/L	1	1.0	0.25	2/19/2021 03:17	J
1,1-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/19/2021 03:17	J
1,1-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/19/2021 03:17	J
1,2,3-Trichloropropane	0.25	U	ug/L	1	1.0	0.25	2/19/2021 03:17	J
1,2-Dibromo-3-Chloropropane	1.2	U	ug/L	1	5.0	1.2	2/19/2021 03:17	J
1,2-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/19/2021 03:17	J
1,2-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/19/2021 03:17	J
1,2-Dichloropropane	0.25	U	ug/L	1	1.0	0.25	2/19/2021 03:17	J
1,4-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/19/2021 03:17	J
2-Butanone (MEK)	0.25	U	ug/L	1	1.0	0.25	2/19/2021 03:17	J
2-Hexanone	0.50	U	ug/L	1	2.0	0.50	2/19/2021 03:17	J
4-Methyl-2-pentanone (MIBK)	0.50	U	ug/L	1	2.0	0.50	2/19/2021 03:17	J
Acetone	46		ug/L	1	2.0	0.50	2/19/2021 03:17	J
Acrylonitrile	0.50	U	ug/L	1	2.0	0.50	2/19/2021 03:17	J
Benzene	0.25	U	ug/L	1	1.0	0.25	2/19/2021 03:17	J

Report ID: 1037887 - 292367

Page 88 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184037**

Date Received: 02/17/21 12:55 Matrix: Water

Sample ID: **SGMW-1SR**

Date Collected: 02/17/21 08:01

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Bromochloromethane	0.50	U	ug/L	1	2.0	0.50	2/19/2021 03:17	J
Bromodichloromethane	0.50	U	ug/L	1	2.0	0.50	2/19/2021 03:17	J
Bromoform	0.25	U	ug/L	1	1.0	0.25	2/19/2021 03:17	J
Bromomethane	0.50	U	ug/L	1	2.0	0.50	2/19/2021 03:17	J
Carbon Disulfide	0.50	U	ug/L	1	2.0	0.50	2/19/2021 03:17	J
Carbon Tetrachloride	0.25	U	ug/L	1	1.0	0.25	2/19/2021 03:17	J
Chlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/19/2021 03:17	J
Chloroethane	0.50	U	ug/L	1	2.0	0.50	2/19/2021 03:17	J
Chloroform	1.7	I	ug/L	1	2.0	0.50	2/19/2021 03:17	J
Chloromethane	0.25	U	ug/L	1	1.0	0.25	2/19/2021 03:17	J
Dibromochloromethane	0.20	U	ug/L	1	1.0	0.20	2/19/2021 03:17	J
Dibromomethane	0.50	U	ug/L	1	2.0	0.50	2/19/2021 03:17	J
Ethylbenzene	0.25	U	ug/L	1	1.0	0.25	2/19/2021 03:17	J
Ethylene Dibromide (EDB)	0.25	U	ug/L	1	1.0	0.25	2/19/2021 03:17	J
Iodomethane (Methyl Iodide)	0.50	U	ug/L	1	2.0	0.50	2/19/2021 03:17	J
Methylene Chloride	1.2	U	ug/L	1	5.0	1.2	2/19/2021 03:17	J
Styrene	0.50	U	ug/L	1	2.0	0.50	2/19/2021 03:17	J
Tetrachloroethylene (PCE)	0.25	U	ug/L	1	1.0	0.25	2/19/2021 03:17	J
Toluene	0.25	U	ug/L	1	1.0	0.25	2/19/2021 03:17	J
Trichloroethene	0.25	U	ug/L	1	1.0	0.25	2/19/2021 03:17	J
Trichlorofluoromethane	0.50	U	ug/L	1	2.0	0.50	2/19/2021 03:17	J
Vinyl Acetate	0.50	U	ug/L	1	2.0	0.50	2/19/2021 03:17	J
Vinyl Chloride	0.25	U	ug/L	1	1.0	0.25	2/19/2021 03:17	J
Xylene (Total)	0.75	U	ug/L	1	3.0	0.75	2/19/2021 03:17	J
cis-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/19/2021 03:17	J
cis-1,3-Dichloropropene	0.20	U	ug/L	1	1.0	0.20	2/19/2021 03:17	J
trans-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/19/2021 03:17	J
trans-1,3-Dichloropropylene	0.20	U	ug/L	1	1.0	0.20	2/19/2021 03:17	J
trans-1,4-Dichloro-2-butene	0.50	U	ug/L	1	2.0	0.50	2/19/2021 03:17	J
1,2-Dichloroethane-d4 (S)	104		%	1	70-128		2/19/2021 03:17	
Toluene-d8 (S)	106		%	1	77-119		2/19/2021 03:17	
Bromofluorobenzene (S)	109		%	1	86-123		2/19/2021 03:17	

Analysis Desc: 8260B SIM Analysis,
Water

Preparation Method: SW-846 5030B

Analytical Method: SW-846 8260B (SIM)

1,2-Dibromo-3-Chloropropane	0.050	U	ug/L	1	0.20	0.050	2/19/2021 03:17	J
Ethylene Dibromide (EDB)	0.019	U	ug/L	1	0.10	0.019	2/19/2021 03:17	J
1,2-Dichloroethane-d4 (S)	100		%	1	77-125		2/19/2021 03:17	
Toluene-d8 (S)	105		%	1	80-121		2/19/2021 03:17	
Bromofluorobenzene (S)	106		%	1	80-129		2/19/2021 03:17	

Report ID: 1037887 - 292367

Page 89 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184037** Date Received: 02/17/21 12:55 Matrix: Water
Sample ID: **SGMW-1SR** Date Collected: 02/17/21 08:01

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
WET CHEMISTRY								
Analysis Desc: Ammonia,E350.1,Water			Analytical Method: EPA 350.1					
Ammonia (N)	0.16		mg/L	2	0.080	0.035	2/24/2021 14:09	G
Analysis Desc: Tot Dissolved Solids,SM2540C			Analytical Method: SM 2540 C					
Total Dissolved Solids	400		mg/L	1	10	10	2/19/2021 09:00	J

Lab ID: **J2102184038** Date Received: 02/17/21 12:55 Matrix: Water
Sample ID: **SGMW-2S** Date Collected: 02/17/21 07:28

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
METALS								
Analysis Desc: SW846 6010B			Preparation Method: SW-846 3010A					
Analysis,Water			Analytical Method: SW-846 6010					
Arsenic	8.0	U	ug/L	1	32	8.0	2/23/2021 12:24	J
Barium	72		ug/L	1	12	3.0	2/23/2021 12:24	J
Beryllium	2.0	U	ug/L	1	8.0	2.0	2/23/2021 12:24	J
Cadmium	0.50	U	ug/L	1	2.0	0.50	2/23/2021 12:24	J
Chromium	5.0	U	ug/L	1	20	5.0	2/23/2021 12:24	J
Cobalt	1.0	U	ug/L	1	4.0	1.0	2/23/2021 12:24	J
Copper	10	U	ug/L	1	40	10	2/23/2021 12:24	J
Iron	570	I	ug/L	1	800	200	2/23/2021 12:24	J
Lead	3.0	U	ug/L	1	12	3.0	2/23/2021 12:24	J
Nickel	10	U	ug/L	1	40	10	2/23/2021 12:24	J
Silver	8.0	U	ug/L	1	32	8.0	2/23/2021 12:24	J
Sodium	3.4		mg/L	1	3.2	0.80	2/23/2021 12:24	J
Vanadium	5.5	I	ug/L	1	8.0	2.0	2/23/2021 12:24	J
Zinc	50	U	ug/L	1	200	50	2/23/2021 12:24	J
Analysis Desc: SW846 6020B			Preparation Method: SW-846 3010A					
Analysis,Total			Analytical Method: SW-846 6020					
Antimony	1.0	U	ug/L	1	4.0	1.0	2/25/2021 22:12	J
Selenium	1.2	U	ug/L	1	5.0	1.2	2/25/2021 22:12	J

Report ID: 1037887 - 292367

Page 90 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184038**

Date Received: 02/17/21 12:55 Matrix: Water

Sample ID: **SGMW-2S**

Date Collected: 02/17/21 07:28

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Thallium	0.25	U	ug/L	1	1.0	0.25	2/25/2021 22:12	J
Analysis Desc: SW846 7470A		Preparation Method: SW-846 7470A						
Analysis, Water		Analytical Method: SW-846 7470A						
Mercury	0.028	I	ug/L	1	0.10	0.011	2/23/2021 14:17	J

VOLATILES

Analysis Desc: 8260B VOCs Analysis, Water		Preparation Method: SW-846 5030B						
		Analytical Method: SW-846 8260B						
1,1,1,2-Tetrachloroethane	0.25	U	ug/L	1	1.0	0.25	2/19/2021 03:46	J
1,1,1-Trichloroethane	0.50	U	ug/L	1	2.0	0.50	2/19/2021 03:46	J
1,1,2,2-Tetrachloroethane	0.20	U	ug/L	1	1.0	0.20	2/19/2021 03:46	J
1,1,2-Trichloroethane	0.25	U	ug/L	1	1.0	0.25	2/19/2021 03:46	J
1,1-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/19/2021 03:46	J
1,1-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/19/2021 03:46	J
1,2,3-Trichloropropane	0.25	U	ug/L	1	1.0	0.25	2/19/2021 03:46	J
1,2-Dibromo-3-Chloropropane	1.2	U	ug/L	1	5.0	1.2	2/19/2021 03:46	J
1,2-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/19/2021 03:46	J
1,2-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/19/2021 03:46	J
1,2-Dichloropropane	0.25	U	ug/L	1	1.0	0.25	2/19/2021 03:46	J
1,4-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/19/2021 03:46	J
2-Butanone (MEK)	0.25	U	ug/L	1	1.0	0.25	2/19/2021 03:46	J
2-Hexanone	0.50	U	ug/L	1	2.0	0.50	2/19/2021 03:46	J
4-Methyl-2-pentanone (MIBK)	0.50	U	ug/L	1	2.0	0.50	2/19/2021 03:46	J
Acetone	3.7	U	ug/L	1	2.0	0.50	2/19/2021 03:46	J
Acrylonitrile	0.50	U	ug/L	1	2.0	0.50	2/19/2021 03:46	J
Benzene	0.25	U	ug/L	1	1.0	0.25	2/19/2021 03:46	J
Bromochloromethane	0.50	U	ug/L	1	2.0	0.50	2/19/2021 03:46	J
Bromodichloromethane	0.50	U	ug/L	1	2.0	0.50	2/19/2021 03:46	J
Bromoform	0.25	U	ug/L	1	1.0	0.25	2/19/2021 03:46	J
Bromomethane	0.50	U	ug/L	1	2.0	0.50	2/19/2021 03:46	J
Carbon Disulfide	0.50	U	ug/L	1	2.0	0.50	2/19/2021 03:46	J
Carbon Tetrachloride	0.25	U	ug/L	1	1.0	0.25	2/19/2021 03:46	J
Chlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/19/2021 03:46	J
Chloroethane	0.50	U	ug/L	1	2.0	0.50	2/19/2021 03:46	J
Chloroform	0.50	U	ug/L	1	2.0	0.50	2/19/2021 03:46	J
Chloromethane	0.25	U	ug/L	1	1.0	0.25	2/19/2021 03:46	J
Dibromochloromethane	0.20	U	ug/L	1	1.0	0.20	2/19/2021 03:46	J
Dibromomethane	0.50	U	ug/L	1	2.0	0.50	2/19/2021 03:46	J

Report ID: 1037887 - 292367

Page 91 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184038**

Date Received: 02/17/21 12:55 Matrix: Water

Sample ID: **SGMW-2S**

Date Collected: 02/17/21 07:28

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Ethylbenzene	0.25	U	ug/L	1	1.0	0.25	2/19/2021 03:46	J
Ethylene Dibromide (EDB)	0.25	U	ug/L	1	1.0	0.25	2/19/2021 03:46	J
Iodomethane (Methyl Iodide)	0.50	U	ug/L	1	2.0	0.50	2/19/2021 03:46	J
Methylene Chloride	1.2	U	ug/L	1	5.0	1.2	2/19/2021 03:46	J
Styrene	0.50	U	ug/L	1	2.0	0.50	2/19/2021 03:46	J
Tetrachloroethylene (PCE)	0.25	U	ug/L	1	1.0	0.25	2/19/2021 03:46	J
Toluene	0.25	U	ug/L	1	1.0	0.25	2/19/2021 03:46	J
Trichloroethene	0.25	U	ug/L	1	1.0	0.25	2/19/2021 03:46	J
Trichlorofluoromethane	0.50	U	ug/L	1	2.0	0.50	2/19/2021 03:46	J
Vinyl Acetate	0.50	U	ug/L	1	2.0	0.50	2/19/2021 03:46	J
Vinyl Chloride	0.25	U	ug/L	1	1.0	0.25	2/19/2021 03:46	J
Xylene (Total)	0.75	U	ug/L	1	3.0	0.75	2/19/2021 03:46	J
cis-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/19/2021 03:46	J
cis-1,3-Dichloropropene	0.20	U	ug/L	1	1.0	0.20	2/19/2021 03:46	J
trans-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/19/2021 03:46	J
trans-1,3-Dichloropropylene	0.20	U	ug/L	1	1.0	0.20	2/19/2021 03:46	J
trans-1,4-Dichloro-2-butene	0.50	U	ug/L	1	2.0	0.50	2/19/2021 03:46	J
1,2-Dichloroethane-d4 (S)	103		%	1	70-128		2/19/2021 03:46	
Toluene-d8 (S)	105		%	1	77-119		2/19/2021 03:46	
Bromofluorobenzene (S)	104		%	1	86-123		2/19/2021 03:46	

Analysis Desc: 8260B SIM Analysis,
Water

Preparation Method: SW-846 5030B

Analytical Method: SW-846 8260B (SIM)

1,2-Dibromo-3-Chloropropane	0.050	U	ug/L	1	0.20	0.050	2/19/2021 03:46	J
Ethylene Dibromide (EDB)	0.019	U	ug/L	1	0.10	0.019	2/19/2021 03:46	J
1,2-Dichloroethane-d4 (S)	98		%	1	77-125		2/19/2021 03:46	
Toluene-d8 (S)	104		%	1	80-121		2/19/2021 03:46	
Bromofluorobenzene (S)	103		%	1	80-129		2/19/2021 03:46	

WET CHEMISTRY

Analysis Desc: IC,E300.0,Water

Analytical Method: EPA 300.0

Chloride	3.7	I	mg/L	1	8.0	2.0	2/18/2021 07:32	J
Nitrate (as N)	0.20	U	mg/L	1	0.80	0.20	2/18/2021 07:32	J

Analysis Desc: Ammonia,E350.1,Water

Analytical Method: EPA 350.1

Ammonia (N)	0.05	I	mg/L	2	0.080	0.035	2/24/2021 14:10	G
-------------	------	---	------	---	-------	-------	-----------------	---

Analysis Desc: Tot Dissolved
Solids,SM2540C

Analytical Method: SM 2540 C

Total Dissolved Solids	56		mg/L	1	10	10	2/19/2021 09:00	J
------------------------	----	--	------	---	----	----	-----------------	---

Report ID: 1037887 - 292367

Page 92 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184039**

Date Received: 02/17/21 12:55 Matrix: Water

Sample ID: **EQUIPMENT BLANK #2**

Date Collected: 02/17/21 08:30

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
METALS								
Analysis Desc: SW846 6010B			Preparation Method: SW-846 3010A					
Analysis, Water			Analytical Method: SW-846 6010					
Arsenic	8.0	U	ug/L	1	32	8.0	2/23/2021 12:28	J
Barium	3.0	U	ug/L	1	12	3.0	2/23/2021 12:28	J
Beryllium	2.0	U	ug/L	1	8.0	2.0	2/23/2021 12:28	J
Cadmium	0.50	U	ug/L	1	2.0	0.50	2/23/2021 12:28	J
Chromium	5.0	U	ug/L	1	20	5.0	2/23/2021 12:28	J
Cobalt	1.0	U	ug/L	1	4.0	1.0	2/23/2021 12:28	J
Copper	10	U	ug/L	1	40	10	2/23/2021 12:28	J
Iron	200	U	ug/L	1	800	200	2/23/2021 12:28	J
Lead	3.0	U	ug/L	1	12	3.0	2/23/2021 12:28	J
Nickel	10	U	ug/L	1	40	10	2/23/2021 12:28	J
Silver	8.0	U	ug/L	1	32	8.0	2/23/2021 12:28	J
Sodium	0.80	U	mg/L	1	3.2	0.80	2/23/2021 12:28	J
Vanadium	2.0	U	ug/L	1	8.0	2.0	2/23/2021 12:28	J
Zinc	50	U	ug/L	1	200	50	2/23/2021 12:28	J
Analysis Desc: SW846 6020B			Preparation Method: SW-846 3010A					
Analysis, Total			Analytical Method: SW-846 6020					
Antimony	1.0	U	ug/L	1	4.0	1.0	2/25/2021 22:18	J
Selenium	1.2	U	ug/L	1	5.0	1.2	2/25/2021 22:18	J
Thallium	0.25	U	ug/L	1	1.0	0.25	2/25/2021 22:18	J
Analysis Desc: SW846 7470A			Preparation Method: SW-846 7470A					
Analysis, Water			Analytical Method: SW-846 7470A					
Mercury	0.011	U	ug/L	1	0.10	0.011	2/23/2021 14:20	J
VOLATILES								
Analysis Desc: 8260B VOCs Analysis, Water			Preparation Method: SW-846 5030B					
			Analytical Method: SW-846 8260B					
1,1,1,2-Tetrachloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 14:16	J
1,1,1-Trichloroethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 14:16	J
1,1,2,2-Tetrachloroethane	0.20	U	ug/L	1	1.0	0.20	2/18/2021 14:16	J
1,1,2-Trichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 14:16	J
1,1-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 14:16	J
1,1-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 14:16	J
1,2,3-Trichloropropane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 14:16	J

Report ID: 1037887 - 292367

Page 93 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184039**

Date Received: 02/17/21 12:55 Matrix: Water

Sample ID: **EQUIPMENT BLANK #2**

Date Collected: 02/17/21 08:30

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
1,2-Dibromo-3-Chloropropane	1.2	U	ug/L	1	5.0	1.2	2/18/2021 14:16	J
1,2-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 14:16	J
1,2-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 14:16	J
1,2-Dichloropropane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 14:16	J
1,4-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 14:16	J
2-Butanone (MEK)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 14:16	J
2-Hexanone	0.50	U	ug/L	1	2.0	0.50	2/18/2021 14:16	J
4-Methyl-2-pentanone (MIBK)	0.50	U	ug/L	1	2.0	0.50	2/18/2021 14:16	J
Acetone	2.2		ug/L	1	2.0	0.50	2/19/2021 15:58	J
Acrylonitrile	0.50	U	ug/L	1	2.0	0.50	2/18/2021 14:16	J
Benzene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 14:16	J
Bromochloromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 14:16	J
Bromodichloromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 14:16	J
Bromoform	0.25	U	ug/L	1	1.0	0.25	2/18/2021 14:16	J
Bromomethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 14:16	J
Carbon Disulfide	0.50	U	ug/L	1	2.0	0.50	2/18/2021 14:16	J
Carbon Tetrachloride	0.25	U	ug/L	1	1.0	0.25	2/18/2021 14:16	J
Chlorobenzene	0.56	I	ug/L	1	2.0	0.50	2/19/2021 15:58	J
Chloroethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 14:16	J
Chloroform	0.50	U	ug/L	1	2.0	0.50	2/18/2021 14:16	J
Chloromethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 14:16	J
Dibromochloromethane	0.20	U	ug/L	1	1.0	0.20	2/18/2021 14:16	J
Dibromomethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 14:16	J
Ethylbenzene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 14:16	J
Ethylene Dibromide (EDB)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 14:16	J
Iodomethane (Methyl Iodide)	0.50	U	ug/L	1	2.0	0.50	2/18/2021 14:16	J
Methylene Chloride	51		ug/L	1	5.0	1.2	2/19/2021 15:58	J
Styrene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 14:16	J
Tetrachloroethylene (PCE)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 14:16	J
Toluene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 14:16	J
Trichloroethene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 14:16	J
Trichlorofluoromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 14:16	J
Vinyl Acetate	0.50	U	ug/L	1	2.0	0.50	2/18/2021 14:16	J
Vinyl Chloride	0.25	U	ug/L	1	1.0	0.25	2/18/2021 14:16	J
Xylene (Total)	0.75	U	ug/L	1	3.0	0.75	2/18/2021 14:16	J
cis-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 14:16	J
cis-1,3-Dichloropropene	0.20	U	ug/L	1	1.0	0.20	2/18/2021 14:16	J
trans-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 14:16	J
trans-1,3-Dichloropropylene	0.20	U	ug/L	1	1.0	0.20	2/18/2021 14:16	J
trans-1,4-Dichloro-2-butene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 14:16	J

Report ID: 1037887 - 292367

Page 94 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184039**

Date Received: 02/17/21 12:55 Matrix: Water

Sample ID: **EQUIPMENT BLANK #2**

Date Collected: 02/17/21 08:30

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
1,2-Dichloroethane-d4 (S)	103		%	1	70-128		2/18/2021 14:16	
Toluene-d8 (S)	107		%	1	77-119		2/18/2021 14:16	
Bromofluorobenzene (S)	109		%	1	86-123		2/18/2021 14:16	

Analysis Desc: 8260B SIM Analysis,
Water

Preparation Method: SW-846 5030B

Analytical Method: SW-846 8260B (SIM)

1,2-Dibromo-3-Chloropropane	0.050	U	ug/L	1	0.20	0.050	2/18/2021 14:16	J
Ethylene Dibromide (EDB)	0.019	U	ug/L	1	0.10	0.019	2/18/2021 14:16	J
1,2-Dichloroethane-d4 (S)	99		%	1	77-125		2/18/2021 14:16	
Toluene-d8 (S)	105		%	1	80-121		2/18/2021 14:16	
Bromofluorobenzene (S)	107		%	1	80-129		2/18/2021 14:16	

WET CHEMISTRY

Analysis Desc: IC,E300.0,Water

Analytical Method: EPA 300.0

Chloride	2.0	U	mg/L	1	8.0	2.0	2/18/2021 07:53	J
Nitrate (as N)	0.20	U	mg/L	1	0.80	0.20	2/18/2021 07:53	J

Analysis Desc: Ammonia,E350.1,Water

Analytical Method: EPA 350.1

Ammonia (N)	0.017	U	mg/L	1	0.040	0.017	2/24/2021 14:11	G
-------------	--------------	----------	------	----------	-------	-------	-----------------	---

Analysis Desc: Tot Dissolved
Solids,SM2540C

Analytical Method: SM 2540 C

Total Dissolved Solids	10	U	mg/L	1	10	10	2/23/2021 15:56	J
------------------------	-----------	----------	------	----------	----	----	-----------------	---

Lab ID: **J2102184040**

Date Received: 02/17/21 12:55 Matrix: Water

Sample ID: **TRIP BLANK 3**

Date Collected: 02/17/21 00:00

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
------------	---------	------	-------	----	-----------------	-----------------	----------	-----

VOLATILES

Analysis Desc: 8260B VOCs Analysis,
Water

Preparation Method: SW-846 5030B

Analytical Method: SW-846 8260B

1,1,1,2-Tetrachloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 13:47	J
1,1,1-Trichloroethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:47	J
1,1,2,2-Tetrachloroethane	0.20	U	ug/L	1	1.0	0.20	2/18/2021 13:47	J

Report ID: 1037887 - 292367

Page 95 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184040**
Sample ID: **TRIP BLANK 3**

Date Received: 02/17/21 12:55 Matrix: Water
Date Collected: 02/17/21 00:00

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
1,1,2-Trichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 13:47	J
1,1-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 13:47	J
1,1-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:47	J
1,2,3-Trichloropropane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 13:47	J
1,2-Dibromo-3-Chloropropane	1.2	U	ug/L	1	5.0	1.2	2/18/2021 13:47	J
1,2-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:47	J
1,2-Dichloroethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 13:47	J
1,2-Dichloropropane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 13:47	J
1,4-Dichlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:47	J
2-Butanone (MEK)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 13:47	J
2-Hexanone	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:47	J
4-Methyl-2-pentanone (MIBK)	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:47	J
Acetone	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:47	J
Acrylonitrile	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:47	J
Benzene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 13:47	J
Bromochloromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:47	J
Bromodichloromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:47	J
Bromoform	0.25	U	ug/L	1	1.0	0.25	2/18/2021 13:47	J
Bromomethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:47	J
Carbon Disulfide	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:47	J
Carbon Tetrachloride	0.25	U	ug/L	1	1.0	0.25	2/18/2021 13:47	J
Chlorobenzene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:47	J
Chloroethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:47	J
Chloroform	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:47	J
Chloromethane	0.25	U	ug/L	1	1.0	0.25	2/18/2021 13:47	J
Dibromochloromethane	0.20	U	ug/L	1	1.0	0.20	2/18/2021 13:47	J
Dibromomethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:47	J
Ethylbenzene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 13:47	J
Ethylene Dibromide (EDB)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 13:47	J
Iodomethane (Methyl Iodide)	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:47	J
Methylene Chloride	1.2	U	ug/L	1	5.0	1.2	2/19/2021 15:29	J
Styrene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:47	J
Tetrachloroethylene (PCE)	0.25	U	ug/L	1	1.0	0.25	2/18/2021 13:47	J
Toluene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 13:47	J
Trichloroethene	0.25	U	ug/L	1	1.0	0.25	2/18/2021 13:47	J
Trichlorofluoromethane	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:47	J
Vinyl Acetate	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:47	J
Vinyl Chloride	0.25	U	ug/L	1	1.0	0.25	2/18/2021 13:47	J
Xylene (Total)	0.75	U	ug/L	1	3.0	0.75	2/18/2021 13:47	J
cis-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:47	J

Report ID: 1037887 - 292367

Page 96 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184040**
Sample ID: **TRIP BLANK 3**

Date Received: 02/17/21 12:55 Matrix: Water
Date Collected: 02/17/21 00:00

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
cis-1,3-Dichloropropene	0.20	U	ug/L	1	1.0	0.20	2/18/2021 13:47	J
trans-1,2-Dichloroethylene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:47	J
trans-1,3-Dichloropropylene	0.20	U	ug/L	1	1.0	0.20	2/18/2021 13:47	J
trans-1,4-Dichloro-2-butene	0.50	U	ug/L	1	2.0	0.50	2/18/2021 13:47	J
1,2-Dichloroethane-d4 (S)	105		%	1	70-128		2/18/2021 13:47	
Toluene-d8 (S)	105		%	1	77-119		2/18/2021 13:47	
Bromofluorobenzene (S)	108		%	1	86-123		2/18/2021 13:47	

Analysis Desc: 8260B SIM Analysis,
Water

Preparation Method: SW-846 5030B

Analytical Method: SW-846 8260B (SIM)

1,2-Dibromo-3-Chloropropane	0.050	U	ug/L	1	0.20	0.050	2/18/2021 13:47	J
Ethylene Dibromide (EDB)	0.019	U	ug/L	1	0.10	0.019	2/18/2021 13:47	J
1,2-Dichloroethane-d4 (S)	100		%	1	77-125		2/18/2021 13:47	
Toluene-d8 (S)	103		%	1	80-121		2/18/2021 13:47	
Bromofluorobenzene (S)	106		%	1	80-129		2/18/2021 13:47	

Lab ID: **J2102184041**
Sample ID: **EQUIPMENT BLANK #1**

Date Received: 02/17/21 12:55 Matrix: Water
Date Collected: 02/17/21 08:20

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
------------	---------	------	-------	----	-----------------	-----------------	----------	-----

METALS

Analysis Desc: SW846 6010B
Analysis, Water

Preparation Method: SW-846 3010A

Analytical Method: SW-846 6010

Iron	200	U	ug/L	1	800	200	2/23/2021 12:40	J
Sodium	0.80	U	mg/L	1	3.2	0.80	2/23/2021 12:40	J

WET CHEMISTRY

Analysis Desc: IC,E300.0, Water

Analytical Method: EPA 300.0

Chloride	2.0	U	mg/L	1	8.0	2.0	2/18/2021 12:02	J
Nitrate (as N)	0.20	U	mg/L	1	0.80	0.20	2/18/2021 12:02	J

Analysis Desc: Ammonia,E350.1, Water

Analytical Method: EPA 350.1

Ammonia (N)	0.017	U	mg/L	1	0.040	0.017	2/24/2021 14:12	G
-------------	-------	---	------	---	-------	-------	-----------------	---

Report ID: 1037887 - 292367

Page 97 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: J2102184 Trail Ridge Landfill

Lab ID: **J2102184041**

Date Received: 02/17/21 12:55 Matrix: Water

Sample ID: **EQUIPMENT BLANK #1**

Date Collected: 02/17/21 08:20

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Analysis Desc: Tot Dissolved Solids,SM2540C Analytical Method: SM 2540 C								
Total Dissolved Solids	10	U	mg/L	1	10	10	2/23/2021 15:56	J

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS QUALIFIERS

Workorder: J2102184 Trail Ridge Landfill

PARAMETER QUALIFIERS

- U The compound was analyzed for but not detected.
- I The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- [2] Results are greater than the reported amount.
- [1] SAMPLES 30-36 FILTERED: 2/17/21 15:53
- J4 Estimated Result

LAB QUALIFIERS

- G DOH Certification #E82001(AEL-G)(FL NELAC Certification)
- J DOH Certification #E82574(AEL-JAX)(FL NELAC Certification)
- J^ Not Certified

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: J2102184 Trail Ridge Landfill

QC Batch: WCAJ/1355 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Prepared:
Associated Lab Samples: J2102184001, J2102184002, J2102184003, J2102184004, J2102184005, J2102184006, J2102184007, J2102184008,
METHOD BLANK: 3786726

Parameter	Units	Blank Result	Reporting Limit Qualifiers
WET CHEMISTRY			
Chloride	mg/L	2.0	2.0 U
Nitrate (as N)	mg/L	0.20	0.20 U

LABORATORY CONTROL SAMPLE & LCSD: 3786727 3786728

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD Qualifiers
WET CHEMISTRY									
Chloride	mg/L	20	19	20	96	98	90-110	2	10
Nitrate (as N)	mg/L	2	2.0	2.1	102	103	90-110	1	10

MATRIX SPIKE SAMPLE: 3786729 Original: J2102151001

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits Qualifiers
WET CHEMISTRY						
Chloride	mg/L	110	20	130	100	90-110
Nitrate (as N)	mg/L	0.36	2	2.9	126	90-110

MATRIX SPIKE SAMPLE: 3788922 Original: J2102184006

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits Qualifiers
WET CHEMISTRY						
Chloride	mg/L	5.7	20	30	119	90-110
Nitrate (as N)	mg/L	0.062	2	2.4	119	90-110

QC Batch: MSVJ/1200 Analysis Method: SW-846 8260B (SIM)
QC Batch Method: SW-846 5030B Prepared: 02/16/2021 10:50
Associated Lab Samples: J2102184007, J2102184008, J2102184009, J2102184010, J2102184011, J2102184012, J2102184013, J2102184014

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: J2102184 Trail Ridge Landfill

METHOD BLANK: 3788195

Parameter	Units	Blank Result	Reporting Limit Qualifiers
VOLATILES			
Ethylene Dibromide (EDB)	ug/L	0.019	0.019 U
1,2-Dibromo-3-Chloropropane	ug/L	0.050	0.050 U
1,2-Dichloroethane-d4 (S)	%	99	77-125
Toluene-d8 (S)	%	104	80-121
Bromofluorobenzene (S)	%	106	80-129

LABORATORY CONTROL SAMPLE & LCSD: 3788196 3788197

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD Qualifiers
VOLATILES									
Ethylene Dibromide (EDB)	ug/L	0.8	0.79	0.77	99	96	70-130	3	30
1,2-Dibromo-3-Chloropropane	ug/L	0.8	0.70	0.66	88	83	70-130	6	30
1,2-Dichloroethane-d4 (S)	%				99	101	77-125	2	
Toluene-d8 (S)	%				102	102	80-121	0	
Bromofluorobenzene (S)	%				104	106	80-129	1	

MATRIX SPIKE SAMPLE: 3788198 Original: J2102184007

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits Qualifiers
VOLATILES						
Ethylene Dibromide (EDB)	ug/L	0	0.8	0.80	100	70-130
1,2-Dibromo-3-Chloropropane	ug/L	0	0.8	0.95	119	70-130
1,2-Dichloroethane-d4 (S)	%	98			99	77-125
Toluene-d8 (S)	%	103			103	80-121
Bromofluorobenzene (S)	%	107			107	80-129

QC Batch: MSVj/1202

Analysis Method: SW-846 8260B

QC Batch Method: SW-846 5030B

Prepared: 02/16/2021 10:50

Associated Lab Samples: J2102184007, J2102184008, J2102184009, J2102184010, J2102184011, J2102184012, J2102184013, J2102184014

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: J2102184 Trail Ridge Landfill

METHOD BLANK: 3788204

Parameter	Units	Blank Result	Reporting Limit Qualifiers
VOLATILES			
Chloromethane	ug/L	0.25	0.25 U
Vinyl Chloride	ug/L	0.25	0.25 U
Bromomethane	ug/L	0.50	0.50 U
Chloroethane	ug/L	0.50	0.50 U
Trichlorofluoromethane	ug/L	0.50	0.50 U
Acetone	ug/L	0.50	0.50 U
1,1-Dichloroethylene	ug/L	0.50	0.50 U
Iodomethane (Methyl Iodide)	ug/L	0.50	0.50 U
Acrylonitrile	ug/L	0.50	0.50 U
Methylene Chloride	ug/L	1.2	1.2 U
Carbon Disulfide	ug/L	0.50	0.50 U
trans-1,2-Dichloroethylene	ug/L	0.50	0.50 U
1,1-Dichloroethane	ug/L	0.25	0.25 U
Vinyl Acetate	ug/L	0.50	0.50 U
2-Butanone (MEK)	ug/L	0.25	0.25 U
cis-1,2-Dichloroethylene	ug/L	0.50	0.50 U
Bromochloromethane	ug/L	0.50	0.50 U
Chloroform	ug/L	0.50	0.50 U
1,2-Dichloroethane	ug/L	0.25	0.25 U
1,1,1-Trichloroethane	ug/L	0.50	0.50 U
Carbon Tetrachloride	ug/L	0.25	0.25 U
Benzene	ug/L	0.25	0.25 U
Dibromomethane	ug/L	0.50	0.50 U
1,2-Dichloropropane	ug/L	0.25	0.25 U
Trichloroethene	ug/L	0.25	0.25 U
Bromodichloromethane	ug/L	0.50	0.50 U
cis-1,3-Dichloropropene	ug/L	0.20	0.20 U
4-Methyl-2-pentanone (MIBK)	ug/L	0.50	0.50 U
trans-1,3-Dichloropropylene	ug/L	0.20	0.20 U
1,1,2-Trichloroethane	ug/L	0.25	0.25 U
Toluene	ug/L	0.25	0.25 U
2-Hexanone	ug/L	0.50	0.50 U
Dibromochloromethane	ug/L	0.20	0.20 U
Ethylene Dibromide (EDB)	ug/L	0.25	0.25 U
Tetrachloroethylene (PCE)	ug/L	0.25	0.25 U
1,1,1,2-Tetrachloroethane	ug/L	0.25	0.25 U
Chlorobenzene	ug/L	0.50	0.50 U
Ethylbenzene	ug/L	0.25	0.25 U
Bromoform	ug/L	0.25	0.25 U
Styrene	ug/L	0.50	0.50 U
1,1,2,2-Tetrachloroethane	ug/L	0.20	0.20 U
1,2,3-Trichloropropane	ug/L	0.25	0.25 U
1,4-Dichlorobenzene	ug/L	0.50	0.50 U
1,2-Dichlorobenzene	ug/L	0.50	0.50 U

Report ID: 1037887 - 292367

Page 102 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: J2102184 Trail Ridge Landfill

METHOD BLANK: 3788204

Parameter	Units	Blank Result	Reporting Limit Qualifiers
1,2-Dibromo-3-Chloropropane	ug/L	1.2	1.2 U
trans-1,4-Dichloro-2-butene	ug/L	0.50	0.50 U
Xylene (Total)	ug/L	0.75	0.75 U
1,2-Dichloroethane-d4 (S)	%	103	70-128
Toluene-d8 (S)	%	107	77-119
Bromofluorobenzene (S)	%	107	86-123

LABORATORY CONTROL SAMPLE & LCSD: 3788205 3788206

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD Qualifiers
VOLATILES									
Chloromethane	ug/L	20	22	21	109	105		4	
Vinyl Chloride	ug/L	20	21	21	103	105	70-130	1	20
Bromomethane	ug/L	20	21	20	103	98		4	
Chloroethane	ug/L	20	21	22	107	110		3	
Trichlorofluoromethane	ug/L	20	22	23	110	117		6	
Acetone	ug/L	20	22	22	111	112		1	
1,1-Dichloroethylene	ug/L	20	19	19	93	97	70-130	4	20
Iodomethane (Methyl Iodide)	ug/L	20	18	16	88	81		8	
Acrylonitrile	ug/L	20	19	20	93	98		6	
Methylene Chloride	ug/L	20	20	21	100	103		3	
Carbon Disulfide	ug/L	20	17	18	83	88		6	
trans-1,2-Dichloroethylene	ug/L	20	19	20	94	99		5	
1,1-Dichloroethane	ug/L	20	19	20	97	102		5	
Vinyl Acetate	ug/L	20	11	12	54	61		12	
2-Butanone (MEK)	ug/L	20	20	20	99	102		3	
cis-1,2-Dichloroethylene	ug/L	20	20	21	101	104	70-130	4	20
Bromochloromethane	ug/L	20	20	21	101	103		2	
Chloroform	ug/L	20	21	22	104	108	70-130	3	20
1,2-Dichloroethane	ug/L	20	19	20	93	98		5	
1,1,1-Trichloroethane	ug/L	20	20	20	99	101		2	
Carbon Tetrachloride	ug/L	20	19	20	97	101		3	
Benzene	ug/L	20	20	21	101	105	70-130	4	20
Dibromomethane	ug/L	20	19	20	97	101		5	
1,2-Dichloropropane	ug/L	20	20	21	101	105		4	
Trichloroethene	ug/L	20	18	19	89	97	70-130	8	20
Bromodichloromethane	ug/L	20	20	21	101	106		4	
cis-1,3-Dichloropropene	ug/L	20	19	20	95	101		6	
4-Methyl-2-pentanone (MIBK)	ug/L	20	19	21	96	105		9	
trans-1,3-Dichloropropylene	ug/L	20	18	19	90	94		4	
1,1,2-Trichloroethane	ug/L	20	19	20	97	100		3	

Report ID: 1037887 - 292367

Page 103 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: J2102184 Trail Ridge Landfill

LABORATORY CONTROL SAMPLE & LCSD: 3788205 3788206

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Toluene	ug/L	20	21	22	104	110	70-130	5	20	
2-Hexanone	ug/L	20	19	20	94	101		8		
Dibromochloromethane	ug/L	20	19	20	93	98		5		
Ethylene Dibromide (EDB)	ug/L	20	19	21	95	103		8		
Tetrachloroethylene (PCE)	ug/L	20	20	21	100	106	70-130	6	20	
1,1,1,2-Tetrachloroethane	ug/L	20	20	21	101	105		3		
Chlorobenzene	ug/L	20	20	22	101	108	70-130	7	20	
Ethylbenzene	ug/L	20	21	22	104	110	70-130	6	20	
Bromoform	ug/L	20	18	18	91	92		1		
Styrene	ug/L	20	21	22	103	109		6		
1,1,2,2-Tetrachloroethane	ug/L	20	21	22	103	108		5		
1,2,3-Trichloropropane	ug/L	20	18	20	92	98		6		
1,4-Dichlorobenzene	ug/L	20	19	19	97	97		0		
1,2-Dichlorobenzene	ug/L	20	20	20	101	101	70-130	0	20	
1,2-Dibromo-3-Chloropropane	ug/L	20	19	19	93	94		2		
Xylene (Total)	ug/L	60	63	67	105	112	70-130	6	20	
1,2-Dichloroethane-d4 (S)	%				99	99	70-128	0		
Toluene-d8 (S)	%				103	105	77-119	2		
Bromofluorobenzene (S)	%				104	99	86-123	4		

MATRIX SPIKE SAMPLE: 3788207

Original: J2102184008

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
VOLATILES							
Chloromethane	ug/L	0	20	20	101		
Vinyl Chloride	ug/L	0	20	19	95	70-130	
Bromomethane	ug/L	0	20	18	88		
Chloroethane	ug/L	0	20	20	99		
Trichlorofluoromethane	ug/L	0	20	21	105		
Acetone	ug/L	0	20	21	105		
1,1-Dichloroethylene	ug/L	0	20	17	87	70-130	
Iodomethane (Methyl Iodide)	ug/L	0	20	16	78		
Acrylonitrile	ug/L	0	20	19	95		
Methylene Chloride	ug/L	0.46	20	18	92		
Carbon Disulfide	ug/L	0.15	20	15	75		
trans-1,2-Dichloroethylene	ug/L	0	20	18	89		
1,1-Dichloroethane	ug/L	0	20	18	91		
Vinyl Acetate	ug/L	0	20	12	62		
2-Butanone (MEK)	ug/L	0	20	21	104		

Report ID: 1037887 - 292367

Page 104 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: J2102184 Trail Ridge Landfill

MATRIX SPIKE SAMPLE: 3788207

Original: J2102184008

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
cis-1,2-Dichloroethylene	ug/L	0	20	19	93	70-130	
Bromochloromethane	ug/L	0	20	20	98		
Chloroform	ug/L	0	20	19	94	70-130	
1,2-Dichloroethane	ug/L	0	20	19	93		
1,1,1-Trichloroethane	ug/L	0	20	18	91		
Carbon Tetrachloride	ug/L	0	20	18	90		
Benzene	ug/L	0	20	19	94	70-130	
Dibromomethane	ug/L	0	20	19	97		
1,2-Dichloropropane	ug/L	0	20	19	95		
Trichloroethene	ug/L	0	20	17	84	70-130	
Bromodichloromethane	ug/L	0	20	19	94		
cis-1,3-Dichloropropene	ug/L	0	20	18	88		
4-Methyl-2-pentanone (MIBK)	ug/L	0	20	21	105		
trans-1,3-Dichloropropylene	ug/L	0	20	17	85		
1,1,2-Trichloroethane	ug/L	0	20	19	97		
Toluene	ug/L	0	20	20	101	70-130	
2-Hexanone	ug/L	0	20	21	107		
Dibromochloromethane	ug/L	0	20	19	94		
Ethylene Dibromide (EDB)	ug/L	0	20	19	97		
Tetrachloroethylene (PCE)	ug/L	0	20	19	96	70-130	
1,1,1,2-Tetrachloroethane	ug/L	0	20	19	97		
Chlorobenzene	ug/L	0	20	19	96	70-130	
Ethylbenzene	ug/L	0	20	20	99	70-130	
Bromoform	ug/L	0	20	18	92		
Styrene	ug/L	0	20	19	96		
1,1,2,2-Tetrachloroethane	ug/L	0	20	22	110		
1,2,3-Trichloropropane	ug/L	0	20	20	99		
1,4-Dichlorobenzene	ug/L	0	20	18	91		
1,2-Dichlorobenzene	ug/L	0	20	19	96	70-130	
1,2-Dibromo-3- Chloropropane	ug/L	0	20	21	104		
Xylene (Total)	ug/L	0	60	60	100	70-130	
1,2-Dichloroethane-d4 (S)	%	104			104	70-128	
Toluene-d8 (S)	%	105			107	77-119	
Bromofluorobenzene (S)	%	109			104	86-123	

QC Batch: WCAj/1371

Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Prepared:

Associated Lab Samples: J2102184016, J2102184017, J2102184018, J2102184019

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: J2102184 Trail Ridge Landfill

METHOD BLANK: 3788962

Parameter	Units	Blank Result	Reporting Limit Qualifiers
WET CHEMISTRY			
Chloride	mg/L	2.0	2.0 U
Nitrate (as N)	mg/L	0.20	0.20 U

LABORATORY CONTROL SAMPLE & LCSD: 3788963 3788964

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD Qualifiers
WET CHEMISTRY									
Chloride	mg/L	20	19	19	94	97	90-110	3	10
Nitrate (as N)	mg/L	2	2.0	2.0	98	99	90-110	1	10

MATRIX SPIKE SAMPLE: 3788966 Original: J2102261004

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits Qualifiers
WET CHEMISTRY						
Chloride	mg/L	39	20	59	100	90-110
Nitrate (as N)	mg/L	0.27	2	2.4	107	90-110

QC Batch: WCAj/1372 Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0 Prepared:

Associated Lab Samples: J2102184015, J2102184020, J2102184021, J2102184022, J2102184023, J2102184024, J2102184025, J2102184026,

METHOD BLANK: 3788971

Parameter	Units	Blank Result	Reporting Limit Qualifiers
WET CHEMISTRY			
Chloride	mg/L	2.0	2.0 U
Nitrate (as N)	mg/L	0.20	0.20 U

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: J2102184 Trail Ridge Landfill

LABORATORY CONTROL SAMPLE & LCSD: 3788972 3788973

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
WET CHEMISTRY										
Chloride	mg/L	20	19	18	96	92	90-110	4	10	
Nitrate (as N)	mg/L	2	2.0	1.9	99	95	90-110	4	10	

MATRIX SPIKE SAMPLE: 3788974 Original: J2102184015

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY							
Chloride	mg/L	5.1	20	28	114	90-110	
Nitrate (as N)	mg/L	0.3	2	2.5	111	90-110	

MATRIX SPIKE SAMPLE: 3788975 Original: J2102184026

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY							
Chloride	mg/L	120	20	150	111	90-110	
Nitrate (as N)	mg/L	0.065	2	2.7	134	90-110	

QC Batch: DGMj/1158

Analysis Method: SW-846 6010

QC Batch Method: SW-846 3010A

Prepared: 02/18/2021 04:24

Associated Lab Samples: J2102184001, J2102184002, J2102184003, J2102184004, J2102184005, J2102184006, J2102184007, J2102184008

METHOD BLANK: 3789206

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
METALS				
Silver	ug/L	8.0	8.0 U	
Arsenic	ug/L	8.0	8.0 U	
Barium	ug/L	3.0	3.0 U	
Beryllium	ug/L	2.0	2.0 U	
Cadmium	ug/L	0.50	0.50 U	
Cobalt	ug/L	1.0	1.0 U	
Chromium	ug/L	5.0	5.0 U	
Copper	ug/L	10	10 U	
Iron	ug/L	200	200 U	
Sodium	mg/L	0.80	0.80 U	

Report ID: 1037887 - 292367

Page 107 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: J2102184 Trail Ridge Landfill

METHOD BLANK: 3789206

Parameter	Units	Blank Result	Reporting Limit Qualifiers
Nickel	ug/L	10	10 U
Lead	ug/L	3.0	3.0 U
Vanadium	ug/L	2.0	2.0 U
Zinc	ug/L	50	50 U

LABORATORY CONTROL SAMPLE: 3789207

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits Qualifiers
METALS					
Silver	ug/L	160	160	98	80-120
Arsenic	ug/L	160	160	98	80-120
Barium	ug/L	60	62	103	80-120
Beryllium	ug/L	40	38	96	80-120
Cadmium	ug/L	10	10	102	80-120
Cobalt	ug/L	20	20	100	80-120
Chromium	ug/L	100	97	97	80-120
Copper	ug/L	200	200	98	80-120
Iron	ug/L	4000	3700	92	80-120
Sodium	mg/L	16	15	96	80-120
Nickel	ug/L	200	210	103	80-120
Lead	ug/L	60	66	109	80-120
Vanadium	ug/L	40	38	95	80-120
Zinc	ug/L	1000	1000	104	80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3789208 3789209 Original: J2102090001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
METALS											
Silver	ug/L	2.4	160	160	160	98	98	75-125	0	20	
Arsenic	ug/L	0.5	160	160	160	99	102	75-125	3	20	
Barium	ug/L	120	60	170	170	93	91	75-125	1	20	
Beryllium	ug/L	0	40	39	39	97	98	75-125	1	20	
Cadmium	ug/L	0.3	10	9.8	9.8	98	98	75-125	0	20	
Cobalt	ug/L	0.3	20	20	20	98	98	75-125	0	20	
Chromium	ug/L	2.1	100	96	98	96	98	75-125	1	20	
Copper	ug/L	1.3	200	200	200	98	99	75-125	1	20	
Iron	ug/L	1100	4000	4600	4700	88	89	75-125	1	20	

Report ID: 1037887 - 292367

Page 108 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: J2102184 Trail Ridge Landfill

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3789208 3789209 Original: J2102090001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	Max RPD	RPD	Qualifiers
Sodium	mg/L	130	16	140	140	69	66	75-125	0	20	
Nickel	ug/L	5.8	200	200	200	100	101	75-125	0	20	
Lead	ug/L	1.2	60	63	63	106	105	75-125	1	20	
Vanadium	ug/L	9.1	40	47	48	95	98	75-125	2	20	
Zinc	ug/L	17	1000	1000	1100	105	105	75-125	0	20	

QC Batch: DGMj/1159

Analysis Method: SW-846 6010

QC Batch Method: SW-846 3010A

Prepared: 02/18/2021 04:24

Associated Lab Samples: J2102184009, J2102184010, J2102184011, J2102184012, J2102184013, J2102184015, J2102184016, J2102184017,

METHOD BLANK: 3789220

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
METALS				
Silver	ug/L	8.0	8.0	U
Arsenic	ug/L	8.0	8.0	U
Barium	ug/L	3.0	3.0	U
Beryllium	ug/L	2.0	2.0	U
Cadmium	ug/L	0.50	0.50	U
Cobalt	ug/L	1.0	1.0	U
Chromium	ug/L	5.0	5.0	U
Copper	ug/L	10	10	U
Iron	ug/L	200	200	U
Sodium	mg/L	0.80	0.80	U
Nickel	ug/L	10	10	U
Lead	ug/L	3.0	3.0	U
Vanadium	ug/L	2.0	2.0	U
Zinc	ug/L	50	50	U

LABORATORY CONTROL SAMPLE: 3789221

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
METALS						
Silver	ug/L	160	150	92	80-120	
Arsenic	ug/L	160	150	96	80-120	
Barium	ug/L	60	59	99	80-120	
Beryllium	ug/L	40	37	93	80-120	

Report ID: 1037887 - 292367

Page 109 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: J2102184 Trail Ridge Landfill

LABORATORY CONTROL SAMPLE: 3789221

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	10	9.9	99	80-120	
Cobalt	ug/L	20	20	98	80-120	
Chromium	ug/L	100	93	93	80-120	
Copper	ug/L	200	190	94	80-120	
Iron	ug/L	4000	3700	92	80-120	
Sodium	mg/L	16	15	96	80-120	
Nickel	ug/L	200	200	100	80-120	
Lead	ug/L	60	62	104	80-120	
Vanadium	ug/L	40	36	91	80-120	
Zinc	ug/L	1000	1000	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3789222 3789223 Original: J2102182002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
METALS											
Silver	ug/L	1.9	160	150	150	91	93	75-125	3	20	
Arsenic	ug/L	0.4	160	160	160	98	101	75-125	3	20	
Barium	ug/L	26	60	84	85	97	100	75-125	2	20	
Beryllium	ug/L	0	40	37	37	92	93	75-125	1	20	
Cadmium	ug/L	0.3	10	9.9	10	99	100	75-125	1	20	
Cobalt	ug/L	0.4	20	20	20	99	101	75-125	2	20	
Chromium	ug/L	3.4	100	94	97	94	97	75-125	3	20	
Copper	ug/L	0	200	190	190	93	94	75-125	2	20	
Iron	ug/L	600	4000	4200	4300	89	92	75-125	2	20	
Sodium	mg/L	25	16	39	40	88	92	75-125	2	20	
Nickel	ug/L	1.5	200	200	200	100	101	75-125	1	20	
Lead	ug/L	2.2	60	65	66	108	110	75-125	2	20	
Vanadium	ug/L	7.1	40	44	45	91	94	75-125	3	20	
Zinc	ug/L	14	1000	1000	1000	102	103	75-125	1	20	

QC Batch: DGMj/1161

Analysis Method: SW-846 6020

QC Batch Method: SW-846 3010A

Prepared: 02/18/2021 04:24

Associated Lab Samples: J2102184007, J2102184008, J2102184009, J2102184010, J2102184011, J2102184012, J2102184013, J2102184020,

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: J2102184 Trail Ridge Landfill

METHOD BLANK: 3789294

Parameter	Units	Blank Result	Reporting Limit Qualifiers
METALS			
Selenium	ug/L	1.2	1.2 U
Antimony	ug/L	1.0	1.0 U
Thallium	ug/L	0.25	0.25 U

LABORATORY CONTROL SAMPLE: 3789295

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits Qualifiers
METALS					
Selenium	ug/L	20	20	99	80-120
Antimony	ug/L	40	40	100	80-120
Thallium	ug/L	2	2.0	100	80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3789296 3789297 Original: J2102196001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
METALS											
Selenium	ug/L	0.14	20	21	20	107	99	75-125	7	20	
Antimony	ug/L	2.2	40	42	44	99	104	75-125	5	20	
Thallium	ug/L	0.017	2	2.0	2.0	102	102	75-125	1	20	

QC Batch: WCAj/1374 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Prepared:
Associated Lab Samples: J2102184037, J2102184041

METHOD BLANK: 3789786

Parameter	Units	Blank Result	Reporting Limit Qualifiers
WET CHEMISTRY			
Chloride	mg/L	2.0	2.0 U
Nitrate (as N)	mg/L	0.20	0.20 U

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: J2102184 Trail Ridge Landfill

LABORATORY CONTROL SAMPLE & LCSD: 3789787 3789788									
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD Qualifiers
WET CHEMISTRY									
Chloride	mg/L	20	19	19	93	95	90-110	2	10
Nitrate (as N)	mg/L	2	1.9	1.9	96	97	90-110	1	10

MATRIX SPIKE SAMPLE: 3789789		Original: J2102184037					
Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY							
Chloride	mg/L	110	20	130	100	90-110	
Nitrate (as N)	mg/L	0.062	2	2.1	104	90-110	

MATRIX SPIKE SAMPLE: 3789790		Original: J2102283001					
Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY							
Chloride	mg/L	72	20	91	95	90-110	
Nitrate (as N)	mg/L	1.2	2	3.3	104	90-110	

QC Batch: DGMj/1163 Analysis Method: SW-846 7470A
QC Batch Method: SW-846 7470A Prepared: 02/18/2021 11:15
Associated Lab Samples: J2102184007, J2102184008, J2102184009, J2102184010, J2102184011, J2102184012, J2102184013, J2102184020,

METHOD BLANK: 3789981				
Parameter	Units	Blank Result	Reporting Limit	Qualifiers
METALS				
Mercury	ug/L	0.011	0.011	U

LABORATORY CONTROL SAMPLE: 3789982						
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
METALS						

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: J2102184 Trail Ridge Landfill

LABORATORY CONTROL SAMPLE: 3789982

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits Qualifiers
Mercury	ug/L	2	1.9	94	80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3789983 3789984 Original: J2102184020

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	Max RPD	Max RPD Qualifiers
METALS										
Mercury	ug/L	0.011	2	1.8	1.8	92	92	80-120	0	20

QC Batch: WCAj/1379

Analysis Method: SM 2540D

QC Batch Method: SM 2540D

Prepared:

Associated Lab Samples: J2102184030, J2102184031, J2102184032, J2102184033, J2102184034, J2102184035, J2102184036

METHOD BLANK: 3789988

Parameter	Units	Blank Result	Reporting Limit Qualifiers
WET CHEMISTRY			
Total Suspended Solids	mg/L	1.0	1.0 U

LABORATORY CONTROL SAMPLE: 3789989

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits Qualifiers
WET CHEMISTRY					
Total Suspended Solids	mg/L	100	89	89	85-115

SAMPLE DUPLICATE: 3789990 Original: J2102256001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD Qualifiers
WET CHEMISTRY					
Total Suspended Solids	mg/L	190	190	1	10

Report ID: 1037887 - 292367

Page 113 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: J2102184 Trail Ridge Landfill

QC Batch: WCAj/1381 Analysis Method: SM 2540 C
QC Batch Method: SM 2540 C Prepared:
Associated Lab Samples: J2102184001, J2102184002, J2102184003, J2102184004, J2102184005, J2102184006, J2102184007, J2102184008,
METHOD BLANK: 3790323

Parameter	Units	Blank Result	Reporting Limit Qualifiers
WET CHEMISTRY			
Total Dissolved Solids	mg/L	10	10 U

LABORATORY CONTROL SAMPLE: 3790324

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits Qualifiers
WET CHEMISTRY					
Total Dissolved Solids	mg/L	300	300	99	85-115

SAMPLE DUPLICATE: 3790325 Original: J2102131002

Parameter	Units	Original Result	DUP Result	RPD	Max RPD Qualifiers
WET CHEMISTRY					
Total Dissolved Solids	mg/L	630	590	6	10

QC Batch: WCAj/1384 Analysis Method: SM 2540 C
QC Batch Method: SM 2540 C Prepared:
Associated Lab Samples: J2102184016, J2102184017, J2102184018, J2102184019, J2102184022, J2102184023, J2102184024, J2102184025,
METHOD BLANK: 3791355

Parameter	Units	Blank Result	Reporting Limit Qualifiers
WET CHEMISTRY			
Total Dissolved Solids	mg/L	10	10 U

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: J2102184 Trail Ridge Landfill

LABORATORY CONTROL SAMPLE: 3791356

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits Qualifiers
WET CHEMISTRY					
Total Dissolved Solids	mg/L	300	290	96	85-115

SAMPLE DUPLICATE: 3791358

Original: J2102184016

Parameter	Units	Original Result	DUP Result	RPD	Max RPD Qualifiers
WET CHEMISTRY					
Total Dissolved Solids	mg/L	42	35	18	10
QC Batch:	MSVj/1212		Analysis Method:	SW-846 8260B (SIM)	
QC Batch Method:	SW-846 5030B		Prepared:	02/18/2021 10:22	
Associated Lab Samples: J2102184020, J2102184021, J2102184022, J2102184023, J2102184024, J2102184025, J2102184026, J2102184027,					

METHOD BLANK: 3791362

Parameter	Units	Blank Result	Reporting Limit Qualifiers
VOLATILES			
Ethylene Dibromide (EDB)	ug/L	0.019	0.019 U
1,2-Dibromo-3-Chloropropane	ug/L	0.050	0.050 U
1,2-Dichloroethane-d4 (S)	%	98	77-125
Toluene-d8 (S)	%	103	80-121
Bromofluorobenzene (S)	%	107	80-129

LABORATORY CONTROL SAMPLE & LCSD: 3791363 3791364

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD Qualifiers
VOLATILES									
Ethylene Dibromide (EDB)	ug/L	0.8	0.75	0.75	94	94	70-130	0	30
1,2-Dibromo-3-Chloropropane	ug/L	0.8	0.79	0.69	99	86	70-130	14	30
1,2-Dichloroethane-d4 (S)	%				100	99	77-125	1	
Toluene-d8 (S)	%				105	105	80-121	1	
Bromofluorobenzene (S)	%				107	105	80-129	2	

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: J2102184 Trail Ridge Landfill

MATRIX SPIKE SAMPLE: 3791365

Original: J2102184020

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
VOLATILES							
Ethylene Dibromide (EDB)	ug/L	0	0.8	0.73	91	70-130	
1,2-Dibromo-3-Chloropropane	ug/L	0	0.8	0.65	81	70-130	
1,2-Dichloroethane-d4 (S)	%	103			97	77-125	
Toluene-d8 (S)	%	103			106	80-121	
Bromofluorobenzene (S)	%	107			105	80-129	

QC Batch: MSVj/1214

Analysis Method: SW-846 8260B (SIM)

QC Batch Method: SW-846 5030B

Prepared: 02/18/2021 10:22

Associated Lab Samples: J2102184032, J2102184033, J2102184034, J2102184035, J2102184036, J2102184037, J2102184038

METHOD BLANK: 3791366

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
VOLATILES				
Ethylene Dibromide (EDB)	ug/L	0.019	0.019	U
1,2-Dibromo-3-Chloropropane	ug/L	0.050	0.050	U
1,2-Dichloroethane-d4 (S)	%	98	77-125	
Toluene-d8 (S)	%	103	80-121	
Bromofluorobenzene (S)	%	107	80-129	

LABORATORY CONTROL SAMPLE & LCSD: 3791367 3791368

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
VOLATILES										
Ethylene Dibromide (EDB)	ug/L	0.8	0.75	0.75	94	94	70-130	0	30	
1,2-Dibromo-3-Chloropropane	ug/L	0.8	0.79	0.69	99	86	70-130	14	30	
1,2-Dichloroethane-d4 (S)	%				100	99	77-125	1		
Toluene-d8 (S)	%				105	105	80-121	1		
Bromofluorobenzene (S)	%				107	105	80-129	2		

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: J2102184 Trail Ridge Landfill

MATRIX SPIKE SAMPLE: 3791369

Original: J2102184032

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
VOLATILES							
Ethylene Dibromide (EDB)	ug/L	0	0.8	0.74	93	70-130	
1,2-Dibromo-3-Chloropropane	ug/L	0	0.8	0.72	90	70-130	
1,2-Dichloroethane-d4 (S)	%	98			102	77-125	
Toluene-d8 (S)	%	102			102	80-121	
Bromofluorobenzene (S)	%	106			106	80-129	

QC Batch: MSVj/1216

Analysis Method: SW-846 8260B

QC Batch Method: SW-846 5030B

Prepared: 02/18/2021 10:22

Associated Lab Samples: J2102184020, J2102184021, J2102184022, J2102184023, J2102184024, J2102184025, J2102184026, J2102184027,

METHOD BLANK: 3791379

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
VOLATILES				
Chloromethane	ug/L	0.25	0.25	U
Vinyl Chloride	ug/L	0.25	0.25	U
Bromomethane	ug/L	0.50	0.50	U
Chloroethane	ug/L	0.50	0.50	U
Trichlorofluoromethane	ug/L	0.50	0.50	U
Acetone	ug/L	0.50	0.50	U
1,1-Dichloroethylene	ug/L	0.50	0.50	U
Iodomethane (Methyl Iodide)	ug/L	0.50	0.50	U
Acrylonitrile	ug/L	0.50	0.50	U
Methylene Chloride	ug/L	1.2	1.2	U
Carbon Disulfide	ug/L	0.50	0.50	U
trans-1,2-Dichloroethylene	ug/L	0.50	0.50	U
1,1-Dichloroethane	ug/L	0.25	0.25	U
Vinyl Acetate	ug/L	0.50	0.50	U
2-Butanone (MEK)	ug/L	0.25	0.25	U
cis-1,2-Dichloroethylene	ug/L	0.50	0.50	U
Bromochloromethane	ug/L	0.50	0.50	U
Chloroform	ug/L	0.50	0.50	U
1,2-Dichloroethane	ug/L	0.25	0.25	U
1,1,1-Trichloroethane	ug/L	0.50	0.50	U
Carbon Tetrachloride	ug/L	0.25	0.25	U
Benzene	ug/L	0.25	0.25	U
Dibromomethane	ug/L	0.50	0.50	U
1,2-Dichloropropane	ug/L	0.25	0.25	U
Trichloroethene	ug/L	0.25	0.25	U

Report ID: 1037887 - 292367

Page 117 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: J2102184 Trail Ridge Landfill

METHOD BLANK: 3791379

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Bromodichloromethane	ug/L	0.50	0.50	U
cis-1,3-Dichloropropene	ug/L	0.20	0.20	U
4-Methyl-2-pentanone (MIBK)	ug/L	0.50	0.50	U
trans-1,3-Dichloropropylene	ug/L	0.20	0.20	U
1,1,2-Trichloroethane	ug/L	0.25	0.25	U
Toluene	ug/L	0.25	0.25	U
2-Hexanone	ug/L	0.50	0.50	U
Dibromochloromethane	ug/L	0.20	0.20	U
Ethylene Dibromide (EDB)	ug/L	0.25	0.25	U
Tetrachloroethylene (PCE)	ug/L	0.25	0.25	U
1,1,1,2-Tetrachloroethane	ug/L	0.25	0.25	U
Chlorobenzene	ug/L	0.50	0.50	U
Ethylbenzene	ug/L	0.25	0.25	U
Bromoform	ug/L	0.25	0.25	U
Styrene	ug/L	0.50	0.50	U
1,1,2,2-Tetrachloroethane	ug/L	0.20	0.20	U
1,2,3-Trichloropropane	ug/L	0.25	0.25	U
1,4-Dichlorobenzene	ug/L	0.50	0.50	U
1,2-Dichlorobenzene	ug/L	0.50	0.50	U
1,2-Dibromo-3-Chloropropane	ug/L	1.2	1.2	U
trans-1,4-Dichloro-2-butene	ug/L	0.50	0.50	U
Xylene (Total)	ug/L	0.75	0.75	U
1,2-Dichloroethane-d4 (S)	%	102	70-128	
Toluene-d8 (S)	%	106	77-119	
Bromofluorobenzene (S)	%	108	86-123	

LABORATORY CONTROL SAMPLE & LCSD: 3791380 3791381

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
VOLATILES										
Chloromethane	ug/L	20	23	25	116	126		9		
Vinyl Chloride	ug/L	20	22	22	108	111	70-130	2	20	
Bromomethane	ug/L	20	24	25	118	123		4		
Chloroethane	ug/L	20	21	22	105	110		5		
Trichlorofluoromethane	ug/L	20	23	23	116	115		1		
Acetone	ug/L	20	21	20	106	101		5		
1,1-Dichloroethylene	ug/L	20	19	19	96	97	70-130	1	20	
Iodomethane (Methyl Iodide)	ug/L	20	24	27	121	133		10		
Acrylonitrile	ug/L	20	19	18	93	88		6		
Methylene Chloride	ug/L	20	20	20	99	101		2		
Carbon Disulfide	ug/L	20	17	17	84	86		2		

Report ID: 1037887 - 292367

Page 118 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: J2102184 Trail Ridge Landfill

LABORATORY CONTROL SAMPLE & LCSD: 3791380 3791381

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
trans-1,2-Dichloroethylene	ug/L	20	20	19	99	97		2		
1,1-Dichloroethane	ug/L	20	20	20	99	100		1		
Vinyl Acetate	ug/L	20	12	12	59	59		1		
2-Butanone (MEK)	ug/L	20	20	19	98	95		2		
cis-1,2-Dichloroethylene	ug/L	20	20	21	102	103	70-130	1	20	
Bromochloromethane	ug/L	20	20	20	101	102		0		
Chloroform	ug/L	20	20	21	102	104	70-130	3	20	
1,2-Dichloroethane	ug/L	20	19	19	95	95		1		
1,1,1-Trichloroethane	ug/L	20	19	20	97	100		3		
Carbon Tetrachloride	ug/L	20	20	20	101	101		0		
Benzene	ug/L	20	21	21	103	104	70-130	1	20	
Dibromomethane	ug/L	20	19	19	95	96		2		
1,2-Dichloropropane	ug/L	20	20	21	101	103		2		
Trichloroethene	ug/L	20	19	19	93	95	70-130	3	20	
Bromodichloromethane	ug/L	20	21	21	104	103		0		
cis-1,3-Dichloropropene	ug/L	20	20	20	99	99		1		
4-Methyl-2-pentanone (MIBK)	ug/L	20	20	20	99	98		1		
trans-1,3-Dichloropropylene	ug/L	20	18	19	91	93		3		
1,1,2-Trichloroethane	ug/L	20	20	19	99	96		3		
Toluene	ug/L	20	22	22	109	110	70-130	1	20	
2-Hexanone	ug/L	20	19	19	95	97		2		
Dibromochloromethane	ug/L	20	19	20	95	98		3		
Ethylene Dibromide (EDB)	ug/L	20	20	20	100	101		1		
Tetrachloroethylene (PCE)	ug/L	20	21	21	104	107	70-130	3	20	
1,1,1,2-Tetrachloroethane	ug/L	20	21	21	106	105		1		
Chlorobenzene	ug/L	20	21	21	106	105	70-130	1	20	
Ethylbenzene	ug/L	20	22	22	111	109	70-130	2	20	
Bromoform	ug/L	20	18	19	91	95		4		
Styrene	ug/L	20	21	21	107	107		0		
1,1,2,2-Tetrachloroethane	ug/L	20	21	21	105	103		2		
1,2,3-Trichloropropane	ug/L	20	22	31	112	156		33		
1,4-Dichlorobenzene	ug/L	20	20	20	99	101		2		
1,2-Dichlorobenzene	ug/L	20	21	20	104	102	70-130	2	20	
1,2-Dibromo-3-Chloropropane	ug/L	20	19	20	94	98		4		
Xylene (Total)	ug/L	60	66	67	111	112	70-130	1	20	
1,2-Dichloroethane-d4 (S)	%				101	95	70-128	5		
Toluene-d8 (S)	%				106	107	77-119	1		
Bromofluorobenzene (S)	%				103	103	86-123	0		

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: J2102184 Trail Ridge Landfill

MATRIX SPIKE SAMPLE: 3791382

Original: J2102184021

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
VOLATILES							
Chloromethane	ug/L	0	20	23	117	70-130	
Vinyl Chloride	ug/L	0	20	21	103		
Bromomethane	ug/L	0	20	19	94		
Chloroethane	ug/L	0	20	22	112		
Trichlorofluoromethane	ug/L	0	20	23	114		
Acetone	ug/L	0	20	20	98	70-130	
1,1-Dichloroethylene	ug/L	0	20	19	94		
Iodomethane (Methyl Iodide)	ug/L	0	20	17	87		
Acrylonitrile	ug/L	0	20	18	88		
Methylene Chloride	ug/L	0.4	20	19	97		
Carbon Disulfide	ug/L	0	20	16	81	70-130	
trans-1,2-Dichloroethylene	ug/L	0	20	19	95		
1,1-Dichloroethane	ug/L	0	20	20	98		
Vinyl Acetate	ug/L	0	20	1.0	5		
2-Butanone (MEK)	ug/L	0	20	18	89		
cis-1,2-Dichloroethylene	ug/L	0	20	20	99	70-130	
Bromochloromethane	ug/L	0	20	20	101		
Chloroform	ug/L	0	20	20	101		
1,2-Dichloroethane	ug/L	0	20	19	93		
1,1,1-Trichloroethane	ug/L	0	20	19	97		
Carbon Tetrachloride	ug/L	0	20	20	100	70-130	
Benzene	ug/L	0	20	20	101		
Dibromomethane	ug/L	0	20	19	97		
1,2-Dichloropropane	ug/L	0	20	20	101		
Trichloroethene	ug/L	0	20	18	90		
Bromodichloromethane	ug/L	0	20	20	101	70-130	
cis-1,3-Dichloropropene	ug/L	0	20	19	95		
4-Methyl-2-pentanone (MIBK)	ug/L	0	20	20	100		
trans-1,3-Dichloropropylene	ug/L	0	20	18	89		
1,1,2-Trichloroethane	ug/L	0	20	19	97		
Toluene	ug/L	0	20	21	104	70-130	
2-Hexanone	ug/L	0	20	20	99		
Dibromochloromethane	ug/L	0	20	19	94		
Ethylene Dibromide (EDB)	ug/L	0	20	20	98		
Tetrachloroethylene (PCE)	ug/L	0	20	20	99		
1,1,1,2-Tetrachloroethane	ug/L	0	20	20	100	70-130	
Chlorobenzene	ug/L	0	20	20	99		
Ethylbenzene	ug/L	0	20	20	101		
Bromoform	ug/L	0	20	17	87		
Styrene	ug/L	0	20	20	101		
1,1,2,2-Tetrachloroethane	ug/L	0	20	20	102		

Report ID: 1037887 - 292367

Page 120 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: J2102184 Trail Ridge Landfill

MATRIX SPIKE SAMPLE: 3791382

Original: J2102184021

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,3-Trichloropropane	ug/L	0	20	18	92		
1,4-Dichlorobenzene	ug/L	0	20	19	97		
1,2-Dichlorobenzene	ug/L	0	20	20	100	70-130	
1,2-Dibromo-3-Chloropropane	ug/L	0	20	20	98		
Xylene (Total)	ug/L	0	60	62	103	70-130	
1,2-Dichloroethane-d4 (S)	%	105			99	70-128	
Toluene-d8 (S)	%	104			107	77-119	
Bromofluorobenzene (S)	%	111			106	86-123	

QC Batch: MSVJ/1218

Analysis Method: SW-846 8260B

QC Batch Method: SW-846 5030B

Prepared: 02/18/2021 10:22

Associated Lab Samples: J2102184032, J2102184033, J2102184034, J2102184035, J2102184036, J2102184037, J2102184038

METHOD BLANK: 3791393

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
VOLATILES				
Chloromethane	ug/L	0.25	0.25	U
Vinyl Chloride	ug/L	0.25	0.25	U
Bromomethane	ug/L	0.50	0.50	U
Chloroethane	ug/L	0.50	0.50	U
Trichlorofluoromethane	ug/L	0.50	0.50	U
Acetone	ug/L	0.50	0.50	U
1,1-Dichloroethylene	ug/L	0.50	0.50	U
Iodomethane (Methyl Iodide)	ug/L	0.50	0.50	U
Acrylonitrile	ug/L	0.50	0.50	U
Methylene Chloride	ug/L	1.2	1.2	U
Carbon Disulfide	ug/L	0.50	0.50	U
trans-1,2-Dichloroethylene	ug/L	0.50	0.50	U
1,1-Dichloroethane	ug/L	0.25	0.25	U
Vinyl Acetate	ug/L	0.50	0.50	U
2-Butanone (MEK)	ug/L	0.25	0.25	U
cis-1,2-Dichloroethylene	ug/L	0.50	0.50	U
Bromochloromethane	ug/L	0.50	0.50	U
Chloroform	ug/L	0.50	0.50	U
1,2-Dichloroethane	ug/L	0.25	0.25	U
1,1,1-Trichloroethane	ug/L	0.50	0.50	U
Carbon Tetrachloride	ug/L	0.25	0.25	U
Benzene	ug/L	0.25	0.25	U
Dibromomethane	ug/L	0.50	0.50	U

Report ID: 1037887 - 292367

Page 121 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: J2102184 Trail Ridge Landfill

METHOD BLANK: 3791393

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
1,2-Dichloropropane	ug/L	0.25	0.25	U
Trichloroethene	ug/L	0.25	0.25	U
Bromodichloromethane	ug/L	0.50	0.50	U
cis-1,3-Dichloropropene	ug/L	0.20	0.20	U
4-Methyl-2-pentanone (MIBK)	ug/L	0.50	0.50	U
trans-1,3-Dichloropropylene	ug/L	0.20	0.20	U
1,1,2-Trichloroethane	ug/L	0.25	0.25	U
Toluene	ug/L	0.25	0.25	U
2-Hexanone	ug/L	0.50	0.50	U
Dibromochloromethane	ug/L	0.20	0.20	U
Ethylene Dibromide (EDB)	ug/L	0.25	0.25	U
Tetrachloroethylene (PCE)	ug/L	0.25	0.25	U
1,1,1,2-Tetrachloroethane	ug/L	0.25	0.25	U
Chlorobenzene	ug/L	0.50	0.50	U
Ethylbenzene	ug/L	0.25	0.25	U
Bromoform	ug/L	0.25	0.25	U
Styrene	ug/L	0.50	0.50	U
1,1,2,2-Tetrachloroethane	ug/L	0.20	0.20	U
1,2,3-Trichloropropane	ug/L	0.25	0.25	U
1,4-Dichlorobenzene	ug/L	0.50	0.50	U
1,2-Dichlorobenzene	ug/L	0.50	0.50	U
1,2-Dibromo-3-Chloropropane	ug/L	1.2	1.2	U
trans-1,4-Dichloro-2-butene	ug/L	0.50	0.50	U
Xylene (Total)	ug/L	0.75	0.75	U
1,2-Dichloroethane-d4 (S)	%	102	70-128	
Toluene-d8 (S)	%	106	77-119	
Bromofluorobenzene (S)	%	108	86-123	

LABORATORY CONTROL SAMPLE & LCSD: 3791394 3791395

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
VOLATILES										
Chloromethane	ug/L	20	23	21	116	106		9		
Vinyl Chloride	ug/L	20	22	20	108	99	70-130	9	20	
Bromomethane	ug/L	20	24	19	118	96		21		
Chloroethane	ug/L	20	21	19	105	97		7		
Trichlorofluoromethane	ug/L	20	23	21	116	106		9		
Acetone	ug/L	20	21	22	106	112		5		
1,1-Dichloroethylene	ug/L	20	19	18	96	89	70-130	7	20	
Iodomethane (Methyl Iodide)	ug/L	20	24	17	121	84		36		
Acrylonitrile	ug/L	20	19	19	93	93		0		

Report ID: 1037887 - 292367

Page 122 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: J2102184 Trail Ridge Landfill

LABORATORY CONTROL SAMPLE & LCSD: 3791394 3791395

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Methylene Chloride	ug/L	20	20	19	99	94		6		
Carbon Disulfide	ug/L	20	17	16	84	79		7		
trans-1,2-Dichloroethylene	ug/L	20	20	18	99	91		8		
1,1-Dichloroethane	ug/L	20	20	19	99	93		6		
Vinyl Acetate	ug/L	20	12	6.0	59	30		65		
2-Butanone (MEK)	ug/L	20	20	20	98	99		1		
cis-1,2-Dichloroethylene	ug/L	20	20	19	102	94	70-130	8	20	
Bromochloromethane	ug/L	20	20	20	101	98		4		
Chloroform	ug/L	20	20	19	102	96	70-130	5	20	
1,2-Dichloroethane	ug/L	20	19	19	95	96		1		
1,1,1-Trichloroethane	ug/L	20	19	18	97	92		6		
Carbon Tetrachloride	ug/L	20	20	19	101	93		8		
Benzene	ug/L	20	21	19	103	96	70-130	7	20	
Dibromomethane	ug/L	20	19	19	95	97		2		
1,2-Dichloropropane	ug/L	20	20	19	101	97		3		
Trichloroethene	ug/L	20	19	18	93	92	70-130	1	20	
Bromodichloromethane	ug/L	20	21	20	104	98		6		
cis-1,3-Dichloropropene	ug/L	20	20	18	99	89		10		
4-Methyl-2-pentanone (MIBK)	ug/L	20	20	20	99	98		1		
trans-1,3-Dichloropropylene	ug/L	20	18	17	91	87		4		
1,1,2-Trichloroethane	ug/L	20	20	19	99	94		6		
Toluene	ug/L	20	22	20	109	101	70-130	8	20	
2-Hexanone	ug/L	20	19	20	95	99		4		
Dibromochloromethane	ug/L	20	19	18	95	90		6		
Ethylene Dibromide (EDB)	ug/L	20	20	19	100	94		6		
Tetrachloroethylene (PCE)	ug/L	20	21	19	104	96	70-130	8	20	
1,1,1,2-Tetrachloroethane	ug/L	20	21	19	106	97		10		
Chlorobenzene	ug/L	20	21	19	106	95	70-130	11	20	
Ethylbenzene	ug/L	20	22	20	111	99	70-130	11	20	
Bromoform	ug/L	20	18	18	91	90		1		
Styrene	ug/L	20	21	19	107	97		10		
1,1,2,2-Tetrachloroethane	ug/L	20	21	18	105	91		14		
1,2,3-Trichloropropane	ug/L	20	22	18	112	92		19		
1,4-Dichlorobenzene	ug/L	20	20	18	99	90		10		
1,2-Dichlorobenzene	ug/L	20	21	19	104	94	70-130	10	20	
1,2-Dibromo-3-Chloropropane	ug/L	20	19	19	94	95		1		
Xylene (Total)	ug/L	60	66	60	111	100	70-130	10	20	
1,2-Dichloroethane-d4 (S)	%				101	101	70-128	1		
Toluene-d8 (S)	%				106	107	77-119	1		
Bromofluorobenzene (S)	%				103	104	86-123	1		

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: J2102184 Trail Ridge Landfill

MATRIX SPIKE SAMPLE: 3791396

Original: J2102184033

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
VOLATILES							
Chloromethane	ug/L	0	20	22	108	70-130	
Vinyl Chloride	ug/L	0	20	20	100		
Bromomethane	ug/L	0	20	19	95		
Chloroethane	ug/L	0	20	20	99	70-130	
Trichlorofluoromethane	ug/L	0	20	21	106		
Acetone	ug/L	0	20	21	105		
1,1-Dichloroethylene	ug/L	0	20	17	87	70-130	
Iodomethane (Methyl Iodide)	ug/L	0	20	17	84		
Acrylonitrile	ug/L	0	20	18	91		
Methylene Chloride	ug/L	0.28	20	18	92	70-130	
Carbon Disulfide	ug/L	0	20	15	74		
trans-1,2-Dichloroethylene	ug/L	0	20	18	90		
1,1-Dichloroethane	ug/L	0	20	19	93	70-130	
Vinyl Acetate	ug/L	0	20	5.8	29		
2-Butanone (MEK)	ug/L	0	20	18	90		
cis-1,2-Dichloroethylene	ug/L	0	20	18	92	70-130	
Bromochloromethane	ug/L	0	20	19	97		
Chloroform	ug/L	0	20	19	96		
1,2-Dichloroethane	ug/L	0	20	18	91	70-130	
1,1,1-Trichloroethane	ug/L	0	20	18	92		
Carbon Tetrachloride	ug/L	0	20	18	92		
Benzene	ug/L	0	20	19	95	70-130	
Dibromomethane	ug/L	0	20	19	96		
1,2-Dichloropropane	ug/L	0	20	19	96		
Trichloroethene	ug/L	0	20	17	85	70-130	
Bromodichloromethane	ug/L	0	20	19	95		
cis-1,3-Dichloropropene	ug/L	0	20	18	88		
4-Methyl-2-pentanone (MIBK)	ug/L	0	20	20	101	70-130	
trans-1,3-Dichloropropylene	ug/L	0	20	17	84		
1,1,2-Trichloroethane	ug/L	0	20	19	95		
Toluene	ug/L	0	20	20	101	70-130	
2-Hexanone	ug/L	0	20	19	94		
Dibromochloromethane	ug/L	0	20	19	94		
Ethylene Dibromide (EDB)	ug/L	0	20	19	97	70-130	
Tetrachloroethylene (PCE)	ug/L	0	20	20	98		
1,1,1,2-Tetrachloroethane	ug/L	0	20	19	97		
Chlorobenzene	ug/L	0	20	20	98	70-130	
Ethylbenzene	ug/L	0	20	20	100		
Bromoform	ug/L	0	20	18	90		
Styrene	ug/L	0	20	20	98	70-130	
1,1,2,2-Tetrachloroethane	ug/L	0	20	21	106		

Report ID: 1037887 - 292367

Page 124 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: J2102184 Trail Ridge Landfill

MATRIX SPIKE SAMPLE: 3791396

Original: J2102184033

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,3-Trichloropropane	ug/L	0	20	22	111		
1,4-Dichlorobenzene	ug/L	0	20	18	92		
1,2-Dichlorobenzene	ug/L	0	20	19	93	70-130	
1,2-Dibromo-3-Chloropropane	ug/L	0	20	18	91		
Xylene (Total)	ug/L	0	60	61	101	70-130	
1,2-Dichloroethane-d4 (S)	%	103			105	70-128	
Toluene-d8 (S)	%	106			108	77-119	
Bromofluorobenzene (S)	%	109			104	86-123	

QC Batch: WCAg/1525

Analysis Method: SM 5310B

QC Batch Method: SM 5310B

Prepared:

Associated Lab Samples: J2102184030, J2102184031, J2102184032, J2102184033, J2102184034, J2102184035, J2102184036

METHOD BLANK: 3792903

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
Total Organic Carbon	mg/L	1.0	1.0	U

METHOD BLANK: 3792909

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
Total Organic Carbon	mg/L	1.0	1.0	U

LABORATORY CONTROL SAMPLE: 3792905

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Total Organic Carbon	mg/L	10	11	109	90-110	

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: J2102184 Trail Ridge Landfill

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3792906 3792907 Original: M2100802001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
WET CHEMISTRY											
Total Organic Carbon	mg/L	2.8	25	28	28	102	101	90-110	1	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3792910 3792911 Original: G2101520002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
WET CHEMISTRY											
Total Organic Carbon	mg/L	12	25	38	37	104	101	90-110	2	10	

QC Batch: WCAg/1527

Analysis Method: EPA 410.4

QC Batch Method: EPA 410.4

Prepared:

Associated Lab Samples: J2102184030, J2102184031, J2102184032, J2102184033, J2102184034, J2102184035, J2102184036

METHOD BLANK: 3792933

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
Chemical Oxygen Demand	mg/L	10	10	U

METHOD BLANK: 3792943

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
Chemical Oxygen Demand	mg/L	10	10	U

LABORATORY CONTROL SAMPLE: 3792934

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Chemical Oxygen Demand	mg/L	500	500	100	90-110	

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: J2102184 Trail Ridge Landfill

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3792936 3792937 Original: G2101457003

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
WET CHEMISTRY											
Chemical Oxygen Demand	mg/L	39	500	530	520	97	97	90-110	0	10	

QC Batch: DGMj/1171

Analysis Method: SW-846 6010

QC Batch Method: SW-846 3010A

Prepared: 02/23/2021 04:30

Associated Lab Samples: J2102184020, J2102184021, J2102184022, J2102184023, J2102184024, J2102184025, J2102184026, J2102184027,

METHOD BLANK: 3793312

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
METALS				
Silver	ug/L	8.0	8.0	U
Arsenic	ug/L	8.0	8.0	U
Barium	ug/L	3.0	3.0	U
Beryllium	ug/L	2.0	2.0	U
Cadmium	ug/L	0.50	0.50	U
Cobalt	ug/L	1.0	1.0	U
Chromium	ug/L	5.0	5.0	U
Copper	ug/L	10	10	U
Iron	ug/L	200	200	U
Magnesium	mg/L	0.10	0.10	U
Sodium	mg/L	0.80	0.80	U
Nickel	ug/L	10	10	U
Lead	ug/L	3.0	3.0	U
Vanadium	ug/L	2.0	2.0	U
Zinc	ug/L	50	50	U

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
METALS				
Calcium	mg/L	0.20	0.20	U

LABORATORY CONTROL SAMPLE: 3793313

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
METALS						
Silver	ug/L	160	140	91	80-120	

Report ID: 1037887 - 292367

Page 127 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: J2102184 Trail Ridge Landfill

LABORATORY CONTROL SAMPLE: 3793313

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	160	150	93	80-120	
Barium	ug/L	60	57	95	80-120	
Beryllium	ug/L	40	36	91	80-120	
Calcium	mg/L	4	4.3	107	80-120	
Cadmium	ug/L	10	9.6	96	80-120	
Cobalt	ug/L	20	19	96	80-120	
Chromium	ug/L	100	91	91	80-120	
Copper	ug/L	200	180	90	80-120	
Iron	ug/L	4000	3500	88	80-120	
Magnesium	mg/L	2	1.9	96	80-120	
Sodium	mg/L	16	15	91	80-120	
Nickel	ug/L	200	190	94	80-120	
Lead	ug/L	60	60	99	80-120	
Vanadium	ug/L	40	38	94	80-120	
Zinc	ug/L	1000	950	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3793314 3793315 Original: J2102184020

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
METALS											
Silver	ug/L	1.6	160	140	150	89	94	75-125	5	20	
Arsenic	ug/L	2.7	160	150	150	95	97	75-125	2	20	
Barium	ug/L	35	60	91	89	94	90	75-125	3	20	
Beryllium	ug/L	0	40	36	37	90	93	75-125	3	20	
Calcium	mg/L	36	4	41	38	141	51	75-125	9	20	
Cadmium	ug/L	0	10	9.0	9.2	90	92	75-125	2	20	
Cobalt	ug/L	0.4	20	19	20	96	98	75-125	2	20	
Chromium	ug/L	0.9	100	89	92	89	93	75-125	4	20	
Copper	ug/L	2.4	200	180	180	89	92	75-125	3	20	
Iron	ug/L	2000	4000	5700	5500	94	89	75-125	3	20	
Magnesium	mg/L	5.5	2	7.7	7.2	108	83	75-125	7	20	
Sodium	mg/L	8.6	16	24	23	95	89	75-125	4	20	
Nickel	ug/L	2.5	200	180	190	92	93	75-125	1	20	
Lead	ug/L	1.8	60	58	58	97	96	75-125	1	20	
Vanadium	ug/L	1.6	40	38	40	94	99	75-125	6	20	
Zinc	ug/L	35	1000	950	950	95	95	75-125	0	20	

QC Batch: DGMj/1173
QC Batch Method: SW-846 3010A

Analysis Method: SW-846 6020
Prepared: 02/23/2021 04:30

Report ID: 1037887 - 292367

Page 128 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: J2102184 Trail Ridge Landfill

Associated Lab Samples: J2102184027, J2102184028, J2102184030, J2102184031, J2102184032, J2102184033, J2102184034, J2102184035,

METHOD BLANK: 3793326

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
METALS				
Selenium	ug/L	1.2	1.2	U
Antimony	ug/L	1.0	1.0	U
Thallium	ug/L	0.25	0.25	U

LABORATORY CONTROL SAMPLE: 3793327

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
METALS						
Selenium	ug/L	20	18	91	80-120	
Antimony	ug/L	40	37	93	80-120	
Thallium	ug/L	2	1.7	84	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3793328 3793329 Original: J2102184027

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
METALS											
Selenium	ug/L	1.7	20	13	13	58	55	75-125	4	20	
Antimony	ug/L	0.31	40	42	41	106	103	75-125	2	20	
Thallium	ug/L	0	2	1.8	1.8	91	89	75-125	3	20	

QC Batch: DGMj/1174

Analysis Method: SW-846 7470A

QC Batch Method: SW-846 7470A

Prepared: 02/23/2021 11:11

Associated Lab Samples: J2102184037, J2102184038, J2102184039

METHOD BLANK: 3793954

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
METALS				
Mercury	ug/L	0.011	0.011	U

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: J2102184 Trail Ridge Landfill

LABORATORY CONTROL SAMPLE: 3793955

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits Qualifiers
METALS					
Mercury	ug/L	2	2.0	102	80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3793956 3793957 Original: J2102406001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	Max RPD	RPD	Qualifiers
METALS											
Mercury	ug/L	0.094	2	2.0	2.2	96	105	80-120	8	20	

QC Batch: WCAg/1541 Analysis Method: EPA 351.2
QC Batch Method: Copper Sulfate Digestion Prepared: 02/22/2021 16:30
Associated Lab Samples: J2102184030, J2102184031, J2102184032, J2102184033, J2102184034, J2102184035, J2102184036

METHOD BLANK: 3794006

Parameter	Units	Blank Result	Reporting Limit Qualifiers
WET CHEMISTRY			
Total Kjeldahl Nitrogen	mg/L	0.20	0.20 U

METHOD BLANK: 3794007

Parameter	Units	Blank Result	Reporting Limit Qualifiers
WET CHEMISTRY			
Total Phosphorus (as P)	mg/L	0.50	0.50 U

LABORATORY CONTROL SAMPLE: 3794008

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits Qualifiers
WET CHEMISTRY					
Total Kjeldahl Nitrogen	mg/L	1	1.1	106	90-110

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: J2102184 Trail Ridge Landfill

LABORATORY CONTROL SAMPLE: 3794009

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Total Phosphorus (as P)	mg/L	1	0.90	90	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3794010 3794012 Original: J2102241002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	Max RPD	Max RPD	Qualifiers
WET CHEMISTRY											
Total Kjeldahl Nitrogen	mg/L	1.3	1	1.7	1.8	38	50	80-120	7	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3794011 3794013 Original: J2102241002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	Max RPD	Max RPD	Qualifiers
WET CHEMISTRY											
Total Phosphorus (as P)	mg/L	10	1	12	12	121	129	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3794014 3794016 Original: J2102337002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	Max RPD	Max RPD	Qualifiers
WET CHEMISTRY											
Total Kjeldahl Nitrogen	mg/L	0.025	1	1.7	1.7	168	172	80-120	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3794015 3794017 Original: J2102337002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	Max RPD	Max RPD	Qualifiers
WET CHEMISTRY											
Total Phosphorus (as P)	mg/L	0.035	1	1.6	1.8	159	180	80-120	12	20	

QC Batch: WCAg/1541 Analysis Method: EPA 365.4
QC Batch Method: Copper Sulfate Digestion Prepared: 02/22/2021 16:30
Associated Lab Samples: J2102184030, J2102184031, J2102184032, J2102184033, J2102184034, J2102184035, J2102184036

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: J2102184 Trail Ridge Landfill

METHOD BLANK: 3794006

Parameter	Units	Blank Result	Reporting Limit Qualifiers
WET CHEMISTRY Total Kjeldahl Nitrogen	mg/L	0.20	0.20 U

METHOD BLANK: 3794007

Parameter	Units	Blank Result	Reporting Limit Qualifiers
WET CHEMISTRY Total Phosphorus (as P)	mg/L	0.50	0.50 U

LABORATORY CONTROL SAMPLE: 3794008

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits Qualifiers
WET CHEMISTRY Total Kjeldahl Nitrogen	mg/L	1	1.1	106	90-110

LABORATORY CONTROL SAMPLE: 3794009

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits Qualifiers
WET CHEMISTRY Total Phosphorus (as P)	mg/L	1	0.90	90	90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3794010 3794012 Original: J2102241002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	Max RPD	Max RPD	Qualifiers
WET CHEMISTRY Total Kjeldahl Nitrogen	mg/L	1.3	1	1.7	1.8	38	50	80-120	7	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3794011 3794013 Original: J2102241002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	Max RPD	Max RPD	Qualifiers
WET CHEMISTRY Total Phosphorus (as P)	mg/L	10	1	12	12	121	129	80-120	1	20	

Report ID: 1037887 - 292367

Page 132 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: J2102184 Trail Ridge Landfill

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3794014 3794016 Original: J2102337002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	Max RPD	RPD	Qualifiers
WET CHEMISTRY											
Total Kjeldahl Nitrogen	mg/L	0.025	1	1.7	1.7	168	172	80-120	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3794015 3794017 Original: J2102337002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	Max RPD	RPD	Qualifiers
WET CHEMISTRY											
Total Phosphorus (as P)	mg/L	0.035	1	1.6	1.8	159	180	80-120	12	20	

QC Batch: MICj/1186 Analysis Method: COLILERT-18 (Fecal Coliforms)
QC Batch Method: COLILERT-18 (Fecal Coliforms) Prepared:
Associated Lab Samples: J2102184030, J2102184031, J2102184032, J2102184033, J2102184034, J2102184035, J2102184036

METHOD BLANK: 3794267

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Microbiology				
Coliform Fecal	MPN/100	1	1	U

QC Batch: WCAg/1550 Analysis Method: SM 10200 H
QC Batch Method: SM 10200 H Prepared:
Associated Lab Samples: J2102184030, J2102184031, J2102184032, J2102184033, J2102184034, J2102184035, J2102184036

METHOD BLANK: 3794432

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
Corrected Chlorophyll A	mg/m3	2.5	2.5	U

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: J2102184 Trail Ridge Landfill

SAMPLE DUPLICATE: 3794431 Original: G2101497001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD Qualifiers
WET CHEMISTRY					
Corrected Chlorophyll A	mg/m3	2.5U	2.5	0	35

SAMPLE DUPLICATE: 3794433 Original: J2102184030

Parameter	Units	Original Result	DUP Result	RPD	Max RPD Qualifiers
WET CHEMISTRY					
Corrected Chlorophyll A	mg/m3	92	100	8	35

QC Batch: DGMj/1178

Analysis Method: EPA 245.1

QC Batch Method: EPA 245.1

Prepared: 02/24/2021 11:23

Associated Lab Samples: J2102184030, J2102184031, J2102184032, J2102184033, J2102184034, J2102184035, J2102184036

METHOD BLANK: 3795236

Parameter	Units	Blank Result	Reporting Limit Qualifiers
METALS			
Mercury	mg/L	0.000011	0.000011 U

LABORATORY CONTROL SAMPLE: 3795237

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits Qualifiers
METALS					
Mercury	mg/L	0.002	0.0019	97	85-115

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3795238 3795239 Original: J2102184030

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD Qualifiers
METALS										
Mercury	mg/L	9.7e-005	0.002	0.0024	0.0023	114	112	70-130	1	20

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: J2102184 Trail Ridge Landfill

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3795240 3795241 Original: J2102102002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
METALS											
Mercury	mg/L	0	0.002	0.0018	0.0018	91	89	70-130	2	20	

QC Batch: WCAj/1422 Analysis Method: SM 2540 C
QC Batch Method: SM 2540 C Prepared:
Associated Lab Samples: J2102184039, J2102184041

METHOD BLANK: 3795437

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
Total Dissolved Solids	mg/L	10	10	U

LABORATORY CONTROL SAMPLE: 3795438

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Total Dissolved Solids	mg/L	300	300	102	85-115	

SAMPLE DUPLICATE: 3795444 Original: J2102494003

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
WET CHEMISTRY						
Total Dissolved Solids	mg/L	870	870	0	10	

QC Batch: WCAg/1568 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Prepared:
Associated Lab Samples: J2102184001, J2102184002, J2102184003, J2102184004, J2102184005, J2102184006, J2102184007, J2102184008,

METHOD BLANK: 3795865

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				

Report ID: 1037887 - 292367

Page 135 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: J2102184 Trail Ridge Landfill

METHOD BLANK: 3795865

Parameter	Units	Blank Result	Reporting Limit Qualifiers
Ammonia (N)	mg/L	0.017	0.017 U

LABORATORY CONTROL SAMPLE: 3795866

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits Qualifiers
WET CHEMISTRY Ammonia (N)	mg/L	0.5	0.52	105	90-110

LABORATORY CONTROL SAMPLE: 3795867

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits Qualifiers
WET CHEMISTRY Ammonia (N)	mg/L	0.2	0.20	102	90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3795868 3795869 Original: J2102184001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
WET CHEMISTRY Ammonia (N)	mg/L	0.13	0.8	0.86	0.83	92	88	90-110	3	10	

QC Batch: WCAg/1569

Analysis Method: EPA 350.1

QC Batch Method: EPA 350.1

Prepared:

Associated Lab Samples: J2102184010, J2102184011, J2102184012, J2102184013, J2102184015, J2102184016, J2102184017, J2102184018,

METHOD BLANK: 3795874

Parameter	Units	Blank Result	Reporting Limit Qualifiers
WET CHEMISTRY Ammonia (N)	mg/L	0.017	0.017 U

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: J2102184 Trail Ridge Landfill

LABORATORY CONTROL SAMPLE: 3795875

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits Qualifiers
WET CHEMISTRY Ammonia (N)	mg/L	0.5	0.54	108	90-110

LABORATORY CONTROL SAMPLE: 3795876

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits Qualifiers
WET CHEMISTRY Ammonia (N)	mg/L	0.2	0.22	108	90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3795877 3795878 Original: J2102184010

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	Max RPD	Max RPD Qualifiers
WET CHEMISTRY Ammonia (N)	mg/L	0	0.8	0.84	0.81	106	102	90-110	4	10

QC Batch: WCAg/1570

Analysis Method: EPA 350.1

QC Batch Method: EPA 350.1

Prepared:

Associated Lab Samples: J2102184021, J2102184022, J2102184023, J2102184024, J2102184025, J2102184026, J2102184027, J2102184028,

METHOD BLANK: 3795879

Parameter	Units	Blank Result	Reporting Limit Qualifiers
WET CHEMISTRY Ammonia (N)	mg/L	0.017	0.017 U

LABORATORY CONTROL SAMPLE: 3795880

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits Qualifiers
WET CHEMISTRY Ammonia (N)	mg/L	0.5	0.54	108	90-110

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: J2102184 Trail Ridge Landfill

LABORATORY CONTROL SAMPLE: 3795881

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits Qualifiers
WET CHEMISTRY Ammonia (N)	mg/L	0.2	0.21	106	90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3795882 3795883 Original: J2102184021

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	Max RPD	RPD	Qualifiers
WET CHEMISTRY Ammonia (N)	mg/L	0	0.8	0.80	0.77	100	96	90-110	4	10	

QC Batch: WCAg/1571

Analysis Method: EPA 350.1

QC Batch Method: EPA 350.1

Prepared:

Associated Lab Samples: J2102184032, J2102184033, J2102184034, J2102184035, J2102184036, J2102184037, J2102184038, J2102184039,

METHOD BLANK: 3795894

Parameter	Units	Blank Result	Reporting Limit Qualifiers
WET CHEMISTRY Ammonia (N)	mg/L	0.017	0.017 U

LABORATORY CONTROL SAMPLE: 3795895

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits Qualifiers
WET CHEMISTRY Ammonia (N)	mg/L	0.5	0.53	106	90-110

LABORATORY CONTROL SAMPLE: 3795896

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits Qualifiers
WET CHEMISTRY Ammonia (N)	mg/L	0.2	0.21	107	90-110

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: J2102184 Trail Ridge Landfill

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3795897 3795898 Original: J2102184032

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	Max RPD	RPD	Qualifiers
WET CHEMISTRY Ammonia (N)	mg/L	0	0.8	0.84	0.82	105	102	90-110	3	10	

QC Batch: WCAg/1580 Analysis Method: SM 4500NO3-F

QC Batch Method: SM 4500NO3-F Prepared:

Associated Lab Samples: J2102184030, J2102184031, J2102184032, J2102184033

METHOD BLANK: 3796405

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY Nitrate + Nitrite	mg/L	0.10	0.10	U

LABORATORY CONTROL SAMPLE: 3796404

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY Nitrate + Nitrite	mg/L	2	2.1	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3796406 3796407 Original: J2102092008

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	Max RPD	RPD	Qualifiers
WET CHEMISTRY Nitrate + Nitrite	mg/L	0	10	8.3	8.9	83	89	90-110	7	10	

QC Batch: WCAg/1581 Analysis Method: SM 4500NO3-F

QC Batch Method: SM 4500NO3-F Prepared:

Associated Lab Samples: J2102184034, J2102184035, J2102184036

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: J2102184 Trail Ridge Landfill

METHOD BLANK: 3796490

Parameter	Units	Blank Result	Reporting Limit Qualifiers
WET CHEMISTRY Nitrate + Nitrite	mg/L	0.10	0.10 U

LABORATORY CONTROL SAMPLE: 3796489

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits Qualifiers
WET CHEMISTRY Nitrate + Nitrite	mg/L	2	2.1	106	90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3796491 3796492 Original: J2102184034

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	Max RPD	RPD Qualifiers
WET CHEMISTRY Nitrate + Nitrite	mg/L	0	10	8.7	8.8	87	88	90-110	1	10

QC Batch: WCAj/1440

Analysis Method: SM 5210B

QC Batch Method: SM 5210B

Prepared:

Associated Lab Samples: J2102184030, J2102184031, J2102184032, J2102184033, J2102184034, J2102184035, J2102184036

METHOD BLANK: 3798504

Parameter	Units	Blank Result	Reporting Limit Qualifiers
WET CHEMISTRY Biochemical Oxygen Demand	mg/L	2.0	2.0 U

LABORATORY CONTROL SAMPLE: 3798505

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits Qualifiers
WET CHEMISTRY Biochemical Oxygen Demand	mg/L	200	210	104	84.6-115.4

Report ID: 1037887 - 292367

Page 140 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: J2102184 Trail Ridge Landfill

SAMPLE DUPLICATE: 3798506

Original: J2102311001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD Qualifiers
WET CHEMISTRY Biochemical Oxygen Demand	mg/L	67	66	3	20

QUALITY CONTROL DATA QUALIFIERS

Workorder: J2102184 Trail Ridge Landfill

QUALITY CONTROL PARAMETER QUALIFIERS

- U The compound was analyzed for but not detected.
- I The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J4 Estimated Result
- [3] SAMPLES 1-2 FILTERED: 2/18/21 12:30

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: J2102184 Trail Ridge Landfill

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
J2102184001	MWB-12I			EPA 300.0	WCAj/1355
J2102184002	MWB-13I			EPA 300.0	WCAj/1355
J2102184003	MWB-27I			EPA 300.0	WCAj/1355
J2102184004	MWB-29I			EPA 300.0	WCAj/1355
J2102184005	MWB-2I			EPA 300.0	WCAj/1355
J2102184006	MWB-3I			EPA 300.0	WCAj/1355
J2102184007	MWB-12S			EPA 300.0	WCAj/1355
J2102184008	MWB-22S			EPA 300.0	WCAj/1355
J2102184009	MWB-13S			EPA 300.0	WCAj/1355
J2102184010	MWB-27S			EPA 300.0	WCAj/1355
J2102184011	MWB-29S			EPA 300.0	WCAj/1355
J2102184012	MWB-2S			EPA 300.0	WCAj/1355
J2102184013	MWB-3S			EPA 300.0	WCAj/1355
J2102184039	EQUIPMENT BLANK #2			EPA 300.0	WCAj/1355
J2102184007	MWB-12S	SW-846 5030B	MSVj/1200	SW-846 8260B (SIM)	MSVj/1201
J2102184008	MWB-22S	SW-846 5030B	MSVj/1200	SW-846 8260B (SIM)	MSVj/1201
J2102184009	MWB-13S	SW-846 5030B	MSVj/1200	SW-846 8260B (SIM)	MSVj/1201
J2102184010	MWB-27S	SW-846 5030B	MSVj/1200	SW-846 8260B (SIM)	MSVj/1201
J2102184011	MWB-29S	SW-846 5030B	MSVj/1200	SW-846 8260B (SIM)	MSVj/1201
J2102184012	MWB-2S	SW-846 5030B	MSVj/1200	SW-846 8260B (SIM)	MSVj/1201
J2102184013	MWB-3S	SW-846 5030B	MSVj/1200	SW-846 8260B (SIM)	MSVj/1201
J2102184014	TRIP	SW-846 5030B	MSVj/1200	SW-846 8260B (SIM)	MSVj/1201
J2102184007	MWB-12S	SW-846 5030B	MSVj/1202	SW-846 8260B	MSVj/1203
J2102184008	MWB-22S	SW-846 5030B	MSVj/1202	SW-846 8260B	MSVj/1203
J2102184009	MWB-13S	SW-846 5030B	MSVj/1202	SW-846 8260B	MSVj/1203
J2102184010	MWB-27S	SW-846 5030B	MSVj/1202	SW-846 8260B	MSVj/1203
J2102184011	MWB-29S	SW-846 5030B	MSVj/1202	SW-846 8260B	MSVj/1203
J2102184012	MWB-2S	SW-846 5030B	MSVj/1202	SW-846 8260B	MSVj/1203
J2102184013	MWB-3S	SW-846 5030B	MSVj/1202	SW-846 8260B	MSVj/1203
J2102184014	TRIP	SW-846 5030B	MSVj/1202	SW-846 8260B	MSVj/1203
J2102184016	MWB-32I			EPA 300.0	WCAj/1371

Report ID: 1037887 - 292367

Page 142 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: J2102184 Trail Ridge Landfill

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
J2102184017	MWB-11I (R)			EPA 300.0	WCAj/1371
J2102184018	MWB-39I			EPA 300.0	WCAj/1371
J2102184019	MWB-35I			EPA 300.0	WCAj/1371
J2102184015	MWB-34I			EPA 300.0	WCAj/1372
J2102184020	MWB-21S			EPA 300.0	WCAj/1372
J2102184021	MWB-34S			EPA 300.0	WCAj/1372
J2102184022	MWB-33S			EPA 300.0	WCAj/1372
J2102184023	MWB-32S			EPA 300.0	WCAj/1372
J2102184024	MWB-11S			EPA 300.0	WCAj/1372
J2102184025	MWB-20S			EPA 300.0	WCAj/1372
J2102184026	MWB-39S			EPA 300.0	WCAj/1372
J2102184027	MWB-40S			EPA 300.0	WCAj/1372
J2102184028	MWB-35S			EPA 300.0	WCAj/1372
J2102184030	SW-1			EPA 300.0	WCAj/1372
J2102184031	SW-3			EPA 300.0	WCAj/1372
J2102184032	SW-4			EPA 300.0	WCAj/1372
J2102184033	SW-7			EPA 300.0	WCAj/1372
J2102184034	SW-5			EPA 300.0	WCAj/1372
J2102184035	SW-6			EPA 300.0	WCAj/1372
J2102184036	SW-B			EPA 300.0	WCAj/1372
J2102184038	SGMW-2S			EPA 300.0	WCAj/1372
J2102184001	MWB-12I	SW-846 3010A	DGMj/1158	SW-846 6010	ICPj/1061
J2102184002	MWB-13I	SW-846 3010A	DGMj/1158	SW-846 6010	ICPj/1061
J2102184003	MWB-27I	SW-846 3010A	DGMj/1158	SW-846 6010	ICPj/1061
J2102184004	MWB-29I	SW-846 3010A	DGMj/1158	SW-846 6010	ICPj/1061
J2102184005	MWB-2I	SW-846 3010A	DGMj/1158	SW-846 6010	ICPj/1061
J2102184006	MWB-3I	SW-846 3010A	DGMj/1158	SW-846 6010	ICPj/1061
J2102184007	MWB-12S	SW-846 3010A	DGMj/1158	SW-846 6010	ICPj/1061
J2102184008	MWB-22S	SW-846 3010A	DGMj/1158	SW-846 6010	ICPj/1061
J2102184009	MWB-13S	SW-846 3010A	DGMj/1159	SW-846 6010	ICPj/1062
J2102184010	MWB-27S	SW-846 3010A	DGMj/1159	SW-846 6010	ICPj/1062

Report ID: 1037887 - 292367

Page 143 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: J2102184 Trail Ridge Landfill

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
J2102184011	MWB-29S	SW-846 3010A	DGMj/1159	SW-846 6010	ICPj/1062
J2102184012	MWB-2S	SW-846 3010A	DGMj/1159	SW-846 6010	ICPj/1062
J2102184013	MWB-3S	SW-846 3010A	DGMj/1159	SW-846 6010	ICPj/1062
J2102184015	MWB-34I	SW-846 3010A	DGMj/1159	SW-846 6010	ICPj/1062
J2102184016	MWB-32I	SW-846 3010A	DGMj/1159	SW-846 6010	ICPj/1062
J2102184017	MWB-11I (R)	SW-846 3010A	DGMj/1159	SW-846 6010	ICPj/1062
J2102184018	MWB-39I	SW-846 3010A	DGMj/1159	SW-846 6010	ICPj/1062
J2102184019	MWB-35I	SW-846 3010A	DGMj/1159	SW-846 6010	ICPj/1062
J2102184007	MWB-12S	SW-846 3010A	DGMj/1161	SW-846 6020	ICMj/1056
J2102184008	MWB-22S	SW-846 3010A	DGMj/1161	SW-846 6020	ICMj/1056
J2102184009	MWB-13S	SW-846 3010A	DGMj/1161	SW-846 6020	ICMj/1056
J2102184010	MWB-27S	SW-846 3010A	DGMj/1161	SW-846 6020	ICMj/1056
J2102184011	MWB-29S	SW-846 3010A	DGMj/1161	SW-846 6020	ICMj/1056
J2102184012	MWB-2S	SW-846 3010A	DGMj/1161	SW-846 6020	ICMj/1056
J2102184013	MWB-3S	SW-846 3010A	DGMj/1161	SW-846 6020	ICMj/1056
J2102184020	MWB-21S	SW-846 3010A	DGMj/1161	SW-846 6020	ICMj/1056
J2102184021	MWB-34S	SW-846 3010A	DGMj/1161	SW-846 6020	ICMj/1056
J2102184022	MWB-33S	SW-846 3010A	DGMj/1161	SW-846 6020	ICMj/1056
J2102184023	MWB-32S	SW-846 3010A	DGMj/1161	SW-846 6020	ICMj/1056
J2102184024	MWB-11S	SW-846 3010A	DGMj/1161	SW-846 6020	ICMj/1056
J2102184025	MWB-20S	SW-846 3010A	DGMj/1161	SW-846 6020	ICMj/1056
J2102184026	MWB-39S	SW-846 3010A	DGMj/1161	SW-846 6020	ICMj/1056
J2102184037	SGMW-1SR			EPA 300.0	WCAj/1374
J2102184041	EQUIPMENT BLANK #1			EPA 300.0	WCAj/1374
J2102184007	MWB-12S	SW-846 7470A	DGMj/1163	SW-846 7470A	CVAj/1046
J2102184008	MWB-22S	SW-846 7470A	DGMj/1163	SW-846 7470A	CVAj/1046
J2102184009	MWB-13S	SW-846 7470A	DGMj/1163	SW-846 7470A	CVAj/1046
J2102184010	MWB-27S	SW-846 7470A	DGMj/1163	SW-846 7470A	CVAj/1046
J2102184011	MWB-29S	SW-846 7470A	DGMj/1163	SW-846 7470A	CVAj/1046
J2102184012	MWB-2S	SW-846 7470A	DGMj/1163	SW-846 7470A	CVAj/1046
J2102184013	MWB-3S	SW-846 7470A	DGMj/1163	SW-846 7470A	CVAj/1046

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: J2102184 Trail Ridge Landfill

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
J2102184020	MWB-21S	SW-846 7470A	DGMj/1163	SW-846 7470A	CVAj/1046
J2102184021	MWB-34S	SW-846 7470A	DGMj/1163	SW-846 7470A	CVAj/1046
J2102184022	MWB-33S	SW-846 7470A	DGMj/1163	SW-846 7470A	CVAj/1046
J2102184023	MWB-32S	SW-846 7470A	DGMj/1163	SW-846 7470A	CVAj/1046
J2102184024	MWB-11S	SW-846 7470A	DGMj/1163	SW-846 7470A	CVAj/1046
J2102184025	MWB-20S	SW-846 7470A	DGMj/1163	SW-846 7470A	CVAj/1046
J2102184026	MWB-39S	SW-846 7470A	DGMj/1163	SW-846 7470A	CVAj/1046
J2102184027	MWB-40S	SW-846 7470A	DGMj/1163	SW-846 7470A	CVAj/1046
J2102184028	MWB-35S	SW-846 7470A	DGMj/1163	SW-846 7470A	CVAj/1046
J2102184030	SW-1			SM 2540D	WCAj/1379
J2102184031	SW-3			SM 2540D	WCAj/1379
J2102184032	SW-4			SM 2540D	WCAj/1379
J2102184033	SW-7			SM 2540D	WCAj/1379
J2102184034	SW-5			SM 2540D	WCAj/1379
J2102184035	SW-6			SM 2540D	WCAj/1379
J2102184036	SW-B			SM 2540D	WCAj/1379
J2102184001	MWB-12I			SM 2540 C	WCAj/1381
J2102184002	MWB-13I			SM 2540 C	WCAj/1381
J2102184003	MWB-27I			SM 2540 C	WCAj/1381
J2102184004	MWB-29I			SM 2540 C	WCAj/1381
J2102184005	MWB-2I			SM 2540 C	WCAj/1381
J2102184006	MWB-3I			SM 2540 C	WCAj/1381
J2102184007	MWB-12S			SM 2540 C	WCAj/1381
J2102184008	MWB-22S			SM 2540 C	WCAj/1381
J2102184009	MWB-13S			SM 2540 C	WCAj/1381
J2102184010	MWB-27S			SM 2540 C	WCAj/1381
J2102184011	MWB-29S			SM 2540 C	WCAj/1381
J2102184012	MWB-2S			SM 2540 C	WCAj/1381
J2102184013	MWB-3S			SM 2540 C	WCAj/1381
J2102184015	MWB-34I			SM 2540 C	WCAj/1381
J2102184020	MWB-21S			SM 2540 C	WCAj/1381
J2102184021	MWB-34S			SM 2540 C	WCAj/1381

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: J2102184 Trail Ridge Landfill

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
J2102184016	MWB-32I			SM 2540 C	WCAj/1384
J2102184017	MWB-11I (R)			SM 2540 C	WCAj/1384
J2102184018	MWB-39I			SM 2540 C	WCAj/1384
J2102184019	MWB-35I			SM 2540 C	WCAj/1384
J2102184022	MWB-33S			SM 2540 C	WCAj/1384
J2102184023	MWB-32S			SM 2540 C	WCAj/1384
J2102184024	MWB-11S			SM 2540 C	WCAj/1384
J2102184025	MWB-20S			SM 2540 C	WCAj/1384
J2102184026	MWB-39S			SM 2540 C	WCAj/1384
J2102184027	MWB-40S			SM 2540 C	WCAj/1384
J2102184028	MWB-35S			SM 2540 C	WCAj/1384
J2102184030	SW-1			SM 2540 C	WCAj/1384
J2102184031	SW-3			SM 2540 C	WCAj/1384
J2102184032	SW-4			SM 2540 C	WCAj/1384
J2102184033	SW-7			SM 2540 C	WCAj/1384
J2102184034	SW-5			SM 2540 C	WCAj/1384
J2102184035	SW-6			SM 2540 C	WCAj/1384
J2102184036	SW-B			SM 2540 C	WCAj/1384
J2102184037	SGMW-1SR			SM 2540 C	WCAj/1384
J2102184038	SGMW-2S			SM 2540 C	WCAj/1384
J2102184020	MWB-21S	SW-846 5030B	MSVj/1212	SW-846 8260B (SIM)	MSVj/1213
J2102184021	MWB-34S	SW-846 5030B	MSVj/1212	SW-846 8260B (SIM)	MSVj/1213
J2102184022	MWB-33S	SW-846 5030B	MSVj/1212	SW-846 8260B (SIM)	MSVj/1213
J2102184023	MWB-32S	SW-846 5030B	MSVj/1212	SW-846 8260B (SIM)	MSVj/1213
J2102184024	MWB-11S	SW-846 5030B	MSVj/1212	SW-846 8260B (SIM)	MSVj/1213
J2102184025	MWB-20S	SW-846 5030B	MSVj/1212	SW-846 8260B (SIM)	MSVj/1213
J2102184026	MWB-39S	SW-846 5030B	MSVj/1212	SW-846 8260B (SIM)	MSVj/1213
J2102184027	MWB-40S	SW-846 5030B	MSVj/1212	SW-846 8260B (SIM)	MSVj/1213
J2102184028	MWB-35S	SW-846 5030B	MSVj/1212	SW-846 8260B (SIM)	MSVj/1213
J2102184029	TRIP #2	SW-846 5030B	MSVj/1212	SW-846 8260B (SIM)	MSVj/1213
J2102184030	SW-1	SW-846 5030B	MSVj/1212	SW-846 8260B (SIM)	MSVj/1213
J2102184031	SW-3	SW-846 5030B	MSVj/1212	SW-846 8260B (SIM)	MSVj/1213
J2102184039	EQUIPMENT BLANK #2	SW-846 5030B	MSVj/1212	SW-846 8260B (SIM)	MSVj/1213

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: J2102184 Trail Ridge Landfill

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
J2102184040	TRIP BLANK 3	SW-846 5030B	MSVj/1212	SW-846 8260B (SIM)	MSVj/1213
J2102184032	SW-4	SW-846 5030B	MSVj/1214	SW-846 8260B (SIM)	MSVj/1215
J2102184033	SW-7	SW-846 5030B	MSVj/1214	SW-846 8260B (SIM)	MSVj/1215
J2102184034	SW-5	SW-846 5030B	MSVj/1214	SW-846 8260B (SIM)	MSVj/1215
J2102184035	SW-6	SW-846 5030B	MSVj/1214	SW-846 8260B (SIM)	MSVj/1215
J2102184036	SW-B	SW-846 5030B	MSVj/1214	SW-846 8260B (SIM)	MSVj/1215
J2102184037	SGMW-1SR	SW-846 5030B	MSVj/1214	SW-846 8260B (SIM)	MSVj/1215
J2102184038	SGMW-2S	SW-846 5030B	MSVj/1214	SW-846 8260B (SIM)	MSVj/1215
J2102184020	MWB-21S	SW-846 5030B	MSVj/1216	SW-846 8260B	MSVj/1217
J2102184021	MWB-34S	SW-846 5030B	MSVj/1216	SW-846 8260B	MSVj/1217
J2102184022	MWB-33S	SW-846 5030B	MSVj/1216	SW-846 8260B	MSVj/1217
J2102184023	MWB-32S	SW-846 5030B	MSVj/1216	SW-846 8260B	MSVj/1217
J2102184024	MWB-11S	SW-846 5030B	MSVj/1216	SW-846 8260B	MSVj/1217
J2102184025	MWB-20S	SW-846 5030B	MSVj/1216	SW-846 8260B	MSVj/1217
J2102184026	MWB-39S	SW-846 5030B	MSVj/1216	SW-846 8260B	MSVj/1217
J2102184027	MWB-40S	SW-846 5030B	MSVj/1216	SW-846 8260B	MSVj/1217
J2102184028	MWB-35S	SW-846 5030B	MSVj/1216	SW-846 8260B	MSVj/1217
J2102184029	TRIP #2	SW-846 5030B	MSVj/1216	SW-846 8260B	MSVj/1217
J2102184030	SW-1	SW-846 5030B	MSVj/1216	SW-846 8260B	MSVj/1217
J2102184031	SW-3	SW-846 5030B	MSVj/1216	SW-846 8260B	MSVj/1217
J2102184039	EQUIPMENT BLANK #2	SW-846 5030B	MSVj/1216	SW-846 8260B	MSVj/1217
J2102184040	TRIP BLANK 3	SW-846 5030B	MSVj/1216	SW-846 8260B	MSVj/1217
J2102184032	SW-4	SW-846 5030B	MSVj/1218	SW-846 8260B	MSVj/1219
J2102184033	SW-7	SW-846 5030B	MSVj/1218	SW-846 8260B	MSVj/1219
J2102184034	SW-5	SW-846 5030B	MSVj/1218	SW-846 8260B	MSVj/1219
J2102184035	SW-6	SW-846 5030B	MSVj/1218	SW-846 8260B	MSVj/1219
J2102184036	SW-B	SW-846 5030B	MSVj/1218	SW-846 8260B	MSVj/1219
J2102184037	SGMW-1SR	SW-846 5030B	MSVj/1218	SW-846 8260B	MSVj/1219
J2102184038	SGMW-2S	SW-846 5030B	MSVj/1218	SW-846 8260B	MSVj/1219

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: J2102184 Trail Ridge Landfill

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
J2102184030	SW-1			SM 5310B	WCAg/1525
J2102184031	SW-3			SM 5310B	WCAg/1525
J2102184032	SW-4			SM 5310B	WCAg/1525
J2102184033	SW-7			SM 5310B	WCAg/1525
J2102184034	SW-5			SM 5310B	WCAg/1525
J2102184035	SW-6			SM 5310B	WCAg/1525
J2102184036	SW-B			SM 5310B	WCAg/1525
J2102184030	SW-1			EPA 410.4	WCAg/1527
J2102184031	SW-3			EPA 410.4	WCAg/1527
J2102184032	SW-4			EPA 410.4	WCAg/1527
J2102184033	SW-7			EPA 410.4	WCAg/1527
J2102184034	SW-5			EPA 410.4	WCAg/1527
J2102184035	SW-6			EPA 410.4	WCAg/1527
J2102184036	SW-B			EPA 410.4	WCAg/1527
J2102184020	MWB-21S	SW-846 3010A	DGMj/1171	SW-846 6010	ICPj/1066
J2102184021	MWB-34S	SW-846 3010A	DGMj/1171	SW-846 6010	ICPj/1066
J2102184022	MWB-33S	SW-846 3010A	DGMj/1171	SW-846 6010	ICPj/1066
J2102184023	MWB-32S	SW-846 3010A	DGMj/1171	SW-846 6010	ICPj/1066
J2102184024	MWB-11S	SW-846 3010A	DGMj/1171	SW-846 6010	ICPj/1066
J2102184025	MWB-20S	SW-846 3010A	DGMj/1171	SW-846 6010	ICPj/1066
J2102184026	MWB-39S	SW-846 3010A	DGMj/1171	SW-846 6010	ICPj/1066
J2102184027	MWB-40S	SW-846 3010A	DGMj/1171	SW-846 6010	ICPj/1066
J2102184028	MWB-35S	SW-846 3010A	DGMj/1171	SW-846 6010	ICPj/1066
J2102184030	SW-1	SW-846 3010A	DGMj/1171	SW-846 6010	ICPj/1066
J2102184031	SW-3	SW-846 3010A	DGMj/1171	SW-846 6010	ICPj/1066
J2102184032	SW-4	SW-846 3010A	DGMj/1171	SW-846 6010	ICPj/1066
J2102184033	SW-7	SW-846 3010A	DGMj/1171	SW-846 6010	ICPj/1066
J2102184034	SW-5	SW-846 3010A	DGMj/1171	SW-846 6010	ICPj/1066
J2102184035	SW-6	SW-846 3010A	DGMj/1171	SW-846 6010	ICPj/1066
J2102184036	SW-B	SW-846 3010A	DGMj/1171	SW-846 6010	ICPj/1066
J2102184037	SGMW-1SR	SW-846 3010A	DGMj/1171	SW-846 6010	ICPj/1066
J2102184038	SGMW-2S	SW-846 3010A	DGMj/1171	SW-846 6010	ICPj/1066

Report ID: 1037887 - 292367

Page 148 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: J2102184 Trail Ridge Landfill

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
J2102184039	EQUIPMENT BLANK #2	SW-846 3010A	DGMj/1171	SW-846 6010	ICPj/1066
J2102184041	EQUIPMENT BLANK #1	SW-846 3010A	DGMj/1171	SW-846 6010	ICPj/1066
J2102184027	MWB-40S	SW-846 3010A	DGMj/1173	SW-846 6020	ICMj/1060
J2102184028	MWB-35S	SW-846 3010A	DGMj/1173	SW-846 6020	ICMj/1060
J2102184030	SW-1	SW-846 3010A	DGMj/1173	SW-846 6020	ICMj/1060
J2102184031	SW-3	SW-846 3010A	DGMj/1173	SW-846 6020	ICMj/1060
J2102184032	SW-4	SW-846 3010A	DGMj/1173	SW-846 6020	ICMj/1060
J2102184033	SW-7	SW-846 3010A	DGMj/1173	SW-846 6020	ICMj/1060
J2102184034	SW-5	SW-846 3010A	DGMj/1173	SW-846 6020	ICMj/1060
J2102184035	SW-6	SW-846 3010A	DGMj/1173	SW-846 6020	ICMj/1060
J2102184036	SW-B	SW-846 3010A	DGMj/1173	SW-846 6020	ICMj/1060
J2102184037	SGMW-1SR	SW-846 3010A	DGMj/1173	SW-846 6020	ICMj/1060
J2102184038	SGMW-2S	SW-846 3010A	DGMj/1173	SW-846 6020	ICMj/1060
J2102184039	EQUIPMENT BLANK #2	SW-846 3010A	DGMj/1173	SW-846 6020	ICMj/1060
J2102184037	SGMW-1SR	SW-846 7470A	DGMj/1174	SW-846 7470A	CVAj/1048
J2102184038	SGMW-2S	SW-846 7470A	DGMj/1174	SW-846 7470A	CVAj/1048
J2102184039	EQUIPMENT BLANK #2	SW-846 7470A	DGMj/1174	SW-846 7470A	CVAj/1048
J2102184030	SW-1	Copper Sulfate Digestion	WCAG/1541	EPA 365.4	WCAG/1552
J2102184031	SW-3	Copper Sulfate Digestion	WCAG/1541	EPA 365.4	WCAG/1552
J2102184032	SW-4	Copper Sulfate Digestion	WCAG/1541	EPA 365.4	WCAG/1552
J2102184033	SW-7	Copper Sulfate Digestion	WCAG/1541	EPA 365.4	WCAG/1552
J2102184034	SW-5	Copper Sulfate Digestion	WCAG/1541	EPA 365.4	WCAG/1552
J2102184035	SW-6	Copper Sulfate Digestion	WCAG/1541	EPA 365.4	WCAG/1552
J2102184036	SW-B	Copper Sulfate Digestion	WCAG/1541	EPA 365.4	WCAG/1552
J2102184030	SW-1	Copper Sulfate Digestion	WCAG/1541	EPA 351.2	WCAG/1553
J2102184031	SW-3	Copper Sulfate Digestion	WCAG/1541	EPA 351.2	WCAG/1553
J2102184032	SW-4	Copper Sulfate Digestion	WCAG/1541	EPA 351.2	WCAG/1553
J2102184033	SW-7	Copper Sulfate Digestion	WCAG/1541	EPA 351.2	WCAG/1553
J2102184034	SW-5	Copper Sulfate Digestion	WCAG/1541	EPA 351.2	WCAG/1553
J2102184035	SW-6	Copper Sulfate Digestion	WCAG/1541	EPA 351.2	WCAG/1553
J2102184036	SW-B	Copper Sulfate Digestion	WCAG/1541	EPA 351.2	WCAG/1553

Report ID: 1037887 - 292367

Page 149 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: J2102184 Trail Ridge Landfill

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
J2102184030	SW-1			COLILERT-18 (Fecal Coliforms)	MICj/1186
J2102184031	SW-3			COLILERT-18 (Fecal Coliforms)	MICj/1186
J2102184032	SW-4			COLILERT-18 (Fecal Coliforms)	MICj/1186
J2102184033	SW-7			COLILERT-18 (Fecal Coliforms)	MICj/1186
J2102184034	SW-5			COLILERT-18 (Fecal Coliforms)	MICj/1186
J2102184035	SW-6			COLILERT-18 (Fecal Coliforms)	MICj/1186
J2102184036	SW-B			COLILERT-18 (Fecal Coliforms)	MICj/1186
J2102184030	SW-1			SM 10200 H	WCAg/1550
J2102184031	SW-3			SM 10200 H	WCAg/1550
J2102184032	SW-4			SM 10200 H	WCAg/1550
J2102184033	SW-7			SM 10200 H	WCAg/1550
J2102184034	SW-5			SM 10200 H	WCAg/1550
J2102184035	SW-6			SM 10200 H	WCAg/1550
J2102184036	SW-B			SM 10200 H	WCAg/1550
J2102184030	SW-1	EPA 245.1	DGMj/1178	EPA 245.1	CVAj/1050
J2102184031	SW-3	EPA 245.1	DGMj/1178	EPA 245.1	CVAj/1050
J2102184032	SW-4	EPA 245.1	DGMj/1178	EPA 245.1	CVAj/1050
J2102184033	SW-7	EPA 245.1	DGMj/1178	EPA 245.1	CVAj/1050
J2102184034	SW-5	EPA 245.1	DGMj/1178	EPA 245.1	CVAj/1050
J2102184035	SW-6	EPA 245.1	DGMj/1178	EPA 245.1	CVAj/1050
J2102184036	SW-B	EPA 245.1	DGMj/1178	EPA 245.1	CVAj/1050
J2102184039	EQUIPMENT BLANK #2			SM 2540 C	WCAj/1422
J2102184041	EQUIPMENT BLANK #1			SM 2540 C	WCAj/1422
J2102184001	MWB-12I			EPA 350.1	WCAg/1568
J2102184002	MWB-13I			EPA 350.1	WCAg/1568
J2102184003	MWB-27I			EPA 350.1	WCAg/1568

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: J2102184 Trail Ridge Landfill

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
J2102184004	MWB-29I			EPA 350.1	WCAG/1568
J2102184005	MWB-2I			EPA 350.1	WCAG/1568
J2102184006	MWB-3I			EPA 350.1	WCAG/1568
J2102184007	MWB-12S			EPA 350.1	WCAG/1568
J2102184008	MWB-22S			EPA 350.1	WCAG/1568
J2102184009	MWB-13S			EPA 350.1	WCAG/1568
J2102184010	MWB-27S			EPA 350.1	WCAG/1569
J2102184011	MWB-29S			EPA 350.1	WCAG/1569
J2102184012	MWB-2S			EPA 350.1	WCAG/1569
J2102184013	MWB-3S			EPA 350.1	WCAG/1569
J2102184015	MWB-34I			EPA 350.1	WCAG/1569
J2102184016	MWB-32I			EPA 350.1	WCAG/1569
J2102184017	MWB-11I (R)			EPA 350.1	WCAG/1569
J2102184018	MWB-39I			EPA 350.1	WCAG/1569
J2102184019	MWB-35I			EPA 350.1	WCAG/1569
J2102184020	MWB-21S			EPA 350.1	WCAG/1569
J2102184021	MWB-34S			EPA 350.1	WCAG/1570
J2102184022	MWB-33S			EPA 350.1	WCAG/1570
J2102184023	MWB-32S			EPA 350.1	WCAG/1570
J2102184024	MWB-11S			EPA 350.1	WCAG/1570
J2102184025	MWB-20S			EPA 350.1	WCAG/1570
J2102184026	MWB-39S			EPA 350.1	WCAG/1570
J2102184027	MWB-40S			EPA 350.1	WCAG/1570
J2102184028	MWB-35S			EPA 350.1	WCAG/1570
J2102184030	SW-1			EPA 350.1	WCAG/1570
J2102184031	SW-3			EPA 350.1	WCAG/1570
J2102184032	SW-4			EPA 350.1	WCAG/1571
J2102184033	SW-7			EPA 350.1	WCAG/1571
J2102184034	SW-5			EPA 350.1	WCAG/1571
J2102184035	SW-6			EPA 350.1	WCAG/1571
J2102184036	SW-B			EPA 350.1	WCAG/1571

Report ID: 1037887 - 292367

Page 151 of 160

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: J2102184 Trail Ridge Landfill

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
J2102184037	SGMW-1SR			EPA 350.1	WCAg/1571
J2102184038	SGMW-2S			EPA 350.1	WCAg/1571
J2102184039	EQUIPMENT BLANK #2			EPA 350.1	WCAg/1571
J2102184041	EQUIPMENT BLANK #1			EPA 350.1	WCAg/1571
J2102184030	SW-1			SM 4500NO3-F	WCAg/1580
J2102184031	SW-3			SM 4500NO3-F	WCAg/1580
J2102184032	SW-4			SM 4500NO3-F	WCAg/1580
J2102184033	SW-7			SM 4500NO3-F	WCAg/1580
J2102184034	SW-5			SM 4500NO3-F	WCAg/1581
J2102184035	SW-6			SM 4500NO3-F	WCAg/1581
J2102184036	SW-B			SM 4500NO3-F	WCAg/1581
J2102184030	SW-1			SM 5210B	WCAj/1440
J2102184031	SW-3			SM 5210B	WCAj/1440
J2102184032	SW-4			SM 5210B	WCAj/1440
J2102184033	SW-7			SM 5210B	WCAj/1440
J2102184034	SW-5			SM 5210B	WCAj/1440
J2102184035	SW-6			SM 5210B	WCAj/1440
J2102184036	SW-B			SM 5210B	WCAj/1440
J2102184030	SW-1	Calculation	CLCg/	Calculation	CLCg/
J2102184030	SW-1	DEP SOP 10/03/83	WCAg/	DEP SOP 10/03/83	WCAg/
J2102184030	SW-1	Field Measurements	FLDj/	Field Measurements	FLDj/
J2102184031	SW-3	Calculation	CLCg/	Calculation	CLCg/
J2102184031	SW-3	DEP SOP 10/03/83	WCAg/	DEP SOP 10/03/83	WCAg/
J2102184031	SW-3	Field Measurements	FLDj/	Field Measurements	FLDj/
J2102184032	SW-4	Calculation	CLCg/	Calculation	CLCg/
J2102184032	SW-4	DEP SOP 10/03/83	WCAg/	DEP SOP 10/03/83	WCAg/
J2102184032	SW-4	Field Measurements	FLDj/	Field Measurements	FLDj/
J2102184033	SW-7	Calculation	CLCg/	Calculation	CLCg/
J2102184033	SW-7	DEP SOP 10/03/83	WCAg/	DEP SOP 10/03/83	WCAg/

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

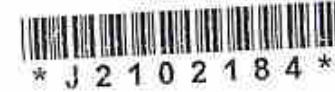
Workorder: J2102184 Trail Ridge Landfill

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
J2102184033	SW-7	Field Measurements	FLDj/	Field Measurements	FLDj/
J2102184034	SW-5	Calculation	CLCg/	Calculation	CLCg/
J2102184034	SW-5	DEP SOP 10/03/83	WCAG/	DEP SOP 10/03/83	WCAG/
J2102184034	SW-5	Field Measurements	FLDj/	Field Measurements	FLDj/
J2102184035	SW-6	Calculation	CLCg/	Calculation	CLCg/
J2102184035	SW-6	DEP SOP 10/03/83	WCAG/	DEP SOP 10/03/83	WCAG/
J2102184035	SW-6	Field Measurements	FLDj/	Field Measurements	FLDj/
J2102184036	SW-B	Calculation	CLCg/	Calculation	CLCg/
J2102184036	SW-B	DEP SOP 10/03/83	WCAG/	DEP SOP 10/03/83	WCAG/
J2102184036	SW-B	Field Measurements	FLDj/	Field Measurements	FLDj/

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.





- | | |
|-------------------------------------|---|
| ☒ | 6601 Southpoint Pkwy. • Jacksonville, FL 32216 • 904.363.9350 • Fax 904.363.9354 • E82574 |
| ☐ | 9610 Princess Palm Ave. • Tampa, FL 33619 • 813.630.9616 • Fax 813.630.4327 • E84589 |
| ☐ | 6815 SW Archer Road • Gainesville, FL 32606 • 352.377.2349 • Fax 352.395.6839 • E82001 |
| ☐ | 528 S. North Lake Blvd., Ste. 1016 • Altamonte Springs, FL 32701 • 407.937.1594 • Fax 407.937.1597 • E83076 |

CLIENT NAME		CITY OF JACKSONVILLE		PROJECT NAME		Trail Ridge Landfill		BOTTLE SIZE & TYPE		250mL poly		250mL poly		125mL poly		LABORATORY I.D. NUMBER	
ADDRESS		214 North Hogan Street, 10th Floor		P.O. NUMBER/PROJECT NUMBER		608372:4		ANALYSIS REQUIRED		Fe, Na by 6010		NO3 / Cl / TDS		Ammonia-N 350.1			
PHONE		(904)-255-7513		PROJECT LOCATION													
FAX				REMARKS/SPECIAL INSTRUCTIONS													
CONTACT		Eric B. Fuller		Ground Water Intermediate Wells		CEC Contact: Jim Christiansen											
SAMPLED BY		DANIEL ARMOUR		33628, TRAIL RIDGE LANDFILL, INC. (ADaPT)		AEL Jax Profile: 30178, Line 4											
TURN AROUND TIME																	
☒ STANDARD				☐ RUSH													
SAMPLE ID	SAMPLE DESCRIPTION	Grab Comp	SAMPLING		MATRIX	NO. COUNT	PRESERVATION	HNO3	None	H2SO4							
	MWB-12I	G	2-15	0710	W	3		1	1	1							001
	MWB-13I	G	2-15	0840	W	3		1	1	1							002
	MWB-27I	G	2-15	0942	W	3		1	1	1							003
	MWB-29I	G	2-15	1044	W	3		1	1	1							004
	MWB-2I	G	2-15	1144	W	3		1	1	1							005
	MWB-3I	G	2-15	1337	W	3		1	1	1							006

Matrix Code: WW = wastewater SW = surface water GW = ground water DW = drinking water O = oil A = air SO = soil SL = sludge

Preservation Code: I = Ice H = (HCl) S = (H2SO4) N = (HNO3) T = (Sodium Thiosulfate)

Received on ice ☒ Yes ☐ No

☐ Temp taken from sample

☐ Temp from temp blank☐ Where required, pH checked

Preservation Code: I = Ice H=(HCl) S = (H₂SO₄) N = (HNO₃) T = (Sodium Thiosulfate)

Temperature when received 4.0 (in degrees celcius)

Form revised 2/8/08

Device used for measuring Temp by unique identifier (circle IR temp gun used) J: 9A G: LT-1 LT-2 T: 10A A: 3A

	Relinquished by:	Date	Time	Received by:	Date	Time
1	<i>[Signature]</i>	2-15-21	1310	<i>[Signature]</i>	2/15-21	1310
2	<i>[Signature]</i>	2/16/21	255	<i>[Signature]</i>	2/16/21	255
3						
4						

FOR DRINKING WATER USE:
(When PWS information not otherwise supplied) PWS ID _____
Contact Person: _____ Phone: _____
Supplier of Water: _____
Site Address: _____



Advanced
Environmental Laboratories, Inc.

Page 1 of 1 LA

- ☒ 8601 Southpoint Pkwy. • Jacksonville, FL 32216 • 904.363.9350 • Fax 904.363.9354 • E82574
☐ 9610 Princess Palm Ave. • Tampa, FL 33619 • 813.630.9616 • Fax 813.630.4327 • E84589
☐ 6815 SW Archer Road • Gainesville, FL 32608 • 352.377.2349 • Fax 352.395.6639 • E82001
☐ 526 S. North Lake Blvd., Ste. 1016 • Altamonte Springs, FL 32701 • 407.937.1594 • Fax 407.937.1597 • E53076



* J 2 1 0 2 1 8 4 *

CLIENT NAME CITY OF JACKSONVILLE		PROJECT NAME Trail Ridge Landfill		BOTTLE SIZE & TYPE		ANALYSIS REQUIRED		LABORATORY I.D. NUMBER	
ADDRESS 214 North Hogan Street, 10th Floor Jacksonville, FL 32202		P.O. NUMBER/PROJECT NUMBER 608372:4		3X40mL VOA vials		App I + EDB 8260/8260SIM			
PHONE (904)-255-7513		PROJECT LOCATION		500mL poly		App I + Na,Fe,Hg 6010/6020/7470			
FAX		REMARKS/SPECIAL INSTRUCTIONS		250mL poly		NO3 / Cl / TDS			
CONTACT Eric B. Fuller		Ground Water Shallow Wells CEC Contact: Jim Christiansen		125mL poly		Ammonia-N 350.1			
SAMPLED BY DANNY ARMOUR		33628, TRAIL RIDGE LANDFILL, INC. (ADaPT) AEL Jax Profile: 30178, Line 4							
TURN AROUND TIME									
☒ STANDARD ☐ RUSH									
SAMPLE ID	SAMPLE DESCRIPTION	Grab Comp	SAMPLING DATE TIME		MATRIX	NO. COUNT	PRESERVATION		
	MWB-125	G	2-15	0738	W	6	HCl / DI	3	007
	MWB-225	G	2-15	0811	W	6	HNO3	3	008
	MWB-135	G	2-15	0912	W	6	None	3	009
	MWB-275	G	2-15	1011	W	6	H2SO4	3	010
	MWB-295	G	2-15	1113	W	6		3	011
	MWB-25	G	2-15	1221	W	6		3	012
	MWB-35	G	2-15	1301	W	6		3	013
	TRIP	G	2-15	-	W	6		3	014

Matrix Code: WW = wastewater SW = surface water GW = ground water DW = drinking water O = oil A = air SO = soil SL = sludge

Preservation Code: I = ice H = (HCl) S = (H2SO4) N = (HNO3) T = (Sodium Thiosulfate)

Received on ice ☒ Yes ☐ No

☒ Temp taken from sample

☐ Temp from temp blank

☐ Where required, pH checked

Temperature when received 4.1 (in degrees celcius)

Form revised 2/8/08

Device used for measuring Temp by unique identifier (circle IR temp gun used) J: 9A

G: LT-1 LT-2 T: 10A A: 3A

Relinquished by:	Date	Time	Received by:	Date	Time
<i>[Signature]</i>	2-15-21	1310	<i>[Signature]</i>	2/16/21	0730
Craig Kohn	2/16/21	0755	Amberlye [Signature]	2/16/21	0755

FOR DRINKING WATER USE:

(When PWS information not otherwise supplied)

PWS ID

Contact Person

Phone

Supplier of Water

Site Address



LAB NUMBER
J21 0 2184

- | | |
|-------------------------------------|---|
| ☒ | 6601 Southpoint Pkwy • Jacksonville, FL 32216 • 904.363.9350 • Fax 904.363.9354 • E82574 |
| ☐ | 9510 Princess Palm Ave • Tampa, FL 33619 • 813.630.9616 • Fax 813.630.4327 • E84589 |
| ☐ | 6815 SW Archer Road • Gainesville, FL 32608 • 352.377.2349 • Fax 352.395.6639 • E82001 |
| ☐ | 528 S. North Lake Blvd., Ste. 1016 • Altamonte Springs, FL 32701 • 407.937.1594 • Fax 407.937.1597 • E53076 |

[illegible]

Temperature when received 4. (in degrees celcius)

Device used for measuring Temp by unique identifier (circle IR temp gun used) J 9A, G LT-1 LT-2 T 10A A 3A

	Relinquished by:	Date	Time	Received by	Date	Time
1		2/16/11	1800		2/16/11	1800
2	Crazy Kohn	2/17/11	1020	Amanda Meyer	2/17/11	1020
3						
4						

FOR DRINKING WATER USE:
(When PWS information not otherwise supplied) PWS ID: _____
Contact Person: _____ Phone: _____
Supplier of Water: _____
Site Address: _____



Advanced
Environmental Laboratories, Inc.

Page 1 of 1

LAB NUMBER

J2102184

- ☒ 6601 Southpoint Pkwy. • Jacksonville, FL 32216 • 904.363.9350 • Fax 904.363.9354 • E82574
☐ 9610 Princess Palm Ave. • Tampa, FL 33619 • 813.630.9616 • Fax 813.630.4327 • E84580
☐ 6815 SW Archer Road • Gainesville, FL 32608 • 352.377.2349 • Fax 352.395.6639 • E82001
☐ 528 S. North Lake Blvd. Ste. 101B • Altamonte Springs, FL 32701 • 407.937.1594 • Fax 407.937.1597 • E53076

CLIENT NAME CITY OF JACKSONVILLE		PROJECT NAME Trail Ridge Landfill		BOTTLE SIZE & TYPE		ANALYSIS REQUIRED		LABORATORY I.D. NUMBER	
ADDRESS 214 North Hogan Street, 10th Floor Jacksonville, FL 32202		P.O. NUMBER/PROJECT NUMBER 608372.4		3X40mL VOA vials		App I + EDB 8260/8260SIM		020	
PHONE (904)-255-7513		PROJECT LOCATION		500mL poly		App I + Na, Fe, Hg 6010/6020/7470		021	
FAX		REMARKS/SPECIAL INSTRUCTIONS		25mL poly		NO3 / Cl / TDS		022	
CONTACT Eric B. Fuller		Ground Water Shallow Wells CEC Contact: Jim Christiansen		125mL poly		Ammonia-N 350.1		023	
SAMPLED BY DANNY ARMOUR		33628, TRAIL RIDGE LANDFILL, INC. (ADaPT)						024	
TURN AROUND TIME		AEL Jax Profile: 30178, Line 4						025	
☒ STANDARD ☐ RUSH								026	

SAMPLE ID	SAMPLE DESCRIPTION	Grab Comp	SAMPLING		MATRIX	NO. COUNT	PRESERVATION	HCl / Cl	HNO3	None	H2SO4							
			DATE	TIME														
	MWB-215	G	2-16	0710	W	6		3	1	1	1							020
	MWB-345	G	2-16	0811	W	6		3	1	1	1							021
	MWB-335	G	2-16	0843	W	6		3	1	1	1							022
	MWB-325	G	2-16	0946	W	6		3	1	1	1							023
	MWB-115	G	2-16	1049	W	6		3	1	1	1							024
	MWB-205	G	2-16	1121	W	6		3	1	1	1							025
	MWB-395	G	2-16	1231	W	6		3	1	1	1							026
	MWB-405	G	2-16	1309	W	6		3	1	1	1							027
	MWB-355	G	2-16	1442	W	6		3	1	1	1							028
	TRIP #2	G	2-16	-	W	3		3										029

Matrix Code: WW = wastewater SW = surface water GW = ground water DW = drinking water O = oil A = air SO = soil SL = sludge
 Preservation Code: I = ice H = (HCl) S = (H2SO4) N = (HNO3) T = (Sodium Thiosulfate)

Received on Ice ☒ Yes ☐ No

☒ Temp taken from sample

☐ Temp from temp blank

☐ Where required, pH checked

Temperature when received 3.9 (in degrees celcius)

Form revised 2/6/08

Device used for measuring Temp by unique identifier (circle IR temp gun used) 2-99

G LT-1 LT-2 T 10A A 3A

Relinquished by:	Date	Time	Received by:	Date	Time
<i>[Signature]</i>	2-16-21	1809	<i>[Signature]</i>	2/16/21	1800
<i>[Signature]</i>	2/16/21	1120	<i>[Signature]</i>	2/17/21	1020

FOR DRINKING WATER USE:

(When PWS information not otherwise supplied)

PWS ID: _____

Contact Person: _____ Phone: _____

Supplier of Water: _____

Site Address: _____



Advanced
Environmental Laboratories, Inc.

Page 1 of 1

LAB NUMBER:

J2102184

- ☒ 6601 Southpoint Pkwy. • Jacksonville, FL 32216 • 904.363.9350 • Fax 904.363.9354 • E82574
☐ 9610 Princess Palm Ave. • Tampa, FL 33619 • 813.630.9616 • Fax 813.630.4327 • E84589
☐ 6815 SW Archer Road • Gainesville, FL 32608 • 352.377.2349 • Fax 352.395.6639 • E82001
☐ 528 S. North Lake Blvd., Ste. 1016 • Altamonte Springs, FL 32701 • 407.937.1594 • Fax 407.937.1597 • E53070

CLIENT NAME CITY OF JACKSONVILLE		PROJECT NAME Trail Ridge Landfill		BOTTLE SIZE & TYPE		ANALYSIS REQUIRED		LABORATORY I.D. NUMBER									
ADDRESS 214 North Hogan Street, 10th Floor Jacksonville, FL 32202		P.O. NUMBER/PROJECT NUMBER 608372:4		3X40mL VOA vials		App 1 + EDB 8260/8260SIM		030									
PHONE (904)-255-7513		PROJECT LOCATION		500mL poly		App 1 + Fe, Hg, hardness Nox/TKN/TN/TP/NH3/ un-NH3 /COD		031									
FAX		REMARKS/SPECIAL INSTRUCTIONS		250mL poly		BOD / NO3 / TDS / TSS		032									
CONTACT Eric B. Fuller		Surface Water CEC Contact: Jim Chrisiansen		1L poly		chlorophyll-a 10200H		033									
SAMPLED BY DANNY ARMOUR		33628, TRAIL RIDGE LANDFILL, INC. (ADaPT)		1 L amber		TOC 5310B		034									
TURN AROUND TIME		AEL Jax Profile: 30178, Line 5		2X40mL VOA vials		Fecal 9222D		035									
☒ STANDARD ☐ RUSH				100mL Cup				036									
SAMPLE ID	SAMPLE DESCRIPTION	Grab Comp	SAMPLING DATE	TIME	MATRIX	NO. COUNT	PRESERVATION	HCl / Di	HN03	H2SO4	None	None 24 hr HT	HCl	NaThio 6 hr HT			
	SW-1	G	2-17	1200	W	10		3	1	1	1	1	2	1			
	SW-3	G	2-17	1111	W	10		3	1	1	1	1	2	1			
	SW-4	G	2-17	1025	W	10		3	1	1	1	1	2	1			
	SW-7	G	2-17	0955	W	10		3	1	1	1	1	2	1			
	SW-5	G	2-17	0935	W	10		3	1	1	1	1	2	1			
	SW-6	G	2-17	0910	W	10		3	1	1	1	1	2	1			
	SW-B	G	2-17	0850	W	10		3	1	1	1	1	2	1			
	TRIP BLANK 3	G	2-17		W	3		3									

Matrix Code: WW = wastewater SW = surface water GW = ground water DW = drinking water O = oil A = air SO = soil SL = sludge

Preservation Code: I = ice H = (HCl) S = (H2SO4) N = (HN03) T = (Sodium Thiosulfate)

Received on Ice ☒ Yes ☐ No

☒ Temp taken from sample

☐ Temp from temp blank

☐ Where required, pH checked

Temperature when received 40 (In degrees celcius)

Form revised 2/8/08

Device used for measuring Temp by unique identifier (circle IR lamp gun used) J: 9A / G: LT-1 LT-2 T: 10A A: 3A

Relinquished by:	Date	Time	Received by:	Date	Time
<i>[Signature]</i>	2/17/21	1:55	<i>[Signature]</i>	2/17/21	1:55

FOR DRINKING WATER USE:

(When PWS information not otherwise supplied) PWS ID _____

Contact Person: _____ Phone: _____

Supplier of Water: _____

Site Address: _____



☒	6801 Southpoint Pkwy. • Jacksonville, FL 32216 • 904.363.9350 • Fax 904.363.9354 • E82574
☐	9610 Princess Palm Ave. • Tampa, FL 33619 • 813.630.9616 • Fax 813.630.4327 • E84509
☐	6815 SW Archer Road • Gainesville, FL 32608 • 352.377.2349 • Fax 352.395.6639 • E82001
☐	528 S. North Lake Blvd., Ste. 1016 • Altamonte Springs, FL 32701 • 407.937.1594 • Fax 407.937.1597 • E63076

Matrix Code: WW = wastewater SW = surface water GW = ground water DW = drinking water O = oil A = air SQ = soil SL = sludge

Preservation Code: I = ice H=(HCl) S = (H₂SO₄) N = (HNO₃) T = (Sodium Thiosulfate)

☒ Temp taken from sample ☐ Temp from temp blank ☐ Where required, pH checked

Temperature when received 40 (in degrees celcius)

Device used for measuring Temp by unique identifier (circle IR temp gun used) J: 9A G: LT-1 LT-2 T: 10A A: 3A

FOR DRINKING WATER USE:

(When PWS information not otherwise supplied) PWS ID: _____

Contact Person: _____ Phone: _____

Supplier of Water: _____

Site-Address: _____



J2102184

- ☒ 0601 Southpoint Pkwy. • Jacksonville, FL 32216 • 904.363.9350 • Fax 904.363.9354 • E82574
☐ 9610 Princess Palm Ave. • Tampa, FL 33619 • 813.630.9616 • Fax 813.630.4327 • E84589
☐ 6815 SW Archer Road • Gainesville, FL 32608 • 352.377.2349 • Fax 352.395.6639 • E82001
☐ 528 S. North Lake Blvd., Ste. 1018 • Altamonte Springs, FL 32701 • 407.937.1594 • Fax 407.937.1597 • E53078

[illegible]

☒ Temp taken from sample ☐ Temp from temp blank ☐ Where required, pH checked

Temperature when received 4.7 (in degrees celcius)

Device used for measuring Temp by unique identifier (circle IR temp gun used) J: 9A G: LT-1 LT-2 T: 10A A: 3A

	Relinquished by:	Date	Time	Received by:	Date	Time
1		2/7/21	1255		2/17/21	1255
2						
3						
4						

FOR DRINKING WATER-USE:
(When PWS information not otherwise supplied) PWS ID: _____
Contact Person: _____ Phone: _____
Supplier of Water: _____
Site Address: _____



Work Order: J2102184
Client: City of Jacksonville
Project ID: Trail Ridge Landfill

I. Receipt

No Exceptions were encountered.

II. Holding Times

Preparation: All holding times were met.
Analysis: All holding times were met.

III. Method

Analysis: COLILERT-18 (Fecal Coliforms)
Preparation:

IV. Preparation

Sample preparation proceeded normally.

V. Analysis

Calibration: All acceptance criteria were met.
Blanks: All acceptance criteria were met.
Surrogates: All acceptance criteria were met.
Spikes: All acceptance criteria were met.
Internal Standard: All acceptance criteria were met.
Samples: The fecal coliform results for samples J2102184-031, J2102184-034, and J2102184-035 are greater than the reported amount. The backup analyst was unaware that the large tray size should be used for samples of this type.
Other: All acceptance criteria were met.
Serial Dilution: All acceptance criteria were met.
Duplicates: All acceptance criteria were met.



Work Order: J2102184
Client: City of Jacksonville
Project ID: Trail Ridge Landfill

I. Receipt

No Exceptions were encountered.

II. Holding Times

Preparation: All holding times were met.
Analysis: All holding times were met.

III. Method

Analysis: EPA 350.1
Preparation:

IV. Preparation

Sample preparation proceeded normally.

V. Analysis

Calibration: All acceptance criteria were met.
Blanks: All acceptance criteria were met.
Surrogates: All acceptance criteria were met.
Spikes: The matrix spike duplicate recovery of NH₃ for J2102184001 was outside control criteria. Recoveries in the Laboratory Control Sample (LCS), Matrix Spike (MS) and %RPD were acceptable, which indicates the analytical batch was in control. The matrix spike outlier suggests a potential low bias in this matrix. No further corrective action was required.
Internal Standard: All acceptance criteria were met.
Samples: All acceptance criteria were met.
Other: All acceptance criteria were met.
Serial Dilution: All acceptance criteria were met.
Duplicates: All acceptance criteria were met.



Work Order: J2102184
Client: City of Jacksonville
Project ID: Trail Ridge Landfill

I. Receipt

No Exceptions were encountered.

II. Holding Times

Preparation: None
Analysis: All holding times were met.

III. Method

Analysis: EPA 300.0
Preparation: None

IV. Preparation

None

V. Analysis

Calibration: All acceptance criteria were met.
Blanks: All acceptance criteria were met.
Surrogates: All acceptance criteria were met.
Spikes: The matrix spike (MS) recoveries of Nitrite and Nitrate for J2102223001 were outside control criteria. Recoveries in the Laboratory Control Sample (LCS) and Laboratory Control Sample Duplicate (LCSD) were acceptable, which indicates the analytical batch was in control. The matrix spike outlier suggests a potential high bias in this matrix. The offending analytes were not detected in the client sample. No further corrective action is required.
Internal Standard: All acceptance criteria were met.
Samples: All acceptance criteria were met.
Other: All acceptance criteria were met.
Serial Dilution: All acceptance criteria were met.
Duplicates: All acceptance criteria were met.

The matrix spike (MS) recovery of Nitrite for J2102151001 was outside control criteria. Recoveries in the Laboratory Control Sample (LCS) and Laboratory Control Sample Duplicate (LCSD) were acceptable, which indicates the analytical batch was in control. The matrix spike outlier suggests a potential high bias in this matrix. The offending analyte was not detected in the client sample. No further corrective action is required.

The matrix spike recovery of Nitrate for J2102151001 was outside control criteria. Recoveries in the Laboratory Control Sample (LCS) and Laboratory Control Sample Duplicate (LCSD) were acceptable, which indicates the analytical batch was in control. The matrix spike outlier suggests a potential high bias in this matrix. The affected sample is qualified accordingly.

The matrix spike recovery of Chloride for J2102184006 was outside control criteria. Recoveries in the Laboratory Control Sample (LCS) and Laboratory Control Sample Duplicate (LCSD) were acceptable, which indicates the analytical batch was in control. The matrix spike outlier suggests a potential high bias in this matrix. The affected sample is qualified accordingly.

The matrix spike (MS) recovery of Nitrate for J2102184006 was outside control criteria. Recoveries in the Laboratory Control Sample (LCS) and Laboratory Control Sample Duplicate (LCSD) were acceptable, which indicates the analytical batch was in control. The matrix spike outlier suggests a potential high bias in this matrix. The offending analytes were not detected in the client sample. No further corrective action is required.

Internal Standard: All acceptance criteria were met.

Samples: All acceptance criteria were met.

Other: All acceptance criteria were met.

Serial Dilution: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.



Work Order: J2102184
Client: City of Jacksonville
Project ID: Trail Ridge Landfill

I. Receipt

No Exceptions were encountered.

II. Holding Times

Preparation: All holding times were met.
Analysis: All holding times were met.

III. Method

Analysis: SW-846 6020
Preparation: SW-846 3010A

IV. Preparation

Sample preparation proceeded normally.

V. Analysis

Calibration: The upper control criterion was exceeded for Antimony in Continuing Calibration Verification (CCV) standards for analytical batch 210222R indicating increased sensitivity. The client samples reported in this batch did not contain the analytes in question. Since the apparent problem equates to a potential high bias, the data quality is not affected. No further corrective action was required.

Blanks: All acceptance criteria were met.

Surrogates: All acceptance criteria were met.

Spikes: All acceptance criteria were met.

Internal Standard: All acceptance criteria were met.

Samples: All acceptance criteria were met.

Other: All acceptance criteria were met.

Serial Dilution: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.



Work Order: J2102184
Client: City of Jacksonville
Project ID: Trail Ridge Landfill

I. Receipt

No Exceptions were encountered.

II. Holding Times

Preparation: All holding times were met.
Analysis: All holding times were met.

III. Method

Analysis: SW-846 6020
Preparation: SW-846 3010A

IV. Preparation

Sample preparation proceeded normally.

V. Analysis

Calibration: All acceptance criteria were met.
Blanks: All acceptance criteria were met.
Surrogates: All acceptance criteria were met.
Spikes: The matrix spike recoveries of Se for J2102184027 were outside control criteria due to the presence of target analytes in the sample. Recovery in the Laboratory Control Sample (LCS) was acceptable, which indicates the analytical batch was in control. The matrix spike outlier suggests a potential high bias in this matrix. The affected sample is qualified to indicate matrix interference.
Internal Standard: All acceptance criteria were met.
Samples: All acceptance criteria were met.
Other: All acceptance criteria were met.
Serial Dilution: All acceptance criteria were met.
Duplicates: All acceptance criteria were met.



Work Order: J2102184
Client: City of Jacksonville
Project ID: Trail Ridge Landfill

I. Receipt

No Exceptions were encountered.

II. Holding Times

Preparation: All holding times were met.
Analysis: All holding times were met.

III. Method

Analysis: SM 4500NO3-F
Preparation:

IV. Preparation

Sample preparation proceeded normally.

V. Analysis

Calibration: All acceptance criteria were met.
Blanks: All acceptance criteria were met.
Surrogates: All acceptance criteria were met.
Spikes: The matrix spike recoveries of nitrate + nitrite for J2102184034 were outside control criteria. Recoveries in the Laboratory Control Sample (LCS) and %RPD were acceptable, which indicates the analytical batch was in control. The matrix spike outliers suggest a potential low bias in this matrix. No further corrective action was required.
Internal Standard: All acceptance criteria were met.
Samples: All acceptance criteria were met.
Other: All acceptance criteria were met.
Serial Dilution: All acceptance criteria were met.
Duplicates: All acceptance criteria were met.



Work Order: J2102184
Client: City of Jacksonville
Project ID: Trail Ridge Landfill

I. Receipt

No Exceptions were encountered.

II. Holding Times

Preparation: All holding times were met.
Analysis: All holding times were met.

III. Method

Analysis: SM 2540 C
Preparation:

IV. Preparation

Sample preparation proceeded normally.

V. Analysis

Calibration: All acceptance criteria were met.
Blanks: All acceptance criteria were met.
Surrogates: All acceptance criteria were met.
Spikes: All acceptance criteria were met.
Internal Standard: All acceptance criteria were met.
Samples: All acceptance criteria were met.
Other: All acceptance criteria were met.
Serial Dilution: All acceptance criteria were met.
Duplicates: The relative percent difference (RPD) for the following analyte(s) in the replicate matrix spike analyses of J2102184016 was outside control criteria: Total Dissolved Solids. Failing RPD indicates inconsistency in the parent sample matrix. All spike recoveries in the MB and associated LCS were within acceptable limits, indicating the analytical batch was in control. No further corrective action was needed. The data have been qualified to reflect the RPD failure.

GROUNDWATER SAMPLING LOG

SITE NAME: TRAIL RIDGE		SITE LOCATION: JACKSONVILLE, FL	
WELL NO: MWB 31	SAMPLE ID:	DATE: 2-15-21	

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/8	WELL SCREEN INTERVAL DEPTH (feet): 57	STATIC DEPTH TO WATER (feet): 13.71	PURGE PUMP TYPE OR BAKER: BP
WELL ELEVATION TOG (MNGVO): 151.86		GROUNDWATER ELEVATION (MNGVO): 138.15		
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable)				
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 57.00				
FINAL PUMP OR TUBING DEPTH IN WELL (feet): 57.00				
PURGING INITIATED AT: 1317				
PURGING ENDED AT: 1337				
TOTAL VOLUME PURGED (gallons): 5.00				

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (micro mhos/cm or µS/cm)	DISSOLVED OXYGEN (mg/L or % saturation)	TURBIDITY (NTUs)	ORP (mV)	COLOR	ODOR
1327	2.50	2.50	0.25	14.63	4.68	21.3	43	0.6	2.58	72		
1330	0.75	3.25	0.25	14.64	4.66	21.3	43	0.6	2.98	73		
1333	0.75	4.00	0.25	14.64	4.66	21.2	43	0.6	2.43	72		
1336	0.75	4.75	0.25	14.64	4.66	21.3	43	0.6	2.25	70	None	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.38" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0008; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.008; 1/2" = 0.010; 5/8" = 0.016
 PURGING EQUIPMENT CODES: B = Bailer, BP = Bladder Pump, ESP = Electric Submersible Pump, PP = Peristaltic Pump, O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: ALL		SAMPLER(S) SIGNATURE(S):		SAMPLING INITIATED AT: 1337	SAMPLING ENDED AT: NA
PUMP OR TUBING DEPTH IN WELL (feet): 57.00		TUBING MATERIAL CODE: T		FIELD-FILTERED: Y (circled) FILTER SIZE: NA	
FIELD DECONTAMINATION: PUMP Y (circled) TUBING Y (circled) (replaced)		DUPLICATE: Y (circled)			

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLE PUMP FLOW RATE (mL per minute)	SAMPLING EQUIPMENT CODE
CODE	CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
*	SEE	SAMPLE	C-O-C	AND	BOTTLE	ORDER	WORKSHEET		

REMARKS:	
Shells Present: YES (NO)	
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; Y = Teflon; O = Other (Specify)	
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPF = Reverse Flow Peristaltic Pump; SM = Suck Method (Tubing Gravity Drain); O = Other (Specify)	

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
 pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2), optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

GROUNDWATER SAMPLING LOG

FORM FD 9000-24

SITE NAME: TRAIL RIDGE SITE LOCATION: JACKSONVILLE, FL
 WELL NO: MW0291 SAMPLE ID: _____ DATE: 2-15-21

WELL DIAMETER (inches): 2 TUBING DIAMETER (inches): 1/8 WELL SCREEN INTERVAL DEPTH: 53.5 feet to 63.5 feet STATIC DEPTH TO WATER (feet): 0.12
 WELL ELEVATION TOC (ft NGVD): 138.08 GROUNDWATER ELEVATION (ft NGVD): 139.96 PURGE PUMP TYPE OR BAILER: BP
 WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY
 (only fill out if applicable)

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + TUBING CAPACITY X TUBING LENGTH = FLOW CELL VOLUME
 (only fill out if applicable)

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 58.50 FINAL PUMP OR TUBING DEPTH IN WELL (feet): 58.50 PURGING INITIATED AT: 1024 PURGING ENDED AT: 1044 TOTAL VOLUME PURGED (gallons): 5.20

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (micro mhos/cm or µS/cm)	DISSOLVED OXYGEN (dissolved units) mg/L or % saturation	TURBIDITY (NTU)	ORP (mV)	COLOR	ODOR
1034	2.50	2.50	0.25	8.19	5.12	21.1	44	0.3	11.99	81		
1039	0.75	3.25	0.25	8.19	5.10	21.0	43	0.3	11.61	81		
1040	0.75	4.00	0.25	8.20	5.09	21.1	44	0.3	11.30	81		
1043	0.75	4.75	0.25	8.20	5.08	21.2	44	0.3	11.85	80		

WELL CAPACITY (Gallons Per Foot): 0.76" = 0.02; 1" = 0.04; 1.25" = 0.08; 2" = 0.10; 3" = 0.37; 4" = 0.85; 6" = 1.62; 8" = 1.47; 12" = 5.95
 TUBING INSIDE DIA. CAPACITY (Gals/ft): 1/8" = 0.0008; 3/16" = 0.0014; 1/4" = 0.0028; 5/16" = 0.004; 3/8" = 0.008; 1/2" = 0.018; 5/8" = 0.016
 PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLED BY (PRINT) / AFFILIATION: AN ARMOUR / RADIATION SAMPLER(S) SIGNATURE(S): _____ SAMPLING INITIATED AT: 1044 SAMPLING ENDED AT: NR
 UMP OR TUBING DEPTH IN WELL (feet): 58.50 TUBING MATERIAL CODE: T FIELD-FILTERED: Y (D) FILTER SIZE: _____
 ELD DECONTAMINATION: PUMP Y (D) TUBING Y (replaced) DUPLICATE: Y (D)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLE PUMP FLOW RATE (mL per minute)	SAMPLING EQUIPMENT CODE
AMPLE CODE	CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
*	SEE SAMPLE			C-O-C	AND BOTTLE ORDER	WORKSHEET			

REMARKS: _____
 Shown Present: YES (NO)
 MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
 pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2), optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

GROUNDWATER SAMPLING LOG

SITE NAME: TRAIL RIDGE WELL NO: MWB271 SAMPLE ID: SITE LOCATION: JACKSONVILLE, FL DATE: 2-15-21

WELL DIAMETER (inches): 2 TUBING DIAMETER (inches): 3/8 WELL SCREEN INTERVAL DEPTH: 52.5 Static DEPTH TO WATER (feet): 6.18 GROUNDWATER ELEVATION (ft NGVD): 120.75 PURGE PUMP TYPE OR BAILER: BP

WELL ELEVATION TOC (ft NGVD): 128.63 WELL VOLUME PURGE: 1 WELL VOLUME * (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) * WELL CAPACITY = 1 (feet) * 1 (feet) * 0.02 (gallons/foot) = 0.02 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL * PUMP VOLUME * (TUBING CAPACITY * TUBING LENGTH) * FLOW CELL VOLUME = 1 (feet) * 1 (feet) * 0.05 (gallons/foot) * 0.05 (gallons) = 0.0025 gallons

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (micro mhos/cm or µS/cm)	DISSOLVED OXYGEN (circles units) mg/L or % saturation	TURBIDITY (NTU)	ORP (mv)	COLOR	COGOF
0932	2.50	2.50	0.25	8.23	5.44	19.7	53	0.4	3.22	18		
0935	0.25	3.25	0.25	8.23	5.43	19.6	53	0.3	3.08	18		
0938	0.25	4.00	0.25	8.23	5.43	19.5	53	0.4	3.69	17		
0941	0.25	4.25	0.25	8.23	5.43	19.5	53	0.4	3.21	17	None	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.69; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./ft.): 1/8" = 0.0004; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer, BP = Bladder Pump, ESP = Electric Submersible Pump, PP = Peristaltic Pump, O = Other (Specify)

SAMPLED BY (PRINT) / AFFILIATION: ALL SAMPLER(S) SIGNATURE(S): [Signature] SAMPLING INITIATED AT: 0942 SAMPLING ENDED AT: NA

PUMP OR TUBING DEPTH IN WELL (feet): 57.50 TUBING MATERIAL CODE: T FIELD-FILTERED: Y FILTER SIZE: 0.45 µm

FIELD DECONTAMINATION: PUMP Y TUBING Y (replaced) DUPLICATE: Y (M)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLE PUMP FLOW RATE (mL per minute)	SAMPLING EQUIPMENT CODE
SAMPLE CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
* SEE	SAMPLE	C-O-C	AND BOTTLE ORDER WORKSHEET						

REMARKS: Shawn Present: YES (NO)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

YES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2).
optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

^a $\chi^2 = 0.68$, $df = 3$, $p = 0.94$.

PURGING DATA

INTERVAL	STATIC DEPTH
----------	--------------

$$(\text{Flowing Length}) \div \text{Flow Cell Volume}$$

PURGING

TEMP.	COND. (electrical)
25	1.00
30	1.00
35	1.00
40	1.00
45	1.00
50	1.00
55	1.00
60	1.00
65	1.00
70	1.00
75	1.00
80	1.00
85	1.00
90	1.00
95	1.00
100	1.00

42 30

29

Page 10 of 10

1

1000

PLATE 1. *Phragmites australis* (Common Reed) in a wetland area.

AMPLING DATA

44

1

St (re)cent

7544

01	FINAL
----	-------

$\frac{d}{dt} \left(\frac{1}{2} m v^2 + U(r) \right) = -\nabla \cdot (\mathbf{r} \times \mathbf{L})$

Year	Number of people (millions)
1970	18
1980	22
1990	26
2000	30
2020	35

2718/2002-2003/2004/2005/2006/2007/2008/2009/2010/2011/2012/2013/2014/2015/2016/2017/2018/2019/2020/2021/2022/2023/2024/2025/2026/2027/2028/2029/2030/2031/2032/2033/2034/2035/2036/2037/2038/2039/2040/2041/2042/2043/2044/2045/2046/2047/2048/2049/2050/2051/2052/2053/2054/2055/2056/2057/2058/2059/2060/2061/2062/2063/2064/2065/2066/2067/2068/2069/2070/2071/2072/2073/2074/2075/2076/2077/2078/2079/2080/2081/2082/2083/2084/2085/2086/2087/2088/2089/2090/2091/2092/2093/2094/2095/2096/2097/2098/2099/2100/2101/2102/2103/2104/2105/2106/2107/2108/2109/2110/2111/2112/2113/2114/2115/2116/2117/2118/2119/2120/2121/2122/2123/2124/2125/2126/2127/2128/2129/2130/2131/2132/2133/2134/2135/2136/2137/2138/2139/2140/2141/2142/2143/2144/2145/2146/2147/2148/2149/2150/2151/2152/2153/2154/2155/2156/2157/2158/2159/2160/2161/2162/2163/2164/2165/2166/2167/2168/2169/2170/2171/2172/2173/2174/2175/2176/2177/2178/2179/2180/2181/2182/2183/2184/2185/2186/2187/2188/2189/2190/2191/2192/2193/2194/2195/2196/2197/2198/2199/2200/2201/2202/2203/2204/2205/2206/2207/2208/2209/2210/2211/2212/2213/2214/2215/2216/2217/2218/2219/2220/2221/2222/2223/2224/2225/2226/2227/2228/2229/2230/2231/2232/2233/2234/2235/2236/2237/2238/2239/2240/2241/2242/2243/2244/2245/2246/2247/2248/2249/2250/2251/2252/2253/2254/2255/2256/2257/2258/2259/2260/2261/2262/2263/2264/2265/2266/2267/2268/2269/2270/2271/2272/2273/2274/2275/2276/2277/2278/2279/2280/2281/2282/2283/2284/2285/2286/2287/2288/2289/2290/2291/2292/2293/2294/2295/2296/2297/2298/2299/2300/2301/2302/2303/2304/2305/2306/2307/2308/2309/2310/2311/2312/2313/2314/2315/2316/2317/2318/2319/2320/2321/2322/2323/2324/2325/2326/2327/2328/2329/2330/2331/2332/2333/2334/2335/2336/2337/2338/2339/2340/2341/2342/2343/2344/2345/2346/2347/2348/2349/2350/2351/2352/2353/2354/2355/2356/2357/2358/2359/2360/2361/2362/2363/2364/2365/2366/2367/2368/2369/2370/2371/2372/2373/2374/2375/2376/2377/2378/2379/2380/2381/2382/2383/2384/2385/2386/2387/2388/2389/2390/2391/2392/2393/2394/2395/2396/2397/2398/2399/2400/2401/2402/2403/2404/2405/2406/2407/2408/2409/2410/2411/2412/2413/2414/2415/2416/2417/2418/2419/2420/2421/2422/2423/2424/2425/2426/2427/2428/2429/2430/2431/2432/2433/2434/2435/2436/2437/2438/2439/2440/2441/2442/2443/2444/2445/2446/2447/2448/2449/2450/2451/2452/2453/2454/2455/2456/2457/2458/2459/2460/2461/2462/2463/2464/2465/2466/2467/2468/2469/2470/2471/2472/2473/2474/2475/2476/2477/2478/2479/2480/2481/2482/2483/2484/2485/2486/2487/2488/2489/2490/2491/2492/2493/2494/2495/2496/2497/2498/2499/2500/2501/2502/2503/2504/2505/2506/2507/2508/2509/2510/2511/2512/2513/2514/2515/2516/2517/2518/2519/2520/2521/2522/2523/2524/2525/2526/2527/2528/2529/2530/2531/2532/2533/2534/2535/2536/2537/2538/2539/2540/2541/2542/2543/2544/2545/2546/2547/2548/2549/2550/2551/2552/2553/2554/2555/2556/2557/2558/2559/2560/2561/2562/2563/2564/2565/2566/2567/2568/2569/2570/2571/2572/2573/2574/2575/2576/2577/2578/2579/2580/2581/2582/2583/2584/2585/2586/2587/2588/2589/2590/2591/2592/2593/2594/2595/2596/2597/2598/2599/2600/2601/2602/2603/2604/2605/2606/2607/2608/2609/2610/2611/2612/2613/2614/2615/2616/2617/2618/2619/2620/2621/2622/2623/2624/2625/2626/2627/2628/2629/2630/2631/2632/2633/2634/2635/2636/2637/2638/2639/2640/2641/2642/2643/2644/2645/2646/2647/2648/2649/2650/2651/2652/2653/2654/2655/2656/2657/2658/2659/2660/2661/2662/2663/2664/2665/2666/2667/2668/2669/2670/2671/2672/2673/2674/2675/2676/2677/2678/2679/2680/2681/2682/2683/2684/2685/2686/2687/2688/2689/2690/2691/2692/2693/2694/2695/2696/2697/2698/2699/2700/2701/2702/2703/2704/2705/2706/2707/2708/2709/2710/2711/2712/2713/2714/2715/2716/2717/2718/2719/2720/2721/2722/2723/2724/2725/2726/2727/2728/2729/2730/2731/2732/2733/2734/2735/2736/2737/2738/2739/2740/2741/2742/2743/2744/2745/2746/2747/2748/2749/2750/2751/2752/2753/2754/2755/2756/2757/2758/2759/2760/2761/2762/2763/2764/2765/2766/2767/2768/2769/2770/2771/2772/2773/2774/2775/2776/2777/2778/2779/2780/2781/2782/2783/2784/2785/2786/2787/2788/2789/2790/2791/2792/2793/2794/2795/2796/2797/2798/2799/2800/2801/2802/2803/2804/2805/2806/2807/2808/2809/2810/2811/2812/2813/2814/2815/2816/2817/2818/2819

Figure 1: A line graph showing the percentage of correct responses for the 100% condition across four age groups. The y-axis is labeled 'Percentage of correct responses' and ranges from 0 to 100. The x-axis is labeled 'Age group' and has four categories: 4-5, 6-7, 8-9, and 10-11. The data points are approximately: 4-5 (85%), 6-7 (90%), 8-9 (95%), and 10-11 (98%). Error bars are shown for each point.

with some results of (1999) as the data source (1999) as the data source (1999) as the data source

EXECUTIVE READINGS / S
$$\text{length} \leq 20 \text{ N}(U; \text{opt})$$

GROUNDWATER SAMPLING LOG

FORM FD 3000-24

SITE NAME: TRAIL RIDGE WELL NO: MYR121 SAMPLE ID: _____ SITE LOCATION: JACKSONVILLE, FL DATE: 2-15-21

WELL DIAMETER (inches): 2 TUBING DIAMETER (inches): 3/8 WELL SCREEN INTERVAL DEPTH: 1.5 feet TO WATER (feet): 9.08 STATIC DEPTH TO WATER (feet): 9.08 PURGE PUMP TYPE OR BAILER: BP

WELL ELEVATION TOC (ft NGVD): _____ GROUNDWATER ELEVATION (ft NGVD): 115.54

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (micro mhos/cm or µS/cm)	DISSOLVED OXYGEN (dissolved units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR	ODOR
0700	2.70	2.70	0.23	9.13	5.22	23.5	43	0.3	3.75	125		
0703	0.81	3.51	0.29	9.13	5.21	23.4	43	0.3	3.64	121		
0706	0.81	4.32	0.23	9.13	5.21	23.4	43	0.3	3.84	120		
0709	0.81	5.13	0.29	9.14	5.22	23.5	43	0.3	3.89	118	None	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.05; 2" = 0.10; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 8" = 2.88; 10" = 4.88; 12" = 8.88

TUBING INSIDE DIA. CAPACITY (Gal/ft): 1/8" = 0.0008; 3/16" = 0.0014; 1/4" = 0.0028; 5/16" = 0.004; 3/8" = 0.008; 1/2" = 0.016; 5/8" = 0.032

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLED BY (PRINT) / AFFILIATION: AN ARMOUR / AEC SAMPLER(S) SIGNATURE(S): _____

UMP OR TUBING DEPTH IN WELL (feet): 66.50 TUBING MATERIAL CODE: T SAMPLING INITIATED AT: 0710 SAMPLING ENDED AT: NR

ELO DECONTAMINATION: PUMP Y TUBING Y (replaced) FIELD-FILTERED: Y (N) FILTER SIZE: _____

DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION			SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLE PUMP FLOW RATE (mL per minute)	SAMPLING EQUIPMENT CODE
AMPLE CODE	CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
<u>1</u>	<u>SEE</u>	<u>SAMPLE</u>	<u>2-0-0</u>	<u>AND</u>	<u>BOTTLE</u>	<u>ORDER</u>	<u>WORKSHEET</u>	

REMARKS: _____

Sheen Present: YES (NO)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = Air Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

ES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2) optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

GROUNDWATER SAMPLING LOG

SITE NAME: TRAIL RIDGE SITE LOCATION: JACKSONVILLE, FL
 WELL NO: MWB25 SAMPLE ID: _____ DATE: 7-15-21

PURGING DATA
 WELL DIAMETER (Inches): 2 TUBING DIAMETER (Inches): 3/8 WELL SCREEN INTERVAL DEPTH: 10 feet to 20 feet STATIC DEPTH TO WATER (feet): 7.09 PURGE PUMP TYPE OR BALER: BP
 WELL ELEVATION TOG (if NGVD): 146.64 GROUNDWATER ELEVATION (if NGVD): 139.55
 WELL VOLUME PURGE: (WELL VOLUME * (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) * WELL CAPACITY)
 (only fill out if applicable)

EQUIPMENT VOLUME PURGE: (EQUIPMENT VOL. * PUMP VOLUME * (TUBING CAPACITY * TUBING LENGTH) + FLOW CELL VOLUME)
 (only fill out if applicable)

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 15.00 FINAL PUMP OR TUBING DEPTH IN WELL (feet): 15.00 PURGING INITIATED AT: 1201 PURGING ENDED AT: 1221 TOTAL VOLUME PURGED (gallons): 3.26

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (micro mhos/cm or µS/cm)	DISSOLVED OXYGEN (dissolved units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR	ODOR
1211	1.60	1.60	0.16	8.15	4.88	17.9	23	2.9	24.36	227		
1214	0.48	2.08	0.16	8.15	4.88	18.0	23	2.6	27.16	228		
1217	0.48	2.56	0.16	8.15	4.88	18.0	23	2.6	27.30	229		
1220	0.48	3.04	0.16	8.15	4.88	18.0	23	2.6	28.17	229	17	Brown

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.18; 3" = 0.37; 4" = 0.65; 6" = 1.02; 8" = 1.47; 12" = 5.80
 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0005; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
 PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: AN ARMOUR / BENTLEY SAMPLER(S) SIGNATURE(S): [Signature] SAMPLING INITIATED AT: 1221 SAMPLING ENDED AT: NR
 PUMP OR TUBING DEPTH IN WELL (feet): 15.00 TUBING MATERIAL CODE: T FIELD-FILTERED: Y FILTER SIZE: NR
 ELD DECONTAMINATION: PUMP Y TUBING Y (replaced) DUPLICATE: Y (M)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLE PUMP FLOW RATE (mL per minute)	SAMPLING EQUIPMENT CODE
SAMPLE CODE	CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
* SEE	SAMPLE	C-O-C	AND BOTTLE	ORDER	WDAKSHEET				

REMARKS: Shoen Present: YES (RD)
 MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
 SAMPLING EQUIPMENT CODES: APP = Air Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFP = Reverse Flow Peristaltic Pump; SM = Suck Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION J)
 pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2), optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)
 Revision Date: February 12, 2009

GROUNDWATER SAMPLING LOG

GROUNDWATER SAMPLING LOG			
SITE NAME:	TRAIL RIDGE		
WELL NO:	MWB293	SAMPLE ID:	
		SITE LOCATION:	JACKSONVILLE, FL

WELL DIAMETER (Inches): 2		TUBING DIAMETER (Inches): 1/8		PURGING DATA		DATE: 2-15-21
WELL ELEVATION TO C (IN NOVD):		WELL SCREEN INTERVAL DEPTH: 0 feet to 20 feet		STATIC DEPTH TO WATER (feet): 7.16		PURGE PUMP TYPE OR BAILER: 30
WELL VOLUME PURGE: 138.02		GROUNDWATER ELEVATION (IN NOVD):		130.86		
(only fill out if applicable) (only fill out if applicable)						

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. * PUMP VOLUME + (TUBING CAPACITY (gallons/foot * TUBING LENGTH) + FLOW CELL VOLUME (gallons))

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	5.00	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	20.00	PURGING DEPTH IN WELL (feet):	0.05	gallons = 0.47 gallons
--	------	--	-------	-------------------------------	------	------------------------

[illegible]

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 1.5" = 0.10; 1.75" = 0.15; 2" = 0.20; 2.25" = 0.25; 2.5" = 0.30; 2.75" = 0.35; 3" = 0.40; 3.25" = 0.45; 3.5" = 0.50; 3.75" = 0.55; 4" = 0.60; 4.25" = 0.65; 4.5" = 0.70; 4.75" = 0.75; 5" = 0.80; 5.25" = 0.85; 5.5" = 0.90; 5.75" = 0.95; 6" = 1.00; 6.25" = 1.05; 6.5" = 1.10; 6.75" = 1.15; 7" = 1.20; 7.25" = 1.25; 7.5" = 1.30; 7.75" = 1.35; 8" = 1.40; 8.25" = 1.45; 8.5" = 1.50; 8.75" = 1.55; 9" = 1.60; 9.25" = 1.65; 9.5" = 1.70; 9.75" = 1.75; 10" = 1.80; 10.25" = 1.85; 10.5" = 1.90; 10.75" = 1.95; 11" = 2.00; 11.25" = 2.05; 11.5" = 2.10; 11.75" = 2.15; 12" = 2.20; 12.25" = 2.25; 12.5" = 2.30; 12.75" = 2.35; 13" = 2.40; 13.25" = 2.45; 13.5" = 2.50; 13.75" = 2.55; 14" = 2.60; 14.25" = 2.65; 14.5" = 2.70; 14.75" = 2.75; 15" = 2.80; 15.25" = 2.85; 15.5" = 2.90; 15.75" = 2.95; 16" = 3.00; 16.25" = 3.05; 16.5" = 3.10; 16.75" = 3.15; 17" = 3.20; 17.25" = 3.25; 17.5" = 3.30; 17.75" = 3.35; 18" = 3.40; 18.25" = 3.45; 18.5" = 3.50; 18.75" = 3.55; 19" = 3.60; 19.25" = 3.65; 19.5" = 3.70; 19.75" = 3.75; 20" = 3.80; 20.25" = 3.85; 20.5" = 3.90; 20.75" = 3.95; 21" = 4.00; 21.25" = 4.05; 21.5" = 4.10; 21.75" = 4.15; 22" = 4.20; 22.25" = 4.25; 22.5" = 4.30; 22.75" = 4.35; 23" = 4.40; 23.25" = 4.45; 23.5" = 4.50; 23.75" = 4.55; 24" = 4.60; 24.25" = 4.65; 24.5" = 4.70; 24.75" = 4.75; 25" = 4.80; 25.25" = 4.85; 25.5" = 4.90; 25.75" = 4.95; 26" = 5.00; 26.25" = 5.05; 26.5" = 5.10; 26.75" = 5.15; 27" = 5.20; 27.25" = 5.25; 27.5" = 5.30; 27.75" = 5.35; 28" = 5.40; 28.25" = 5.45; 28.5" = 5.50; 28.75" = 5.55; 29" = 5.60; 29.25" = 5.65; 29.5" = 5.70; 29.75" = 5.75; 30" = 5.80; 30.25" = 5.85; 30.5" = 5.90; 30.75" = 5.95; 31" = 6.00; 31.25" = 6.05; 31.5" = 6.10; 31.75" = 6.15; 32" = 6.20; 32.25" = 6.25; 32.5" = 6.30; 32.75" = 6.35; 33" = 6.40; 33.25" = 6.45; 33.5" = 6.50; 33.75" = 6.55; 34" = 6.60; 34.25" = 6.65; 34.5" = 6.70; 34.75" = 6.75; 35" = 6.80; 35.25" = 6.85; 35.5" = 6.90; 35.75" = 6.95; 36" = 7.00; 36.25" = 7.05; 36.5" = 7.10; 36.75" = 7.15; 37" = 7.20; 37.25" = 7.25; 37.5" = 7.30; 37.75" = 7.35; 38" = 7.40; 38.25" = 7.45; 38.5" = 7.50; 38.75" = 7.55; 39" = 7.60; 39.25" = 7.65; 39.5" = 7.70; 39.75" = 7.75; 40" = 7.80; 40.25" = 7.85; 40.5" = 7.90; 40.75" = 7.95; 41" = 8.00; 41.25" = 8.05; 41.5" = 8.10; 41.75" = 8.15; 42" = 8.20; 42.25" = 8.25; 42.5" = 8.30; 42.75" = 8.35; 43" = 8.40; 43.25" = 8.45; 43.5" = 8.50; 43.75" = 8.55; 44" = 8.60; 44.25" = 8.65; 44.5" = 8.70; 44.75" = 8.75; 45" = 8.80; 45.25" = 8.85; 45.5" = 8.90; 45.75" = 8.95; 46" = 9.00; 46.25" = 9.05; 46.5" = 9.10; 46.75" = 9.15; 47" = 9.20; 47.25" = 9.25; 47.5" = 9.30; 47.75" = 9.35; 48" = 9.40; 48.25" = 9.45; 48.5" = 9.50; 48.75" = 9.55; 49" = 9.60; 49.25" = 9.65; 49.5" = 9.70; 49.75" = 9.75; 50" = 9.80; 50.25" = 9.85; 50.5" = 9.90; 50.75" = 9.95; 51" = 10.00; 51.25" = 10.05; 51.5" = 10.10; 51.75" = 10.15; 52" = 10.20; 52.25" = 10.25; 52.5" = 10.30; 52.75" = 10.35; 53" = 10.40; 53.25" = 10.45; 53.5" = 10.50; 53.75" = 10.55; 54" = 10.60; 54.25" = 10.65; 54.5" = 10.70; 54.75" = 10.75; 55" = 10.80; 55.25" = 10.85; 55.5" = 10.90; 55.75" = 10.95; 56" = 11.00; 56.25" = 11.05; 56.5" = 11.10; 56.75" = 11.15; 57" = 11.20; 57.25" = 11.25; 57.5" = 11.30; 57.75" = 11.35; 58" = 11.40; 58.25" = 11.45; 58.5" = 11.50; 58.75" = 11.55; 59" = 11.60; 59.25" = 11.65; 59.5" = 11.70; 59.75" = 11.75; 60" = 11.80; 60.25" = 11.85; 60.5" = 11.90; 60.75" = 11.95; 61" = 12.00; 61.25" = 12.05; 61.5" = 12.10; 61.75" = 12.15; 62" = 12.20; 62.25" = 12.25; 62.5" = 12.30; 62.75" = 12.35; 63" = 12.40; 63.25" = 12.45; 63.5" = 12.50; 63.75" = 12.55; 64" = 12.60; 64.25" = 12.65; 64.5" = 12.70; 64.75" = 12.75; 65" = 12.80; 65.25" = 12.85; 65.5" = 12.90; 65.75" = 12.95; 66" = 13.00; 66.25" = 13.05; 66.5" = 13.10; 66.75" = 13.15; 67" = 13.20; 67.25" = 13.25; 67.5" = 13.30; 67.75" = 13.35; 68" = 13.40; 68.25" = 13.45; 68.5" = 13.50; 68.75" = 13.55; 69" = 13.60; 69.25" = 13.65; 69.5" = 13.70; 69.75" = 13.75; 70" = 13.80; 70.25" = 13.85; 70.5" = 13.90; 70.75" = 13.95; 71" = 14.00; 71.25" = 14.05; 71.5" = 14.10; 71.75" = 14.15; 72" = 14.20; 72.25" = 14.25; 72.5" = 14.30; 72.75" = 14.35; 73" = 14.40; 73.25" = 14.45; 73.5" = 14.50; 73.75" = 14.55; 74" = 14.60; 74.25" = 14.65; 74.5" = 14.70; 74.75" = 14.75; 75" = 14.80; 75.25" = 14.85; 75.5" = 14.90; 75.75" = 14.95; 76" = 15.00; 76.25" = 15.05; 76.5" = 15.10; 76.75" = 15.15; 77" = 15.20; 77.25" = 15.25; 77.5" = 15.30; 77.75" =

SAMPLED BY (PRINT) / AFFILIATION: <u>ACE</u>		SAMPLER(S) SIGNATURE(S): <u>[Signature]</u>		SAMPLING INITIATED AT: <u>1113</u>		SAMPLING ENDED AT: <u>NR</u>	
W/ OR TUBING IN WELL (feet): <u>15.00</u>		TUBING MATERIAL CODE: <u>T</u>		FIELD-FILTERED: <u>Y</u> ☒		FILTER SIZE: <u>NR</u>	
DECONTAMINATION: PUMP <u>Y</u> ☒		TUBING <u>Y</u> ☒ (replaced)		Filtration Equipment Type: <u>NR</u>		DUPLICATE: <u>Y</u> ☒	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLE PUMP FLOW RATE (mL per minute)	SAMPLING EQUIPMENT CODE
# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH				
SEE	SAMPLE	C-O-C	AND	BOTTLE	ORDER	WORKSHEET			
REMARKS									

REMARKS:	
Shown Present: YES (NO)	
MATERIAL CODES:	AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES:	APP = After Peristaltic Pump; B = Bailer; BP = Booster Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Suck Method (Tubing Gravity Drain); O = Other (Specify)

- ES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: $\pm 5\%$ Dissolved Oxygen: all readings $\leq 20\%$ saturation (see Table FS 2200-2),
optionally, ± 0.2 mg/L or $\pm 10\%$ (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or $\pm 10\%$ (whichever is greater)

Revision Date: February 12, 2009

GROUNDWATER SAMPLING LOG

SITE NAME: TRAIL RIDGE SITE LOCATION: JACKSONVILLE, FL
 WELL NO: MWB275 SAMPLE ID: _____ DATE: 2-15-21

WELL DIAMETER (inches): 2 TUBING DIAMETER (inches): 1.5 PURGING DATA
 WELL ELEVATION TOC (ft NGVD): 128.42 WELL SCREEN INTERVAL DEPTH: 5.5 (ft) TO 15.5 (ft) STATIC DEPTH TO WATER (ft): 6.28
 WELL VOLUME PURGE: (only fill out if applicable) 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY
 = (15.50 - 6.28) (ft) X 0.163 gallons/ft = 1.50 gallons

EQUIPMENT VOLUME PURGE: (only fill out if applicable) EQUIPMENT VOL. X PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
 = 0.3 gallons + (0.006 gallons/ft X 15.50 ft) + 0.05 gallons = 0.14 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (ft): 13.50 FINAL PUMP OR TUBING DEPTH IN WELL (ft): 13.50 PURGING INITIATED AT: 0951 PURGING ENDED AT: 1011 TOTAL VOLUME PURGED (gallons): 3.00

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (ft)	pH (standard units)	TEMP. (°C)	COND. (micro mhos/cm or µS/cm)	DISSOLVED OXYGEN (dissolved units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR	GDF
1001	1.50	1.50	0.15	6.45	5.89	17.4	160	0.6	12.33	133		
1004	0.45	1.95	0.15	6.46	5.89	17.4	162	0.6	12.63	133		
1007	0.45	2.40	0.15	6.46	5.82	17.4	161	0.5	12.27	132		
1010	0.45	2.85	0.15	6.46	5.82	17.4	162	0.6	12.17	134	24	
											Yellow	
											Turb	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
 TUBING INSIDE DIA. CAPACITY (GAL/FT): 1/8" = 0.0008; 3/16" = 0.0014; 1/4" = 0.0028; 5/16" = 0.004; 3/8" = 0.008; 1/2" = 0.016; 5/8" = 0.024
 PURGING EQUIPMENT CODES: B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: ARMOUR / P&T SAMPLER(S) SIGNATURE(S): [Signature] SAMPLING INITIATED AT: 1011 SAMPLING ENDED AT: NR
 UMP OR TUBING DEPTH IN WELL (ft): 13.50 TUBING MATERIAL CODE: T FIELD-FILTERED: Y FILTER SIZE: NR
 FIELD DECONTAMINATION: PUMP Y TUBING Y (replaced) DUPLICATE: Y

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLE PUMP FLOW RATE (ml per minute)	SAMPLING EQUIPMENT CODE
CODE	#	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (ml)	FINAL pH			
* SEE		SAMPLE		C-O-C			ORCA	WPAK SHEET	

REMARKS: Shoen Present YES (NO)
 MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other
 SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

YES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
 pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2).
 optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

GROUNDWATER SAMPLING LOG

FORM: FD 9000-24

SITE NAME: TRAIL RIDGE WELL NO: MWB135 SAMPLE ID: SITE LOCATION: JACKSONVILLE, FL DATE: 2-15-21

WELL DIAMETER (inches): 2 TUBING DIAMETER (inches): 5/8 WELL SCREEN INTERVAL DEPTH: 16.5' Well to 26.5' foot PURGING DATA STATO DEPTH TO WATER (feet): 12.58 GROUNDWATER ELEVATION (ft NGVD): 113.48 PURGE PUMP TYPE OR BAILER: BP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATO DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME X (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (micro mhos/cm or µS/cm)	DISSOLVED OXYGEN (mg/L or % saturation)	TURBIDITY (NTUs)	ORP (mv)	COLOR	ODOR
0902	1.20	1.20	0.18	13.05	5.99	23.3	616	1.5	3.97	69		
0905	0.54	2.34	0.18	13.06	5.93	23.4	614	1.5	6.10	73		
0908	0.34	2.88	0.18	13.06	5.96	23.4	613	1.5	6.05	74		
0911	0.34	3.42	0.18	13.06	5.97	23.4	613	1.5	6.08	74	Yellow	
											TAN	
											TINT	

WELL CAPACITY (Gallons Per Foot): 0.76" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 6" = 1.02; 8" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (GAL/FT): 1/8" = 0.0005; 3/16" = 0.0014; 1/4" = 0.0028; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.018
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLED BY (PRINT) / AFFILIATION: Acc AN ARMOUR / PROTECTOR SAMPLER(S) SIGNATURE(S): [Signature] SAMPLING INITIATED AT: 0912 SAMPLING ENDED AT: NR

WELL OR TUBING DEPTH IN WELL (feet): 21.56 TUBING MATERIAL CODE: T FIELD-FILTERED: Y (NO) FILTER SIZE: NR

FIELD DECONTAMINATION: PUMP Y (NO) TUBING Y (replaced) DUPLICATES: Y (NO)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLE PUMP FLOW RATE (ml per minute)	SAMPLING EQUIPMENT CODE
SAMPLE CODE	CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (ml)	FINAL pH			
<u>*</u>	<u>SEE</u>	<u>SAMPLE</u>	<u>C-O-C</u>	<u>AND</u>	<u>BOTTLE</u>	<u>ORDEA</u>	<u>WORKSHEET</u>		

REMARKS: Shoen Present YES (NO)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2), optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

GROUNDWATER SAMPLING LOG

FORM NO 9000-24

SITE NAME: TRAIL RIDGE SITE LOCATION: JACKSONVILLE, FL
 WELL NO.: W2225 SAMPLE ID: _____

DATE: 2-15-21
 WELL DIAMETER (inches): 2 TUBING DIAMETER (inches): 1.8 PURGING DATA
 WELL SCREEN INTERVAL DEPTH: 16 feet to 26 feet STATIC DEPTH TO WATER (feet): 11.14
 WELL ELEVATION TOC (ft NGVD): 126.93 GROUNDWATER ELEVATION (ft NGVD): 115.83
 WELL VOLUME PURGE: (only fill out if applicable) (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY
 EQUIPMENT VOLUME PURGE: (only fill out if applicable) EQUIPMENT VOL. X PUMP VOLUME X TUBING CAPACITY X TUBING LENGTH X FLOW CELL VOLUME

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 21.00 FINAL PUMP OR TUBING DEPTH IN WELL (feet): 21.00 PURGING INITIATED AT: 0751 PURGING ENDED AT: 0811 TOTAL VOLUME PURGED (gallons): 3.60
 = 0.3 gallons + (0.006 gallons/foot X 26.00 feet) + 0.05 gallons = 0.51 gallons

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (micro mhos/cm at 25°C)	DISSOLVED OXYGEN (mg/L at % saturation)	TURBIDITY (NTU)	ORP (mv)	COLOR	ODOR
0801	1.80	1.80	0.12	11.31	6.22	20.4	658	0.3	3.64	103		
0804	0.54	2.34	0.12	11.31	6.22	20.4	658	0.3	3.70	103		
0807	0.54	2.88	0.12	11.32	6.22	20.4	658	0.3	3.62	104		
0810	0.54	3.42	0.18	11.32	6.21	20.4	658	0.2	4.26	105	317	
											Yellow	
											Turb	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.18; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 8" = 5.00
 TUBING INSIDE DIA. CAPACITY (Gal./ft.): 1/8" = 0.0008; 3/16" = 0.0014; 1/4" = 0.0028; 5/16" = 0.004; 3/8" = 0.008; 1/2" = 0.010; 5/8" = 0.016
 PURGING EQUIPMENT CODES: B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLED BY (PRINT) / AFFILIATION: Acc SAMPLER(S) SIGNATURE(S): _____ SAMPLING INITIATED AT: 0811 SAMPLING ENDED AT: NA
 PUMP OR TUBING DEPTH IN WELL (feet): 21.00 TUBING MATERIAL CODE: T FIELD-FILTERED: Y FILTER SIZE: _____
 FIELD DECONTAMINATION: PUMP Y TUBING Y (replaced) DUPLICATE: Y

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLE PUMP FLOW RATE (mL per minute)	SAMPLING EQUIPMENT CODE
SAMPLE CODE	CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
* SEE	SAMPLE	C-O-C	AND BOTTLE	ORCA	WPAKSHEET				

REMARKS: _____
 Sheen Present: YES (NO)
 MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
 SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
 pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2), optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

GROUNDWATER SAMPLING LOG

SITE NAME: TRAIL RIDGE SITE LOCATION: JACKSONVILLE, FL
 WELL NO.: MWB125 SAMPLE ID: _____ DATE: 2-15-21

WELL DIAMETER (inches): 2 TUBING DIAMETER (inches): 3/8 PURGING DATA
 WELL SCREEN INTERVAL DEPTH: 14.5 feet to 24.5 feet STATIC DEPTH TO WATER (feet): 8.87
 WELL ELEVATION TOC (ANGVD): 124.63 GROUNDWATER ELEVATION (ANGVD): 115.76
 WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY
 (only fill out if applicable)

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. X PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
 (only fill out if applicable)

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 19.50			FINAL PUMP OR TUBING DEPTH IN WELL (feet): 19.50			PURGING INITIATED AT: 0718		PURGING ENDED AT: 0738		TOTAL VOLUME PURGED (gallons): 3.40		
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (micro mhos/cm or µS/cm)	DISSOLVED OXYGEN (micro units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR	ODOR
0728	1.70	1.70	0.17	10.25	6.11	20.1	311	1.3	4.60	161		
0731	0.51	2.21	0.17	10.25	6.12	20.2	311	1.2	5.17	161		
0734	0.51	2.72	0.17	10.25	6.13	20.1	311	1.2	4.36	162		
0737	0.51	3.23	0.17	10.25	6.13	20.1	311	1.3	4.83	162	ILT	
											YELLOW	
											TINT	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.83
 TUBING INSIDE DIA. CAPACITY (GAL/FT): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0025; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
 PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: ALL SAMPLER(S) SIGNATURE(S): _____
DAN ARMOUR / PROTECT
 PUMP OR TUBING DEPTH IN WELL (feet): 19.50 TUBING MATERIAL CODE: T SAMPLING INITIATED AT: 0738 SAMPLING ENDED AT: NR
 FIELD DECONTAMINATION: PUMP Y TUBING Y (replaced) FIELD-FILTERED: Y CD FILTER SIZE: _____
 FIELD Filtration Equipment Type: _____ DUPLICATE: Y (M)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLE PUMP FLOW RATE (mL per minute)	SAMPLING EQUIPMENT CODE
SAMPLE CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
<u>X</u>	<u>SEE</u>	<u>SAMPLE</u>	<u>4-0-C</u>	<u>AND</u>	<u>BOTTLE</u>	<u>ORDER</u>	<u>WPAK SHEET</u>		

REMARKS:

Shake Present YES (NO)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212 SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2), optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

1. $\forall x: (x \in \omega \rightarrow \exists y (y \in x \wedge y \neq \emptyset))$

SAMPLED BY (PRINT) / AFFILIATION: <u>ACU</u>										SAMPLER(S) SIGNATURE(S): <u>[Signature]</u>										SAMPLING INITIATED AT: <u>1301</u>										SAMPLING ENDED AT: <u>NB</u>																			
PUMP OR TUBING PTH IN WELL (feet): <u>15.00</u>										TUBING MATERIAL CODE: <u>T</u>										FIELD-FILTERED: Y <u>(1)</u>										FILTER SIZE: <u>NB</u>																			
FIELD DECONTAMINATION: PUMP Y <u>(1)</u>										TUBING Y <u>(1)</u> (replaced)										Filtration Equipment Type: <u>Y</u>										DUPLICATE: Y <u>(1)</u>																			
SAMPLE CONTAINER SPECIFICATION										SAMPLE PRESERVATION										INTENDED ANALYSIS AND/OR METHOD										SAMPLE PUMP FLOW RATE (mL per minute)										SAMPLING EQUIPMENT CODE									
SAMPLE CODE		CONTAINERS		MATERIAL CODE		VOLUME		PRESERVATIVE USED		TOTAL VOL ADDED IN FIELD (mL)		FINAL pH																																					
X		SEE		SAMPLE		C-O-C		AND		BOTTLE		ORGEA		WPAK		SHEET																																	
REMARKS:																																																	
Shoen Present YES <u>(1)</u>																																																	
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; Q = Other (Specify)																																																	
SAMPLING EQUIPMENT CODES: APP = Airor Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFP = Reverse Flow Peristaltic Pump; SM = Sraw Method (Tubing Gravity Drain); O = Other (Specify)																																																	

Revision Date: February 12, 2009

Form FO 9000-24
GROUNDWATER SAMPLING LOG

SITE NAME: TRAIL RIDGE	SITE LOCATION: Jacksonville, FL
WELL NO: MWB-351	DATE: 2-16-21
SAMPLE ID: _____	

PURGING DATA			
WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1.4	WELL SCREEN INTERVAL DEPTH: 53 feet to 2.5 feet	STATIC DEPTH TO WATER (feet): 8.23
WELL ELEVATION TOC (R NGVD): NA		GROUNDWATER ELEVATION (R NGVD): NA	
WELL VOLUME PURGE: (WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY) (only fill out if applicable)			
EQUIPMENT VOLUME PURGE: (EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME) (only fill out if applicable)			

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 58.40			FINAL PUMP OR TUBING DEPTH IN WELL (feet): 58.40			PURGING INITIATED AT: 1337		PURGING ENDED AT: 1357		TOTAL VOLUME PURGED (gallons): 2.80		
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (micro units) (microhm/cm or µS/cm)	DISSOLVED OXYGEN (micro units) (mg/L or % saturation)	TURBIDITY (NTUs)	ORP (mV)	COLOR	ODOR
1347	1.40	1.40	0.14	8.33	4.79	22.7	40	0.3	3.49	64		
1350	0.42	1.82	0.14	8.33	4.78	22.6	40	0.3	3.38	63		
1353	0.42	2.24	0.14	8.33	4.76	22.6	40	0.3	3.30	62		
1356	0.42	2.66	0.14	8.39	4.75	22.5	40	0.3	3.33	62	None	

WELL CAPACITY (Gallons Per Foot): 0.76" = 0.02; 1" = 0.04; 1.38" = 0.06; 2" = 0.10; 3" = 0.37; 4" = 0.65; 6" = 1.02; 8" = 1.47; 12" = 5.88
 TUBING INSIDE DIA. CAPACITY (GAL./FT.): 1/8" = 0.0009; 3/16" = 0.0014; 1/4" = 0.0020; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.018
 PURGING EQUIPMENT CODES: R = Bailor, BP = Bladder Pump, ESP = Electric Submersible Pump, PP = Peristaltic Pump, O = Other (Specify)

SAMPLING DATA			
SAMPLED BY (PRINT) / AFFILIATION: Acc DANNY ARNONE		SAMPLER(S) SIGNATURE(S): _____	
PUMP OR TUBING DEPTH IN WELL (feet): 58.40		TUBING MATERIAL CODE: PE	
FIELD DECONTAMINATION: PUMP ☒ TUBING ☒ Y		FIELD FILTERED: Y (R) FILTER SIZE: _____	
DUPLICATE: Y (D)		SAMPLING EQUIPMENT TYPE: _____	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLE PUMP FLOW RATE (mL per minute)	SAMPLING EQUIPMENT CODE
SAMPLE D CODE	CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
U	SEE SAMPLE LABEL AND BOTTLE ORDER WORKSHEET								

REMARKS:	
Shade Present: YES (NO)	
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)	
SAMPLING EQUIPMENT CODES: APP = Air Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RPPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)	

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
 pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200.2).
 optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

SAMPLING DATA									
SAMPLED BY (PRINT)/AFFILIATION: <u>Acc</u> <u>Don't know</u>			SAMPLER(S) SIGNATURE(S): <u>[Signature]</u>			SAMPLING INITIATED AT: <u>1201</u>		SAMPLING ENDED AT: <u>NR</u>	
PUMP OR TUBING DEPTH IN WELL (feet): <u>55.88</u>			TUBING MATERIAL CODE: <u>PE</u>			FIELD-FILTERED: Y <u>(N)</u>		FILTER SIZE:	
FIELD DECONTAMINATION: PUMP Y <u>(N)</u>			TUBING Y <u>N (disposable)</u>			Filtration Equipment Type:		DUPLICATE: Y <u>(N)</u>	
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLE PUMP FLOW RATE (mL per minute)	SAMPLING EQUIPMENT CODE
CABLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
<u>(N)</u>	<u>SEE SAMPLE LOG AND BOTTLE ORDER WORKSHEET</u>								
REMARKS:									
Shoen Present: YES <u>(NO)</u>									
MATERIAL CODES: AG = Amber Glass; GG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)									
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Baller; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)									

Revision Date: February 12, 2009

GROUNDWATER SAMPLING LOG

SITE NAME: TRAIL RIDGE		SITE LOCATION: JACKSONVILLE, FL
WELL NO: MMB111 (A)	SAMPLE ID:	

WELL		TUBING		PURGING DATA		DATE: 2-16-21
DIAMETER (Inches):	2	DIAMETER (Inches):	5/8	WELL SCREEN INTERVAL DEPTH: 45 feet to 55 feet	STATIC DEPTH TO WATER (feet): 14.74	PURGE PUMP TYPE OR BAILER: BP
WELL ELEVATION TOC (ft NGVD):						
WELL VOLUME PURGE: 1	WELL VOLUME: 120.43	GROUNDWATER ELEVATION (ft NGVD): 105.69				
(only fill out if applicable)						

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. * PUMP VOLUME + (TUBING CAPACITY		(feet) X		gallons/foot =		gallons	
(only fill out if applicable)		X TUBING LENGTH) + FLOW CELL VOLUME					
INITIAL PUMP OR TUBING DEPTH (IN WELL (feet))		FINAL PUMP OR TUBING DEPTH (IN WELL (feet))		DISCHARGE			
= 0.3 gallons + (0.006 gallons/foot X \$5.00 (feet) + 0.05 gallons = 0.68 gallons							

[illegible]

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.38" = 0.04; 3" = 0.18; 3" = 0.37; 4" = 0.05; 6" = 1.02; 6" = 1.47; 12" = 5.80
TUBING INSIDE DIA. CAPACITY (Gal./FL): 1/8" = 0.0008; 3/16" = 0.0014; 1/4" = 0.0028; 5/16" = 0.004; 3/8" = 0.008; 1/2" = 0.010; 5/8" = 0.018
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; EBP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)
SAMPLING DATA

SAMPLING DATA

PLED BY (PRINT) / AFFILIATION: ACC		SAMPLER(S) SIGNATURE(S):		SAMPLING INITIATED AT: 1019		SAMPLING ENDED AT: NA	
P OR TUBING		TUBING MATERIAL CODE: T		FIELD-FILTERED: Y (N)		FILTER SIZE:	
TH IN WELL (feet): 50.00				Filtration Equipment Type:			
DECONTAMINATION: PUMP Y (C)		TUBING Y (replaced)		DUPLICATE: Y (C)			

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLE PUMP FLOW RATE (ml per minute)	SAMPLING EQUIPMENT CODE
NO. OF CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (ml)	FINAL pH				
SEE	SAMPLE	C-O-C	AND	BOTTLE	ORDER	WDAKSHEET			

REMARKS:	
Shoen Present YES <u>NO</u>	
MATERIAL CODES:	AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES:	APP = Air Peristaltic Pump; B = Baler; BP = Bladder Pump; ESP = Electric Submersible Pump; RFP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 67-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION J)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: $\pm 3\%$ Dissolved Oxygen: all readings $\leq 20\%$ saturation (see Table F5 2200-2), optionally, ± 0.2 mg/L or $\pm 10\%$ (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or $\pm 10\%$ (whichever is greater)

Revision Date: February 12, 2009

GROUNDWATER SAMPLING LOG

SITE NAME: TRAIL RIDGE SITE LOCATION: JACKSONVILLE, FL
 WELL NO: MWB 321 SAMPLE ID: _____ DATE: 2-16-21

PURGING DATA
 WELL DIAMETER (inches): 2 TUBING DIAMETER (inches): 3/8 WELL SCREEN INTERVAL DEPTH: 34.5 TO WATER (feet): 8.30 STATIC DEPTH TO WATER (feet): 8.30 PURGE PUMP TYPE OR BAKER: BP
 WELL ELEVATION TOC (ft NGVD): 124.79 GROUNDWATER ELEVATION (ft NGVD): 116.49
 WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY
 (only fill out if applicable) = () (feet) X () (gallons/foot) = () (gallons)
 EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
 (only fill out if applicable) = 0.3 gallons + (0.006 gallons/foot X 59.56 feet) + 0.05 gallons = 0.39 gallons

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (microhm/cm or µS/cm)	DISSOLVED OXYGEN (mg/L or % saturation)	TURBIDITY (NTUs)	ORP (mV)	COLOR	ODOR
0906	2.50	2.50	0.25	8.32	5.22	19.2	43	0.3	4.83	18		
0909	0.75	3.25	0.25	8.32	5.22	19.2	43	0.3	4.83	18		
0912	0.75	4.00	0.25	8.32	5.23	19.2	43	0.3	4.24	18		
0915	0.75	4.75	0.25	8.33	5.22	19.1	43	0.3	3.79	19		
											None	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.315" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 6.68
 TUBING INSIDE DIA. CAPACITY (Gal/ft): 1/8" = 0.0002; 3/16" = 0.0014; 1/4" = 0.0028; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.018
 PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Don Armada / EPA SAMPLER(S) SIGNATURE(S): _____
 PUMP OR TUBING DEPTH IN WELL (feet): 59.56 TUBING MATERIAL CODE: T SAMPLING INITIATED AT: 0916 SAMPLING ENDED AT: NA
 FIELD DECONTAMINATION: PUMP Y TUBING Y (replaced) FIELD-FILTERED: Y FILTER SIZE: NA
 Filtration Equipment Type: _____ DUPLICATE: Y RD

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLE PUMP FLOW RATE (ml per minute)	SAMPLING EQUIPMENT CODE
SAMPLE CODE	CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
* SEE	SAMPLE	C-O-C	AND BOTTLE						

REMARKS:

Shed Present: YES (NO)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = Air Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RPPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2), optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

1. 501111 : (501200)-2.5

DATE: 2-16-71

~~EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME~~
(only fill out if applicable)

[illegible]

WELL CAPACITY (USGPH Per Foot): $0.75" = 0.02$; $1" = 0.04$; $1.5" = 0.06$; $2" = 0.10$; $3" = 0.17$; $4" = 0.25$; $6" = 0.42$; $8" = 0.68$; $12" = 0.98$
 TUBING INSIDE DIA. CAPACITY (GAL/FT): $1/8" = 0.0004$; $3/16" = 0.0014$; $1/4" = 0.0028$; $5/16" = 0.004$; $3/8" = 0.009$; $1/2" = 0.016$; $5/8" = 0.018$
 PUMPING EQUIPMENT CODES: A = Electric, B = Windmill, C = Gas Engine, D = Diesel Engine, E = Gasoline Engine, F = Hydraulic, G = Solar, H = Other

PURCHASING EQUIPMENT CODES: B = Baller; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA			
SAMPLED BY (PRINT)/AFFILIATION:	SAMPLER(S) SIGNATURE(S):	SAMPLING	DATE(S) AND
Ace			

DEPTH IN WELL (feet):		48.95		MATERIAL CODE:		T		µm		Filtration Equipment Type:	
FIELD DECONTAMINATION:		PUMP Y		TUBING Y		(replaced)		DUPLICATE:		Y	

AMPLE CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	ANALYSIS AND/OR METHOD	FLOW RATE (mL per minute)	USE OF EQUIPMENT CODE
---------------	-----------------	------------------	--------	----------------------	----------------------------------	-------------	---------------------------	---------------------------------	--------------------------

X	SEM	SAMPLE	C-O-C	AND	BOTTLE	ORDEA	WORKSHEET
---	-----	--------	-------	-----	--------	-------	-----------

REMARKS:

SAMPLING EQUIPMENT CODES: APP = Aerial Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump;
RFP = Reverse Flow Peristaltic Pump; S = Sump Method (Rubber Gravity Drain); O = Other (Specify)

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

Revision Date: February 12, 2009

PURGING DATA				
WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1.4	WELL SCREEN INTERVAL DEPTH: 2.5 feet to 3.5 feet	STATIC DEPTH TO WATER (feet): 4.79	PURSE PUMP TYPE OR CALER: PP
WELL ELEVATION TOG (B NGVD): NA		GROUNDWATER ELEVATION (B NGVD): NA		
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY				
(only fill out if applicable)				
feet	feet	feet	gallons/foot	gallons
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME				
(only fill out if applicable)				
* 0.0 gallons + (0.0022 gallons/foot X 17.50 feet) + 0.05 gallons = 0.04 gallons				

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.04; 2" = 0.18; 3" = 0.37; 4" = 0.65; 6" = 1.02; 8" = 1.47; 12" = 3.88
 TUBING INSIDE DIA. CAPACITY (Gal./ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0028; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.015
 PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; Q = Other (Specify)

SAMPLED BY (PRINT) / AFFILIATION: <u>Acc</u> <u>Smith Adams</u> / <u>Pro-Tek</u>		SAMPLER(S) SIGNATURE(S): 		SAMPLING INITIATED AT: <u>1442</u>		SAMPLING ENDED AT: <u>NR</u>	
PUMP OR TUBING DEPTH IN WELL (feet): <u>12.00</u>		TUBING MATERIAL CODE: <u>P6</u>		FIELD-FILTERED: <u>Y</u> ⁽¹⁾ with Filtration Equipment Type:		FILTER SIZE:	
WELL DECONTAMINATION: PUMP <u>Y</u> ⁽¹⁾		TUBING <u>Y</u> ⁽¹⁾ <u>H (replaced)</u>		DUPLICATE: <u>Y</u> ⁽¹⁾			

REMARKS:	
Shown Present YES (NO)	
MATERIAL CODES:	AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES:	APP = After Peristaltic Pump; B = Baler; BP = Bladder Pump; ESP = Electric Submersible Pump; RPP = Reverse Flow Peristaltic Pump; SM = Suck Method (Tubing Gravity Drain); O = Other (Specify)

Revision Date: February 12, 2009

PURGING DATA				
WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1.4	WELL SCREEN INTERVAL DEPTH (feet) to 18.5	STATIC DEPTH TO WATER (feet): 9.89	PURGE PUMP TYPE OR BAILER: PP
WELL ELEVATION TOC (ft NGVD): NA		GROUNDWATER ELEVATION (ft NGVD): NA		
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)				
$= (18.52 \text{ feet} - 9.89 \text{ feet}) \times 0.163 \text{ gallons/foot} = 1.41 \text{ gallons}$				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable)				
$= 0.0 \text{ gallons} + (0.006 \text{ gallons/foot} \times 18.52 \text{ feet}) + 0.05 \text{ gallons} = 0.10 \text{ gallons}$				
INITIAL PUMP OR TUBING	FINAL PUMP OR TUBING			

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 18.00			FINAL PUMP OR TUBING DEPTH IN WELL (feet): 18.00			PURGING INITIATED AT: 1248		PURGING ENDED AT: 1309		TOTAL VOLUME PURGED (gallons): 2.73		
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (micro units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (micro units) mg/L or % saturation	TURBIDITY (NTU's)	ORP (mV)	COLOR	ODOR
1259	1.43	1.43	0.13	9.95	5.63	20.8	2208	0.5	3.99	-112		
1302	0.39	1.82	0.13	9.96	5.63	20.8	2205	0.5	3.97	-118		
1305	0.39	2.21	0.13	9.96	5.63	20.8	2202	0.5	3.80	-118		
1308	0.39	2.60	0.13	9.96	5.63	20.8	2197	0.5	3.89	-119	Yellow Tint	
								</				

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.08; 1.5" = 0.16; 2" = 0.37; 2.5" = 0.65; 3" = 1.02; 3.5" = 1.47; 4" = 1.98;
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0008; 3/16" = 0.0014; 1/4" = 0.0020; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: S = Sucker; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: DANIEL ARREOLA / PRO-TIA		SAMPLER(S) SIGNATURE(S): 		SAMPLING INITIATED AT: 1309		SAMPLING ENDED AT: NR	
PUMP OR TUBING DEPTH IN WELL (feet): 18.00		TUBING MATERIAL CODE: PE		FIELD-FILTERED: Y ☒ WITH Filtration Equipment Type:		FILTER SIZE:	
FIELD DECONTAMINATION:		PUMP Y ☒		TUBING Y ☒ N (if placed)		DUPLICATE: Y ☒	

[illegible]

REMARKS:

Shawn Present YES NO

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Boiler; BP = Bladder Pump; ESP = Electric Submersible Pump;
RFPF = Reverse Flow Peristaltic Pump; SM = Siphon Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 82-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units; Temperature: ± 0.2 °C; Specific Conductance: $\pm 5\%$; Dissolved Oxygen: all readings $\leq 20\%$ saturation (see Table FS 2200-2), optionally, ± 0.2 mol/L or $\pm 10\%$ (whichever is greater); Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or $\pm 10\%$ (whichever is greater).

Revision Date: February 12, 2009

Form FD 9000-24
GROUNDWATER SAMPLING LOG

SITE NAME: TRAIL RIDGE SITE LOCATION: JACKSONVILLE, FL
WELL NO: MWB-393 SAMPLE ID: _____ DATE: 2-16-21

PURGING DATA
WELL DIAMETER (inches): 2 TUBING DIAMETER (inches): 1.4 WELL SCREEN INTERVAL DEPTH: 8.9 TO WATER (feet): 13.62 STATIC DEPTH TO WATER (feet): 13.62 PURGE PUMP TYPE OR BAILER: PP
WELL ELEVATION TOG (ft NGVD): NA GROUNDWATER ELEVATION (ft NGVD): NA
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
118.90 (feet) - 13.62 (feet) X 0.163 gallons/foot = 0.86 gallons
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME / (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
0.0 gallons / (0.0026 gallons/foot X 18.00 feet) + 0.05 gallons = 0.00 gallons

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (micro mhos/cm or µS/cm)	DISSOLVED OXYGEN (dissolved units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR	ODOR
1221	1.10	1.10	0.11	13.79	4.82	21.3	519	0.1	3.62	-32		
1224	0.33	1.43	0.11	13.79	4.81	21.4	521	0.1	3.56	-32		
1227	0.33	1.76	0.11	13.80	4.81	21.4	520	0.1	4.46	-33		
1230	0.33	2.09	0.11	13.80	4.81	21.4	519	0.1	4.03	-33	VERY SET. Yellow TINT	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.66; 5" = 1.02; 6" = 1.47; 8" = 2.58
TUBING INSIDE DIA. CAPACITY (GAL/FT): 1/8" = 0.0002; 3/16" = 0.0004; 1/4" = 0.0006; 5/16" = 0.001; 3/8" = 0.002; 1/2" = 0.004; 5/8" = 0.008; 3/4" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA
SAMPLED BY (PRINT) / AFFILIATION: DAVID M. MONTGOMERY / FDOT SAMPLER(S) SIGNATURE(S): [Signature]
SAMPLING INITIATED AT: 1231 SAMPLING ENDED AT: NA
PUMP OR TUBING DEPTH IN WELL (feet): 18.00 TUBING MATERIAL CODE: PE FIELD-FILTERED: Y FILTER SIZE: NA
FIELD DECONTAMINATION: PUMP Y TUBING Y DUPLICATE: Y

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLE PUMP FLOW RATE (mL per minute)	SAMPLING EQUIPMENT CODE
SAMPLE CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
①	SEE SAMPLE LABELS AND BOTTLE ORDER WORKSHEET								

REMARKS: Shoen Present YES (NO)
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other
SAMPLING EQUIPMENT CODES: APP = Aner Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 82-180, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2712, SECTION 3)
pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2), optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

GROUNDWATER SAMPLING LOG

SITE NAME: TRAIL RIDGE SITE LOCATION: JACKSONVILLE, FL
 WELL NO: MVB205 SAMPLE ID: _____ DATE: 2-16-21

PURGING DATA
 WELL DIAMETER (inches): 2 TUBING DIAMETER (inches): 1.5 WELL SCREEN INTERVAL DEPTH: 10 feet TO WATER (feet): 7.33
 WELL ELEVATION TOG (R NGVD): 121.01 GROUNDWATER ELEVATION (R NGVD): 113.28
 WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY
 (only fill out if applicable)

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME X (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
 (only fill out if applicable)
 = 0.3 gallons + (0.006 gallons/foot X 20.00 feet) + 0.05 gallons = 0.47 gallons

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (micro mhos/cm or µS/cm)	DISSOLVED OXYGEN (dissolved units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR	ODOR
1111	1.60	1.60	0.16	8.06	4.98	21.4	424	0.5	8.33	140		
1114	0.48	2.08	0.16	8.06	4.98	21.4	427	0.6	9.06	136		
1117	0.48	2.56	0.16	8.06	4.98	21.4	428	0.6	11.37	134		
1120	0.48	3.04	0.16	8.07	4.99	44	428	0.6	11.15	131	Yellow Tan	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 1.5" = 0.08; 1.75" = 0.10; 2" = 0.12; 2.25" = 0.14; 2.5" = 0.16; 2.75" = 0.18; 3" = 0.20
 TUBING INSIDE DIA. CAPACITY (Gal/ft): 1/8" = 0.0008; 3/16" = 0.0014; 1/4" = 0.0020; 5/16" = 0.0026; 3/8" = 0.0032; 1/2" = 0.0048; 5/8" = 0.0072; 3/4" = 0.0108
 PURGING EQUIPMENT CODES: B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA
 SAMPLED BY (PRINT) / AFFILIATION: ALL SAMPLER(S) SIGNATURE(S): [Signature] SAMPLING INITIATED AT: 1121 SAMPLING ENDED AT: NA
 UMP OR TUBING DEPTH IN WELL (feet): 15.00 TUBING MATERIAL CODE: T FIELD-FILTERED: Y (R) FILTER SIZE: _____
 FIELD DECONTAMINATION: PUMP Y (R) TUBING Y (R) (replaced) DUPLICATE: Y (R)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLE PUMP FLOW RATE (ml per minute)	SAMPLING EQUIPMENT CODE
SAMPLE CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (ml)	FINAL pH			
* SEE	SAMPLE	C-O-C	AND	BOTTLE	ORCA	WPAKSHEET			

REMARKS: Shen Present YES (R)
 MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
 SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFP = Reverse Flow Peristaltic Pump; SM = Swab Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
 pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2), optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

GROUNDWATER SAMPLING LOG

SITE NAME: **TRAIL RIDGE** SITE LOCATION: **JACKSONVILLE, FL**
 WELL NO: **MW48115** SAMPLE ID: _____ DATE: **2-16-21**

PURGING DATA
 WELL DIAMETER (inches): **2** TUBING DIAMETER (inches): **3/8** WELL SCREEN INTERVAL DEPTH: **9.5 feet to 19.5 feet** STATIC DEPTH TO WATER (feet): **10.56** PURGE PUMP TYPE OR BAILER: **BP**
 WELL ELEVATION TOC (if NGVD): **120.81** GROUNDWATER ELEVATION (if NGVD): **110.25**
 WELL VOLUME PURGE: (WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable))
 $(19.50 \text{ feet} - 10.56 \text{ feet}) \times 0.1163 \text{ gallons/foot} = 1.03 \text{ gallons}$

EQUIPMENT VOLUME PURGE: (EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable))
 $0.3 \text{ gallons} + (0.006 \text{ gallons/foot} \times 19.50 \text{ feet}) + 0.05 \text{ gallons} = 0.17 \text{ gallons}$

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): **19.50** FINAL PUMP OR TUBING DEPTH IN WELL (feet): **14.50** PURGING INITIATED AT: **1039** PURGING ENDED AT: **1049** TOTAL VOLUME PURGED (gallons): **3.20**

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (micro mhos/cm or µS/cm)	DISSOLVED OXYGEN (dissolved units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mv)	COLOR	ODOR
1039	1.60	1.60	0.16	10.67	4.23	20.3	143	0.6	5.00	320		
1042	0.18	2.08	0.16	10.67	4.23	20.3	142	0.7	4.99	321		
1045	0.48	2.56	0.16	10.67	4.24	20.2	142	0.6	4.35	321		
1048	0.48	3.04	0.16	10.67	4.23	20.3	142	0.6	4.96	322	None	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.315" = 0.06; 2" = 0.10; 3" = 0.37; 4" = 0.65; 6" = 1.02; 8" = 1.47; 12" = 5.86
 TUBING INSIDE DIA. CAPACITY (Gal./ft.): 1/8" = 0.0000; 3/16" = 0.0014; 1/4" = 0.0028; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.010
 PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: **AN ARMOUR / PERISTALTIC** SAMPLER(S) SIGNATURE(S): *[Signature]* SAMPLING INITIATED AT: **1049** SAMPLING ENDED AT: **NR**
 PUMP OR TUBING DEPTH IN WELL (feet): **14.50** TUBING MATERIAL CODE: **T** FIELD-FILTERED: **Y** (N) FILTER SIZE: _____
 FLO DECONTAMINATION: PUMP **Y** (N) TUBING **Y** (N) (replaced) DUPLICATE: **Y** (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLE PUMP FLOW RATE (ml per minute)	SAMPLING EQUIPMENT CODE
SAMPLE CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
2	SEE	SAMPLE	C-O-C	AND	BOTTLE	ORDER			WORKSHEET

REMARKS: _____
 Shown Present: YES (NO)
 MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
 SAMPLING EQUIPMENT CODES: APP = Air Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
 pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2).
 optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Form FD 9000-24 GROUNDWATER SAMPLING LOG

SITE NAME: TRAIL RIDGE SITE LOCATION: JACKSONVILLE, FL
WELL NO: MWB323 SAMPLE ID: _____

DATE: 2-16-21
WELL DIAMETER (inches): 2 TUBING DIAMETER (inches): 5/8 PURGING DATA
WELL SCREEN INTERVAL DEPTH: 9.9 (feet) TO WATER (feet): 6.98 STATIC DEPTH TO WATER (feet): 6.98
WELL ELEVATION TOC (R NGVD): 124.64 GROUNDWATER ELEVATION (R NGVD): 117.66 PURGE PUMP TYPE OR BAILER: BP
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 14.90 FINAL PUMP OR TUBING DEPTH IN WELL (feet): 14.90 PURGING INITIATED AT: 0926 PURGING ENDED AT: 0946 TOTAL VOLUME PURGED (gallons): 3.20

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (micro units) (microhm/cm or µS/cm)	DISSOLVED OXYGEN (micro units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR	DOCF
0936	1.60	1.60	0.16	7.55	5.34	18.9	164	0.3	4.01	76		
0939	0.48	2.08	0.16	7.55	5.34	18.9	164	0.3	3.26	76		
0942	0.48	2.56	0.16	7.56	5.34	18.9	164	0.3	4.25	76		
0945	0.48	3.04	0.16	7.56	5.34	18.8	164	0.3	4.51	76	None	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.05; 3" = 0.16; 3.5" = 0.17; 4" = 0.03; 6" = 1.02; 6" = 1.47; 12" = 5.83
TUBING INSIDE DIA. CAPACITY (Gal/ft): 1/8" = 0.0004; 3/16" = 0.0014; 1/4" = 0.0028; 5/16" = 0.004; 3/8" = 0.009; 1/2" = 0.019; 5/8" = 0.030
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLED BY (PRINT) / AFFILIATION: A.C. DON ARMOUR / PROSPECT SAMPLER(S) SIGNATURE(S): [Signature] SAMPLING INITIATED AT: 0946 SAMPLING ENDED AT: NA

PUMP OR TUBING DEPTH IN WELL (feet): 14.90 TUBING MATERIAL CODE: T FIELD-FILTERED: Y () FILTER SIZE: NA
FIELD DECONTAMINATION: PUMP Y () TUBING Y () (replaced) DUPLICATE: Y ()

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLE PUMP FLOW RATE (mL per minute)	SAMPLING EQUIPMENT CODE
WELL CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
X	SEE	SAMPLE	6-0-0	AND	BOTTLE	ORDER	WORKSHEET		

REMARKS: Shoen Present YES ()
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFP = Reverse Flow Peristaltic Pump; SM = Suck Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION J)
pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2), optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

GROUNDWATER SAMPLING LOG

SITE NAME: TRAIL RIDGE		SITE LOCATION: JACKSONVILLE, FL
WELL NO: MWB333	SAMPLE ID:	

WELL DIAMETER (inches): 2		TURING DIAMETER (inches): 3/8		PURGING DATA		DATE: 2-16-21	
WELL ELEVATION TOG (HNOVD):		WELL SCREEN INTERVAL DEPTH: 10.3 feet to 20.3 feet		STATIC DEPTH TO WATER (feet): 9.07		PURGE PUMP TYPE OR BAILER: 80	
WELL VOLUME PURGE: 125.90		GROUNDWATER ELEVATION (HNOVD):					

WELL VOLUME PURGE: 1 WELL VOLUME * (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY

EQUIPMENT VOLUME PURGE: $\frac{\text{EQUIPMENT VOL.} \times \text{PUMP VOLUME} \div \text{PUMPING CAPACITY}}{\text{TUBING LENGTH} \div \text{FLOW CELL VOLUME}}$ gallons/foot = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 15.30		FINAL PUMP OR TUBING DEPTH IN WELL (feet): 15.30		PURGING INITIATED AT: 0823		PURGING ENDED AT: 0843		TOTAL VOLUME PURGED (gallons): 3.7	
--	--	--	--	----------------------------	--	------------------------	--	------------------------------------	--

[illegible]

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.04; 2" = 0.16; 3" = 0.37; 4" = 0.63; 6" = 1.02; 8" = 1.47; 12" = 5.58
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0008; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.008; 1/2" = 0.018; 5/8" = 0.033
PURGING EQUIPMENT CODES: A = Baller B = Bladder Pump C = Venturi D = Venturi E = Venturi F = Venturi G = Venturi H = Venturi I = Venturi J = Venturi K = Venturi L = Venturi M = Venturi N = Venturi O = Venturi P = Venturi Q = Venturi R = Venturi S = Venturi T = Venturi U = Venturi V = Venturi W = Venturi X = Venturi Y = Venturi Z = Venturi

PURCHASING EQUIPMENT CODES: S = Sailer, BP = Bladder Pump, ESP = Electric Submersible Pump, PP = Peristaltic Pump, O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: <u>ALL</u> <u>IN ARMOUR / [Signature]</u>	SAMPLER(S) SIGNATURE(S): <u>[Signature]</u>	SAMPLING INITIATED AT: <u>0843</u>	SAMPLING ENDED AT: <u>010</u>
--	--	------------------------------------	-------------------------------

PIP OR TUBING TH IN WELL (ft):	5.30	TUBING MATERIAL CODE:	Y	FIELD-FILTERED: Y ☒	FILTER SIZE:
-----------------------------------	------	--------------------------	---	---	--------------

D DÉCONTAMINATION:		PUMP	Y	☒	TUBING	Y	☒ (replaced)	Filtration Equipment Type:
						DUPLICATE:		Y

SAMPLE CONTAINER SPECIFICATION	SAMPLE PRESERVATION	INTENDED	SAMPLE PUMP	SAMPLING EQUIPMENT
--------------------------------	---------------------	----------	-------------	--------------------

FILE NO.	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED.	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	ANALYSIS AND/OR METHOD	FLOW RATE (mL per minute)	DATE OF ANALYSIS	ANALYST
1	5	SAMPLE	C-O-C	AND BOTTLE			DADEA	WORK SHEET		

REMARKS:

Shoen Present: YES (NO)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; Q = Other

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump;
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

YES: 1. The above do not constitute all of the information required by Chapter 62-180, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE F.S. 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: $\pm 5\%$ Dissolved Oxygen: all readings $\leq 20\%$ saturation (see Table FS 2200-2), optionally, ± 0.2 mg/L or $\pm 10\%$ (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or $\pm 10\%$ (whichever is greater)

Revision Date: February 12, 2009

GROUNDWATER SAMPLING LOG

SITE NAME: TRAIL RIDGE SITE LOCATION: JACKSONVILLE, FL
 WELL NO: MWD345 SAMPLE ID: _____ DATE: 2-16-21

PURGING DATA
 WELL DIAMETER (inches): 2 TUBING DIAMETER (inches): 5/8 WELL SCREEN INTERVAL: _____ STATIC DEPTH TO WATER (feet): 7.31
 WELL ELEVATION TOG (RNGVD): 125.78 GROUNDWATER ELEVATION (RNGVD): 118.47
 WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY
 (only fill out if applicable) $125.78 - 7.31 \text{ feet} \times 0.163 \text{ gallons/foot} = 18.36 \text{ gallons}$
 EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
 (only fill out if applicable) $0.3 \text{ gallons} + (0.006 \text{ gallons/foot} \times 18.36 \text{ feet}) + 0.05 \text{ gallons} = 0.41 \text{ gallons}$

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (micro mhos/cm or µS/cm)	DISSOLVED OXYGEN (mg/L or % saturation)	TURBIDITY (NTU)	ORP (mV)	COLOR	ODOR
0801	1.87	1.87	0.17	9.05	6.55	20.2	1477	0.3	9.85	106		
0804	0.51	2.38	0.17	9.05	6.55	20.2	1477	0.3	9.35	106		
0807	0.51	2.89	0.17	9.05	6.55	20.3	1477	0.3	6.91	106		
0810	0.51	3.40	0.17	9.06	6.55	20.3	1479	0.3	5.22	107	SLT	
											YELLOW	
											FLAT	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
 TUBING INSIDE DIA. CAPACITY (Gal./FT.): 1/8" = 0.0003; 3/16" = 0.0014; 1/4" = 0.0028; 5/16" = 0.004; 3/8" = 0.008; 1/2" = 0.016; 5/8" = 0.018
 PURGING EQUIPMENT CODES: B = Baller; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA
 SAMPLED BY (PRINT)/AFFILIATION: AN ARMOUR / PROTECTA SAMPLER(S) SIGNATURE(S): _____
 UMP OR TUBING DEPTH IN WELL (feet): 13.36 TUBING MATERIAL CODE: T SAMPLING INITIATED AT: 0811 SAMPLING ENDED AT: NR
 ELO DECONTAMINATION: PUMP Y TUBING Y (replaced) FIELD-FILTERED: Y (1) FILTER SIZE: _____
 Filtration Equipment Type: _____ DUPLICATE: Y (1)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLE PUMP FLOW RATE (mL per minute)	SAMPLING EQUIPMENT CODE
AMPLE CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
* SEE	SAMPLE	C-O-C	AND BOTTLE	ORDER	WORKSHEET				

REMARKS: _____
 Shown Present: YES (NO)
 MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
 SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Baller; BP = Bladder Pump; ESP = Electric Submersible Pump; RFP = Reverse Flow Peristaltic Pump; SR = Squeeze Method (Tubing Gravity Drain); O = Other (Specify)

YES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
 pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: $\pm 5\%$ Dissolved Oxygen: all readings $\leq 20\%$ saturation (see Table FS 2200-2), optionally, ± 0.2 mg/L or $\pm 10\%$ (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 6 NTU or $\pm 10\%$ (whichever is greater)

SITE NAME: TRAIL RIDGE	SITE LOCATION: JACKSONVILLE, FL
WELL NO: SGMV-1SR	SAMPLE ID: DATE: 2-12-21

FLIRGING DATA

WELL DIAMETER (Inches):	2	TUBING DIAMETER (Inches):	1 1/2	WELL SCREEN INTERVAL DEPTH: 8.2 feet to 18.2 feet	STATIC DEPTH TO WATER (feet):	15.43	PURGE PUMP TYPE OR BAILER:	20
----------------------------	---	------------------------------	-------	--	----------------------------------	-------	-------------------------------	----

WELL ELEVATION TOC (ft NGVD):	NA	GROUNDWATER ELEVATION (ft NGVD):	NA
-------------------------------	----	----------------------------------	----

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

$$* (18.75 \text{ feet} - 15.42 \text{ feet}) \times 0.163 \text{ gallons/foot} = 0.45 \text{ gallons}$$

EQUIPMENT VOLUME PURGE: $T_{EQUIPMENT VOL} = PUMP VOLUME + (TUBING CAPACITY \times TUBING LENGTH) + FLOW CELL VOLUME$
(only fill out if applicable)

$$= 0.0 \text{ gallons} + (0.0001 \text{ gallons/foot} \times 100 \text{ feet}) + 0.05 \text{ gallons} = 0.1 \text{ gallons}$$

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 15.10	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 18.10	PURGING INITIATED AT: 0243	PURGING ENDED AT: 0801	TOTAL VOLUME PURGED (gallons): 1.44
--	--	----------------------------	------------------------	-------------------------------------

[illegible]

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.66; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0008; 3/16" = 0.0014; 1/4" = 0.0022; 5/16" = 0.004; 3/8" = 0.0066; 1/2" = 0.016; 3/4" = 0.036

FURONQ EQUIPMENT CODES: S = Sallen BP = Booster Pump ESP = Electric Submersible Pump PP = Peristaltic Pump O = Other (Specify)

SAMPLING DATA

SAMPLING DATA

SAMPLED BY (PRINT)/AFFILIATION: ACC DANIEL ARMOUR / DELETED	SAMPLER(S) SIGNATURE(S): 	SAMPLING INITIATED AT: 0801	SAMPLING ENDED AT: NR
---	--	-----------------------------	-----------------------

PUMP OR TUBING DEPTH IN WELL (feet):	12-10	TUBING MATERIAL CODE:	PS	FIELD-FILTERED: Y	WD	FILTER SIZE:
				(in) Protection Equipment Type:		

FIELD DECONTAMINATION:	PUMP	Y	☒	TUBING	Y	N (replaced)	DUPLICATE:	Y	☒
------------------------	------	---	-------------------------------------	--------	---	--------------	------------	---	-------------------------------------

[illegible]

REMARKS:

SHEED: No

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump;
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: $\pm 5\%$ Dissolved Oxygen: all readings $\leq 20\%$ saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or $\pm 10\%$ (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally, ± 5 NTU or $\pm 10\%$ (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24
GROUNDWATER SAMPLING LOG

SITE NAME: TRAIL RIDGE SITE LOCATION: JACKSONVILLE, FL
WELL NO: SGMW-2S SAMPLE ID: _____ DATE: 2-13-21

PURGING DATA
WELL DIAMETER (inches): 2 TUBING DIAMETER (inches): 1
WELL ELEVATION TOC (ft NGVD): NA WELL SCREEN INTERVAL DEPTH: 3.7 feet TO WATER (feet): 14.76
WELL VOLUME PURGE: NA GROUNDWATER ELEVATION (ft NGVD): NA
(only fill out if applicable)
EQUIPMENT VOLUME PURGE: NA EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (micro mhos/cm or µS/cm)	DISSOLVED OXYGEN (mg/L or % saturation)	TURBIDITY (NTU)	ORP (mv)	COLOR	ODOR
0218	0.64	0.64	0.08	15.11	5.02	17.3	47	0.4	7.36	-14		
0221	0.24	0.88	0.08	15.11	5.02	17.4	48	0.4	6.38	-12		
0224	0.24	1.12	0.08	15.11	5.01	17.3	48	0.4	5.98	-18		
0227	0.24	1.36	0.08	15.11	5.00	17.4	49	0.4	5.95	-19	55	
											Yellow	
											Tint	

WELL CAPACITY (Gallons Per Foot): 0.78" = 0.02; 1" = 0.04; 1.38" = 0.08; 2" = 0.16; 3" = 0.37; 4" = 0.65; 6" = 1.02; 8" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./ft): 1/8" = 0.0004; 3/16" = 0.0014; 1/4" = 0.0028; 5/16" = 0.004; 3/8" = 0.008; 1/2" = 0.019; 5/8" = 0.045
PURGING EQUIPMENT CODES: B = Baller; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA
SAMPLED BY (PRINT)/AFFILIATION: ALL SAMPLER(S) SIGNATURE(S): [Signature]
MP OR TUBING PTH IN WELL (feet): 19.50 TUBING MATERIAL CODE: PE
LD DECONTAMINATION: PUMP Y TUBING Y (if placed) FIELD-FILTERED: Y (if) FILTER SIZE: NR
DUPLICATE: Y (if)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLE PUMP FLOW RATE (mL per minute)	SAMPLING EQUIPMENT CODE
VOLUME	CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
0	SEE SAMPLE 6-6-6 AND BOTTLE ORDER WORKSHEET								

REMARKS:
Shoen Present YES (NO)
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Baller; BP = Bladder Pump; ESP = Electric Submersible Pump; RFP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

ES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2).
optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Form FD-3060-24

SITE NAME: TRAIL RIDGE		SITE LOCATION: JACKSONVILLE, FL	
WELL NO: EQUIPMENT BLANK # 1	SAMPLE ID:	DATE: 2-17-21	

FLIGHT DATA

[illegible]

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: A.C.C. DAV Armour Blaise Garrison / PEST-AMERICA						SAMPLER(S) SIGNATURE(S): 			SAMPLING INITIATED AT: 0820			SAMPLING ENDED AT: NR		
PUMP OR TUBING DEPTH IN WELL (feet): NA						TUBING MATERIAL CODE: NA			FIELD-FILTERED: Y ☒ IS ☐ µm Filtration Equipment Type:			FILTER SIZE		
FIELD DECONTAMINATION: PUMP Y N NA TUBING Y N (replaced)												DUPLICATE: Y ☒ ☐		
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				INTENDED ANALYSIS AND/OR METHOD		SAMPLE PUMP FLOW RATE (mL per minute)		SAMPLING EQUIPMENT CODE		
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH								
☒	SEE SAMPLE L-D-4 AND BOTTLE ORDER WORKSHEET													
REMARKS: SCREEN: No EB- COMPLETED USING D.I. H2O PROVIDED BY PEST-AMERICA AEL														
MATERIAL CODES: (Specify)		AG = Amber Glass; GG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; Q = Other												
SAMPLING EQUIPMENT CODES:		APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)												

NOTES: 1. The above do not constitute all of the information required by Chapter 52-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: $\pm 5\%$ Dissolved Oxygen: all readings $\leq 20\%$ saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or $\pm 10\%$ (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or $\pm 10\%$ (whichever is greater)

Revision Date: February 12, 2009

Form FD-3000-24

SITE NAME: TRAIN RIDGE		SITE LOCATION: JACKSONVILLE, FL	
WELL NO: EQUIPMENT BANK #2	SAMPLE ID:	DATE: 2-13-21	

PLUING DATA

[illegible]

SAMPLING DATA

SAMPLING DATA											
SAMPLED BY (PRINT) / AFFILIATION: DAN ARMOUR / <i>ARC</i>				SAMPLER(S) SIGNATURE(S): <i>[Signature]</i>			SAMPLING INITIATED AT: 0830		SAMPLING ENDED AT: NR		
PUMP OR TUBING DEPTH IN WELL (feet): NA				TUBING MATERIAL CODE: NA			FIELD-FILTERED: Y ☒ <i>AK</i>		FILTER SIZE:		
FIELD DECONTAMINATION: PUMP Y ☐ N ☐ NA TUBING Y ☐ N (replaced)							DUPLICATE: Y ☒ <i>D</i>				
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD		SAMPLE PUMP FLOW RATE (mL per minute)		
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH					
<i>Q</i>	SEE SAMPLE L-0-4 AND BOTTLE ORDER WORKSHEET										
REMARKS:											
SHEET: No				EB - COMPLETED USING D.I. H ₂ O PROVIDED BY <i>ARC</i> First Amalgam							
MATERIAL CODES:				AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other							
SAMPLING EQUIPMENT CODES:				APP = After Peristaltic Pump; B = Baller; BP = Bladder Pump; ESP = Electric Submersible Pump; RPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)							

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

1. The above do not constitute all of the information required by Chapter 62-160, F.S.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS: pH: ± 0.2 units; Temperature: $\pm 0.2^\circ\text{C}$; Specific Conductance: $\pm 5\%$; Dissolved Oxygen: all readings $\leq 20\%$ saturation (see Table FS 2200-2); optionally, $+0.2\text{ mg/L}$ or $\pm 10\%$ (whichever is greater); Turbidity: all readings $\leq 20\text{ NTU}$; optionally $\pm 5\text{ NTU}$ or $\pm 10\%$ (whichever is greater)

Revision Date: February 12, 2009

SITE NAME: <u>TRAIN RIDGE</u>		SITE LOCATION: <u>JACKSONVILLE FL</u>	
WELL NO: <u>SW-1</u>		DATE: <u>2-17-21</u>	

PURGING DATA

[illegible]

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: <u>ACC</u> <u>Don Arnold</u> <u>Don Arnold / Don Arnold</u>				SAMPLER(S) SIGNATURE(S): <u>[Signature]</u>				SAMPLING INITIATED AT: <u>1200</u>				SAMPLING ENDED AT: <u>NA</u>							
PUMP OR TUBING DEPTH IN WELL (feet): <u>NA</u>				TUBING MATERIAL CODE: <u>NA</u>				FIELD-FILTERED: <u>Y</u> ☒ <u>µm</u>				FILTER SIZE: <u>NA</u>							
FIELD DECONTAMINATION: PUMP <u>Y</u> <u>NA</u> TUBING <u>Y</u> <u>NA</u> N(replaced)								DUPLICATE: <u>Y</u> ☒											
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				INTENDED ANALYSIS AND/OR METHOD				SAMPLE PUMP FLOW RATE (mL per minute)				SAMPLING EQUIPMENT CODE			
SAMPLE ID CODE		# CONTAINERS		MATERIAL CODE		VOLUME		PRESERVATIVE USED		TOTAL VOL ADDED IN FIELD (mL)		FINAL pH							
<u>* 502</u>		<u>SAMPLE</u>		<u>20-L</u>		<u>AND BOTTLE</u>		<u>ORDER WORKSHEET</u>											
REMARKS: <u>SHEW: NO</u> <u>SW-1 = SURFACE WATER POINT</u>																			
MATERIAL CODES: (Specify)				AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other															
SAMPLING EQUIPMENT CODES:				APP = After Peristaltic Pump; B = Bail; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)															

NOTES: 1. The above do not constitute all of the information required by Chapter 52-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: $\pm 5\%$ Dissolved Oxygen: all readings $\leq 20\%$ saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or $\pm 10\%$ (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or $\pm 10\%$ (whichever is greater)

Revision Date: February 12, 2009

SW-3 = SURFACE WATER POINT		SHEET: No.	
MATERIAL CODES: (Specify)	AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other		
SAMPLING EQUIPMENT CODES:	APP = Alter Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RPPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)		
NOTES: 1. The above do not constitute all of the information required by Chapter 53.100, 53.101, 53.102, 53.103, 53.104, 53.105, 53.106, 53.107, 53.108, 53.109, 53.110, 53.111, 53.112, 53.113, 53.114, 53.115, 53.116, 53.117, 53.118, 53.119, 53.120, 53.121, 53.122, 53.123, 53.124, 53.125, 53.126, 53.127, 53.128, 53.129, 53.130, 53.131, 53.132, 53.133, 53.134, 53.135, 53.136, 53.137, 53.138, 53.139, 53.140, 53.141, 53.142, 53.143, 53.144, 53.145, 53.146, 53.147, 53.148, 53.149, 53.150, 53.151, 53.152, 53.153, 53.154, 53.155, 53.156, 53.157, 53.158, 53.159, 53.160, 53.161, 53.162, 53.163, 53.164, 53.165, 53.166, 53.167, 53.168, 53.169, 53.170, 53.171, 53.172, 53.173, 53.174, 53.175, 53.176, 53.177, 53.178, 53.179, 53.180, 53.181, 53.182, 53.183, 53.184, 53.185, 53.186, 53.187, 53.188, 53.189, 53.190, 53.191, 53.192, 53.193, 53.194, 53.195, 53.196, 53.197, 53.198, 53.199, 53.200, 53.201, 53.202, 53.203, 53.204, 53.205, 53.206, 53.207, 53.208, 53.209, 53.210, 53.211, 53.212, 53.213, 53.214, 53.215, 53.216, 53.217, 53.218, 53.219, 53.220, 53.221, 53.222, 53.223, 53.224, 53.225, 53.226, 53.227, 53.228, 53.229, 53.230, 53.231, 53.232, 53.233, 53.234, 53.235, 53.236, 53.237, 53.238, 53.239, 53.240, 53.241, 53.242, 53.243, 53.244, 53.245, 53.246, 53.247, 53.248, 53.249, 53.250, 53.251, 53.252, 53.253, 53.254, 53.255, 53.256, 53.257, 53.258, 53.259, 53.260, 53.261, 53.262, 53.263, 53.264, 53.265, 53.266, 53.267, 53.268, 53.269, 53.270, 53.271, 53.272, 53.273, 53.274, 53.275, 53.276, 53.277, 53.278, 53.279, 53.280, 53.281, 53.282, 53.283, 53.284, 53.285, 53.286, 53.287, 53.288, 53.289, 53.290, 53.291, 53.292, 53.293, 53.294, 53.295, 53.296, 53.297, 53.298, 53.299, 53.300, 53.301, 53.302, 53.303, 53.304, 53.305, 53.306, 53.307, 53.308, 53.309, 53.310, 53.311, 53.312, 53.313, 53.314, 53.315, 53.316, 53.317, 53.318, 53.319, 53.320, 53.321, 53.322, 53.323, 53.324, 53.325, 53.326, 53.327, 53.328, 53.329, 53.330, 53.331, 53.332, 53.333, 53.334, 53.335, 53.336, 53.337, 53.338, 53.339, 53.340, 53.341, 53.342, 53.343, 53.344, 53.345, 53.346, 53.347, 53.348, 53.349, 53.350, 53.351, 53.352, 53.353, 53.354, 53.355, 53.356, 53.357, 53.358, 53.359, 53.360, 53.361, 53.362, 53.363, 53.364, 53.365, 53.366, 53.367, 53.368, 53.369, 53.370, 53.371, 53.372, 53.373, 53.374, 53.375, 53.376, 53.377, 53.378, 53.379, 53.380, 53.381, 53.382, 53.383, 53.384, 53.385, 53.386, 53.387, 53.388, 53.389, 53.390, 53.391, 53.392, 53.393, 53.394, 53.395, 53.396, 53.397, 53.398, 53.399, 53.400, 53.401, 53.402, 53.403, 53.404, 53.405, 53.406, 53.407, 53.408, 53.409, 53.410, 53.411, 53.412, 53.413, 53.414, 53.415, 53.416, 53.417, 53.418, 53.419, 53.420, 53.421, 53.422, 53.423, 53.424, 53.425, 53.426, 53.427, 53.428, 53.429, 53.430, 53.431, 53.432, 53.433, 53.434, 53.435, 53.436, 53.437, 53.438, 53.439, 53.440, 53.441, 53.442, 53.443, 53.444, 53.445, 53.446, 53.447, 53.448, 53.449, 53.450, 53.451, 53.452, 53.453, 53.454, 53.455, 53.456, 53.457, 53.458, 53.459, 53.460, 53.461, 53.462, 53.463, 53.464, 53.465, 53.466, 53.467, 53.468, 53.469, 53.470, 53.471, 53.472, 53.473, 53.474, 53.475, 53.476, 53.477, 53.478, 53.479, 53.480, 53.481, 53.482, 53.483, 53.484, 53.485, 53.486, 53.487, 53.488, 53.489, 53.490, 53.491, 53.492, 53.493, 53.494, 53.495, 53.496, 53.497, 53.498, 53.499, 53.500, 53.501, 53.502, 53.503, 53.504, 53.505, 53.506, 53.507, 53.508, 53.509, 53.510, 53.511, 53.512, 53.513, 53.514, 53.515, 53.516, 53.517, 53.518, 53.519, 53.520, 53.521, 53.522, 53.523, 53.524, 53.525, 53.526, 53.527, 53.528, 53.529, 53.530, 53.531, 53.532, 53.533, 53.534, 53.535, 53.536, 53.537, 53.538, 53.539, 53.540, 53.541, 53.542, 53.543, 53.544, 53.545, 53.546, 53.547, 53.548, 53.549, 53.550, 53.551, 53.552, 53.553, 53.554, 53.555, 53.556, 53.557, 53.558, 53.559, 53.560, 53.561, 53.562, 53.563, 53.564, 53.565, 53.566, 53.567, 53.568, 53.569, 53.570, 53.571, 53.572, 53.573, 53.574, 53.575, 53.576, 53.577, 53.578, 53.579, 53.580, 53.581, 53.582, 53.58			

Revision Date: February 12, 2009

Revision Date: February 12, 2009

Form FD 9000-24
GROUNDWATER SAMPLING LOG

SITE NAME: TRAIL RIDGE		SITE LOCATION: JACKSONVILLE, FL	
WELL NO: SW-5	SAMPLE ID:	DATE: 2-17-21	

PURGING DATA

WELL DIAMETER (inches): NA	TUBING DIAMETER (inches): NA	WELL SCREEN INTERVAL DEPTH: - feet to - feet	STATIC DEPTH TO WATER (feet): NA	PURGE PUMP TYPE OR BAILEY: NA								
WELL ELEVATION TOC (RINGVD): NA		GROUNDWATER ELEVATION (RINGVD): NA										
WELL VOLUME PURGE: $1 \text{ WELL VOLUME} = (\text{TOTAL WELL DEPTH} - \text{STATIC DEPTH TO WATER}) \times \text{WELL CAPACITY}$ (only fill out if applicable)												
EQUIPMENT VOLUME PURGE: $1 \text{ EQUIPMENT VOL} = \text{PUMP VOLUME} + (\text{TUBING CAPACITY} \times \text{TUBING LENGTH}) + \text{FLOW CELL VOLUME}$ (only fill out if applicable)												
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): NA	FINAL PUMP OR TUBING DEPTH IN WELL (feet): NA	PURGING INITIATED AT: NA	PURGING ENDED AT: NA	TOTAL VOLUME PURGED (gallons): NA								
TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (micro mhos/cm or µS/cm)	DISSOLVED OXYGEN (micro units) mg/L or % saturation	TURBIDITY (NTU)	ORP (mV)	COLOR	ODOR
0935	NA	NA	NA	NA	7.93	15.8	239	7.9	35.35	117	BROWN	
WELL CAPACITY (Gallons Per Foot): 6.75" = 0.02; 1" = 0.04; 1.25" = 0.08; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.85 TUBING INSIDE DIA. CAPACITY (Gal/ft): 1/8" = 0.0008; 3/16" = 0.0014; 1/4" = 0.0025; 5/16" = 0.004; 3/8" = 0.008; 1/2" = 0.010; 5/8" = 0.016 PURGING EQUIPMENT CODES: B = Baller; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)												

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: ALL DAN ARMOUR FLORIDA GEOLOGICAL SURVEY		SAMPLER(S) SIGNATURE(S): DE		SAMPLING INITIATED AT: 0935		SAMPLING ENDED AT: NA	
PUMP OR TUBING DEPTH IN WELL (feet): NA		TUBING MATERIAL CODE: NA		FIELD-FILTERED: Y ☒		FILTER SIZE:	
FIELD DECONTAMINATION: PUMP Y N NA TUBING Y N (replaced)		DUPLICATE: Y ☒		INTENDED ANALYSIS AND/OR METHOD:		SAMPLE PUMP FLOW RATE (mL per minute)	
SAMPLE CONTAINER SPECIFICATION		SAMPLE PRESERVATION		SAMPLING EQUIPMENT CODE			
SAMPLE ID CODE	S CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	
SC							
REMARKS: SW-5 = SURFACE WATER POINT FLOW AT WEIR							
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other							
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Baller; BP = Bladder Pump; ESP = Electric Submersible Pump; RFP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)							

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: $\pm 5\%$ Dissolved Oxygen: all readings $\leq 20\%$ saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or $\pm 10\%$ (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or $\pm 10\%$ (whichever is greater)

Revision Date: February 12, 2009

GROUNDWATER SAMPLING LOG

SITE NAME: TRAIL RIDGE	SITE LOCATION: JACKSONVILLE, FL
WELL NO: SW-6	SAMPLE ID: DATE: 2-13-21

PLACING DATA

[illegible]

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: ACC				SAMPLER(S) SIGNATURE(S):				SAMPLING INITIATED AT: 0910				SAMPLING ENDED AT: NR							
BLANK GLASS / 100-100								FIELD-FILTERED: Y ☒				FILTER SIZE:							
PUMP OR TUBING DEPTH IN WELL (feet): NA				TUBING MATERIAL CODE: NA				Filtration Equipment Type:											
FIELD DECONTAMINATION: PUMP Y N NA TUBING Y N (replaced)								DUPLICATE: Y ☒											
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				INTENDED ANALYSIS AND/OR METHOD				SAMPLE PUMP FLOW RATE (mL per minute)				SAMPLING EQUIPMENT CODE			
SAMPLE ID CODE		# CONTAINERS		MATERIAL CODE		VOLUME		PRESERVATIVE USED		TOTAL VOL ADDED IN FIELD (mL)		FINAL pH							
②		SEE SAMPLE 6-D-4 AND BOTTLE ORDER WORKSHEET																	
REMARKS:																			
SWEET = NO SW-6 = SURFACE WATER POINT - FLOW AT WEIR																			
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)																			
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Baller; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPF = Reverse Flow Peristaltic Pump; SM = Sream Method (Tubing Gravity Drain); O = Other (Specify)																			

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: $\pm 0.2^\circ\text{C}$ Specific Conductance: $\pm 5\%$ Dissolved Oxygen: all readings $\leq 20\%$ saturation (see Table FS 2200-2); optionally, $\pm 0.2\text{ mg/L}$ or $\pm 10\%$ (whichever is greater) Turbidity: all readings $\leq 20\text{ NTU}$; optionally $\pm 5\text{ NTU}$ or $\pm 10\%$ (whichever is greater)

Revision Date: February 12, 2009

PURGING DATA

SAMPLING DATA

NOTES: 1. The above do not constitute all of the information required by Chapter 52-150, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: $\pm 5\%$ Dissolved Oxygen: all readings $\leq 20\%$ saturation (see Table FS 2200-2); optionally, $+0.2$ mg/L or $\pm 10\%$ (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or $\pm 10\%$ (whichever is greater)

Revision Date: February 12, 2009

APPENDIX B
COMPACT DISK CONTAINING
REPORT IN .PDF FORMAT
AND
ADaPT FILE