

Groundwater Monitoring Report:

APRIL 2019 SAMPLING EVENT

SANDOVAL COUNTY LANDFILL **Sandoval County, New Mexico**

Submitted To:

**New Mexico Environment Department
Solid Waste Bureau
Harold Runnels Bldg – Room N2150
P.O. Box 5469 – 1190 St Francis Drive
Santa Fe, NM 87502-5469**

Prepared For:

**Sandoval County
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Prepared By:

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June 21, 2019

Gordon/PSC Project #: 01004118





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June 21, 2019

Mr. George Schuman
Permit Section Manager
NMED Solid Waste Bureau
Harold Runnels Bldg – Room N2150
PO Box 5469 – 1190 St. Francis Drive
Santa Fe, NM 87502-5469

Re: Sandoval County Landfill: Groundwater Monitoring Report
April 2019 Sampling Event [01004118]

Dear Mr. Schuman:

On behalf of our client, Sandoval County, Gordon Environmental/PSC (Gordon/PSC) is submitting groundwater monitoring results corresponding to samples collected at the Sandoval County Landfill on April 4, 2019 and April 12, 2019. This event consisted of sample collection at each of the site's five active monitoring wells, as well as field blank documentation. In addition, laboratory analytical results are compared to the established assessment monitoring levels (AMLs) and upper tolerance limit values (UTLVs) approved by NMED on 02/09/15.

We appreciate the Department's ongoing review of the groundwater monitoring program for the Sandoval County Landfill. Please contact us with your questions or comments.

Very truly yours,
Gordon Environmental/PSC

A handwritten signature in black ink, appearing to read "Braden S. Belliveau".

Braden S. Belliveau, EIT
Project Engineer

A handwritten signature in black ink, appearing to read "Michael J. Crepeau".

Michael J. Crepeau, P.E.
Senior Project Manager

cc: Mr. Mark Hatzenbuhler, Director of Public Works, Sandoval County

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1.0 INTRODUCTION

On April 4 & 12, 2019 Gordon Environmental/PSC (Gordon/PSC) performed annual groundwater monitoring at the Sandoval County Landfill (**Attachment 1**) in accordance with the site's existing Solid Waste Facility Permit (Solid Waste Facility I.D. No. SWM-0123365). Samples were collected from wells MW-5R, MW-6R, and MW-7R on 04/04/19; and from wells MW-2 and MW-3 on 04/12/19.

Due to a continued decline in groundwater elevation and low recharge, a three-well-volume purge of wells MW-2 and MW-3 was not possible when those wells were sampled on 04/12/19. A minimal purge of 0.25 gallons was conducted prior to sampling these wells. Samples were successfully collected from wells MW-2 and MW-3 on April 12, 2019, but field observations and analytical results indicate these samples may be poorly representative of formation groundwater quality conditions, and heavily influenced by potential biofouling of the screen and/or pump due to subsiding groundwater elevations (**Section 4.2** for discussion).

2.0 GROUNDWATER MONITORING PROGRAM

2.1 Groundwater Monitoring Network

The original monitoring well network at Sandoval County Landfill (SCLF) consisted of four monitoring wells (MW-1 through MW-4). Upgradient monitoring well MW-4 was decommissioned in June 2003 in advance of Cell 4A construction, and replaced by upgradient monitoring well MW-5 in July/August 2003. On 03/11/10, the Solid Waste Bureau (SWB) approved the exclusion of well MW-1 from sample collection due to steadily decreasing water levels of nearly 1 ft/yr between 1999 and 2009. Two additional monitoring wells (MW-6 and MW-7) were installed in January and March 2004, respectively. On 03/21/16, SWB approved the exclusion of well MW-5 from the sampling network, and the installation of well MW-5R as the replacement upgradient well. Well MW-5 was subsequently replaced by upgradient well MW-5R in April 2016 due to predictable declining recharge issues. On 11/29/17, SWB approved the exclusion of wells MW-6 and MW-7 from the sampling network, and the installation of wells MW-6R and MW-7R as replacement downgradient wells. The field activities related to the installation of replacement monitoring wells MW-6R and MW-7R between 02/22/18 and 05/31/18 are documented in the *Groundwater Monitoring Wells MW-6R and MW-7R Installation Report* (Gordon/PSC, 06/25/18), which was approved by SWB on 07/04/18 (**Attachment 7.2**).

2.2 Monitoring Schedule and Parameters

The current groundwater monitoring program for SCLF consists of the annual collection and analysis of samples for the NMED-approved alternate list of parameters (**Attachment 2**). Samples collected during the 2019 event were analyzed for the constituents comprising the full suite of indicator parameters listed in 20.9.9.20 NMAC, Subsections A&C as a “fifth-year” event. Constituents excluded from the Approved Alternate Parameter list (**Attachment 2**) that were detected at or above the laboratory practical quantitation limit (PQL) during this mandatory 5th-year event are discussed in **Section 5.0**. This discussion includes a recommendation to retain the current alternate parameter list for routine sampling. Laboratory analytical results were compared to the established assessment monitoring levels (AMLs) and upper tolerance limit values (UTLVs) approved by the NMED in 2015. Consistent with the requirements of 20.9.9.11.B NMAC, samples collected from each well in 2024 will be analyzed for the entire suite of parameters listed in Subsections A&C of 20.9.9.20 NMAC (i.e., once every five years).

2.3 Groundwater Level Measurements

Depth-to-water (DTW) measurements for all on-site wells were recorded on 04/04/19 prior to purging and sampling, and were used to develop the groundwater elevation contour map provided as **Attachment 3**. The measurements were recorded using a calibrated electronic tape that emits an audible signal when the water surface is penetrated. These event-specific measurements, along with the calculated groundwater elevation for each well, are summarized in **Attachment 4**.

2.4 Monitoring Well Purging and Sampling

Monitoring wells MW-2, 3, 5R, 6R, and 7R are equipped with dedicated pump systems designed to control the flow and delivery of groundwater to the ground surface in order to produce the most representative sample of groundwater beneath the facility. The pump system for each well includes a dedicated Grundfos® Redi-Flo4™ submersible pump and motor used for both purging and sampling. The pump/motor combination is operated by a Redi-Flo® variable frequency drive (VFD) controller connected to a portable gasoline powered generator that allows the flow rate to be controlled at the ground surface as the groundwater exits the discharge tubing. On 04/04/19, a minimum of 3 well volumes of water was removed from monitoring wells MW-5R, MW-6R, and MW-7R before sampling. However, due to the poor production of groundwater in well MW-3 (6 gallons), and the inability to pump any groundwater from well MW-2, samples were collected from these wells on 04/12/19 after purging a minimum of 0.25 gallons.

Following sample collection on 04/04/19 and 04/12/19, the groundwater samples were immediately placed in coolers containing ice and maintained at approximately 4°C until delivery to the laboratory on 04/05/19 and 04/12/19, respectively. Samples delivered to the laboratory were accompanied by the appropriate chain-of-custody documentation.

2.5 Monitoring Well Inspection and Maintenance

Each monitoring well is equipped with a locking cap, and each lock was found to be secured and in good condition. The protective casings, bollards, and concrete pads were also found to be in good condition at the time of sampling.

3.0 SITE HYDROGEOLOGY

The hydrogeology of the site is summarized in Section 3 of the *Application for Permit for the Sandoval County Landfill, Volume V, updated January 2005*. The following discussion of the site hydrogeology presents select information contained in the Application for Permit:

The landfill site is located on the western flank of the Albuquerque Basin at an elevation of approximately 5,280 to 5,430 feet. The landfill is underlain by a sequence of siltstones and mudstones belonging to the Arroyo Ojito Formation of the upper Santa Fe Group. In this area, the Santa Fe Group is over 4,000 feet thick. The Arroyo Ojito Formation consists of two members, the Loma Barbon and the Ceja, both of which are exposed at an outcrop near the east-central portion of the property. The Loma Barbon Member is the major unit within the Arroyo Ojito Formation, and underlies the entire facility. The Loma Barbon consists of well-consolidated, fine-grained, yellow-brown to red-brown silty sandstones with interbedded mudstones and scattered lenses of fluvial deposits of coarse-grained and cobbly sandstones.

The Ceja Member of the Arroyo Ojito Formation is a 40- to 60-foot-thick sequence of moderately consolidated, light red to red-brown medium to coarse-grained sandstones and gravels, with minor interbeds of siltstones and mudstones. This unit is present on the topographically highest portion of the property in the area of wells MW-3 and MW-6, and may be seen capping the hills immediately south of the Facility. Unconformably overlying the Arroyo Ojito Formation are thin (20-30 feet thick) Quaternary deposits of Pleistocene age.

3.1 Groundwater Flow Direction and Velocity

The direction of groundwater flow at SCLF has historically been to the east-northeast towards the Rio Grande, and groundwater contour modeling results from the April 2019 event are consistent with the historical trend. **Attachment 3** presents the groundwater elevation contour map based on depth-to-water measurements recorded from the site's nine existing groundwater monitoring wells on 04/04/19. The contour map was developed using data from the site survey performed on 03/26/15, new data for replacement well MW-5R from a survey performed on 06/21/16, and new data for wells MW-6, MW-6R, MW-7, and MW-7R from a survey performed on 06/11/18. The survey data indicate that the current groundwater table ranges in elevation from 4990.27 feet above mean sea level (fmsl) in upgradient well MW-5 to 4972.61 fmsl in downgradient well MW-3. The groundwater flow direction is generally northeastward, following a hydraulic gradient of 0.0061 ft/ft (**Attachment 3**). Assuming a saturated hydraulic conductivity (K_{SAT}) of 3.28×10^{-7} ft/sec to 3.28×10^{-5} ft/sec (10^{-5} cm/sec to 10^{-3} cm/sec, *Freeze and Cherry, 1979*) and an effective porosity (n) of 0.45 (*Domenico and Schwartz, 1998*) for semi-consolidated silty sand, the average linear groundwater velocity ranges from approximately 0.139 ft/year to 13.9 ft/year.

4.0 LABORATORY ANALYTICAL RESULTS

Groundwater samples were analyzed by Hall Environmental Analysis Laboratory (HEAL) of Albuquerque, NM, using applicable EPA methods or their approved equivalents. A review of the quality assurance/quality control (QA/QC) data provided by the laboratory indicates that applicable QA/QC criteria have been met for this event. Laboratory analytical results for the April 2019 sampling event are summarized in **Attachment 5**. The corresponding laboratory reports and chain-of-custody documentation are provided in **Attachments 6**; which also provides the laboratory practical quantitation limits (PQLs).

4.1 Laboratory Quality Assurance/Quality Control

The following quality assurance/quality control (QA/QC) samples were collected and analyzed for the volatile organic compounds (VOCs) listed in Subsection A of 20.9.9.20 NMAC to ensure field-sampling quality and laboratory reproducibility:

- One field blank (labeled "FB") collected in the vicinity of well MW-5R on 04/04/19
- One duplicate sample (labeled "Dupe") collected from well MW-5R on 04/04/19
- One field blank (labeled "FB-2") collected in the vicinity of well MW-3 on 04/12/19

In addition, one trip blank, prepared and sealed by the laboratory, was included with each day's

samples to ensure sample quality. The field blank was prepared by filling sample containers with VOC-free deionized water (provided by the laboratory) in proximity to the gasoline-powered generator. No VOCs were reported as detected in the duplicate, field blank, or trip blank QA/QC samples.

4.2 Laboratory Analytical Results

Organic Parameters

Groundwater samples collected from wells MW-2, 3, 5R, 6R, and 7R were analyzed for the full 20.9.9.20 NMAC, Subsection A&C organic parameters, and the laboratory analytical results were compared to the corresponding established AML. No organic parameter was reported as detected above the respective laboratory PQL in any of the groundwater samples.

Inorganic Parameters

Groundwater samples collected from wells MW-2, 3, 5R, 6R, and 7R were also analyzed for the full list of 20.9.9.20 NMAC Subsection A&C inorganic parameters; and the laboratory analytical results were compared to the corresponding established AML. With the exceptions of the parameters listed in **Table 1**, no inorganic parameter exceeded its respective, established AML. **Table 1** provides a summary of the inorganic parameters for which the established AML has been met or exceeded. As required, notification of AML exceedances based on preliminary laboratory data was provided to NMED Solid Waste Bureau on 05/22/19 (**Attachment 7.1**).

Table 1

Summary of Inorganic Parameters That Meet or Exceed the Established AML

Well I.D.	Sample Date	Parameter	Analytical Result (mg/L)	Established AML (mg/L)	Regulatory Presumptive AML (mg/L)	Established UTLV (mg/L)
MW-2	04/12/19	Chromium	0.026	0.026	0.025	0.052
		Iron	2.3	1.43	0.75	6.654
		Manganese	0.44	0.15	0.15	0.304
		Arsenic	0.012	0.0057	0.005	0.0079
		Combined radium	2.877	2.5	2.5	3.22
MW-3	04/12/19	Chromium	0.10	0.027	0.025	0.078
		Iron	2.2	0.91	0.75	6.135
		Arsenic	0.0085	0.0069	0.005	0.01
		Manganese	0.94	0.15	0.15	N/A
MW-7R	04/04/19	Fluoride	0.96	0.86	0.8	0.9776
		Nitrate	6.6	5.0	5.0	N/A
		Arsenic	0.0064	0.0064	0.005	0.007

Notes:

- N/A indicates UTLV not assigned for this parameter
- ***Bold Italics*** indicates that Established UTLV has been met or exceeded
- Established AMLs and Established UTLVs for well MW-7 are used for evaluating well MW-7R monitoring results

Well MW-2

Chromium

The concentration of chromium in well MW-2 (i.e., 0.026 mg/L) meets the established AML of 0.026 mg/L, but remains below the established UTLV of 0.052 mg/L. Comparison of historical total and dissolved chromium concentrations in well MW-2 (06/2016) indicate that chromium exists primarily in particulate form, likely as a suspended sediment. The chromium detection is, therefore, attributable to a source other than the landfill.

Iron

The concentration of iron in well MW-2 (i.e., 2.3 mg/L) exceeds the established AML of 1.43 mg/L, but remains below the established UTLV of 6.654 mg/L. Comparison of historical total and dissolved iron concentrations in well MW-2 (06/2016) indicate that iron exists primarily in particulate form, likely as a suspended sediment. The iron detection is, therefore, attributable to a source other than the landfill.

Manganese

The concentration of manganese in Well MW-2 (i.e., 0.44 mg/L) exceeds the established AML of 0.15 mg/L, as well as the established UTLV of 0.304 mg/L. Comparison of historical total and dissolved manganese concentrations in well MW-2 (06/2016) indicate that manganese exists primarily in particulate form, likely as a suspended sediment. The manganese detection is, therefore, attributable to a source other than the landfill.

Arsenic

The concentration of arsenic in well MW-2 (i.e., 0.012 mg/L) exceeds the established AML of 0.0057 mg/L, as well as the established UTLV of 0.0079 mg/L. Comparison of historical total and dissolved arsenic concentrations in well MW-2 (06/2016) indicate that arsenic exists primarily in particulate form, likely as a suspended sediment. The arsenic detection is, therefore, attributable to a source other than the landfill.

Combined Radium

The concentration of combined radium in well MW-2 (i.e., 2.877 pCi/L) exceeds the established AML of 2.5 pCi/L, but remains below the established UTLV of 3.22 pCi/L. The April 2019 analytical result is within the historical dataset range for well MW-2 (i.e., 1.189 pCi/L to 3.22 pCi/L), and is likely attributable to natural fluctuations in groundwater quality.

Well MW-3

Chromium

The concentration of chromium in well MW-3 (i.e., 0.10 mg/L) exceeds the established AML of 0.027 mg/L, as well as the established UTLV of 0.078 mg/L. Comparison of historical total and dissolved chromium concentrations in well MW-3 (06/2016) indicate that chromium exists primarily in particulate form, likely as a suspended sediment. The chromium detection is, therefore, attributable to a source other than the landfill.

Iron

The concentration of iron in well MW-3 (i.e., 2.2 mg/L) exceeds the established AML of 0.91 mg/L, but remains below the established UTLV of 6.135 mg/L. Comparison of historical total and dissolved iron concentrations in well MW-3 (06/2016) indicate that iron exists primarily in particulate form, likely as a suspended sediment. The iron detection is, therefore, attributable to a source other than the landfill.

Arsenic

The concentration of arsenic in well MW-3 (i.e., 0.0085 mg/L) exceeds the established AML of 0.0069 mg/L, but remains below the established UTLV of 0.01 mg/L. Comparison of historical total and dissolved arsenic concentrations in well MW-3 (06/2016) indicate that arsenic exists primarily in particulate form, likely as a suspended sediment. The arsenic detection is, therefore, attributable to a source other than the landfill.

Manganese

The concentration of manganese in Well MW-3 (i.e., 0.94 mg/L) exceeds the established AML of 0.15 mg/L. Comparison of historical total and dissolved manganese concentrations in well MW-3 (06/2016) indicate that manganese exists primarily in particulate form, likely as a suspended sediment. The manganese detection is, therefore, attributable to a source other than the landfill.

Well MW-7R

Fluoride

The concentration of fluoride in downgradient replacement well MW-7R (i.e., 0.96 mg/L) exceeds the established AML of 0.86 mg/L, but remains below the established UTLV of 0.9776 mg/L for well MW-7. The April 2019 analytical result is within historical dataset range for well MW-7 (i.e., 0.72 mg/L to 1.2 mg/L), and is likely attributable to natural fluctuations in groundwater quality.

Nitrate

Nitrate was reported as detected at a concentration of 6.6 mg/L, higher than the established AML of 5.0 mg/L; however, a UTLV has not been established for this parameter for well MW-7. The April 2019 analytical result is likely a result of natural fluctuations in groundwater quality for this replacement well.

Arsenic

The concentration of arsenic in well MW-7R (i.e., 0.0064 mg/L) meets the established AML of 0.0064 mg/L, but remains below the established UTLV of 0.007 mg/L. The April 2019 analytical result is within the historical dataset range for well MW-7R (i.e., 0.005 mg/L to 0.007 mg/L), and is likely attributable to natural fluctuations in groundwater quality.

5.0 DETECTIONS OF PARAMETERS EXCLUDED FROM ALTERNATE LIST

Six (6) parameters were reported as detected that were previously excluded from the site's alternate parameter list. With the exception of combined radium in well MW-2, all detections in each well were reported at concentrations well below their respective established AML. The data suggest that the parameters listed in **Table 2** are naturally occurring and not due to contributions from the landfill. Therefore, with SWB approval, these parameters will continue to be excluded from the site's alternate parameter list (**Attachment 2**).

TABLE 2
Summary of Detected Parameters Previously
Excluded from Approved Alternate Parameter List

Parameter	Well	Analytical Result	Established AML
Boron	MW-2	0.23	0.5625
	MW-3	0.23	
	MW-5R	0.32	
	MW-6R	0.31	
	MW-7R	0.25	
Copper	MW-2	0.0081	0.75
Molybdenum	MW-2	0.011	0.75
	MW-3	0.009	
Nickel	MW-2	0.012	0.15
	MW-3	0.020	
Combined Radium	MW-2	2.877	2.5
	MW-3	1.148	2.63
	MW-5R	0.886	2.5
	MW-6R	1.686	2.5
	MW-7R	1.032	2.5
Selenium	MW-7R	0.0065	0.025

Notes:

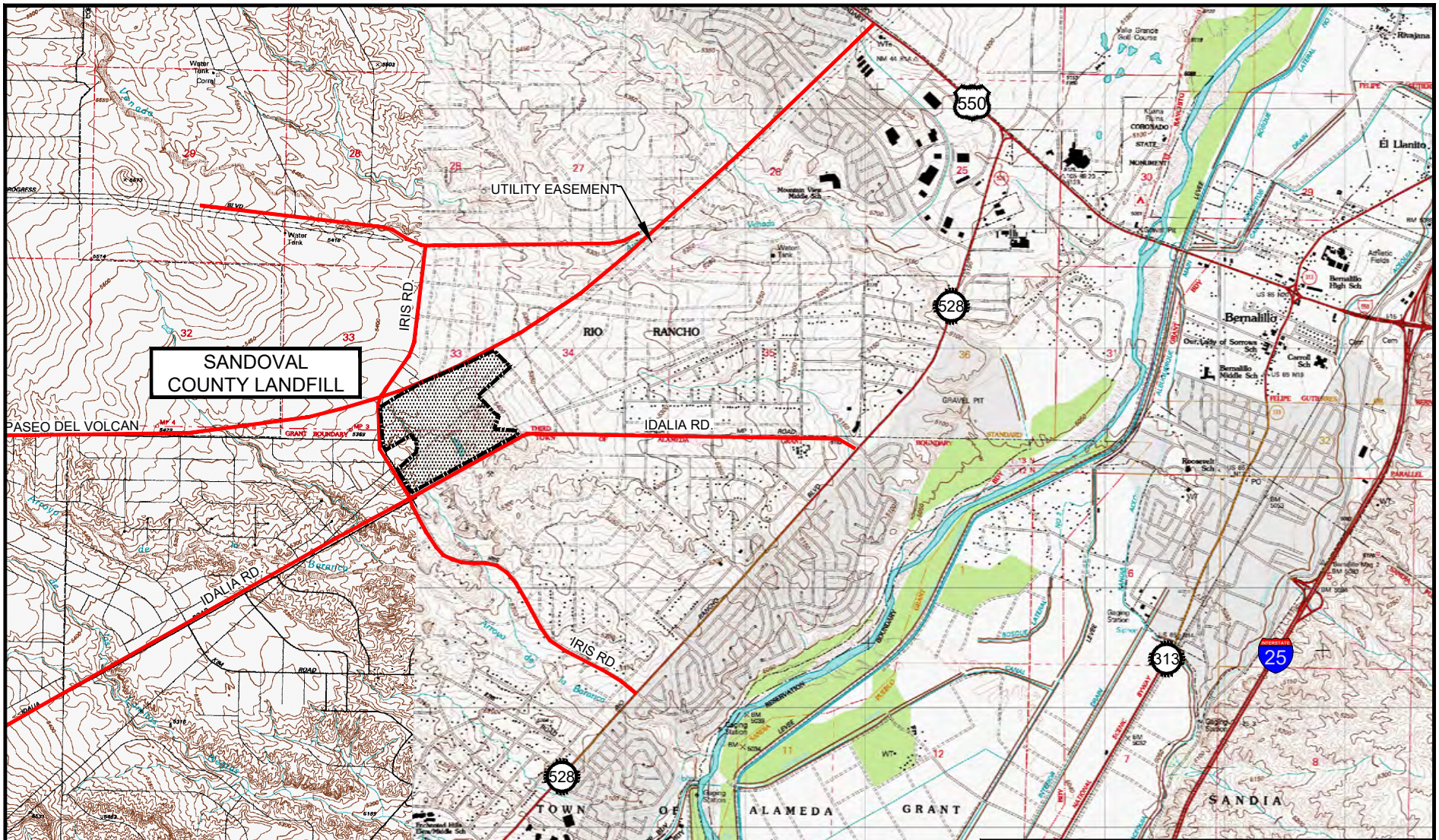
- With the exception of combined radium, all values expressed in mg/L.
- Combined radium expressed in pCi/L

6.0 SUMMARY AND CONCLUSIONS

The values of detected parameters are generally consistent with values reported for previous monitoring events; and the geochemical signature of site groundwater remains consistent with background water quality. Therefore, it is recommended that annual groundwater sampling at wells MW-2, 3, 5R, 6R, and 7R for the current approved alternate parameter list (**Attachment 2**) continue at the site. The analytical data evaluation and conclusions presented in this Report have been reviewed and verified by a Qualified Groundwater Scientist; and the Certification Statement of Mr. Michael J. Crepeau, P.E., is provided as **Attachment 8**.

**GROUNDWATER MONITORING REPORT
SANDOVAL COUNTY LANDFILL
APRIL 2019 SAMPLING EVENT**

ATTACHMENT 1
Site Location Map



MAP REFERENCE:
 BERNALILLO, NM (2006), AND LOMA MACHETE, NM (1996),
 USGS 7.5' SERIES, 1:24,000 SCALE, TOPOGRAPHIC QUADRANGLE MAPS.



SITE LOCATION MAP

SANDOVAL COUNTY LANDFILL
 RIO RANCHO, NEW MEXICO



333 Rio Rancho Blvd. N.E.
 Rio Rancho, New Mexico
 Phone: 505-867-6990
 Fax: 505-867-6991

Drawing: X:\2018\0041.18\03_DSGN\01_DWG\050_CIVIL\Monitoring\SITE LOCATION MAP 83-13-M.dwg
 Date/Time: Jun. 12, 2019-12:28:08 ; LAYOUT: A (LS)
 Copyright © All Rights Reserved, Gordon Environmental/PSC 2019

DATE: 06/12/2019	CAD: SITE LOCATION MAP.dwg	PROJECT # 01010418
DRAWN BY: BSB	REVIEWED BY: MJC	FIGURE 1
APPROVED BY: MJC	www.team-psc.com	

**GROUNDWATER MONITORING REPORT
SANDOVAL COUNTY LANDFILL
APRIL 2019 SAMPLING EVENT**

ATTACHMENT 2

Approved Alternate Parameter List and Monitoring Schedule

Attachment 2 - Approved Alternate parameter List And Monitoring Schedule

Subsection A Inorganic Parameters	Sampling Frequency	
	Annual	5 Years
Heavy Metals		
Fluoride, F	X	X
Chloride, Cl ⁻	X	X
Nitrate as N, NO ₃ -N	X	X
Sulfate, SO ₄ ²⁻	X	X
Aluminum, Al	X	X
Barium, Ba	X	X
Beryllium, Be		X
Boron, B		X
Cadmium, Cd		X
Chromium, Cr	X	X
Cobalt, Co	X	X
Copper, Cu		X
Iron, Fe	X	X
Manganese, Mn	X	X
Molybdenum, Mo		X
Nickel, Ni		X
Silver, Ag		X
Vanadium, V		X
Zinc, Zn	X	X
Antimony , Sb		X
Arsenic, As	X	X
Lead, Pb	X	X
Selenium, Se		X
Thallium, Tl		X
Uranium, U	X	X
Mercury, Hg		X
Cyanide, CN ⁻		X
Radioactivity		
Combined Radium, Ra 226 & Ra 228		X
Physical Parameters		
Total Dissolved Solids (TDS)	X	X
pH	X	X
Subsection C Inorganic Parameters	Sampling Frequency	
	Annual	5 Years
Phosphate, PO ₄ ²⁻	X	X
Calcium	X	X
Magnesium	X	X
Potassium	X	X
Sodium	X	X
Total Organic Carbon (TOC)	X	X
Ammonia	X	X
Total Nitrogen (TN)	X	X
Total Kjeldahl Nitrogen (TKN)	X	X
Physical Parameters		
Bicarbonate (as CaCO ₃)	X	X
Carbonate (as CaCO ₃)	X	X
Specific Conductance (SC)	X	X
Field Temperature	X	X
Depth to Water	X	X
Groundwater Elevation	X	X

Approved 08/09/2009; next 5th year event scheduled for 2024

(PAGE 1 OF 2)

Attachment 2 - Approved Alternate parameter List And Monitoring Schedule

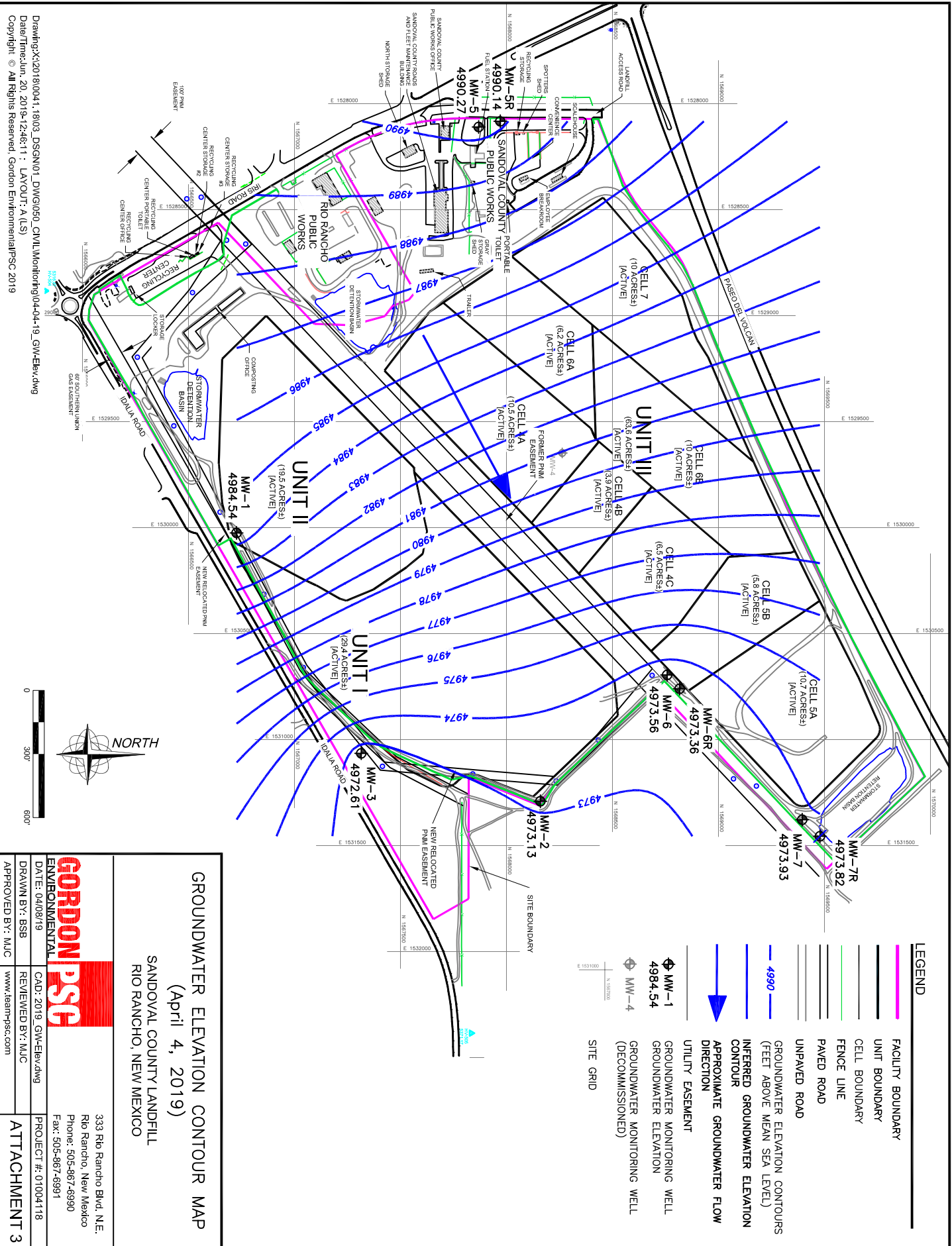
Subsection A Organic Parameters	Sampling Frequency	
	Annual	5 Years
EDB & DBCP		
1,2-Dibromo-3-chloropropane (DBCP)	X	X
1,2-Dibromoethane (Ethylene dibromide, EDB)	X	X
Polychlorinated Biphenyls (PCBs)		X
Polycyclic Aromatic Hydrocarbons (PAHs)		
Naphthalene plus monomethylnaphthalenes		X
Benzo(a)pyrene		X
Volatile Organic Compounds		
Benzene	X	X
Toluene	X	X
Ethylbenzene	X	X
1,2-Dichloroethane (EDC)	X	X
Acetone	X	X
Acrylonitrile	X	X
Bromochloromethane	X	X
Bromodichloromethane	X	X
Bromoform	X	X
Bromomethane (Methyl bromide)	X	X
2-Butanone (Methyl ethyl ketone)	X	X
Carbon Disulfide	X	X
Carbon Tetrachloride	X	X
Chlorobenzene	X	X
Chloroethane (Ethyl Chloride)	X	X
Chloroform (Trichloromethane)	X	X
Chloromethane (Methyl chloride)	X	X
cis-1,2-Dichloroethene	X	X
cis-1,3-Dichloropropene	X	X
Dibromochloromethane	X	X
Dibromomethane (Methylene Bromide)	X	X
1,2-Dichlorobenzene (o-Dichlorobenzene)	X	X
1,4 Dichlorobenzene (p-Dichlorobenzene)	X	X
1,1-Dichloroethane	X	X
1,1-Dichloroethene (1,1-DCE)	X	X
1,2-Dichloropropane	X	X
2-Hexanone	X	X
Iodomethane (Methyl iodide)	X	X
4-Methyl-2-pentanone (MIBK)	X	X
Methylene chloride (Dichloromethane, DCM)	X	X
Styrene	X	X
1,1,1,2-Tetrachloroethane	X	X
1,1,2,2-Tetrachloroethane	X	X
Tetrachloroethene (PCE)	X	X
trans-1,2-Dichloroethene	X	X
trans-1,3-Dichloropropene	X	X
trans-1,4-Dichloro-2-butene	X	X
1,1,1-Trichloroethane (TCA)	X	X
1,1,2-Trichloroethane	X	X
Trichloroethene (1,1,2-Trichloroethylene, TCE)	X	X
Trichlorofluoromethane (CFC 11)	X	X
1,2,3-Trichloropropane	X	X
Vinyl Chloride	X	X
Vinyl Acetate	X	X
Xylenes (Total)	X	X
Semivolatile Organic Compounds (SVOCs)		
Phenolics	X	X

Approved 08/09/2009; next 5th year event scheduled for 2024

**GROUNDWATER MONITORING REPORT
SANDOVAL COUNTY LANDFILL
APRIL 2019 SAMPLING EVENT**

ATTACHMENT 3

Groundwater Elevation Contour Map
(April 4, 2019)



**GROUNDWATER MONITORING REPORT
SANDOVAL COUNTY LANDFILL
APRIL 2019 SAMPLING EVENT**

ATTACHMENT 4

Groundwater Sampling Field Data, Monitoring Well Details, & Field Notes

**Groundwater Monitoring Report
Sandoval County Landfill
April 2019 Sampling Event**

Attachment 4 - Groundwater Monitoring Well and Field Data Summary

Groundwater Sampling Field Data

Well I.D.	Sampling Date	Top of Well Elevation⁽¹⁾ (fmsl)	Depth to Water⁽²⁾ (fbtow)	Temperature⁽³⁾ (°C)	pH⁽³⁾ (standard units)	Specific Conductivity⁽³⁾ (mS/cm)	Purge Volume⁽⁴⁾ (gal)	Groundwater Elevation (fmsl)
MW-1	NS	5324.82	340.28	NS	NS	NS	NS	4984.54
MW-2	04/12/19	5416.19	443.06	19.1	7.47	648	0.25	4973.13
MW-3	04/12/19	5376.25	403.64	18.1	7.57	667	0.25	4972.61
MW-5	NS	5364.40	374.13	NS	NS	NS	NS	4990.27
MW-5R	04/04/19	5366.52	376.38	20.9	7.67	868	110	4990.14
MW-6	NS	5423.65	450.09	NS	NS	NS	NS	4973.56
MW-6R	04/04/19	5421.99	448.63	19.6	7.64	745	89	4973.36
MW-7	NS	5365.00	391.07	NS	NS	NS	NS	4973.93
MW-7R	04/04/19	5363.32	389.50	19.4	7.67	570	80	4973.82

Notes:

⁽¹⁾ Monitoring well survey data current as of 03/26/2015 for wells MW-1 through MW-5, 06/21/16 for well MW-5R, and 06/11/18 for wells MW-6 through MW-7R

⁽²⁾ Recorded prior to the purging procedure. Recorded for all wells on 04/04/19.

⁽³⁾ Stabilized field parameter values during the purging procedure. Wells MW-2 and MW-3 were sampled before the confirmation of parameter stabilization.

⁽⁴⁾ Volume of water purged prior to sample collection.

fmsl: feet above mean sea level

fbtow: feet below top of wellhead (for wells MW-5R, MW-6R, and MW-7R feet below top of sounding tube)

NS: Not Sampled

**Groundwater Monitoring Report
Sandoval County Landfill
April 2019 Sampling Event**

Attachment 4 - Groundwater Monitoring Well and Field Data Summary

Well I.D.	Well Construction Material	Well Diameter (in.)	Top of Well Elevation ^(1, 2) (fmsl)	Ground Elevation ⁽¹⁾ (fmsl)	Total Depth (fbtow)	Boring Depth (fbgs)	Screen Length (ft.)	Location ^(1, 2)		Well Completion Date
								Northing	Easting	
MW-1	Sch 80 PVC	4	5324.82	5322.45	342.92	340	30	1566727.43	1530025.087	6/10/1993
MW-2	Sch 80 PVC	4	5416.19	5414.11	450.64	448	30	1568159.39	1531290.849	4/12/1996
MW-3	Sch 80 PVC	4	5376.25	5374.32	411.47	410	30	1567315.35	1531065.172	4/2/1996
MW-5	SDR 17 PVC	4.5	5364.40	5362.38	381.57	384	30	1567869.08	1528110.294	8/11/2003
MW-5R	Sch 80 PVC	5	5366.52	5363.93	411.12	430	40	1567970.78	1528082.99	4/15/2016
MW-6	Sch 40 PVC	4	5423.65	5421.90	458.85	462	30	1568758.24	1530695.53	1/28/2004
MW-6R	Sch 80 PVC	5	5421.99	5,418.85	487.14	495	40	1568816.59	1530759.48	5/31/2018
MW-7	Sch 40 PVC	4	5365.09	5363.30	399.89	404	30	1569394.45	1531378.28	3/5/2004
MW-7R	Sch 80 PVC	5	5363.32	5360.39	427.93	430	40	1569430.16	1531418.57	3/19/2018

Notes:

⁽¹⁾ Monitoring well survey data current as of 03/26/2015 for wells MW-1 through MW-5, 06/21/16 for well MW-5R, and 06/11/18 for wells MW-6 through MW-7R

⁽²⁾ Well elevation and location data for wells MW-5R, MW-6R, and MW-7R as recorded at sounding tube.

fmsl: feet above mean sea level

fbtow: feet below top of wellhead

fbgs: feet below ground surface

Groundwater Monitoring Field Notes

Well ID: HW-2 Date: 4/4/19
 Depth-to-water: 443.06 Ambient Temperature: 59
 Total Depth: 450.64 Wind Direction/Speed: East / 3 mph
 Measured from: North / Sanding hole Recent Precipitation: 3/31/19; 0.12 in

Time	Gallons Removed	°C	pH	SC units	Observations	Pumping Rate

Volume Purged: 0 gallons
 Field Blank:
 Duplicate:
 Filtered:
 Sampler(s): Braden Belliveau Name: Andy Yukas
 Signature: [Signature] Signature: [Signature]

Site: Sandoval County Landfill
 Samplers: BSB/ANY
 Observers:
 Site/Well Condition: Good / Good

Equipment Information

Sampling Method:

$$\begin{aligned} \text{One Well Volume (feet, gallons)} &= \frac{450.64 - 443.06}{(Total\ Depth - DTW) = \text{well column}} = \frac{7.58}{\text{feet}} \\ &= \frac{7.58}{(Well\ Column \times 0.65) = 1\ \text{well-volume}} \times 0.65 = \frac{4.93}{\text{gallons}} \\ \text{Three Well Volumes} &= \frac{4.93}{1\ \text{well-volume} \times 3 = 3\ \text{well-volumes}} \times 3 = \frac{14.8}{\text{gallons}} \end{aligned}$$

Pump Make: Grundfos® Refi-Flo 4

Pump On: 1105 Water Out:

Generator Fuel:				Electric Pump	
Beginning	Mid	Final			
Hz	100 Hz		100		
disch. Rate					

Notes: Stopped pumping at 1150.
No discharge. Water in cup will bubble vigorously and then stop suddenly as if pump has lost prime.

Groundwater Monitoring Field Notes

Well ID: 7W-2 Date: 4/12/19
 Depth-to-water: N/A Ambient Temperature: 47°F
 Total Depth: 450.64 Wind Direction/Speed: SE 10 mph
 Measured from: N - Top of Wellhead Recent Precipitation: 3/31/19; 0.12 in

Time	Gallons Removed	°C	pH	SC units/μS	Observations	Pumping Rate
1305	0.1	19.1	7.47	648	Foul Smelling / Sulfurous, Cloudy	—
1319	7.0	18.5	7.60	623	less odor less cloudy	—
1321	7.25	—	—	—	—	—

Volume Purged: 0.25 gallons
 Field Blank: —
 Sample Start: 1306 Duplicate: —
 Sample End: 1317 Filtered: —

Sampler(s): Braden Belliveau
 Name: Braden Belliveau
 Signature: [Signature]

Site: Sandoval County Landfill
 Samplers: BSB
 Observers: —
 Site/Well Condition: Good / Good

Equipment Information

Sampling Method:

One Well Volume (feet, gallons) $(\frac{450.64}{1}) \times 0.65 = \frac{293.017}{1}$ = 293.017 gallons

Three Well Volumes $(\frac{293.017}{1}) \times 3 = \frac{879.051}{1}$ = 879.051 gallons

Pump Make: Grundfos® Refi-Flo 4
 Pump On: 1240 Water Out: 1305

Generator Fuel:				Electric Pump	
Beginning	Mid	Final			
Hz	24	62	100		
disch. Rate					

Notes: 1248: 98 Hz, Rapid bubbling then a sudden stop to bubbles

Groundwater Monitoring Field Notes

Well ID: 11W-3 Date: 4/4/2019
 Depth-to-water: 403.64 Ambient Temperature: 64°F
 Total Depth: 411.47 Wind Direction/Speed: Wst 15 mph
 Measured from: N-Top Wellhead Recent Precipitation: 3/31/19; 0.12 in

Time	Gallons Removed	°C	pH	SC units μS	Observations	Pumping Rate
1308	1.0	19.4	7.57	645	Slightly gray, No odor	—
1318	3.0	20.4	7.62	643	Silly, No odor	—

Volume Purged: 6.0 gallons
 Field Blank: —
 Duplicate: —
 Sample Start: —
 Sample End: —
 Filtered: No
 Sampler(s): Bradley Belliveau
 Name: Andy Yumas
 Signature: [Signature]

Site: Sandoval County Landfill
 Samplers: RSS/ANY
 Observers: —
 Site/Well Condition: Good / Good

Equipment Information

Sampling Method:

$$\begin{aligned} \text{One Well Volume (feet, gallons)} &= \frac{411.47 - 403.64}{(Total\ Depth - DTW) = \text{well column}} = 7.83 \text{ feet} \\ &= 7.83 \times 0.65 = 5.09 \text{ gallons} \\ \text{Three Well Volumes} &= 5.09 \times 3 = 15.3 \text{ gallons} \\ &= 1 \text{ well-volume} \times 3 = 3 \text{ well-volumes} \end{aligned}$$

Pump Make: Grundfos® Refi-Flo 4

Pump On: 12:18 Water Out: 11:306

Generator Fuel:				Electric Pump	
	Beginning	Mid	Final		
Hz	100	100	100		
disch. Rate	—	—	—		

Notes: Surging, Overloading controller at 79 amps / 34 Hz.
Pump back on at 1403, Unable to produce GW for sampling.

Groundwater Monitoring Field Notes

Well ID: YW-3 Date: 4/12/19
 Depth-to-water: 403.53 Ambient Temperature: 46
 Total Depth: 411.47 Wind Direction/Speed: East 10 mph
 Measured from: N-Top of Wellhead Recent Precipitation: 3/31/19; 0.12 in

Time	Gallons Removed	°C	pH	SC units μS	Observations	Pumping Rate
1112					405.46' DTW	48 hz
1115					406.06 DTW	86 hz
1118					406.06 DTW	98 hz
1124					406.06 DTW	100 hz
1134	0.1	18.1	7.57	667	Slightly Cloudy No Odor	100 hz
1145	3.5	18.6	7.66	624	Slightly Cloudy No Odor	—

Volume Purged: 0.25 gallons
 Field Blank: 1201
 Duplicate: —
 Filtered: No

Sample Start: 1136
 Sample End: 1144
 Sampler(s): Braden Belliveau
 Name: Braden Belliveau
 Signature: [Signature]

Site: Sandoval County Landfill

Samplers: RSB

Observers: —

Site/Well Condition: Good/Good

Equipment Information

Sampling Method:

$$\begin{aligned} \text{One Well Volume (feet, gallons)} &= \frac{411.47 - 403.53}{(\text{Total Depth} - \text{DTW}) = \text{well column}} = \frac{7.94}{1 \text{ well-volume}} \text{ feet} \\ &= \frac{7.94}{1 \text{ well-volume}} \times 0.65 = \frac{5.16}{1 \text{ well-volume}} \text{ gallons} \\ \text{Three Well Volumes} &= \frac{5.16}{1 \text{ well-volume}} \times 3 = \frac{15.5}{3 \text{ well-volumes}} \text{ gallons} \end{aligned}$$

Pump Make: Grundfos® Refi-Flo 4

Pump On: 1109 Water Out: 1134

Generator Fuel:				Electric Pump	
	Beginning	Mid	Final		
H ₂	24	100	100		
disch. Rate					

Notes: Reverser, Strong bubbling then
Stopping when pump is at 100 hz
Water out

Groundwater Monitoring Field Notes

Well ID: HW-5R Date: 4/4/2019
 Depth-to-water: 376.38 Ambient Temperature: 52°F
 Total Depth: 411.12 Wind Direction/Speed: 0/-
 Measured from: Top PVC Sanding Recent Precipitation: 3/31/19; 0.12 in

Time	Gallons Removed	°C	pH	SC units, <u>SES</u>	Observations	Pumping Rate
0929	4.0	18.1	7.16	879	clear, sulfur odor	—
0933	13.0	19.1	7.55	861	clear, No Odor	—
0939	30.0	20.2	7.59	874	dr, no odor	—
0945	45.0	20.8	7.58	875	"	377.74
0950	60	20.4	7.69	880	"	—
0956	75	20.8	7.66	868	"	377.85
1002	90	20.7	7.65	870	"	377.74
1006	100	20.9	7.64	866	"	—
1009	108	20.9	7.67	868	"	—

Volume Purged: 110 gallons
 Field Blank: 1025
 Sample Start: 1010 Duplicate: 1017
 Sample End: 1020 Filtered: No

Sampler(s): Braden Belliveau Name: Andy Yuhas
 Signature: [Signature] Signature: [Signature]

Site: Sandoval County Landfill
 Samplers: BGS/ANY
 Observers: —
 Site/Well Condition: Good / Good

Equipment Information

Sampling Method:

$$\begin{aligned} \text{One Well Volume (feet, gallons)} &= \frac{(411.50 - 376.38) \times 3.14 \times 3.5^2}{4} = 35.12 \text{ feet} \\ &= \frac{35.12 \times 7.48}{1} = 35.82 \text{ gallons} \\ \text{Three Well Volumes} &= 35.82 \times 3 = 107.5 \text{ gallons} \end{aligned}$$

Pump Make: Grundfos® Refi-Flo 4
 Pump On: 0925 Water Out: 0927

Generator Fuel:			
Beginning	Mid	Final	
Hz	90	—	—
disch. Rate			

Electric Pump

Notes: Controller - Rev

Groundwater Monitoring Field Notes

Well ID: 7W-6R Date: 4/4/19
 Depth-to-water: 448.63 Ambient Temperature: 68
 Total Depth: 487.14 Wind Direction/Speed: SSE/10
 Measured from: Top PVC Recent Precipitation: 3/31/19

Time	Gallons Removed	°C	pH	SC units μS	Observations	Pumping Rate
1446	4	17.7	7.37	730	Clear, No Odor	
1450	13	18.2	7.45	739	" "	
1453	25	19.0	7.59	721	" "	450.11
1458	35	19.5	7.63	730	" "	450.12
1502	45	19.8	7.65	733	" "	450.11
1509	55	19.6	7.64	718	" "	449.58
1515	65	19.5	7.61	731	" "	—
1522	75	20.4	7.65	740	" "	449.6
1527	85	19.6	7.64	745	" "	

Volume Purged: 89 gallons
 Sample Start: 1530
 Sample End: 1542
 Field Blank: —
 Duplicate: —
 Filtered: No

Sampler(s): Braden Belliveau Name: Andy YuHAS
 Signature: [Signature] Signature: [Signature]

Site: Sandoval County Landfill

Samplers: RSB/ANY

Observers: —

Site/Well Condition: Good / Good

Equipment Information

Sampling Method:

One Well Volume (feet, gallons) $\frac{(494 - 448.63) = 45.37 \text{ feet}}{\text{(Total Depth - DTW) = well column}} \times 0.65 = \frac{29.5 \text{ gallons}}{1 \text{ well-volume}}$
 Three Well Volumes $\frac{29.5}{1 \text{ well-volume}} \times 3 = \frac{88.5 \text{ gallons}}{3 \text{ well-volumes}}$

Pump Make: Grundfos® Refi-Flo 4

Pump On: 1443 Water Out: 1445

Generator Fuel:	Electric Pump		
	Beginning	Mid	Final
Hz	100	94	—
disch. Rate			

Notes:

Groundwater Monitoring Field Notes

Well ID: 7W-7R Date: 4/4/19
 Depth-to-water: 389.50' Ambient Temperature: 68
 Total Depth: 427.93 Wind Direction/Speed: South/6
 Measured from: Top PVC Recent Precipitation: 3/31/19; 0.12 in

Time	Gallons Removed	°C	pH	SC units <u>uS</u>	Observations	Pumping Rate
1603	5	17.8	7.26	571	Hazy, Sulfur odor	391.88
1605	15	18.4	7.57	558	Clear, No odor	—
1608	25	18.9	7.58	562	" "	392.25
1610	35	19.1	7.68	563	" "	—
1613	45	19.0	7.67	565	" "	391.96
1616	55	19.2	7.66	560	" "	—
1620	65	19.2	7.70	562	" "	—
1623	75	19.4	7.67	570	" "	391.73

Volume Purged: 80 gallons
 Field Blank: —
 Sample Start: 1626 Duplicate: —
 Sample End: 1637 Filtered: No

Sampler(s): Grader Belliveau Name: Andy Yumas
 Signature: [Signature] Signature: [Signature]

Site: Sandoval County Landfill
 Samplers: RSR/ANY
 Observers: —
 Site/Well Condition: Good/Good

Equipment Information

Sampling Method:

$$\begin{aligned} \text{One Well Volume (feet, gallons)} &= \frac{(150 - 389.5)}{(Total\ Depth - DTW) = \text{well column}} = \frac{10.5}{1} \text{ feet} \\ &= 40.5 \times 0.65 = \frac{26.33}{(Well\ Column \times 0.65) = 1 \text{ well-volume}} \text{ gallons} \\ \text{Three Well Volumes} &= \frac{26.33}{1 \text{ well-volume}} \times 3 = \frac{78.98}{3 \text{ well-volumes}} \text{ gallons} \end{aligned}$$

Pump Make: Grundfos® Refi-Flo 4
 Pump On: 1559 Water Out: 1401

Electric Pump			
Generator Fuel:	Beginning	Mid	Final
Hz	94	92	—
disch. Rate			

Notes: _____

Site: Sandoval County LF

Samplers: BSS/ANY

Date: 4/4/19

Ambient Temperature: 52°F

Wind Direction/Speed: — / 0 mph

Recent Precipitation: 3/31/19 ; 0.12 in

Well ID: MW-1

Depth-to-water: 340.28

Total Depth: 342.92

Measured from: N-PVC

Notes: _____

Well ID: MW-5

Depth-to-water: 374.13

Total Depth: 381.57

Measured from: N-PVC

Notes: _____

Well ID: MW-6

Depth-to-water: 450.09

Total Depth: 458.85

Measured from: N-PVC

Notes: _____

Well ID: MW-7

Depth-to-water: 391.07

Total Depth: 399.89

Measured from: N-PVC

Notes: _____

Well ID: _____

Depth-to-water: _____

Total Depth: _____

Measured from: _____

Notes: _____

Well ID: _____

Depth-to-water: _____

Total Depth: _____

Measured from: _____

Notes: _____

Well ID: _____

Depth-to-water: _____

Total Depth: _____

Measured from: _____

Notes: _____

Well ID: _____

Depth-to-water: _____

Total Depth: _____

Measured from: _____

Notes: _____

Well ID: _____

Depth-to-water: _____

Total Depth: _____

Measured from: _____

Notes: _____

**GROUNDWATER MONITORING REPORT
SANDOVAL COUNTY LANDFILL
APRIL 2019 SAMPLING EVENT**

ATTACHMENT 5

Summary of Inorganic Parameter Analytical Results

Attachment 5 - Summary of Inorganic Parameter Analytical Results

Notes for Summary of Inorganic Parameter Analytical Results

- (1) All parameter concentrations expressed in mg/L, except for Field pH (standard units), Field SC ($\mu\text{S}/\text{cm}$), and Field Temperature ($^{\circ}\text{C}$).

The following statistical parameters were updated on 07/03/14. The well/parameter-specific statistical values (i.e., calculated BCV, calculated/established UTLV, and calculated/established AML) included in **Attachment 5** were approved by NMED on 02/09/15.

Calculated BCV (2014) = Calculated Background Concentration Value

- The simple mean (i.e., arithmetic average) of the concentrations of each parameter reported as detected a minimum of 2 times within the background data set (1996 - 03/2014). If reported as detected only once, the BCV is assigned the value of the single detection. If reported as 100% non-detect, the BCV is assigned the value of the highest laboratory practical quantitation limit (PQL) within the background data set (1996 - 2014).

Regulatory Presumptive AML = Regulatory Presumptive Assessment Monitoring Level

2014 Established AML = Established Assessment Monitoring Level

- Parameter and well-specific value defined as the greater of either the regulatory presumptive AML (05/05/10) or the calculated BCV for each well/parameter combination.

2014 Calculated UTLV = Calculated Upper Tolerance Limit Value

- Parameter and well-specific statistical value calculated via evaluation of applicable background monitoring analytical data by Sanitas®.
- Non-detects are assigned a value of $\frac{1}{2}$ the laboratory PQL for UTLV statistical calculations with Sanitas™.

2014 Established UTLV = Established Upper Tolerance Limit Value

- Equals the Calculated UTLV if Calculated UTLV > Established AML
- Parameters for which the calculated UTLV \leq the regulatory presumptive AML were not assigned an established UTLV.
- Parameters for which the background dataset contained 100% non-detects were not assigned an established UTLV.

N/A = UTLV not assigned


GWPS = Regulatory Groundwater Protection Standard (20.9.9.20 NMAC Subsection A)

Bold laboratory analytical values for the current event indicate an exceedance of the Established AML.

Bold italics laboratory analytical values for the current event indicate an exceedance of the Established UTLV.

Parenthetical values indicate the results of dissolved metals analyses.

 Indicates no sampling/analysis performed for corresponding monitoring date

 The D qualifier indicates the sample was diluted by the laboratory prior to analysis

 Field data not available. Laboratory data provided where available.

 Parenthetical values represent dissolved metals analytical results

Attachment 5 - Summary of Inorganic Parameter Analytical Results

MW-2														
PARAMETER ⁽¹⁾	03/12/12	03/13/13	03/18/14	03/25/15	06/01/16	03/08/17	06/07/18	04/12/19	2014 Calculated BCV	Regulatory Presumptive AML	2014 Established AML	2014 Calculated UTLV	2014 Established UTLV	GWPS
Fluoride, F	0.75	0.75	0.78	0.72	0.76	0.77	0.66	<0.50	0.81	0.8	0.81	1.045	1.045	1.6
Chloride, Cl ⁻	73	74	73	76	74	82	69	79	83.18	187.5	187.5	89.36	N/A	250
Nitrate as N, NO ₃ -N	<1.0	1.0	1.0	1.0	1.1	1.0	0.95	<0.50	0.94	5.0	5.0	1.4	N/A	10
Sulfate, SO ₄ ²⁻	50	50	51	52	52	51	47	38	58.56	450	450	69.76	N/A	600
Aluminum, Al	0.74	0.23	0.23	0.11	0.023	0.550	0.16	0.044	0.43	3.75	3.75	1.5	N/A	5.0
Barium, Ba	0.062	0.052	0.053	0.053	0.052	0.060	0.050	0.079	0.052	0.5	0.5	0.06729	N/A	1.0
Beryllium, Be			<0.0020					<0.0020	0.0020	0.002	0.002	0.001	N/A	0.004
Boron, B			0.24					0.23	0.24	0.5625	0.5625	0.25	N/A	0.75
Cadmium, Cd			<0.0020					<0.0020	0.0035	0.0025	0.0035	0.0037	0.0037	0.005
Chromium, Cr	0.05	0.021	0.011	0.058	0.0070 (<0.0060)	0.0390	0.016	0.026	0.026	0.025	0.026	0.052	0.052	0.05
Cobalt, Co	<0.025	<0.025	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	0.030	0.0375	0.0375	0.015	N/A	0.05
Copper, Cu			<0.0060					0.0081	0.060	0.75	0.75	0.03	N/A	1.0
Iron, Fe	5.2	1.8	1.4	1.6	0.47 (<0.020)	3.5	1.3	2.3	1.43	0.75	1.43	6.654	6.654	1.0
Manganese, Mn	0.061	<0.03	0.012	0.0075	0.0053 (0.0039)	0.0027	0.0099	0.44	0.13	0.15	0.15	0.304	0.304	0.2
Molybdenum, Mo			<0.0080					0.011	0.75	0.75	0.75	0.375	N/A	1.0
Nickel, Ni			0.013					0.012	0.013	0.15	0.15	0.025	N/A	0.2
Silver, Ag			<0.0050					<0.0050	0.01	0.025	0.025	0.005	N/A	0.05
Vanadium, V			<0.050					<0.050	0.08	—	0.0975	0.04	N/A	—
Zinc, Zn	<0.05	<0.05	<0.010	0.013	<0.010	<0.010	<0.010	0.015	0.071	7.5	7.5	0.0729	N/A	10
Antimony, Sb			<0.0010					<0.0010	0.0030	0.003	0.003	0.003	N/A	0.006
Arsenic, As	0.005	<0.005	0.0040	0.0041	0.0033 (0.0031)	0.0051	0.0041	0.012	0.0057	0.005	0.0057	0.0079	0.0079	0.01
Lead, Pb	<0.01	<0.01	<0.0010	0.0015	0.00057 (<0.00050)	0.0012	0.0010	0.0013	0.01	0.025	0.025	0.005	N/A	0.05
Selenium, Se			0.0011					<0.0010	0.0011	0.025	0.025	0.0025	N/A	0.05
Thallium, Tl			<0.0010					<0.00050	0.0017	0.001	0.0017	0.0018	0.0018	0.002
Uranium, U	<0.015	<0.015	0.0019	0.0024	0.0021	0.0020	0.0018	0.0013	0.0036	0.015	0.015	1.25	1.25	0.03
Mercury, Hg			<0.00020					<0.00020	0.001	0.001	0.001	0.0005	N/A	0.002
Total Dissolved Solids, TDS	366	366	396	350	344	368	372	353	365.36	750	750	486	N/A	1,000
Cyanide, CN ⁻			<0.01					<0.00500	0.10	0.1	0.1	0.05	N/A	0.2
Combined Radium (pCi/L)			1.189					2.877	2.37	2.5	2.5	3.22	3.22	5.0
Field pH (standard units)	7.8	7.9	7.8	7.3	7.72	7.8	8.0	7.47	7.70	6 - 9	6 - 9	7.068 - 8.305	N/A	6 - 9
Subsection A Organic Parameter	03/12/12	03/13/13	03/18/14	03/25/15	06/01/16	03/08/17	06/07/18	04/12/19	2014 Calculated BCV	Regulatory Presumptive AML	2014 Established AML	2014 Calculated UTLV	2014 Established UTLV	GWPS
Phenolics (total)	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.005	0.00375	0.00375	0.0025	N/A	0.005
Subsection C Parameters	03/12/12	03/13/13	03/18/14	03/25/15	06/01/16	03/08/17	06/07/18	04/12/19	2014 Calculated BCV	Regulatory Presumptive AML	2014 Established AML	2014 Calculated UTLV	2014 Established UTLV	GWPS
Phosphate, PO ₄	<0.5	<0.5	<0.50	<0.50	<0.50	<2.5	<0.50	<2.5	1.0	—	—	—	—	—
Calcium, Ca	39	36	38	35	38	41	37	42	41	—	—	—	—	—
Magnesium, Mg	4.6	4.2	4.2	4.0	4.4	4.6	4.3	4.9	4.8	—	—	—	—	—
Potassium, K	4.2	4.2	4.2	4.5	4.1	4.3	4.2	4.2	4.5	—	—	—	—	—
Sodium, Na	70	67	70	68	71	71	75	74	72	—	—	—	—	—
Total Organic Carbon, TOC	15	27	2.5	4.8	5.9	8.6	3.9	15	11.8	—	—	—	—	—
Ammonia as N, NH ₃ -N	<0.5	<0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	—	—	—	—	—
Total Nitrogen, TN	<1.0	1.0	1.0	1.0	1.1	1.0	<1.0	<1.0	1.0	—	—	—	—	—
Bicarbonate, HCO ₃ ⁻ (as CaCO ₃)	110	110	110	109.7	112.4	113.7	111.5	144.8	110	—	—	—	—	—
Carbonate, CO ₃ ²⁻ (as CaCO ₃)	<2.0	<2.0	<2.0	<2.0	<2.000	<2.000	<2.000	<2.000	2.0	—	—	—	—	—
Total Kjeldahl Nitrogen, TKN	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.6	—	—	—	—	—
Field Temperature (°C)	19.8	20.2	19.9	20.7	22.6	22.2	23.3	19.1	19.0	—	—	—	—	—
Field SC (mS/cm)	638	598	556	617	546	574	573	648	550	—	—	—	—	—

Attachment 5 - Summary of Inorganic Parameter Analytical Results

MW-3														
PARAMETER ⁽¹⁾	03/12/12	03/13/13	03/18/14	03/25/15	06/01/16	03/08/17	06/07/18	04/12/19	2014 Calculated BCV	Regulatory Presumptive AML	2014 Established AML	2014 Calculated UTLV	2014 Established UTLV	GWPS
Fluoride, F	0.71	0.65	0.73	0.68	0.71	0.68	<0.50	0.73	0.69	0.8	0.8	0.8417	0.8417	1.6
Chloride, Cl ⁻	75	76	76	81	76	74	78	82	80.93	187.5	187.5	87.52	N/A	250
Nitrate as N, NO ₃ -N	1.1	1.1	1.1	1.1	1.2	1.1	1.1	<0.50	1.1	5.0	5.0	1.3	N/A	10
Sulfate, SO ₄ ²⁻	55	52	54	55	54	55	52	63	60.93	450	450	69.18	N/A	600
Aluminum, Al	0.80	0.35	0.038	0.022	0.36	0.22	2.0	0.14	0.33	3.75	3.75	1.5	N/A	5.0
Barium, Ba	0.064	0.056	0.047	0.049	0.060	0.052	0.056	0.070	0.050	0.5	0.5	0.06628	N/A	1.0
Beryllium, Be			<0.0020					<0.0020	0.002	0.002	0.002	0.001	N/A	0.004
Boron, B			0.22					0.23	0.22	0.5625	0.5625	0.25	N/A	0.75
Cadmium, Cd			<0.0020					<0.0020	0.0035	0.0025	0.0035	0.0037	0.0037	0.005
Chromium, Cr	0.028	0.018	0.0074	<0.0060	0.16 (<0.0060)	0.018	0.042	0.10	0.027	0.025	0.027	0.078	0.078	0.05
Cobalt, Co	<0.025	<0.025	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	0.019	0.03	0.0375	0.0375	0.015	N/A	0.05
Copper, Cu			<0.0060					<0.0060	0.06	0.75	0.75	0.03	N/A	1.0
Iron, Fe	5.10	2.20	0.27	0.32	3.5 (<0.020)	1.4	5.4	2.2	0.91	0.75	0.91	6.135	6.135	1.0
Manganese, Mn	0.047	<0.03	0.0024	0.0039	0.057 (0.0021)	0.018	0.055	0.94	0.043	0.15	0.15	0.052	N/A	0.2
Molybdenum, Mo			<0.0080					0.009	0.75	0.75	0.75	0.375	N/A	1.0
Nickel, Ni			<0.010					0.020	0.05	0.15	0.15	0.025	N/A	0.2
Silver, Ag			<0.0050					<0.0050	0.01	0.025	0.025	0.005	N/A	0.05
Vanadium, V			<0.050					<0.050	0.08	—	0.0975	0.04	N/A	—
Zinc, Zn	<0.05	<0.05	<0.010	<0.010	<0.010	<0.010	<0.010	0.013	0.061	7.5	7.5	0.0612	N/A	10
Antimony, Sb			<0.0010					<0.001	0.003	0.003	0.003	0.003	N/A	0.006
Arsenic, As	0.0083	0.0083	0.0057	0.0058	0.0080 (0.0050)	0.0056	0.0075	0.0085	0.0069	0.005	0.0069	0.01	0.01	0.01
Lead, Pb	<0.01	<0.01	<0.0010	<0.0010	0.0024 (<0.00050)	0.00072	0.0015	0.0016	0.01	0.025	0.025	0.005	N/A	0.05
Selenium, Se			0.0010					<0.0010	0.0010	0.025	0.025	0.0025	N/A	0.05
Thallium, Tl			<0.0010					<0.00050	0.0017	0.001	0.0017	0.0018	0.0018	0.002
Uranium, U	<0.015	<0.015	0.0020	0.0023	0.0025	0.0020	0.0020	0.0020	0.0032	0.015	0.015	1.25	1.25	0.03
Mercury, Hg			<0.00020					<0.00020	0.001	0.001	0.001	0.0005	N/A	0.002
Total Dissolved Solids, TDS	370	368	382	358	344	360	366	361	363.20	750	750	385.2	N/A	1,000
Cyanide, CN ⁻			<0.01					<0.00500	0.1	0.1	0.1	0.05	N/A	0.2
Combined Radium (pCi/L)			0.3198					1.148	2.63	2.5	2.63	3.77	3.77	5.0
Field pH (standard units)	7.8	7.8	7.8	7.5	7.73	7.9	7.9	7.57	7.77	6 - 9	6 - 9	7.378 - 8.314	N/A	6 - 9
Subsection A Organic Parameter	03/12/12	03/13/13	03/18/14	03/25/15	06/01/16	03/08/17	06/07/18	04/12/19	2014 Calculated BCV	Regulatory Presumptive AML	2014 Established AML	2014 Calculated UTLV	2014 Established UTLV	GWPS
Phenolics (total)	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.005	0.00375	0.00375	0.0025	N/A	0.005
Subsection C Parameters	03/12/12	03/13/13	03/18/14	03/25/15	06/01/16	03/08/17	06/07/18	04/12/19	2014 Calculated BCV	Regulatory Presumptive AML	2014 Established AML	2014 Calculated UTLV	2014 Established UTLV	GWPS
Phosphate, PO ₄	<0.5	<0.5	<0.50	<0.50	<0.50	<2.5	<2.5	<2.5	1.0	—	—	—	—	—
Calcium, Ca	41	40	39	38	41	42	40	45	42	—	—	—	—	—
Magnesium, Mg	5.2	4.9	4.5	4.4	4.9	4.7	4.8	5.0	4.8	—	—	—	—	—
Potassium, K	4.5	4.5	4.0	4.6	4.4	4.1	4.5	4.3	4.3	—	—	—	—	—
Sodium, Na	73	69	67	70	70	68	72	68	74	—	—	—	—	—
Total Organic Carbon, TOC	1.3	30	7.1	13	13	1.7	2.1	6.1	7.8	—	—	—	—	—
Ammonia as N, NH ₃ -N	<0.5	<0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	—	—	—	—	—
Total Nitrogen, TN	1.1	1.1	1.1	1.1	1.2	1.1	1.1	<1.0	1.1	—	—	—	—	—
Bicarbonate, HCO ₃ ⁻ (as CaCO ₃)	110	110	100	106.1	108.8	107.8	107.1	124.6	103	—	—	—	—	—
Carbonate, CO ₃ ²⁻ (as CaCO ₃)	<2.0	<2.0	<2.0	<2.0	<2.000	<2.000	<2.000	<2.00	2.0	—	—	—	—	—
Total Kjeldahl Nitrogen, TKN	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	—	—	—	—	—
Field Temperature (°C)	20.9	20.2	18.6	21.1	22.3	22.2	25.1	18.1	18.9	—	—	—	—	—
Field SC (mS/cm)	621	599	570	622	552	573	562	667	566	—	—	—	—	—

Attachment 5 - Summary of Inorganic Parameter Analytical Results

MW-5R	MW-5			MW-5R				2014 Calculated BCV	Regulatory Presumptive AML	2014 Established AML	2014 Calculated UTLV	2014 Established UTLV	GWPS
PARAMETER ⁽¹⁾	03/13/13	03/18/14	03/25/15	06/01/16	04/13/17	06/07/18	04/04/19						
Fluoride, F	1.60	0.70	0.75	0.70	0.65	0.58	0.71	0.77	0.8	0.8	0.9399	0.940	1.6
Chloride, Cl ⁻	160	170	180	170	170	160	180	176.00	187.5	187.5	206.4	206.4	250
Nitrate as N, NO ₃ -N	<1.0	<0.10	<0.10	0.60	0.75	0.71	0.63	1.0	5.0	5.0	0.5	N/A	10
Sulfate, SO ₄ ²⁻	<5.0	27	1.3	32	29	31	34	29.84	450	450	47.94	N/A	600
Aluminum, Al	<0.15	0.086	0.050	<0.020	9.6 (<0.020)	<0.020	<0.020	0.16	3.75	3.75	1.5	N/A	5.0
Barium, Ba	0.14	0.19	0.20	0.093	0.21	0.087	0.082	0.12	0.5	0.5	0.2291	N/A	1.0
Beryllium, Be		<0.0020		<0.0020			<0.0020	0.002	0.002	0.002	0.001	N/A	0.004
Boron, B		0.30		0.35			0.32	0.30	0.5625	0.5625	0.3	N/A	0.75
Cadmium, Cd		<0.0020		<0.0020			<0.0020	0.002	0.0025	0.0025	0.001	N/A	0.005
Chromium, Cr	0.02	0.025	0.0064	0.015 (<0.0060)	0.045	<0.0060	<0.0060	0.047	0.025	0.047	0.14	0.14	0.05
Cobalt, Co	<0.025	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	0.03	0.0375	0.0375	0.015	N/A	0.05
Copper, Cu		0.23		0.013			<0.0060	0.23	0.75	0.75	0.23	N/A	1.0
Iron, Fe	0.82	1.4	0.83	0.15 (<0.020)	11 (0.020)	0.022	0.022	1.20	0.75	1.20	1.649	1.649	1.0
Manganese, Mn	0.073	0.41	0.17	0.024 (0.023)	0.30	<0.0020	<0.0020	0.11	0.15	0.15	0.4475	0.4475	0.2
Molybdenum, Mo		0.0086		<0.0080			<0.0080	0.0086	0.75	0.75	0.375	N/A	1.0
Nickel, Ni		0.027		<0.010			<0.010	0.042	0.15	0.15	0.056	N/A	0.2
Silver, Ag		<0.0050		<0.0050			<0.0050	0.01	0.025	0.025	0.005	N/A	0.05
Vanadium, V		<0.050		<0.050			<0.050	0.08	—	0.0975	0.04	N/A	—
Zinc, Zn	0.95	1.2	2.0	0.015	0.029	<0.010	<0.010	0.80	7.5	7.5	1.3	N/A	10
Antimony, Sb		0.0018		<0.0010			<0.0010	0.0018	0.003	0.003	0.0018	N/A	0.006
Arsenic, As	0.0091	0.0062	0.0067	0.0044 (0.0042)	0.011	0.0069	0.0073	0.0080	0.005	0.008	0.012	0.012	0.01
Lead, Pb	0.013	0.011	0.025	<0.00050 (<0.00050)	0.0060	<0.00050	<0.00050	0.020	0.025	0.025	0.017	N/A	0.05
Selenium, Se		<0.0010		0.0021			<0.0010	0.005	0.025	0.025	0.0025	N/A	0.05
Thallium, Tl		<0.0010		<0.00050			<0.00050	0.001	0.001	0.001	0.0005	N/A	0.002
Uranium, U	<0.015	0.0012	0.0019	0.0024	0.0028	0.0019	0.0017	0.0026	0.015	0.015	1.25	1.25	0.03
Mercury, Hg		<0.00020		<0.00020			<0.00020	0.001	0.001	0.001	0.0005	N/A	0.002
Total Dissolved Solids, TDS	472	490	454	460	473	473	462	478.47	750	750	545.5	N/A	1,000
Cyanide, CN ⁻		<0.01		<0.01			<0.00500	0.1	0.1	0.1	0.05	N/A	0.2
Combined Radium (pCi/L)		0.953		1.333			0.886	0.953	2.5	2.5	1.25	N/A	5.0
Field pH (standard units)	7.4	7.5	7.5	7.69	8.2	8.0	7.67	7.53	6 - 9	6 - 9	6.622 - 8.435	N/A	6 - 9
Subsection A Organic Parameter	03/13/12	03/18/14	03/25/15	06/01/16	04/13/17	06/07/18	04/04/19	2014 Calculated BCV	Regulatory Presumptive AML	2014 Established AML	2014 Calculated UTLV	2014 Established UTLV	GWPS
Phenolics (total)	0.0049	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.0041	0.00375	0.00407	0.0049	0.0049	0.005
Subsection C Parameters	03/13/12	03/18/14	03/25/15	06/01/16	04/13/17	06/07/18	04/04/19	2014 Calculated BCV	Regulatory Presumptive AML	2014 Established AML	2014 Calculated UTLV	2014 Established UTLV	GWPS
Phosphate, PO ₄	<0.5	<0.50	<0.50	<0.50	<2.5	<0.50	<0.50	1.0	—	—	—	—	—
Calcium, Ca	54	50	48	48	63	45	50	45	—	—	—	—	—
Magnesium, Mg	6.3	5.7	5.4	5.2	8.5	4.9	5.4	5.1	—	—	—	—	—
Potassium, K	6.6	6.6	6.7	5.3	7.3	5.2	5.6	6.0	—	—	—	—	—
Sodium, Na	94	97	100	110	110	110	110	105	—	—	—	—	—
Total Organic Carbon, TOC	9	6.5	1.8	4.0	<1.0	1.6	1.3	8	—	—	—	—	—
Ammonia as N, NH ₃ -N	<0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	—	—	—	—	—
Total Nitrogen, TN	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.8	—	—	—	—	—
Bicarbonate, HCO ₃ ⁻ (as CaCO ₃)	140	130	138.4	104.5	102.3	101.8	100.4	119	—	—	—	—	—
Carbonate, CO ₃ ²⁻ (as CaCO ₃)	<2.0	<2.0	<2.0	<2.000	<2.000	<2.000	<2.000	2.0	—	—	—	—	—
Total Kjeldahl Nitrogen, TKN	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.4	—	—	—	—	—
Field Temperature (°C)	16.0	15.3	17.1	22.4	19.1	21.5	20.9	16.6	—	—	—	—	—
Field SC (mS/cm)	835	801	854	768	834	792	868	798	—	—	—	—	—

Attachment 5 - Comparison of Analytical Results

MW-6R	MW-6					MW-6R		2014 Calculated BCV	Regulatory Presumptive AML	(2014) Established AML	2014 Calculated UTLV	2014 Established UTLV	GWPS
PARAMETER ⁽¹⁾	03/13/13	03/18/14	03/25/15	06/01/16	03/09/17	06/07/18	04/04/19						
Fluoride, F	0.67	0.69	0.62		<0.50	0.53	0.65	0.70	0.8	0.8	0.8235	0.8235	1.6
Chloride, Cl ⁻	120	120	130		120	100	120	124.29	187.5	187.5	130	N/A	250
Nitrate as N, NO ₃ -N	<1.0	0.74	0.60		<0.50	1.1	1.2	0.89	5.0	5.0	1.0	N/A	10
Sulfate, SO ₄ ²⁻	43	44	49		<2.5	42	48	48.86	450	450	53.59	N/A	600
Aluminum, Al	0.15	0.12	0.026		0.040	<0.020	<0.020	0.15	3.75	3.75	1.5	N/A	5.0
Barium, Ba	0.056	0.055	0.069		0.10	0.050	0.050	0.053	0.5	0.5	0.06468	N/A	1.0
Beryllium, Be		<0.0020					<0.0020	0.002	0.002	0.002	0.001	N/A	0.004
Boron, B		0.32					0.31	0.32	0.5625	0.5625	0.32	N/A	0.75
Cadmium, Cd		<0.0020					<0.0020	0.002	0.0025	0.0025	0.001	N/A	0.005
Chromium, Cr	0.013	0.0064	<0.0060		0.024	<0.0060	<0.0060	0.012	0.025	0.025	0.016	N/A	0.05
Cobalt, Co	<0.025	<0.0060	<0.0060		<0.0060	<0.0060	<0.0060	0.03	0.0375	0.0375	0.015	N/A	0.05
Copper, Cu		<0.0060					<0.0060	0.06	0.75	0.75	0.03	N/A	1.0
Iron, Fe	0.22	0.14	0.14		3.4 (2.9)	0.081	0.064	0.17	0.75	0.75	0.22	N/A	1.0
Manganese, Mn	<0.03	0.0079	0.025		0.35 (0.45)	0.0040	0.0032	0.079	0.15	0.15	0.15	N/A	0.2
Molybdenum, Mo		<0.0080					<0.0080	0.75	0.75	0.75	0.375	N/A	1.0
Nickel, Ni		0.015					<0.010	0.015	0.15	0.15	0.025	N/A	0.2
Silver, Ag		<0.0050					<0.0050	0.01	0.025	0.025	0.005	N/A	0.05
Vanadium, V		<0.050					<0.050	0.08	—	0.0975	0.04	N/A	—
Zinc, Zn	<0.05	0.010	<0.010		<0.010	<0.010	<0.010	0.030	7.5	7.5	0.05	N/A	10
Antimony, Sb		<0.0010					<0.0010	0.003	0.003	0.003	0.0015	N/A	0.006
Arsenic, As	0.0078	0.0066	0.0056		0.0018	0.0062	0.0074	0.009	0.005	0.009	0.011	0.011	0.01
Lead, Pb	<0.01	<0.0010	<0.0010		<0.00050	<0.00050	<0.00050	0.01	0.025	0.025	0.005	N/A	0.05
Selenium, Se		<0.0050					<0.0010	0.005	0.025	0.025	0.0025	N/A	0.05
Thallium, Tl		<0.0010					<0.00050	0.001	0.001	0.001	0.0005	N/A	0.002
Uranium, U	<0.015	0.0024	0.0031		<0.00050	0.0018	0.0017	0.0025	0.015	0.015	1.25	1.25	0.03
Mercury, Hg		<0.00020					<0.00020	0.001	0.001	0.001	0.0005	N/A	0.002
Total Dissolved Solids, TDS	439	224	424		537	407	409	414.50	750	750	453.4	N/A	1,000
Cyanide, CN ⁻		<0.01					<0.00500	0.1	0.1	0.1	0.05	N/A	0.2
Combined Radium (pCi/L)		0.8565					1.686	0.8565	2.5	2.5	1.25	N/A	5.0
Field pH (standard units)	7.8	7.7	7.5		7.0	8.1	7.64	7.84	6 - 9	6 - 9	7.555 - 8.217	N/A	6 - 9
Subsection A Organic Parameter	03/12/13	03/18/14	03/25/15	06/01/16	03/09/17	06/07/18	04/04/19	2014 Calculated BCV	Regulatory Presumptive AML	Established AML (2014)	2014 Calculated UTLV	2014 Established UTLV	GWPS
Phenolics (total)	<0.0025	<0.0025	<0.0025		0.0058	<0.0025	<0.0025	0.003	0.00375	0.00375	0.0015	N/A	0.005
Subsection C Parameters	03/12/13	03/18/14	03/25/15	06/01/16	03/09/17	06/07/18	04/04/19	2014 Calculated BCV	Regulatory Presumptive AML	(2014) Established AML	2014 Calculated UTLV	2014 Established UTLV	GWPS
Phosphate, PO ₄	<0.5	<0.50	<0.50		<2.5	<0.50	<0.50	1.0	—	—	—	—	—
Calcium, Ca	50	45	42		56	44	45	44	—	—	—	—	—
Magnesium, Mg	5.8	5.0	4.8		5.5	4.9	5.0	5.3	—	—	—	—	—
Potassium, K	5.4	4.5	5.1		4.6	4.8	4.7	4.7	—	—	—	—	—
Sodium, Na	92	90	88		90	80	82	91	—	—	—	—	—
Total Organic Carbon, TOC	14	18	6.9		100	<1.0	<1.0	11.2	—	—	—	—	—
Ammonia as N, NH ₃ -N	<0.5	<1.0	<1.0		<1.0	<1.0	<1.0	1.0	—	—	—	—	—
Total Nitrogen, TN	<1.0	<1.0	<1.0		<1.0	1.1	1.2	1.0	—	—	—	—	—
Bicarbonate, HCO ₃ ⁻ (as CaCO ₃)	110	110	118.0		150.4	102.4	102.2	109	—	—	—	—	—
Carbonate, CO ₃ ²⁻ (as CaCO ₃)	<2.0	<2.0	<2.0		<2.000	<2.000	<2.000	2.0	—	—	—	—	—
Total Kjeldahl Nitrogen, TKN	<1.0	<1.0	<1.0		<1.0	<1.0	<1.0	1.0	—	—	—	—	—
Field Temperature (°C)	23.9	19.1	19.4		16.3	21.1	19.6	21.1	—	—	—	—	—
Field SC (mS/cm)	734	700	776		771	668	745	728	—	—	—	—	—

Attachment 5 - Comparison of Analytical Results

MW-7R	MW-7					MW-7R		2014 Calculated BCV	Regulatory Presumptive AML	2014 Established AML	2014 Calculated UTLV	2014 Established UTLV	GWPS
PARAMETER ⁽¹⁾	03/13/13	03/18/14	03/25/15	05/24/16	03/08/17	06/07/18	04/04/19						
Fluoride, F	0.84	0.85	0.78	0.80	1.2	0.86	0.96	0.86	0.8	0.86	0.9776	0.9776	1.6
Chloride, Cl ⁻	41	42	42	40	49	48	49	43.43	187.5	187.5	48	N/A	250
Nitrate as N, NO ₃ -N	2.0	2.1	0.78	<1.0	<0.10	6.2	6.6	2.6	5.0	5.0	3.2	N/A	10
Sulfate, SO ₄ ²⁻	55	55	44	51	61	43	44	62.07	450	450	84.24	N/A	600
Aluminum, Al	0.20	0.19	1.0	0.36	0.58	0.085	0.39	0.19	3.75	3.75	1.5	N/A	5.0
Barium, Ba	0.062	0.061	0.060	0.061	0.065	0.051	0.059	0.060	0.5	0.5	0.08	N/A	1.0
Beryllium, Be		<0.0020					<0.010	0.002	0.002	0.002	0.001	N/A	0.004
Boron, B		0.20					0.25	0.20	0.5625	0.5625	0.25	N/A	0.75
Cadmium, Cd		<0.0020					<0.010	0.002	0.0025	0.0025	0.001	N/A	0.005
Chromium, Cr	<0.01	0.011	0.016	0.0085 (<0.0060)	0.030	<0.0060	<0.030	0.017	0.025	0.025	0.028	0.028	0.05
Cobalt, Co	<0.025	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.030	0.03	0.0375	0.0375	0.015	N/A	0.05
Copper, Cu		<0.0060					<0.0060	0.06	0.75	0.75	0.03	N/A	1.0
Iron, Fe	0.21	0.20	0.91	0.47 (0.037)	0.99 (0.48)	0.090	0.38	0.19	0.75	0.75	0.31	N/A	1.0
Manganese, Mn	<0.03	0.022	0.050	0.020 (0.015)	0.022	0.013	0.019	0.074	0.15	0.15	0.19	0.19	0.2
Molybdenum, Mo		<0.0080					<0.040	0.75	0.75	0.75	0.375	N/A	1.0
Nickel, Ni		0.010					<0.050	0.010	0.15	0.15	0.052	N/A	0.2
Silver, Ag		<0.0050					<0.025	0.01	0.025	0.025	0.005	N/A	0.05
Vanadium, V		<0.050					<0.25	0.08		0.0975	0.04	N/A	
Zinc, Zn	<0.05	<0.010	0.023	0.015	0.023	<0.010	<0.050	0.05	7.5	7.5	0.025	N/A	10
Antimony, Sb		<0.0010					<0.0010	0.0030	0.003	0.003	0.0015	N/A	0.006
Arsenic, As	0.0070	0.0059	0.0065	0.0055 (0.0052)	0.0068	0.0048	0.0064	0.0064	0.005	0.0064	0.007	0.007	0.01
Lead, Pb	<0.01	<0.0010	0.0023	0.0015 (<0.00050)	0.0016	<0.00050	<0.00050	0.01	0.025	0.025	0.005	N/A	0.05
Selenium, Se		0.0039					0.0065	0.005	0.025	0.025	0.006	N/A	0.05
Thallium, Tl		<0.0010					<0.00050	0.001	0.001	0.001	0.0005	N/A	0.002
Uranium, U	<0.015	0.0028	0.0023	0.0022	0.0027	0.0020	0.0021	0.0031	0.015	0.015	1.25	1.25	0.03
Mercury, Hg		<0.00020					<0.00020	0.001	0.001	0.001	0.0005	N/A	0.002
Total Dissolved Solids, TDS	333	172	313	297	324	332	314	322.64	750	750	358	N/A	1,000
Cyanide, CN ⁻		<0.01					<0.00500	0.1	0.1	0.1	0.05	N/A	0.2
Combined Radium (pCi/L)		1.538					1.032	1.538	2.5	2.5	1.538	N/A	5.0
Field pH (standard units)	7.9	7.9	7.5	7.79	7.7	8.0	7.67	7.86	6 - 9	6 - 9	7.639 - 8.211	N/A	6 - 9
Subsection A Organic Parameter	03/13/13	03/18/14	03/25/15	05/24/16	03/08/17	06/07/18	04/04/19	2014 Calculated BCV	Regulatory Presumptive AML	2014 Established AML	2014 Calculated UTLV	2014 Established UTLV	GWPS
Phenolics (total)	0.0032	<0.0025	<0.0025	<0.0025	0.0029	<0.0025	<0.0025	0.0032	0.00375	0.00375	0.0015	N/A	0.005
Subsection C Parameters	03/13/13	03/18/14	03/25/15	05/24/16	03/08/17	06/07/18	04/04/19	2014 Calculated BCV	Regulatory Presumptive AML	2014 Established AML	2014 Calculated UTLV	2014 Established UTLV	GWPS
Phosphate, PO ₄	<0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	1.0	—	—	—	—	—
Calcium, Ca	39	39	36	41	44	35	36	37	—	—	—	—	—
Magnesium, Mg	4.8	4.7	4.7	5.2	5.1	4.2	4.6	4.9	—	—	—	—	—
Potassium, K	4.2	4.6	4.5	4.2	4.4	4.1	4.1	4.3	—	—	—	—	—
Sodium, Na	55	55	54	58	56	68	61	61	—	—	—	—	—
Total Organic Carbon, TOC	<1.0	3.3	76	4.6	54	<1.0	2.2	3.8	—	—	—	—	—
Ammonia as N, NH ₃ -N	<0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	—	—	—	—	—
Total Nitrogen, TN	2.0	2.1	1.9	<1.0	<1.0	6.2	6.6	2.6	—	—	—	—	—
Bicarbonate, HCO ₃ ⁻ (as CaCO ₃)	120	120	137.2	135.7	127.9	107.8	107.1	119	—	—	—	—	—
Carbonate, CO ₃ ²⁻ (as CaCO ₃)	<2.0	<2.0	<2.0	<2.000	<2.000	<2.000	<2.000	2.0	—	—	—	—	—
Total Kjeldahl Nitrogen, TKN	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	1.0	—	—	—	—	—
Field Temperature (°C)	21.4	19.3	17.4	19.9	17.5	19.8	19.4	21.1	—	—	—	—	—
Field SC (mS/cm)	519	493	535	488	511	511	570	512	—	—	—	—	—

**GROUNDWATER MONITORING REPORT
SANDOVAL COUNTY LANDFILL
APRIL 2019 SAMPLING EVENT**

ATTACHMENT 6

Laboratory Report and Chain-of-Custody Documentation
(04/04/19 and 04/12/19 Sampling Events)



*Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com*

May 06, 2019

Mike Crepeau

Gordon Environmental/PSC

333 Rio Rancho Blvd. N.E., Suite 400

Rio Rancho, NM 87124

TEL: (505) 867-6990

FAX

RE: Sandoval County Landfill

OrderNo.: 1904359

Dear Mike Crepeau:

Hall Environmental Analysis Laboratory received 6 sample(s) on 4/5/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a light blue horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1904359**

Date Reported: **5/6/2019**

CLIENT: Gordon Environmental/PSC

Client Sample ID: MW-5R

Project: Sandoval County Landfill

Collection Date: 4/4/2019 10:10:00 AM

Lab ID: 1904359-001

Matrix: AQUEOUS

Received Date: 4/5/2019 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 504.1: EDB/DBCP							Analyst: CLP
1,2-Dibromo-3-chloropropane	ND	0.019		µg/L	1	4/11/2019 3:56:49 PM	44277
1,2-Dibromoethane	ND	0.0095		µg/L	1	4/11/2019 3:56:49 PM	44277
EPA 200.8: METALS							Analyst: pmf
Antimony	ND	0.0010		mg/L	1	4/18/2019 7:22:18 PM	B59277
Arsenic	0.0073	0.0010		mg/L	1	4/18/2019 7:22:18 PM	B59277
Lead	ND	0.00050		mg/L	1	4/18/2019 7:22:18 PM	B59277
Selenium	ND	0.0010		mg/L	1	4/18/2019 7:22:18 PM	B59277
Thallium	ND	0.00050		mg/L	1	4/18/2019 7:22:18 PM	B59277
Uranium	0.0017	0.00050		mg/L	1	4/18/2019 7:22:18 PM	B59277
EPA METHOD 9060 TOC							Analyst: DAM
Total Organic Carbon	1.3	1.0		mg/L	1	4/9/2019 11:02:07 PM	R59019
EPA METHOD 300.0: ANIONS							Analyst: MRA
Fluoride	0.71	0.10		mg/L	1	4/5/2019 5:04:18 PM	R58949
Chloride	180	10		mg/L	20	4/5/2019 5:42:55 PM	R58949
Nitrogen, Nitrate (As N)	0.63	0.10		mg/L	1	4/5/2019 5:04:18 PM	R58949
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	4/5/2019 5:04:18 PM	R58949
Sulfate	34	0.50		mg/L	1	4/5/2019 5:04:18 PM	R58949
SM2510B: SPECIFIC CONDUCTANCE							Analyst: JRR
Conductivity	830	5.0		µmhos/c	1	4/9/2019 1:03:31 PM	R59004
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	100.4	20.00		mg/L Ca	1	4/9/2019 1:03:31 PM	R59004
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	4/9/2019 1:03:31 PM	R59004
Total Alkalinity (as CaCO3)	100.4	20.00		mg/L Ca	1	4/9/2019 1:03:31 PM	R59004
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS
Total Dissolved Solids	462	20.0		mg/L	1	4/10/2019 7:47:00 PM	44221
SM 4500 NH3: AMMONIA							Analyst: OG
Nitrogen, Ammonia	ND	1.0		mg/L	1	4/23/2019 4:30:00 PM	R59377
TOTAL NITROGEN							Analyst: SRM
Nitrogen, Total	ND	1.0		mg/L	1	4/22/2019 12:11:00 PM	R59316
SM4500-H+B / 9040C: PH							Analyst: JRR
pH	7.15		H S	pH units	1	4/15/2019 12:23:32 PM	R59181
SM 4500 NORG C: TKN							Analyst: OG
Nitrogen, Kjeldahl, Total	ND	1.0		mg/L	1	4/19/2019 3:00:00 PM	44436
EPA METHOD 200.7: METALS							Analyst: bcv

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1904359**

Date Reported: **5/6/2019**

CLIENT: Gordon Environmental/PSC

Client Sample ID: MW-5R

Project: Sandoval County Landfill

Collection Date: 4/4/2019 10:10:00 AM

Lab ID: 1904359-001

Matrix: AQUEOUS

Received Date: 4/5/2019 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: METALS							Analyst: bcv
Aluminum	ND	0.020		mg/L	1	4/15/2019 4:07:11 PM	C59158
Barium	0.082	0.0020		mg/L	1	4/17/2019 11:22:06 AM	B59216
Beryllium	ND	0.0020		mg/L	1	4/15/2019 4:07:11 PM	C59158
Boron	0.32	0.040		mg/L	1	4/17/2019 11:22:06 AM	B59216
Cadmium	ND	0.0020		mg/L	1	4/15/2019 4:07:11 PM	C59158
Calcium	50	1.0		mg/L	1	4/15/2019 4:07:11 PM	C59158
Chromium	ND	0.0060		mg/L	1	4/15/2019 4:07:11 PM	C59158
Cobalt	ND	0.0060		mg/L	1	4/15/2019 4:07:11 PM	C59158
Copper	ND	0.0060		mg/L	1	4/15/2019 4:07:11 PM	C59158
Iron	0.022	0.020		mg/L	1	4/17/2019 11:22:06 AM	B59216
Magnesium	5.4	1.0		mg/L	1	4/15/2019 4:07:11 PM	C59158
Manganese	ND	0.0020		mg/L	1	4/15/2019 4:07:11 PM	C59158
Molybdenum	ND	0.0080		mg/L	1	4/15/2019 4:07:11 PM	C59158
Nickel	ND	0.010		mg/L	1	4/15/2019 4:07:11 PM	C59158
Potassium	5.6	1.0		mg/L	1	4/15/2019 4:07:11 PM	C59158
Silver	ND	0.0050		mg/L	1	4/15/2019 4:07:11 PM	C59158
Sodium	110	5.0		mg/L	5	4/15/2019 4:11:25 PM	C59158
Vanadium	ND	0.050		mg/L	1	4/15/2019 4:07:11 PM	C59158
Zinc	ND	0.010		mg/L	1	4/15/2019 4:07:11 PM	C59158
EPA METHOD 245.1: MERCURY							Analyst: pmf
Mercury	ND	0.00020		mg/L	1	4/18/2019 8:09:01 PM	44411
EPA METHOD 8082A: PCB'S							Analyst: TOM
Aroclor 1016	ND	0.25		µg/L	1	4/17/2019 7:00:21 PM	44287
Aroclor 1221	ND	0.25		µg/L	1	4/17/2019 7:00:21 PM	44287
Aroclor 1232	ND	0.25		µg/L	1	4/17/2019 7:00:21 PM	44287
Aroclor 1242	ND	0.25		µg/L	1	4/17/2019 7:00:21 PM	44287
Aroclor 1248	ND	0.25		µg/L	1	4/17/2019 7:00:21 PM	44287
Aroclor 1254	ND	0.25		µg/L	1	4/17/2019 7:00:21 PM	44287
Aroclor 1260	ND	0.25		µg/L	1	4/17/2019 7:00:21 PM	44287
Surr: Decachlorobiphenyl	80.0	24.8-102		%Rec	1	4/17/2019 7:00:21 PM	44287
Surr: Tetrachloro-m-xylene	21.6	15.6-106		%Rec	1	4/17/2019 7:00:21 PM	44287
TABLE I PAH'S BY 8310							Analyst: TOM
Naphthalene	ND	3.0		µg/L	1	4/15/2019 11:04:21 AM	44257
1-Methylnaphthalene	ND	3.0		µg/L	1	4/15/2019 11:04:21 AM	44257
2-Methylnaphthalene	ND	3.0		µg/L	1	4/15/2019 11:04:21 AM	44257
Benzo(a)pyrene	ND	0.070		µg/L	1	4/15/2019 11:04:21 AM	44257
Surr: Benzo(e)pyrene	63.1	48.8-93.3		%Rec	1	4/15/2019 11:04:21 AM	44257

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1904359**

Date Reported: **5/6/2019**

CLIENT: Gordon Environmental/PSC

Client Sample ID: MW-5R

Project: Sandoval County Landfill

Collection Date: 4/4/2019 10:10:00 AM

Lab ID: 1904359-001

Matrix: AQUEOUS

Received Date: 4/5/2019 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES, TABLE I							Analyst: DJF
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/9/2019 7:45:22 PM	LF59020
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/9/2019 7:45:22 PM	LF59020
Acetone	ND	10		µg/L	1	4/9/2019 7:45:22 PM	LF59020
Acrylonitrile	ND	10		µg/L	1	4/9/2019 7:45:22 PM	LF59020
Benzene	ND	1.0		µg/L	1	4/9/2019 7:45:22 PM	LF59020
Bromochloromethane	ND	2.0		µg/L	1	4/9/2019 7:45:22 PM	LF59020
Bromodichloromethane	ND	1.0		µg/L	1	4/9/2019 7:45:22 PM	LF59020
Bromoform	ND	1.0		µg/L	1	4/9/2019 7:45:22 PM	LF59020
Bromomethane	ND	2.0		µg/L	1	4/9/2019 7:45:22 PM	LF59020
2-Butanone	ND	10		µg/L	1	4/9/2019 7:45:22 PM	LF59020
Carbon disulfide	ND	10		µg/L	1	4/9/2019 7:45:22 PM	LF59020
Carbon Tetrachloride	ND	1.0		µg/L	1	4/9/2019 7:45:22 PM	LF59020
Chlorobenzene	ND	1.0		µg/L	1	4/9/2019 7:45:22 PM	LF59020
Chloroethane	ND	2.0		µg/L	1	4/9/2019 7:45:22 PM	LF59020
Chloroform	ND	1.0		µg/L	1	4/9/2019 7:45:22 PM	LF59020
Chloromethane	ND	1.0		µg/L	1	4/9/2019 7:45:22 PM	LF59020
cis-1,2-DCE	ND	1.0		µg/L	1	4/9/2019 7:45:22 PM	LF59020
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2019 7:45:22 PM	LF59020
Dibromochloromethane	ND	1.0		µg/L	1	4/9/2019 7:45:22 PM	LF59020
Dibromomethane	ND	1.0		µg/L	1	4/9/2019 7:45:22 PM	LF59020
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2019 7:45:22 PM	LF59020
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2019 7:45:22 PM	LF59020
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/9/2019 7:45:22 PM	LF59020
1,1-Dichloroethane	ND	1.0		µg/L	1	4/9/2019 7:45:22 PM	LF59020
1,1-Dichloroethene	ND	1.0		µg/L	1	4/9/2019 7:45:22 PM	LF59020
1,2-Dichloropropane	ND	0.50		µg/L	1	4/9/2019 7:45:22 PM	LF59020
Ethylbenzene	ND	1.0		µg/L	1	4/9/2019 7:45:22 PM	LF59020
2-Hexanone	ND	10		µg/L	1	4/9/2019 7:45:22 PM	LF59020
Iodomethane	ND	10		µg/L	1	4/9/2019 7:45:22 PM	LF59020
4-Methyl-2-pentanone	ND	10		µg/L	1	4/9/2019 7:45:22 PM	LF59020
Methylene Chloride	ND	2.5		µg/L	1	4/9/2019 7:45:22 PM	LF59020
Styrene	ND	1.0		µg/L	1	4/9/2019 7:45:22 PM	LF59020
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/9/2019 7:45:22 PM	LF59020
1,1,2,2-Tetrachloroethane	ND	1.0		µg/L	1	4/9/2019 7:45:22 PM	LF59020
Tetrachloroethene (PCE)	ND	0.50		µg/L	1	4/9/2019 7:45:22 PM	LF59020
Toluene	ND	1.0		µg/L	1	4/9/2019 7:45:22 PM	LF59020
trans-1,2-DCE	ND	1.0		µg/L	1	4/9/2019 7:45:22 PM	LF59020
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2019 7:45:22 PM	LF59020
trans-1,4-Dichloro-2-butene	ND	10		µg/L	1	4/9/2019 7:45:22 PM	LF59020

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1904359**Date Reported: **5/6/2019****CLIENT:** Gordon Environmental/PSC**Client Sample ID:** MW-5R**Project:** Sandoval County Landfill**Collection Date:** 4/4/2019 10:10:00 AM**Lab ID:** 1904359-001**Matrix:** AQUEOUS**Received Date:** 4/5/2019 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES, TABLE I							Analyst: DJF
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/9/2019 7:45:22 PM	LF59020
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/9/2019 7:45:22 PM	LF59020
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/9/2019 7:45:22 PM	LF59020
Trichlorofluoromethane	ND	1.0		µg/L	1	4/9/2019 7:45:22 PM	LF59020
1,2,3-Trichloropropane	ND	1.0		µg/L	1	4/9/2019 7:45:22 PM	LF59020
Vinyl acetate	ND	10		µg/L	1	4/9/2019 7:45:22 PM	LF59020
Vinyl chloride	ND	0.40		µg/L	1	4/9/2019 7:45:22 PM	LF59020
Xylenes, Total	ND	2.0		µg/L	1	4/9/2019 7:45:22 PM	LF59020
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	4/9/2019 7:45:22 PM	LF59020
Surr: 4-Bromofluorobenzene	92.4	70-130		%Rec	1	4/9/2019 7:45:22 PM	LF59020
Surr: Dibromofluoromethane	115	70-130		%Rec	1	4/9/2019 7:45:22 PM	LF59020
Surr: Toluene-d8	97.9	70-130		%Rec	1	4/9/2019 7:45:22 PM	LF59020
TOTAL PHENOLICS BY SW-846 9067							Analyst: CLP
Phenolics	ND	2.5		µg/L	1	4/26/2019	44560

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1904359**

Date Reported: **5/6/2019**

CLIENT: Gordon Environmental/PSC

Client Sample ID: MW-6R

Project: Sandoval County Landfill

Collection Date: 4/4/2019 3:30:00 PM

Lab ID: 1904359-002

Matrix: AQUEOUS

Received Date: 4/5/2019 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 504.1: EDB/DBCP							Analyst: CLP
1,2-Dibromo-3-chloropropane	ND	0.019		µg/L	1	4/11/2019 4:11:58 PM	44277
1,2-Dibromoethane	ND	0.0093		µg/L	1	4/11/2019 4:11:58 PM	44277
EPA 200.8: METALS							Analyst: pmf
Antimony	ND	0.0010		mg/L	1	4/18/2019 7:24:55 PM	B59277
Arsenic	0.0074	0.0010		mg/L	1	4/18/2019 7:24:55 PM	B59277
Lead	ND	0.00050		mg/L	1	4/18/2019 7:24:55 PM	B59277
Selenium	ND	0.0010		mg/L	1	4/18/2019 7:24:55 PM	B59277
Thallium	ND	0.00050		mg/L	1	4/18/2019 7:24:55 PM	B59277
Uranium	0.0017	0.00050		mg/L	1	4/18/2019 7:24:55 PM	B59277
EPA METHOD 9060 TOC							Analyst: DAM
Total Organic Carbon	ND	1.0		mg/L	1	4/9/2019 11:18:39 PM	R59019
EPA METHOD 300.0: ANIONS							Analyst: MRA
Fluoride	0.65	0.10		mg/L	1	4/5/2019 5:55:46 PM	R58949
Chloride	120	10		mg/L	20	4/5/2019 6:08:39 PM	R58949
Nitrogen, Nitrate (As N)	1.2	0.10		mg/L	1	4/5/2019 5:55:46 PM	R58949
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	4/5/2019 5:55:46 PM	R58949
Sulfate	48	10		mg/L	20	4/5/2019 6:08:39 PM	R58949
SM2510B: SPECIFIC CONDUCTANCE							Analyst: JRR
Conductivity	710	5.0		µmhos/c	1	4/9/2019 1:16:07 PM	R59004
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	102.2	20.00		mg/L Ca	1	4/9/2019 1:16:07 PM	R59004
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	4/9/2019 1:16:07 PM	R59004
Total Alkalinity (as CaCO3)	102.2	20.00		mg/L Ca	1	4/9/2019 1:16:07 PM	R59004
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS
Total Dissolved Solids	409	20.0		mg/L	1	4/10/2019 7:47:00 PM	44221
SM 4500 NH3: AMMONIA							Analyst: OG
Nitrogen, Ammonia	ND	1.0		mg/L	1	4/23/2019 4:30:00 PM	R59377
TOTAL NITROGEN							Analyst: SRM
Nitrogen, Total	1.2	1.0		mg/L	1	4/22/2019 12:11:00 PM	R59316
SM4500-H+B / 9040C: PH							Analyst: JRR
pH	7.86		H	pH units	1	4/9/2019 1:16:07 PM	R59004
SM 4500 NORG C: TKN							Analyst: OG
Nitrogen, Kjeldahl, Total	ND	1.0		mg/L	1	4/19/2019 3:00:00 PM	44436
EPA METHOD 200.7: METALS							Analyst: bcv

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1904359**

Date Reported: **5/6/2019**

CLIENT: Gordon Environmental/PSC

Client Sample ID: MW-6R

Project: Sandoval County Landfill

Collection Date: 4/4/2019 3:30:00 PM

Lab ID: 1904359-002

Matrix: AQUEOUS

Received Date: 4/5/2019 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: METALS							Analyst: bcv
Aluminum	ND	0.020		mg/L	1	4/17/2019 11:28:09 AM	B59216
Barium	0.050	0.0020		mg/L	1	4/17/2019 11:28:09 AM	B59216
Beryllium	ND	0.0020		mg/L	1	4/17/2019 11:28:09 AM	B59216
Boron	0.31	0.040		mg/L	1	4/17/2019 11:28:09 AM	B59216
Cadmium	ND	0.0020		mg/L	1	4/17/2019 11:28:09 AM	B59216
Calcium	45	1.0		mg/L	1	4/17/2019 11:28:09 AM	B59216
Chromium	ND	0.0060		mg/L	1	4/17/2019 11:28:09 AM	B59216
Cobalt	ND	0.0060		mg/L	1	4/17/2019 11:28:09 AM	B59216
Copper	ND	0.0060		mg/L	1	4/17/2019 11:28:09 AM	B59216
Iron	0.064	0.020		mg/L	1	4/17/2019 11:28:09 AM	B59216
Magnesium	5.0	1.0		mg/L	1	4/17/2019 11:28:09 AM	B59216
Manganese	0.0032	0.0020		mg/L	1	4/17/2019 11:28:09 AM	B59216
Molybdenum	ND	0.0080		mg/L	1	4/17/2019 11:28:09 AM	B59216
Nickel	ND	0.010		mg/L	1	4/17/2019 11:28:09 AM	B59216
Potassium	4.7	1.0		mg/L	1	4/17/2019 11:28:09 AM	B59216
Silver	ND	0.0050		mg/L	1	4/17/2019 11:28:09 AM	B59216
Sodium	82	1.0		mg/L	1	4/17/2019 11:28:09 AM	B59216
Vanadium	ND	0.050		mg/L	1	4/17/2019 11:28:09 AM	B59216
Zinc	ND	0.010		mg/L	1	4/17/2019 11:28:09 AM	B59216
EPA METHOD 245.1: MERCURY							Analyst: pmf
Mercury	ND	0.00020		mg/L	1	4/18/2019 8:11:13 PM	44411
EPA METHOD 8082A: PCB'S							Analyst: TOM
Aroclor 1016	ND	0.25		µg/L	1	4/17/2019 7:33:20 PM	44287
Aroclor 1221	ND	0.25		µg/L	1	4/17/2019 7:33:20 PM	44287
Aroclor 1232	ND	0.25		µg/L	1	4/17/2019 7:33:20 PM	44287
Aroclor 1242	ND	0.25		µg/L	1	4/17/2019 7:33:20 PM	44287
Aroclor 1248	ND	0.25		µg/L	1	4/17/2019 7:33:20 PM	44287
Aroclor 1254	ND	0.25		µg/L	1	4/17/2019 7:33:20 PM	44287
Aroclor 1260	ND	0.25		µg/L	1	4/17/2019 7:33:20 PM	44287
Surr: Decachlorobiphenyl	73.6	24.8-102		%Rec	1	4/17/2019 7:33:20 PM	44287
Surr: Tetrachloro-m-xylene	9.20	15.6-106	S	%Rec	1	4/17/2019 7:33:20 PM	44287
TABLE I PAH'S BY 8310							Analyst: TOM
Naphthalene	ND	3.0		µg/L	1	4/15/2019 11:29:51 AM	44257
1-Methylnaphthalene	ND	3.0		µg/L	1	4/15/2019 11:29:51 AM	44257
2-Methylnaphthalene	ND	3.0		µg/L	1	4/15/2019 11:29:51 AM	44257
Benzo(a)pyrene	ND	0.070		µg/L	1	4/15/2019 11:29:51 AM	44257
Surr: Benzo(e)pyrene	93.0	48.8-93.3		%Rec	1	4/15/2019 11:29:51 AM	44257

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1904359**

Date Reported: **5/6/2019**

CLIENT: Gordon Environmental/PSC

Client Sample ID: MW-6R

Project: Sandoval County Landfill

Collection Date: 4/4/2019 3:30:00 PM

Lab ID: 1904359-002

Matrix: AQUEOUS

Received Date: 4/5/2019 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES, TABLE I							Analyst: DJF
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/9/2019 9:13:43 PM	LF59020
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/9/2019 9:13:43 PM	LF59020
Acetone	ND	10		µg/L	1	4/9/2019 9:13:43 PM	LF59020
Acrylonitrile	ND	10		µg/L	1	4/9/2019 9:13:43 PM	LF59020
Benzene	ND	1.0		µg/L	1	4/9/2019 9:13:43 PM	LF59020
Bromochloromethane	ND	2.0		µg/L	1	4/9/2019 9:13:43 PM	LF59020
Bromodichloromethane	ND	1.0		µg/L	1	4/9/2019 9:13:43 PM	LF59020
Bromoform	ND	1.0		µg/L	1	4/9/2019 9:13:43 PM	LF59020
Bromomethane	ND	2.0		µg/L	1	4/9/2019 9:13:43 PM	LF59020
2-Butanone	ND	10		µg/L	1	4/9/2019 9:13:43 PM	LF59020
Carbon disulfide	ND	10		µg/L	1	4/9/2019 9:13:43 PM	LF59020
Carbon Tetrachloride	ND	1.0		µg/L	1	4/9/2019 9:13:43 PM	LF59020
Chlorobenzene	ND	1.0		µg/L	1	4/9/2019 9:13:43 PM	LF59020
Chloroethane	ND	2.0		µg/L	1	4/9/2019 9:13:43 PM	LF59020
Chloroform	ND	1.0		µg/L	1	4/9/2019 9:13:43 PM	LF59020
Chloromethane	ND	1.0		µg/L	1	4/9/2019 9:13:43 PM	LF59020
cis-1,2-DCE	ND	1.0		µg/L	1	4/9/2019 9:13:43 PM	LF59020
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2019 9:13:43 PM	LF59020
Dibromochloromethane	ND	1.0		µg/L	1	4/9/2019 9:13:43 PM	LF59020
Dibromomethane	ND	1.0		µg/L	1	4/9/2019 9:13:43 PM	LF59020
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2019 9:13:43 PM	LF59020
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2019 9:13:43 PM	LF59020
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/9/2019 9:13:43 PM	LF59020
1,1-Dichloroethane	ND	1.0		µg/L	1	4/9/2019 9:13:43 PM	LF59020
1,1-Dichloroethene	ND	1.0		µg/L	1	4/9/2019 9:13:43 PM	LF59020
1,2-Dichloropropane	ND	0.50		µg/L	1	4/9/2019 9:13:43 PM	LF59020
Ethylbenzene	ND	1.0		µg/L	1	4/9/2019 9:13:43 PM	LF59020
2-Hexanone	ND	10		µg/L	1	4/9/2019 9:13:43 PM	LF59020
Iodomethane	ND	10		µg/L	1	4/9/2019 9:13:43 PM	LF59020
4-Methyl-2-pentanone	ND	10		µg/L	1	4/9/2019 9:13:43 PM	LF59020
Methylene Chloride	ND	2.5		µg/L	1	4/9/2019 9:13:43 PM	LF59020
Styrene	ND	1.0		µg/L	1	4/9/2019 9:13:43 PM	LF59020
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/9/2019 9:13:43 PM	LF59020
1,1,2,2-Tetrachloroethane	ND	1.0		µg/L	1	4/9/2019 9:13:43 PM	LF59020
Tetrachloroethene (PCE)	ND	0.50		µg/L	1	4/9/2019 9:13:43 PM	LF59020
Toluene	ND	1.0		µg/L	1	4/9/2019 9:13:43 PM	LF59020
trans-1,2-DCE	ND	1.0		µg/L	1	4/9/2019 9:13:43 PM	LF59020
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2019 9:13:43 PM	LF59020
trans-1,4-Dichloro-2-butene	ND	10		µg/L	1	4/9/2019 9:13:43 PM	LF59020

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1904359**Date Reported: **5/6/2019****CLIENT:** Gordon Environmental/PSC**Client Sample ID:** MW-6R**Project:** Sandoval County Landfill**Collection Date:** 4/4/2019 3:30:00 PM**Lab ID:** 1904359-002**Matrix:** AQUEOUS**Received Date:** 4/5/2019 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES, TABLE I						Analyst: DJF	
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/9/2019 9:13:43 PM	LF59020
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/9/2019 9:13:43 PM	LF59020
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/9/2019 9:13:43 PM	LF59020
Trichlorofluoromethane	ND	1.0		µg/L	1	4/9/2019 9:13:43 PM	LF59020
1,2,3-Trichloropropane	ND	1.0		µg/L	1	4/9/2019 9:13:43 PM	LF59020
Vinyl acetate	ND	10		µg/L	1	4/9/2019 9:13:43 PM	LF59020
Vinyl chloride	ND	0.40		µg/L	1	4/9/2019 9:13:43 PM	LF59020
Xylenes, Total	ND	2.0		µg/L	1	4/9/2019 9:13:43 PM	LF59020
Surr: 1,2-Dichloroethane-d4	106	70-130		%Rec	1	4/9/2019 9:13:43 PM	LF59020
Surr: 4-Bromofluorobenzene	87.9	70-130		%Rec	1	4/9/2019 9:13:43 PM	LF59020
Surr: Dibromofluoromethane	119	70-130		%Rec	1	4/9/2019 9:13:43 PM	LF59020
Surr: Toluene-d8	99.1	70-130		%Rec	1	4/9/2019 9:13:43 PM	LF59020
TOTAL PHENOLICS BY SW-846 9067						Analyst: CLP	
Phenolics	ND	2.5		µg/L	1	4/26/2019	44560

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1904359**

Date Reported: **5/6/2019**

CLIENT: Gordon Environmental/PSC

Client Sample ID: MW-7R

Project: Sandoval County Landfill

Collection Date: 4/4/2019 4:26:00 PM

Lab ID: 1904359-003

Matrix: AQUEOUS

Received Date: 4/5/2019 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 504.1: EDB/DBCP							Analyst: CLP
1,2-Dibromo-3-chloropropane	ND	0.019		µg/L	1	4/11/2019 4:26:59 PM	44277
1,2-Dibromoethane	ND	0.0094		µg/L	1	4/11/2019 4:26:59 PM	44277
EPA 200.8: METALS							Analyst: DBK
Antimony	ND	0.0010		mg/L	1	4/9/2019 6:33:53 PM	44204
Arsenic	0.0064	0.0010		mg/L	1	4/9/2019 6:33:53 PM	44204
Lead	ND	0.00050		mg/L	1	4/9/2019 6:33:53 PM	44204
Selenium	0.0065	0.0010		mg/L	1	4/9/2019 6:33:53 PM	44204
Thallium	ND	0.00050		mg/L	1	4/9/2019 6:33:53 PM	44204
Uranium	0.0021	0.00050		mg/L	1	4/9/2019 6:33:53 PM	44204
EPA METHOD 9060 TOC							Analyst: DAM
Total Organic Carbon	2.2	1.0		mg/L	1	4/9/2019 11:35:10 PM	R59019
EPA METHOD 300.0: ANIONS							Analyst: MRA
Fluoride	0.96	0.10		mg/L	1	4/5/2019 6:21:31 PM	R58949
Chloride	49	10		mg/L	20	4/5/2019 6:34:22 PM	R58949
Nitrogen, Nitrate (As N)	6.6	0.10		mg/L	1	4/5/2019 6:21:31 PM	R58949
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	4/5/2019 6:21:31 PM	R58949
Sulfate	44	10		mg/L	20	4/5/2019 6:34:22 PM	R58949
SM2510B: SPECIFIC CONDUCTANCE							Analyst: JRR
Conductivity	540	5.0		µmhos/c	1	4/9/2019 1:24:33 PM	R59004
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	107.1	20.00		mg/L Ca	1	4/9/2019 1:24:33 PM	R59004
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	4/9/2019 1:24:33 PM	R59004
Total Alkalinity (as CaCO3)	107.1	20.00		mg/L Ca	1	4/9/2019 1:24:33 PM	R59004
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS
Total Dissolved Solids	314	20.0		mg/L	1	4/10/2019 7:47:00 PM	44221
SM 4500 NH3: AMMONIA							Analyst: OG
Nitrogen, Ammonia	ND	1.0		mg/L	1	4/23/2019 4:30:00 PM	R59377
TOTAL NITROGEN							Analyst: SRM
Nitrogen, Total	6.6	1.0		mg/L	1	4/22/2019 12:11:00 PM	R59316
SM4500-H+B / 9040C: PH							Analyst: JRR
pH	7.88		H	pH units	1	4/9/2019 1:24:33 PM	R59004
SM 4500 NORG C: TKN							Analyst: OG
Nitrogen, Kjeldahl, Total	ND	1.0		mg/L	1	4/19/2019 3:00:00 PM	44436
EPA METHOD 200.7: METALS							Analyst: bcv

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1904359**

Date Reported: **5/6/2019**

CLIENT: Gordon Environmental/PSC

Client Sample ID: MW-7R

Project: Sandoval County Landfill

Collection Date: 4/4/2019 4:26:00 PM

Lab ID: 1904359-003

Matrix: AQUEOUS

Received Date: 4/5/2019 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: METALS							Analyst: bcv
Aluminum	0.39	0.10	*	mg/L	5	4/15/2019 8:03:46 PM	44204
Barium	0.059	0.010		mg/L	5	4/15/2019 8:03:46 PM	44204
Beryllium	ND	0.010		mg/L	5	4/15/2019 8:03:46 PM	44204
Boron	0.25	0.20		mg/L	5	4/15/2019 8:03:46 PM	44204
Cadmium	ND	0.010		mg/L	5	4/15/2019 8:03:46 PM	44204
Calcium	36	1.0		mg/L	1	4/15/2019 8:01:40 PM	44204
Chromium	ND	0.030		mg/L	5	4/15/2019 8:03:46 PM	44204
Cobalt	ND	0.030		mg/L	5	4/15/2019 8:03:46 PM	44204
Copper	ND	0.0060		mg/L	1	4/17/2019 6:48:00 PM	44204
Iron	0.38	0.020	*	mg/L	1	4/15/2019 8:01:40 PM	44204
Magnesium	4.6	1.0		mg/L	1	4/15/2019 8:01:40 PM	44204
Manganese	0.019	0.010		mg/L	5	4/15/2019 8:03:46 PM	44204
Molybdenum	ND	0.040		mg/L	5	4/15/2019 8:03:46 PM	44204
Nickel	ND	0.050		mg/L	5	4/15/2019 8:03:46 PM	44204
Potassium	4.1	1.0		mg/L	1	4/15/2019 8:01:40 PM	44204
Silver	ND	0.025		mg/L	5	4/15/2019 8:03:46 PM	44204
Sodium	61	1.0		mg/L	1	4/17/2019 6:48:00 PM	44204
Vanadium	ND	0.25		mg/L	5	4/15/2019 8:03:46 PM	44204
Zinc	ND	0.050		mg/L	5	4/15/2019 8:03:46 PM	44204
EPA METHOD 245.1: MERCURY							Analyst: pmf
Mercury	ND	0.00020		mg/L	1	4/18/2019 8:13:25 PM	44411
EPA METHOD 8082A: PCB'S							Analyst: TOM
Aroclor 1016	ND	0.25		µg/L	1	4/17/2019 8:06:21 PM	44287
Aroclor 1221	ND	0.25		µg/L	1	4/17/2019 8:06:21 PM	44287
Aroclor 1232	ND	0.25		µg/L	1	4/17/2019 8:06:21 PM	44287
Aroclor 1242	ND	0.25		µg/L	1	4/17/2019 8:06:21 PM	44287
Aroclor 1248	ND	0.25		µg/L	1	4/17/2019 8:06:21 PM	44287
Aroclor 1254	ND	0.25		µg/L	1	4/17/2019 8:06:21 PM	44287
Aroclor 1260	ND	0.25		µg/L	1	4/17/2019 8:06:21 PM	44287
Surr: Decachlorobiphenyl	76.4	24.8-102		%Rec	1	4/17/2019 8:06:21 PM	44287
Surr: Tetrachloro-m-xylene	12.4	15.6-106	S	%Rec	1	4/17/2019 8:06:21 PM	44287
TABLE I PAH'S BY 8310							Analyst: TOM
Naphthalene	ND	3.0		µg/L	1	4/15/2019 11:55:21 AM	44257
1-Methylnaphthalene	ND	3.0		µg/L	1	4/15/2019 11:55:21 AM	44257
2-Methylnaphthalene	ND	3.0		µg/L	1	4/15/2019 11:55:21 AM	44257
Benzo(a)pyrene	ND	0.070		µg/L	1	4/15/2019 11:55:21 AM	44257
Surr: Benzo(e)pyrene	78.6	48.8-93.3		%Rec	1	4/15/2019 11:55:21 AM	44257

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1904359**

Date Reported: **5/6/2019**

CLIENT: Gordon Environmental/PSC

Client Sample ID: MW-7R

Project: Sandoval County Landfill

Collection Date: 4/4/2019 4:26:00 PM

Lab ID: 1904359-003

Matrix: AQUEOUS

Received Date: 4/5/2019 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES, TABLE I							Analyst: DJF
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/9/2019 9:42:59 PM	LF59020
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/9/2019 9:42:59 PM	LF59020
Acetone	ND	10		µg/L	1	4/9/2019 9:42:59 PM	LF59020
Acrylonitrile	ND	10		µg/L	1	4/9/2019 9:42:59 PM	LF59020
Benzene	ND	1.0		µg/L	1	4/9/2019 9:42:59 PM	LF59020
Bromochloromethane	ND	2.0		µg/L	1	4/9/2019 9:42:59 PM	LF59020
Bromodichloromethane	ND	1.0		µg/L	1	4/9/2019 9:42:59 PM	LF59020
Bromoform	ND	1.0		µg/L	1	4/9/2019 9:42:59 PM	LF59020
Bromomethane	ND	2.0		µg/L	1	4/9/2019 9:42:59 PM	LF59020
2-Butanone	ND	10		µg/L	1	4/9/2019 9:42:59 PM	LF59020
Carbon disulfide	ND	10		µg/L	1	4/9/2019 9:42:59 PM	LF59020
Carbon Tetrachloride	ND	1.0		µg/L	1	4/9/2019 9:42:59 PM	LF59020
Chlorobenzene	ND	1.0		µg/L	1	4/9/2019 9:42:59 PM	LF59020
Chloroethane	ND	2.0		µg/L	1	4/9/2019 9:42:59 PM	LF59020
Chloroform	ND	1.0		µg/L	1	4/9/2019 9:42:59 PM	LF59020
Chloromethane	ND	1.0		µg/L	1	4/9/2019 9:42:59 PM	LF59020
cis-1,2-DCE	ND	1.0		µg/L	1	4/9/2019 9:42:59 PM	LF59020
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2019 9:42:59 PM	LF59020
Dibromochloromethane	ND	1.0		µg/L	1	4/9/2019 9:42:59 PM	LF59020
Dibromomethane	ND	1.0		µg/L	1	4/9/2019 9:42:59 PM	LF59020
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2019 9:42:59 PM	LF59020
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2019 9:42:59 PM	LF59020
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/9/2019 9:42:59 PM	LF59020
1,1-Dichloroethane	ND	1.0		µg/L	1	4/9/2019 9:42:59 PM	LF59020
1,1-Dichloroethene	ND	1.0		µg/L	1	4/9/2019 9:42:59 PM	LF59020
1,2-Dichloropropane	ND	0.50		µg/L	1	4/9/2019 9:42:59 PM	LF59020
Ethylbenzene	ND	1.0		µg/L	1	4/9/2019 9:42:59 PM	LF59020
2-Hexanone	ND	10		µg/L	1	4/9/2019 9:42:59 PM	LF59020
Iodomethane	ND	10		µg/L	1	4/9/2019 9:42:59 PM	LF59020
4-Methyl-2-pentanone	ND	10		µg/L	1	4/9/2019 9:42:59 PM	LF59020
Methylene Chloride	ND	2.5		µg/L	1	4/9/2019 9:42:59 PM	LF59020
Styrene	ND	1.0		µg/L	1	4/9/2019 9:42:59 PM	LF59020
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/9/2019 9:42:59 PM	LF59020
1,1,2,2-Tetrachloroethane	ND	1.0		µg/L	1	4/9/2019 9:42:59 PM	LF59020
Tetrachloroethene (PCE)	ND	0.50		µg/L	1	4/9/2019 9:42:59 PM	LF59020
Toluene	ND	1.0		µg/L	1	4/9/2019 9:42:59 PM	LF59020
trans-1,2-DCE	ND	1.0		µg/L	1	4/9/2019 9:42:59 PM	LF59020
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2019 9:42:59 PM	LF59020
trans-1,4-Dichloro-2-butene	ND	10		µg/L	1	4/9/2019 9:42:59 PM	LF59020

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1904359**Date Reported: **5/6/2019****CLIENT:** Gordon Environmental/PSC**Client Sample ID:** MW-7R**Project:** Sandoval County Landfill**Collection Date:** 4/4/2019 4:26:00 PM**Lab ID:** 1904359-003**Matrix:** AQUEOUS**Received Date:** 4/5/2019 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES, TABLE I							Analyst: DJF
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/9/2019 9:42:59 PM	LF59020
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/9/2019 9:42:59 PM	LF59020
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/9/2019 9:42:59 PM	LF59020
Trichlorofluoromethane	ND	1.0		µg/L	1	4/9/2019 9:42:59 PM	LF59020
1,2,3-Trichloropropane	ND	1.0		µg/L	1	4/9/2019 9:42:59 PM	LF59020
Vinyl acetate	ND	10		µg/L	1	4/9/2019 9:42:59 PM	LF59020
Vinyl chloride	ND	0.40		µg/L	1	4/9/2019 9:42:59 PM	LF59020
Xylenes, Total	ND	2.0		µg/L	1	4/9/2019 9:42:59 PM	LF59020
Surr: 1,2-Dichloroethane-d4	111	70-130		%Rec	1	4/9/2019 9:42:59 PM	LF59020
Surr: 4-Bromofluorobenzene	91.7	70-130		%Rec	1	4/9/2019 9:42:59 PM	LF59020
Surr: Dibromofluoromethane	127	70-130		%Rec	1	4/9/2019 9:42:59 PM	LF59020
Surr: Toluene-d8	99.0	70-130		%Rec	1	4/9/2019 9:42:59 PM	LF59020
TOTAL PHENOLICS BY SW-846 9067							Analyst: CLP
Phenolics	ND	2.5		µg/L	1	4/26/2019	44560

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1904359**

Date Reported: **5/6/2019**

CLIENT: Gordon Environmental/PSC

Client Sample ID: FB

Project: Sandoval County Landfill

Collection Date: 4/4/2019 10:25:00 AM

Lab ID: 1904359-004

Matrix: AQUEOUS

Received Date: 4/5/2019 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES, TABLE I							Analyst: DJF
Benzene	ND	1.0		µg/L	1	4/9/2019 10:12:07 PM	LF59020
Toluene	ND	1.0		µg/L	1	4/9/2019 10:12:07 PM	LF59020
Ethylbenzene	ND	1.0		µg/L	1	4/9/2019 10:12:07 PM	LF59020
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/9/2019 10:12:07 PM	LF59020
Acetone	ND	10		µg/L	1	4/9/2019 10:12:07 PM	LF59020
Bromodichloromethane	ND	1.0		µg/L	1	4/9/2019 10:12:07 PM	LF59020
Bromoform	ND	1.0		µg/L	1	4/9/2019 10:12:07 PM	LF59020
Bromomethane	ND	2.0		µg/L	1	4/9/2019 10:12:07 PM	LF59020
2-Butanone	ND	10		µg/L	1	4/9/2019 10:12:07 PM	LF59020
Carbon disulfide	ND	10		µg/L	1	4/9/2019 10:12:07 PM	LF59020
Carbon Tetrachloride	ND	1.0		µg/L	1	4/9/2019 10:12:07 PM	LF59020
Chlorobenzene	ND	1.0		µg/L	1	4/9/2019 10:12:07 PM	LF59020
Chloroethane	ND	2.0		µg/L	1	4/9/2019 10:12:07 PM	LF59020
Chloroform	ND	1.0		µg/L	1	4/9/2019 10:12:07 PM	LF59020
Chloromethane	ND	1.0		µg/L	1	4/9/2019 10:12:07 PM	LF59020
cis-1,2-DCE	ND	1.0		µg/L	1	4/9/2019 10:12:07 PM	LF59020
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2019 10:12:07 PM	LF59020
Dibromochloromethane	ND	1.0		µg/L	1	4/9/2019 10:12:07 PM	LF59020
Dibromomethane	ND	1.0		µg/L	1	4/9/2019 10:12:07 PM	LF59020
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2019 10:12:07 PM	LF59020
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2019 10:12:07 PM	LF59020
1,1-Dichloroethane	ND	1.0		µg/L	1	4/9/2019 10:12:07 PM	LF59020
1,1-Dichloroethene	ND	1.0		µg/L	1	4/9/2019 10:12:07 PM	LF59020
1,2-Dichloropropane	ND	0.50		µg/L	1	4/9/2019 10:12:07 PM	LF59020
2-Hexanone	ND	10		µg/L	1	4/9/2019 10:12:07 PM	LF59020
4-Methyl-2-pentanone	ND	10		µg/L	1	4/9/2019 10:12:07 PM	LF59020
Methylene Chloride	ND	2.5		µg/L	1	4/9/2019 10:12:07 PM	LF59020
Styrene	ND	1.0		µg/L	1	4/9/2019 10:12:07 PM	LF59020
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/9/2019 10:12:07 PM	LF59020
1,1,2,2-Tetrachloroethane	ND	1.0		µg/L	1	4/9/2019 10:12:07 PM	LF59020
Tetrachloroethene (PCE)	ND	0.50		µg/L	1	4/9/2019 10:12:07 PM	LF59020
trans-1,2-DCE	ND	1.0		µg/L	1	4/9/2019 10:12:07 PM	LF59020
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2019 10:12:07 PM	LF59020
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/9/2019 10:12:07 PM	LF59020
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/9/2019 10:12:07 PM	LF59020
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/9/2019 10:12:07 PM	LF59020
Trichlorofluoromethane	ND	1.0		µg/L	1	4/9/2019 10:12:07 PM	LF59020
1,2,3-Trichloropropane	ND	1.0		µg/L	1	4/9/2019 10:12:07 PM	LF59020
Vinyl chloride	ND	0.40		µg/L	1	4/9/2019 10:12:07 PM	LF59020

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1904359**

Date Reported: **5/6/2019**

CLIENT: Gordon Environmental/PSC

Client Sample ID: FB

Project: Sandoval County Landfill

Collection Date: 4/4/2019 10:25:00 AM

Lab ID: 1904359-004

Matrix: AQUEOUS

Received Date: 4/5/2019 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES, TABLE I							Analyst: DJF
Xylenes, Total	ND	2.0		µg/L	1	4/9/2019 10:12:07 PM	LF59020
Acrylonitrile	ND	10		µg/L	1	4/9/2019 10:12:07 PM	LF59020
Bromochloromethane	ND	2.0		µg/L	1	4/9/2019 10:12:07 PM	LF59020
Iodomethane	ND	10		µg/L	1	4/9/2019 10:12:07 PM	LF59020
trans-1,4-Dichloro-2-butene	ND	10		µg/L	1	4/9/2019 10:12:07 PM	LF59020
Vinyl acetate	ND	10		µg/L	1	4/9/2019 10:12:07 PM	LF59020
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	4/9/2019 10:12:07 PM	LF59020
Surr: 4-Bromofluorobenzene	90.7	70-130		%Rec	1	4/9/2019 10:12:07 PM	LF59020
Surr: Dibromofluoromethane	115	70-130		%Rec	1	4/9/2019 10:12:07 PM	LF59020
Surr: Toluene-d8	95.3	70-130		%Rec	1	4/9/2019 10:12:07 PM	LF59020

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1904359**

Date Reported: **5/6/2019**

CLIENT: Gordon Environmental/PSC

Client Sample ID: Dupe

Project: Sandoval County Landfill

Collection Date: 4/4/2019 10:17:00 AM

Lab ID: 1904359-005

Matrix: AQUEOUS

Received Date: 4/5/2019 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES, TABLE I							Analyst: DJF
Benzene	ND	1.0		µg/L	1	4/9/2019 10:41:07 PM	LF59020
Toluene	ND	1.0		µg/L	1	4/9/2019 10:41:07 PM	LF59020
Ethylbenzene	ND	1.0		µg/L	1	4/9/2019 10:41:07 PM	LF59020
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/9/2019 10:41:07 PM	LF59020
Acetone	ND	10		µg/L	1	4/9/2019 10:41:07 PM	LF59020
Bromodichloromethane	ND	1.0		µg/L	1	4/9/2019 10:41:07 PM	LF59020
Bromoform	ND	1.0		µg/L	1	4/9/2019 10:41:07 PM	LF59020
Bromomethane	ND	2.0		µg/L	1	4/9/2019 10:41:07 PM	LF59020
2-Butanone	ND	10		µg/L	1	4/9/2019 10:41:07 PM	LF59020
Carbon disulfide	ND	10		µg/L	1	4/9/2019 10:41:07 PM	LF59020
Carbon Tetrachloride	ND	1.0		µg/L	1	4/9/2019 10:41:07 PM	LF59020
Chlorobenzene	ND	1.0		µg/L	1	4/9/2019 10:41:07 PM	LF59020
Chloroethane	ND	2.0		µg/L	1	4/9/2019 10:41:07 PM	LF59020
Chloroform	ND	1.0		µg/L	1	4/9/2019 10:41:07 PM	LF59020
Chloromethane	ND	1.0		µg/L	1	4/9/2019 10:41:07 PM	LF59020
cis-1,2-DCE	ND	1.0		µg/L	1	4/9/2019 10:41:07 PM	LF59020
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2019 10:41:07 PM	LF59020
Dibromochloromethane	ND	1.0		µg/L	1	4/9/2019 10:41:07 PM	LF59020
Dibromomethane	ND	1.0		µg/L	1	4/9/2019 10:41:07 PM	LF59020
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2019 10:41:07 PM	LF59020
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2019 10:41:07 PM	LF59020
1,1-Dichloroethane	ND	1.0		µg/L	1	4/9/2019 10:41:07 PM	LF59020
1,1-Dichloroethene	ND	1.0		µg/L	1	4/9/2019 10:41:07 PM	LF59020
1,2-Dichloropropane	ND	0.50		µg/L	1	4/9/2019 10:41:07 PM	LF59020
2-Hexanone	ND	10		µg/L	1	4/9/2019 10:41:07 PM	LF59020
4-Methyl-2-pentanone	ND	10		µg/L	1	4/9/2019 10:41:07 PM	LF59020
Methylene Chloride	ND	2.5		µg/L	1	4/9/2019 10:41:07 PM	LF59020
Styrene	ND	1.0		µg/L	1	4/9/2019 10:41:07 PM	LF59020
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/9/2019 10:41:07 PM	LF59020
1,1,2,2-Tetrachloroethane	ND	1.0		µg/L	1	4/9/2019 10:41:07 PM	LF59020
Tetrachloroethene (PCE)	ND	0.50		µg/L	1	4/9/2019 10:41:07 PM	LF59020
trans-1,2-DCE	ND	1.0		µg/L	1	4/9/2019 10:41:07 PM	LF59020
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2019 10:41:07 PM	LF59020
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/9/2019 10:41:07 PM	LF59020
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/9/2019 10:41:07 PM	LF59020
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/9/2019 10:41:07 PM	LF59020
Trichlorofluoromethane	ND	1.0		µg/L	1	4/9/2019 10:41:07 PM	LF59020
1,2,3-Trichloropropane	ND	1.0		µg/L	1	4/9/2019 10:41:07 PM	LF59020
Vinyl chloride	ND	0.40		µg/L	1	4/9/2019 10:41:07 PM	LF59020

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1904359**

Date Reported: **5/6/2019**

CLIENT: Gordon Environmental/PSC

Client Sample ID: Dupe

Project: Sandoval County Landfill

Collection Date: 4/4/2019 10:17:00 AM

Lab ID: 1904359-005

Matrix: AQUEOUS

Received Date: 4/5/2019 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES, TABLE I							Analyst: DJF
Xylenes, Total	ND	2.0		µg/L	1	4/9/2019 10:41:07 PM	LF59020
Acrylonitrile	ND	10		µg/L	1	4/9/2019 10:41:07 PM	LF59020
Bromochloromethane	ND	2.0		µg/L	1	4/9/2019 10:41:07 PM	LF59020
Iodomethane	ND	10		µg/L	1	4/9/2019 10:41:07 PM	LF59020
trans-1,4-Dichloro-2-butene	ND	10		µg/L	1	4/9/2019 10:41:07 PM	LF59020
Vinyl acetate	ND	10		µg/L	1	4/9/2019 10:41:07 PM	LF59020
Surr: 1,2-Dichloroethane-d4	107	70-130		%Rec	1	4/9/2019 10:41:07 PM	LF59020
Surr: 4-Bromofluorobenzene	95.6	70-130		%Rec	1	4/9/2019 10:41:07 PM	LF59020
Surr: Dibromofluoromethane	119	70-130		%Rec	1	4/9/2019 10:41:07 PM	LF59020
Surr: Toluene-d8	98.0	70-130		%Rec	1	4/9/2019 10:41:07 PM	LF59020

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1904359

Date Reported: 5/6/2019

CLIENT: Gordon Environmental/PSC

Client Sample ID: Trip Blank

Project: Sandoval County Landfill

Collection Date:

Lab ID: 1904359-006

Matrix: TRIP BLANK

Received Date: 4/5/2019 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 504.1: EDB/DBCP							Analyst: CLP
1,2-Dibromo-3-chloropropane	ND	0.019		µg/L	1	4/11/2019 4:42:05 PM	44277
1,2-Dibromoethane	ND	0.0093		µg/L	1	4/11/2019 4:42:05 PM	44277
EPA METHOD 8260B: VOLATILES, TABLE I							Analyst: DJF
Benzene	ND	1.0		µg/L	1	4/9/2019 11:09:59 PM	LF59020
Toluene	ND	1.0		µg/L	1	4/9/2019 11:09:59 PM	LF59020
Ethylbenzene	ND	1.0		µg/L	1	4/9/2019 11:09:59 PM	LF59020
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/9/2019 11:09:59 PM	LF59020
Acetone	ND	10		µg/L	1	4/9/2019 11:09:59 PM	LF59020
Bromodichloromethane	ND	1.0		µg/L	1	4/9/2019 11:09:59 PM	LF59020
Bromoform	ND	1.0		µg/L	1	4/9/2019 11:09:59 PM	LF59020
Bromomethane	ND	2.0		µg/L	1	4/9/2019 11:09:59 PM	LF59020
2-Butanone	ND	10		µg/L	1	4/9/2019 11:09:59 PM	LF59020
Carbon disulfide	ND	10		µg/L	1	4/9/2019 11:09:59 PM	LF59020
Carbon Tetrachloride	ND	1.0		µg/L	1	4/9/2019 11:09:59 PM	LF59020
Chlorobenzene	ND	1.0		µg/L	1	4/9/2019 11:09:59 PM	LF59020
Chloroethane	ND	2.0		µg/L	1	4/9/2019 11:09:59 PM	LF59020
Chloroform	ND	1.0		µg/L	1	4/9/2019 11:09:59 PM	LF59020
Chloromethane	ND	1.0		µg/L	1	4/9/2019 11:09:59 PM	LF59020
cis-1,2-DCE	ND	1.0		µg/L	1	4/9/2019 11:09:59 PM	LF59020
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2019 11:09:59 PM	LF59020
Dibromochloromethane	ND	1.0		µg/L	1	4/9/2019 11:09:59 PM	LF59020
Dibromomethane	ND	1.0		µg/L	1	4/9/2019 11:09:59 PM	LF59020
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2019 11:09:59 PM	LF59020
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/9/2019 11:09:59 PM	LF59020
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/9/2019 11:09:59 PM	LF59020
1,1-Dichloroethane	ND	1.0		µg/L	1	4/9/2019 11:09:59 PM	LF59020
1,1-Dichloroethene	ND	1.0		µg/L	1	4/9/2019 11:09:59 PM	LF59020
1,2-Dichloropropane	ND	0.50		µg/L	1	4/9/2019 11:09:59 PM	LF59020
2-Hexanone	ND	10		µg/L	1	4/9/2019 11:09:59 PM	LF59020
4-Methyl-2-pentanone	ND	10		µg/L	1	4/9/2019 11:09:59 PM	LF59020
Methylene Chloride	ND	2.5		µg/L	1	4/9/2019 11:09:59 PM	LF59020
Styrene	ND	1.0		µg/L	1	4/9/2019 11:09:59 PM	LF59020
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/9/2019 11:09:59 PM	LF59020
1,1,2,2-Tetrachloroethane	ND	1.0		µg/L	1	4/9/2019 11:09:59 PM	LF59020
Tetrachloroethene (PCE)	ND	0.50		µg/L	1	4/9/2019 11:09:59 PM	LF59020
trans-1,2-DCE	ND	1.0		µg/L	1	4/9/2019 11:09:59 PM	LF59020
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/9/2019 11:09:59 PM	LF59020
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/9/2019 11:09:59 PM	LF59020
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/9/2019 11:09:59 PM	LF59020

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1904359**

Date Reported: **5/6/2019**

CLIENT: Gordon Environmental/PSC

Client Sample ID: Trip Blank

Project: Sandoval County Landfill

Collection Date:

Lab ID: 1904359-006

Matrix: TRIP BLANK

Received Date: 4/5/2019 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES, TABLE I							Analyst: DJF
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/9/2019 11:09:59 PM	LF59020
Trichlorofluoromethane	ND	1.0		µg/L	1	4/9/2019 11:09:59 PM	LF59020
1,2,3-Trichloropropane	ND	1.0		µg/L	1	4/9/2019 11:09:59 PM	LF59020
Vinyl chloride	ND	0.40		µg/L	1	4/9/2019 11:09:59 PM	LF59020
Xylenes, Total	ND	2.0		µg/L	1	4/9/2019 11:09:59 PM	LF59020
Acrylonitrile	ND	10		µg/L	1	4/9/2019 11:09:59 PM	LF59020
Bromochloromethane	ND	2.0		µg/L	1	4/9/2019 11:09:59 PM	LF59020
Iodomethane	ND	10		µg/L	1	4/9/2019 11:09:59 PM	LF59020
trans-1,4-Dichloro-2-butene	ND	10		µg/L	1	4/9/2019 11:09:59 PM	LF59020
Vinyl acetate	ND	10		µg/L	1	4/9/2019 11:09:59 PM	LF59020
Surr: 1,2-Dichloroethane-d4	106	70-130		%Rec	1	4/9/2019 11:09:59 PM	LF59020
Surr: 4-Bromofluorobenzene	93.3	70-130		%Rec	1	4/9/2019 11:09:59 PM	LF59020
Surr: Dibromofluoromethane	118	70-130		%Rec	1	4/9/2019 11:09:59 PM	LF59020
Surr: Toluene-d8	96.3	70-130		%Rec	1	4/9/2019 11:09:59 PM	LF59020

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

1904359-001G MW-5R

Collected date/time: 04/04/19 10:10

SAMPLE RESULTS - 01

L1086987

ONE LAB. NATIONWIDE.



Wet Chemistry by Method 4500CN E-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Cyanide	ND		0.00500	1	04/15/2019 12:30	<u>WG1265414</u>

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

ACCOUNT:

Hall Environmental Analysis Laboratory

PROJECT:

SDG:

L1086987

DATE/TIME:

04/16/19 11:07

1904359-002G MW-6R

Collected date/time: 04/04/19 15:30

SAMPLE RESULTS - 02

L1086987

ONE LAB. NATIONWIDE.



Wet Chemistry by Method 4500CN E-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Cyanide	ND		0.00500	1	04/15/2019 12:34	<u>WG1265414</u>

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl^B Al⁹ Sc

ACCOUNT:

Hall Environmental Analysis Laboratory

PROJECT:

SDG:

L1086987

DATE/TIME:

04/16/19 11:07

1904359-003G MW-7R

Collected date/time: 04/04/19 16:26

SAMPLE RESULTS - 03

L1086987

ONE LAB. NATIONWIDE.



Wet Chemistry by Method 4500CN E-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Cyanide	ND		0.00500	1	04/15/2019 12:38	<u>WG1265414</u>

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

ACCOUNT:

Hall Environmental Analysis Laboratory

PROJECT:

SDG:

L1086987

DATE/TIME:

04/16/19 11:07

WG1265414

Wet Chemistry by Method 4500CN E-2011

QUALITY CONTROL SUMMARY

L1086987-01.02.03

ONE LAB. NATIONWIDE



Method Blank (MB)

(MB) R3401793-1 04/15/19 12:21

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Cyanide	U	0.00180	0.00500	

L1086987-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1086987-01 04/15/19 12:30 • (DUP) R3401793-3 04/15/19 12:33

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Cyanide	ND	0.000	1	0.000		20

L1087073-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1087073-02 04/15/19 12:41 • (DUP) R3401793-6 04/15/19 12:42

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Cyanide	ND	0.000	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3401793-2 04/15/19 12:22

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Cyanide	0.100	0.103	103	85.0-115	

L1086987-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1086987-02 04/15/19 12:34 • (MS) R3401793-4 04/15/19 12:35 • (MSD) R3401793-5 04/15/19 12:37

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Cyanide	0.100	ND	0.0943	0.0962	94.3	96.2	1	75.0-125		1.99	1.99	20

L1087410-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1087410-01 04/15/19 12:53 • (MS) R3401793-7 04/15/19 12:54 • (MSD) R3401793-8 04/15/19 12:55

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Cyanide	0.100	ND	0.0917	0.0907	91.7	90.7	1	75.0-125		1.10	1.10	20

ACCOUNT:

Hall Environmental Analysis Laboratory

PROJECT:

SDG:

L1086987

DATE/TIME:

04/16/19 11:07



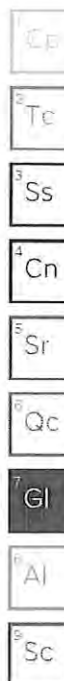
Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.
Qualifier	Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.



ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 1904359
Pace Project No.: 30288817

Sample: 1904359-001H MW-5R Lab ID: 30288817001 Collected: 04/04/19 10:00 Received: 04/10/19 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.613 ± 0.525 (0.711) C:NA T:81%	pCi/L	04/22/19 23:30	13982-63-3	
Radium-228	EPA 904.0	0.273 ± 0.363 (0.773) C:74% T:80%	pCi/L	04/19/19 12:46	15262-20-1	

Sample: 1904359-002H MW-6R Lab ID: 30288817002 Collected: 04/04/19 15:30 Received: 04/10/19 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.646 ± 0.445 (0.476) C:NA T:90%	pCi/L	04/22/19 23:30	13982-63-3	
Radium-228	EPA 904.0	1.04 ± 0.480 (0.778) C:76% T:71%	pCi/L	04/19/19 12:46	15262-20-1	

Sample: 1904359-003H MW-7R Lab ID: 30288817003 Collected: 04/04/19 16:26 Received: 04/10/19 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.204 ± 0.354 (0.633) C:NA T:89%	pCi/L	04/22/19 23:30	13982-63-3	
Radium-228	EPA 904.0	0.828 ± 0.519 (0.969) C:74% T:69%	pCi/L	04/19/19 12:46	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 1904359
Pace Project No.: 30288817

QC Batch:	338211	Analysis Method:	EPA 904.0
QC Batch Method:	EPA 904.0	Analysis Description:	904.0 Radium 228
Associated Lab Samples:	30288817001, 30288817002, 30288817003		

METHOD BLANK: 1646527 Matrix: Water

Associated Lab Samples: 30288817001, 30288817002, 30288817003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	-0.0681 ± 0.343 (0.816) C:74% T:84%	pCi/L	04/19/19 12:45	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 1904359
Pace Project No.: 30288817

QC Batch: 338210	Analysis Method: EPA 903.1
QC Batch Method: EPA 903.1	Analysis Description: 903.1 Radium-226
Associated Lab Samples: 30288817001, 30288817002, 30288817003	

METHOD BLANK: 1646526	Matrix: Water
Associated Lab Samples: 30288817001, 30288817002, 30288817003	

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.212 ± 0.323 (0.520) C:NA T:90%	pCi/L	04/22/19 22:44	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 1904359
Pace Project No.: 30288817

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: For Safe Drinking Water Act (SDWA) analyses, the reported Unc. is the calculated Count Uncertainty (95% confidence interval) using a coverage factor of 1.96. For all other matrices (non-SDWA), the reported Unc. is the calculated Expanded Uncertainty (aka Combined Standard Uncertainty, CSU), reported at the 95% confidence interval using a coverage factor of 1.96.

Gamma Spec: The Unc. reported for all gamma-spectroscopy analyses (EPA 901.1), is the calculated Expanded Uncertainty (CSU) at the 95.4% confidence interval, using a coverage factor of 2.0.

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904359

06-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: LL LCS-44204	SampType: LCSLL	TestCode: EPA Method 200.7: Metals								
Client ID: BatchQC	Batch ID: 44204	RunNo: 59029								
Prep Date: 4/8/2019	Analysis Date: 4/9/2019	SeqNo: 1986518	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020	0.01000	0	124	50	150			
Barium	ND	0.0020	0.002000	0	83.7	50	150			
Beryllium	ND	0.0020	0.002000	0	87.5	50	150			
Boron	ND	0.040	0.04000	0	97.6	50	150			
Cadmium	0.0023	0.0020	0.002000	0	117	50	150			
Calcium	ND	1.0	0.5000	0	103	50	150			
Chromium	ND	0.0060	0.006000	0	75.7	50	150			
Cobalt	ND	0.0060	0.006000	0	72.8	50	150			
Copper	ND	0.0060	0.006000	0	96.9	50	150			
Iron	0.025	0.020	0.02000	0	124	50	150			
Magnesium	ND	1.0	0.5000	0	102	50	150			
Manganese	ND	0.0020	0.002000	0	91.8	50	150			
Molybdenum	ND	0.0080	0.008000	0	83.7	50	150			
Potassium	ND	1.0	0.5000	0	103	50	150			
Silver	0.0051	0.0050	0.005000	0	103	50	150			
Sodium	ND	1.0	0.5000	0	96.3	50	150			
Vanadium	ND	0.050	0.01000	0	86.0	50	150			

Sample ID: LCS-44204	SampType: LCS	TestCode: EPA Method 200.7: Metals								
Client ID: LCSW	Batch ID: 44204	RunNo: 59029								
Prep Date: 4/8/2019	Analysis Date: 4/9/2019	SeqNo: 1986519	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.54	0.020	0.5000	0	107	85	115			
Barium	0.49	0.0020	0.5000	0	98.7	85	115			
Beryllium	0.50	0.0020	0.5000	0	101	85	115			
Boron	0.50	0.040	0.5000	0	99.9	85	115			
Cadmium	0.51	0.0020	0.5000	0	101	85	115			
Calcium	52	1.0	50.00	0	103	85	115			
Chromium	0.50	0.0060	0.5000	0	99.2	85	115			
Cobalt	0.49	0.0060	0.5000	0	98.9	85	115			
Copper	0.52	0.0060	0.5000	0	103	85	115			
Iron	0.51	0.020	0.5000	0	101	85	115			
Magnesium	52	1.0	50.00	0	103	85	115			
Manganese	0.49	0.0020	0.5000	0	98.8	85	115			
Molybdenum	0.50	0.0080	0.5000	0	100	85	115			
Nickel	0.50	0.010	0.5000	0	99.5	85	115			
Potassium	51	1.0	50.00	0	103	85	115			
Silver	0.10	0.0050	0.1000	0	104	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904359

06-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: LCS-44204	SampType: LCS	TestCode: EPA Method 200.7: Metals								
Client ID: LCSW	Batch ID: 44204	RunNo: 59029								
Prep Date: 4/8/2019	Analysis Date: 4/9/2019	SeqNo: 1986519 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	51	1.0	50.00	0	102	85	115			
Vanadium	0.50	0.050	0.5000	0	99.6	85	115			
Zinc	0.49	0.010	0.5000	0	98.9	85	115			

Sample ID: LLCS-44204	SampType: LCSLL	TestCode: EPA Method 200.7: Metals								
Client ID: BatchQC	Batch ID: 44204	RunNo: 59029								
Prep Date: 4/8/2019	Analysis Date: 4/9/2019	SeqNo: 1986532 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nickel	ND	0.010	0.005000	0	77.9	50	150			

Sample ID: MB-44204	SampType: MBLK	TestCode: EPA Method 200.7: Metals								
Client ID: PBW	Batch ID: 44204	RunNo: 59029								
Prep Date: 4/8/2019	Analysis Date: 4/9/2019	SeqNo: 1986533 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Vanadium	ND	0.050								
Zinc	ND	0.010								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904359

06-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: LLLCS-44204	SampType: LCSLL	TestCode: EPA Method 200.7: Metals
Client ID: BatchQC	Batch ID: 44204	RunNo: 59029
Prep Date: 4/8/2019	Analysis Date: 4/9/2019	SeqNo: 1986534 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Zinc	0.017	0.010 0.01000 0 173 50 150 S

Sample ID: 1904334-001AMS	SampType: MS	TestCode: EPA Method 200.7: Metals
Client ID: BatchQC	Batch ID: 44204	RunNo: 59029
Prep Date: 4/8/2019	Analysis Date: 4/9/2019	SeqNo: 1986572 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Iron	0.64	0.020 0.5000 0.1209 103 70 130
Magnesium	68	1.0 50.00 16.16 104 70 130

Sample ID: 1904334-001AMSD	SampType: MSD	TestCode: EPA Method 200.7: Metals
Client ID: BatchQC	Batch ID: 44204	RunNo: 59029
Prep Date: 4/8/2019	Analysis Date: 4/9/2019	SeqNo: 1986573 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Iron	0.63	0.020 0.5000 0.1209 102 70 130 0.869 20
Magnesium	67	1.0 50.00 16.16 102 70 130 1.63 20

Sample ID: 1904334-001AMS	SampType: MS	TestCode: EPA Method 200.7: Metals
Client ID: BatchQC	Batch ID: 44204	RunNo: 59029
Prep Date: 4/8/2019	Analysis Date: 4/9/2019	SeqNo: 1986580 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Calcium	120	5.0 50.00 68.33 95.8 70 130
Sodium	150	5.0 50.00 99.10 91.9 70 130

Sample ID: 1904334-001AMSD	SampType: MSD	TestCode: EPA Method 200.7: Metals
Client ID: BatchQC	Batch ID: 44204	RunNo: 59029
Prep Date: 4/8/2019	Analysis Date: 4/9/2019	SeqNo: 1986581 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Calcium	120	5.0 50.00 68.33 93.4 70 130 1.06 20
Sodium	140	5.0 50.00 99.10 83.6 70 130 2.91 20

Sample ID: 1904335-001AMS	SampType: MS	TestCode: EPA Method 200.7: Metals
Client ID: BatchQC	Batch ID: 44204	RunNo: 59029
Prep Date: 4/8/2019	Analysis Date: 4/9/2019	SeqNo: 1986583 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Beryllium	0.52	0.0020 0.5000 0.0005977 103 70 130

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904359

06-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: 1904335-001AMS		SampType: MS		TestCode: EPA Method 200.7: Metals						
Client ID: BatchQC		Batch ID: 44204		RunNo: 59029						
Prep Date: 4/8/2019		Analysis Date: 4/9/2019		SeqNo: 1986583			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.79	0.040	0.5000	0.2541	106	70	130			
Cadmium	0.52	0.0020	0.5000	0	104	70	130			
Chromium	0.54	0.0060	0.5000	0.01368	105	70	130			
Magnesium	71	1.0	50.00	18.86	103	70	130			
Manganese	0.64	0.0020	0.5000	0.1360	101	70	130			
Molybdenum	0.51	0.0080	0.5000	0	102	70	130			
Nickel	0.53	0.010	0.5000	0.007778	104	70	130			
Silver	0.11	0.0050	0.1000	0.001776	111	70	130			
Zinc	0.68	0.010	0.5000	0.1746	102	70	130			

Sample ID: 1904335-001AMSD		SampType: MSD		TestCode: EPA Method 200.7: Metals						
Client ID: BatchQC		Batch ID: 44204		RunNo: 59029						
Prep Date: 4/8/2019		Analysis Date: 4/9/2019		SeqNo: 1986584		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.51	0.0020	0.5000	0.0005977	102	70	130	1.35	20	
Boron	0.78	0.040	0.5000	0.2541	105	70	130	0.718	20	
Cadmium	0.51	0.0020	0.5000	0	101	70	130	2.31	20	
Chromium	0.53	0.0060	0.5000	0.01368	103	70	130	1.86	20	
Magnesium	71	1.0	50.00	18.86	104	70	130	0.173	20	
Manganese	0.63	0.0020	0.5000	0.1360	99.2	70	130	1.42	20	
Molybdenum	0.51	0.0080	0.5000	0	101	70	130	1.32	20	
Zinc	0.65	0.010	0.5000	0.1746	95.8	70	130	4.31	20	

Sample ID: 1904335-001AMS		SampType: MS		TestCode: EPA Method 200.7: Metals						
Client ID: BatchQC		Batch ID: 44204		RunNo: 59029						
Prep Date: 4/8/2019		Analysis Date: 4/9/2019		SeqNo: 1986586		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	130	5.0	50.00	77.59	106	70	130			

Sample ID: 1904335-001AMSD		SampType: MSD		TestCode: EPA Method 200.7: Metals						
Client ID: BatchQC		Batch ID: 44204			RunNo: 59029					
Prep Date: 4/8/2019		Analysis Date: 4/9/2019			SeqNo: 1986587		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	130	5.0	50.00	77.59	109	70	130	1.12	20	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904359

06-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: MB-44204	SampType: MBLK	TestCode: EPA Method 200.7: Metals
Client ID: PBW	Batch ID: 44204	RunNo: 59128
Prep Date: 4/8/2019	Analysis Date: 4/12/2019	SeqNo: 1990198 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Zinc	ND	0.010

Sample ID: LLLCS-44204	SampType: LCSLL	TestCode: EPA Method 200.7: Metals
Client ID: BatchQC	Batch ID: 44204	RunNo: 59128
Prep Date: 4/8/2019	Analysis Date: 4/12/2019	SeqNo: 1990199 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Zinc	0.018	0.010 0.01000 0 177 50 150 S

Sample ID: LCS-44204	SampType: LCS	TestCode: EPA Method 200.7: Metals
Client ID: LCSW	Batch ID: 44204	RunNo: 59128
Prep Date: 4/8/2019	Analysis Date: 4/12/2019	SeqNo: 1990200 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Zinc	ND	0.010 0.5000 0 1.29 85 115 S

Sample ID: LLLCS-44204	SampType: LCSLL	TestCode: EPA Method 200.7: Metals
Client ID: BatchQC	Batch ID: 44204	RunNo: 59128
Prep Date: 4/8/2019	Analysis Date: 4/12/2019	SeqNo: 1990224 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Zinc	0.014	0.010 0.01000 0 139 50 150

Sample ID: MB-C	SampType: MBLK	TestCode: EPA Method 200.7: Metals
Client ID: PBW	Batch ID: C59158	RunNo: 59158
Prep Date:	Analysis Date: 4/15/2019	SeqNo: 1991412 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Aluminum	ND	0.020
Beryllium	ND	0.0020
Cadmium	ND	0.0020
Calcium	ND	1.0
Chromium	ND	0.0060
Cobalt	ND	0.0060
Copper	ND	0.0060
Magnesium	ND	1.0
Manganese	ND	0.0020
Molybdenum	ND	0.0080
Nickel	ND	0.010
Potassium	ND	1.0

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904359

06-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: MB-C	SampType: MBLK	TestCode: EPA Method 200.7: Metals								
Client ID: PBW	Batch ID: C59158	RunNo: 59158								
Prep Date:	Analysis Date: 4/15/2019	SeqNo: 1991412			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	ND	0.0050								
Sodium	ND	1.0								
Vanadium	ND	0.050								
Zinc	ND	0.010								

Sample ID: LLCS-C	SampType: LCSLL	TestCode: EPA Method 200.7: Metals								
Client ID: BatchQC	Batch ID: C59158	RunNo: 59158								
Prep Date:	Analysis Date: 4/15/2019	SeqNo: 1991414			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020	0.01000	0	111	50	150			
Beryllium	0.0022	0.0020	0.002000	0	108	50	150			
Cadmium	0.0023	0.0020	0.002000	0	117	50	150			
Calcium	ND	1.0	0.5000	0	101	50	150			
Chromium	0.0066	0.0060	0.006000	0	110	50	150			
Cobalt	ND	0.0060	0.006000	0	96.5	50	150			
Copper	0.0064	0.0060	0.006000	0	106	50	150			
Magnesium	ND	1.0	0.5000	0	102	50	150			
Manganese	0.0021	0.0020	0.002000	0	103	50	150			
Molybdenum	0.0089	0.0080	0.008000	0	111	50	150			
Potassium	ND	1.0	0.5000	0	100	50	150			
Silver	0.0051	0.0050	0.005000	0	101	50	150			
Sodium	ND	1.0	0.5000	0	94.9	50	150			
Vanadium	ND	0.050	0.01000	0	116	50	150			
Zinc	ND	0.010	0.005000	0	135	50	150			

Sample ID: LCS-C	SampType: LCS	TestCode: EPA Method 200.7: Metals								
Client ID: LCSW	Batch ID: C59158	RunNo: 59158								
Prep Date:	Analysis Date: 4/15/2019	SeqNo: 1991416			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.52	0.020	0.5000	0	104	85	115			
Beryllium	0.49	0.0020	0.5000	0	98.7	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.2	85	115			
Calcium	50	1.0	50.00	0	100	85	115			
Chromium	0.49	0.0060	0.5000	0	97.1	85	115			
Cobalt	0.49	0.0060	0.5000	0	97.2	85	115			
Copper	0.50	0.0060	0.5000	0	99.2	85	115			
Magnesium	51	1.0	50.00	0	101	85	115			
Manganese	0.50	0.0020	0.5000	0	99.2	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904359

06-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: LCS-C	SampType: LCS		TestCode: EPA Method 200.7: Metals							
Client ID: LCSW	Batch ID: C59158		RunNo: 59158							
Prep Date:	Analysis Date: 4/15/2019		SeqNo: 1991416		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Molybdenum	0.48	0.0080	0.5000	0	96.3	85	115			
Nickel	0.48	0.010	0.5000	0	96.7	85	115			
Potassium	50	1.0	50.00	0	101	85	115			
Silver	0.096	0.0050	0.1000	0	95.6	85	115			
Sodium	51	1.0	50.00	0	103	85	115			
Vanadium	0.49	0.050	0.5000	0	98.5	85	115			
Zinc	0.48	0.010	0.5000	0	95.8	85	115			

Sample ID: LLCS-C	SampType: LCSLL		TestCode: EPA Method 200.7: Metals							
Client ID: BatchQC	Batch ID: C59158		RunNo: 59158							
Prep Date:	Analysis Date: 4/15/2019		SeqNo: 1991420		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nickel	ND	0.010	0.005000	0	109	50	150			

Sample ID: 1904359-001EMS	SampType: MS		TestCode: EPA Method 200.7: Metals							
Client ID: MW-5R	Batch ID: B59216		RunNo: 59216							
Prep Date:	Analysis Date: 4/17/2019		SeqNo: 1993791		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.54	0.0020	0.5000	0.08169	91.4	70	130			
Boron	0.82	0.040	0.5000	0.3236	99.4	70	130			
Iron	0.52	0.020	0.5000	0.02174	99.5	70	130			

Sample ID: 1904359-001EMSD	SampType: MSD		TestCode: EPA Method 200.7: Metals							
Client ID: MW-5R	Batch ID: B59216		RunNo: 59216							
Prep Date:	Analysis Date: 4/17/2019		SeqNo: 1993792		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.54	0.0020	0.5000	0.08169	92.0	70	130	0.592	20	
Boron	0.83	0.040	0.5000	0.3236	101	70	130	0.973	20	
Iron	0.51	0.020	0.5000	0.02174	98.6	70	130	0.837	20	

Sample ID: MB-B	SampType: MBLK		TestCode: EPA Method 200.7: Metals							
Client ID: PBW	Batch ID: B59216		RunNo: 59216							
Prep Date:	Analysis Date: 4/17/2019		SeqNo: 1993847		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904359

06-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: MB-B	SampType: MBLK	TestCode: EPA Method 200.7: Metals								
Client ID: PBW	Batch ID: B59216	RunNo: 59216								
Prep Date:	Analysis Date: 4/17/2019	SeqNo: 1993847 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Vanadium	ND	0.050								
Zinc	ND	0.010								

Sample ID: LLCS-B	SampType: LCSLL	TestCode: EPA Method 200.7: Metals								
Client ID: BatchQC	Batch ID: B59216	RunNo: 59216								
Prep Date:	Analysis Date: 4/17/2019	SeqNo: 1993848 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020	0.01000	0	108	50	150			
Barium	0.0021	0.0020	0.002000	0	104	50	150			
Beryllium	0.0021	0.0020	0.002000	0	105	50	150			
Boron	ND	0.040	0.04000	0	98.8	50	150			
Cadmium	0.0027	0.0020	0.002000	0	135	50	150			
Calcium	ND	1.0	0.5000	0	106	50	150			
Chromium	0.0062	0.0060	0.006000	0	104	50	150			
Cobalt	ND	0.0060	0.006000	0	96.2	50	150			
Copper	0.0061	0.0060	0.006000	0	102	50	150			
Iron	0.023	0.020	0.02000	0	114	50	150			
Magnesium	ND	1.0	0.5000	0	103	50	150			
Manganese	0.0020	0.0020	0.002000	0	102	50	150			
Molybdenum	0.0088	0.0080	0.008000	0	110	50	150			
Nickel	ND	0.010	0.005000	0	89.8	50	150			
Potassium	ND	1.0	0.5000	0	108	50	150			
Silver	0.0051	0.0050	0.005000	0	102	50	150			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904359

06-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: LLLCS-B	SampType: LCSLL	TestCode: EPA Method 200.7: Metals								
Client ID: BatchQC	Batch ID: B59216	RunNo: 59216								
Prep Date:	Analysis Date: 4/17/2019	SeqNo: 1993848	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	ND	1.0	0.5000	0	117	50	150			
Vanadium	ND	0.050	0.01000	0	103	50	150			
Zinc	ND	0.010	0.005000	0	150	50	150			

Sample ID: LCS-B	SampType: LCS	TestCode: EPA Method 200.7: Metals								
Client ID: LCSW	Batch ID: B59216	RunNo: 59216								
Prep Date:	Analysis Date: 4/17/2019	SeqNo: 1993849	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.55	0.020	0.5000	0	110	85	115			
Barium	0.49	0.0020	0.5000	0	98.8	85	115			
Beryllium	0.49	0.0020	0.5000	0	98.7	85	115			
Boron	0.51	0.040	0.5000	0	103	85	115			
Cadmium	0.51	0.0020	0.5000	0	102	85	115			
Calcium	49	1.0	50.00	0	98.8	85	115			
Chromium	0.50	0.0060	0.5000	0	99.6	85	115			
Cobalt	0.48	0.0060	0.5000	0	96.9	85	115			
Copper	0.51	0.0060	0.5000	0	103	85	115			
Iron	0.50	0.020	0.5000	0	99.7	85	115			
Magnesium	50	1.0	50.00	0	100	85	115			
Manganese	0.49	0.0020	0.5000	0	98.0	85	115			
Molybdenum	0.51	0.0080	0.5000	0	101	85	115			
Nickel	0.49	0.010	0.5000	0	97.2	85	115			
Potassium	50	1.0	50.00	0	100	85	115			
Silver	0.10	0.0050	0.1000	0	102	85	115			
Sodium	51	1.0	50.00	0	102	85	115			
Vanadium	0.51	0.050	0.5000	0	103	85	115			
Zinc	0.49	0.010	0.5000	0	98.0	85	115			

Sample ID: 1904335-001AMS	SampType: MS	TestCode: EPA Method 200.7: Metals								
Client ID: BatchQC	Batch ID: 44204	RunNo: 59216								
Prep Date: 4/8/2019	Analysis Date: 4/17/2019	SeqNo: 1994499	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	140	5.0	50.00	87.81	102	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904359

06-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: 1904335-001AMSD		SampType: MSD		TestCode: EPA Method 200.7: Metals						
Client ID: BatchQC		Batch ID: 44204		RunNo: 59216						
Prep Date: 4/8/2019		Analysis Date: 4/17/2019		SeqNo: 1994500		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	140	5.0	50.00	87.81	97.0	70	130	1.73	20	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904359

06-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: MB-44204		SampType: MBLK		TestCode: EPA 200.8: Metals						
Client ID: PBW		Batch ID: 44204		RunNo: 59028						
Prep Date: 4/8/2019		Analysis Date: 4/9/2019		SeqNo: 1986918			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								
Uranium	ND	0.00050								

Sample ID: MSLLCS-44204		SampType: LCSLL		TestCode: EPA 200.8: Metals						
Client ID: BatchQC		Batch ID: 44204		RunNo: 59028						
Prep Date: 4/8/2019		Analysis Date: 4/9/2019		SeqNo: 1986920			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010	0.001000	0	97.9	50	150			
Arsenic	0.0010	0.0010	0.001000	0	101	50	150			
Lead	ND	0.00050	0.0005000	0	97.5	50	150			
Selenium	0.0011	0.0010	0.001000	0	107	50	150			
Thallium	ND	0.00050	0.0005000	0	86.2	50	150			
Uranium	0.00051	0.00050	0.0005000	0	103	50	150			

Sample ID: MSLCS-44204		SampType: LCS		TestCode: EPA 200.8: Metals						
Client ID: LCSW		Batch ID: 44204			RunNo: 59028					
Prep Date: 4/8/2019		Analysis Date: 4/9/2019			SeqNo: 1986924		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.025	0.0010	0.02500	0	99.9	85	115			
Arsenic	0.025	0.0010	0.02500	0	98.3	85	115			
Lead	0.012	0.00050	0.01250	0	98.5	85	115			
Selenium	0.026	0.0010	0.02500	0	104	85	115			
Thallium	0.012	0.00050	0.01250	0	97.2	85	115			
Uranium	0.013	0.00050	0.01250	0	105	85	115			

Sample ID: MB		SampType: MBLK		TestCode: EPA 200.8: Metals						
Client ID: PBW		Batch ID: B59277		RunNo: 59277						
Prep Date:		Analysis Date: 4/18/2019		SeqNo: 1995925		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904359

06-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Metals
Client ID: PBW	Batch ID: B59277	RunNo: 59277
Prep Date:	Analysis Date: 4/18/2019	SeqNo: 1995925 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Thallium	ND	0.00050
Uranium	ND	0.00050

Sample ID: LL LCS	SampType: LCSLL	TestCode: EPA 200.8: Metals
Client ID: BatchQC	Batch ID: B59277	RunNo: 59277
Prep Date:	Analysis Date: 4/18/2019	SeqNo: 1995926 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Antimony	ND	0.0010 0.001000 0 79.8 50 150
Arsenic	0.0010	0.0010 0.001000 0 101 50 150
Lead	ND	0.00050 0.0005000 0 92.3 50 150
Selenium	0.0011	0.0010 0.001000 0 115 50 150
Thallium	ND	0.00050 0.0005000 0 91.8 50 150
Uranium	ND	0.00050 0.0005000 0 94.2 50 150

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Metals
Client ID: LCSW	Batch ID: B59277	RunNo: 59277
Prep Date:	Analysis Date: 4/18/2019	SeqNo: 1995927 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Antimony	0.022	0.0010 0.02500 0 89.4 85 115
Arsenic	0.024	0.0010 0.02500 0 95.0 85 115
Lead	0.012	0.00050 0.01250 0 95.5 85 115
Selenium	0.024	0.0010 0.02500 0 96.4 85 115
Thallium	0.012	0.00050 0.01250 0 96.0 85 115
Uranium	0.012	0.00050 0.01250 0 96.3 85 115

Sample ID: 1904696-001BMS	SampType: MS	TestCode: EPA 200.8: Metals
Client ID: BatchQC	Batch ID: B59277	RunNo: 59277
Prep Date:	Analysis Date: 4/18/2019	SeqNo: 1995957 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Lead	0.012	0.00050 0.01250 0.0005343 94.2 70 130

Sample ID: 1904696-001BMSD	SampType: MSD	TestCode: EPA 200.8: Metals
Client ID: BatchQC	Batch ID: B59277	RunNo: 59277
Prep Date:	Analysis Date: 4/18/2019	SeqNo: 1995961 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Lead	0.013	0.00050 0.01250 0.0005343 95.8 70 130 1.60 20

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904359

06-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: MB-44411	SampType: MBLK	TestCode: EPA Method 245.1: Mercury
Client ID: PBW	Batch ID: 44411	RunNo: 59288
Prep Date: 4/17/2019	Analysis Date: 4/18/2019	SeqNo: 1996307 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	ND 0.00020	

Sample ID: LCS-44411	SampType: LCS	TestCode: EPA Method 245.1: Mercury
Client ID: LCSW	Batch ID: 44411	RunNo: 59288
Prep Date: 4/17/2019	Analysis Date: 4/18/2019	SeqNo: 1996308 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	0.0049 0.00020 0.005000	0 97.4 80 120

Sample ID: 1904288-002CMS	SampType: MS	TestCode: EPA Method 245.1: Mercury
Client ID: BatchQC	Batch ID: 44411	RunNo: 59288
Prep Date: 4/17/2019	Analysis Date: 4/18/2019	SeqNo: 1996314 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	0.0050 0.00020 0.005000	0 99.1 75 125

Sample ID: 1904288-002CMSD	SampType: MSD	TestCode: EPA Method 245.1: Mercury
Client ID: BatchQC	Batch ID: 44411	RunNo: 59288
Prep Date: 4/17/2019	Analysis Date: 4/18/2019	SeqNo: 1996315 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	0.0047 0.00020 0.005000	0 93.4 75 125 5.98 20

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904359

06-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: 1904362-001AMS		SampType: ms		TestCode: EPA Method 300.0: Anions						
Client ID: BatchQC		Batch ID: R58949		RunNo: 58949						
Prep Date:		Analysis Date: 4/5/2019		SeqNo: 1982529		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	6.1	1.0	5.000	0.8459	106	66.7	127			
Nitrogen, Nitrate (As N)	29	1.0	25.00	2.338	106	79.1	116			
Phosphorus, Orthophosphate (As P	49	5.0	50.00	0	98.2	80.7	113			

Sample ID: 1904362-001AMSD		SampType: msd		TestCode: EPA Method 300.0: Anions						
Client ID: BatchQC		Batch ID: R58949		RunNo: 58949						
Prep Date:		Analysis Date: 4/5/2019		SeqNo: 1982530			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	6.2	1.0	5.000	0.8459	108	66.7	127	1.66	20	
Nitrogen, Nitrate (As N)	29	1.0	25.00	2.338	108	79.1	116	1.74	20	
Phosphorus, Orthophosphate (As P	50	5.0	50.00	0	100	80.7	113	1.99	20	

Sample ID: 1904359-001DMS		SampType: ms		TestCode: EPA Method 300.0: Anions						
Client ID: MW-5R		Batch ID: R58949		RunNo: 58949						
Prep Date:		Analysis Date: 4/5/2019		SeqNo: 1982535			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	1.2	0.10	0.5000	0.7149	101	66.7	127			
Nitrogen, Nitrate (As N)	3.2	0.10	2.500	0.6300	101	79.1	116			
Phosphorus, Orthophosphate (As P	4.7	0.50	5.000	0.1174	91.5	80.7	113			
Sulfate	44	0.50	10.00	33.71	104	74.9	123			

Sample ID: 1904359-001DMSD		SampType: msd		TestCode: EPA Method 300.0: Anions						
Client ID: MW-5R		Batch ID: R58949		RunNo: 58949						
Prep Date:		Analysis Date: 4/5/2019		SeqNo: 1982536			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	1.2	0.10	0.5000	0.7149	101	66.7	127	0.0374	20	
Nitrogen, Nitrate (As N)	3.2	0.10	2.500	0.6300	102	79.1	116	0.424	20	
Phosphorus, Orthophosphate (As P	4.7	0.50	5.000	0.1174	92.0	80.7	113	0.558	20	
Sulfate	44	0.50	10.00	33.71	105	74.9	123	0.200	20	

Sample ID: MB		SampType: mblk		TestCode: EPA Method 300.0: Anions						
Client ID: PBW		Batch ID: R58949		RunNo: 58949						
Prep Date:		Analysis Date: 4/5/2019		SeqNo: 1982548		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904359

06-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R58949	RunNo: 58949								
Prep Date:	Analysis Date: 4/5/2019	SeqNo: 1982548 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								
Sulfate	ND	0.50								

Sample ID: LCS	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R58949	RunNo: 58949								
Prep Date:	Analysis Date: 4/5/2019	SeqNo: 1982549 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.54	0.10	0.5000	0	109	90	110			
Chloride	5.0	0.50	5.000	0	100	90	110			
Nitrogen, Nitrate (As N)	2.7	0.10	2.500	0	106	90	110			
Phosphorus, Orthophosphate (As P)	5.1	0.50	5.000	0	102	90	110			
Sulfate	10	0.50	10.00	0	102	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904359

06-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: 1904308-002BMS		SampType: MS			TestCode: EPA Method 504.1: EDB/DBCP					
Client ID: BatchQC		Batch ID: 44277			RunNo: 59112					
Prep Date: 4/11/2019		Analysis Date: 4/11/2019			SeqNo: 1989763		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromo-3-chloropropane	0.089	0.019	0.09537	0	93.8	65	135			
1,2-Dibromoethane	0.075	0.0095	0.09537	0	78.9	65	135			

Sample ID: 1904308-002BMSD		SampType: MSD		TestCode: EPA Method 504.1: EDB/DBCP						
Client ID: BatchQC		Batch ID: 44277		RunNo: 59112						
Prep Date: 4/11/2019		Analysis Date: 4/11/2019		SeqNo: 1989764		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromo-3-chloropropane	0.10	0.019	0.09537	0	107	65	135	12.9	20	
1,2-Dibromoethane	0.081	0.0095	0.09537	0	84.5	65	135	6.85	20	

Sample ID: MB-44277		SampType: MBLK		TestCode: EPA Method 504.1: EDB/DBCP						
Client ID: PBW		Batch ID: 44277		RunNo: 59112						
Prep Date: 4/11/2019		Analysis Date: 4/11/2019		SeqNo: 1989856		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromo-3-chloropropane	ND	0.020								
1,2-Dibromoethane	ND	0.010								

Sample ID: LCS-44277		SampType: LCS		TestCode: EPA Method 504.1: EDB/DBCP						
Client ID: LCSW		Batch ID: 44277		RunNo: 59112						
Prep Date: 4/11/2019		Analysis Date: 4/11/2019		SeqNo: 1989857		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromo-3-chloropropane	0.11	0.020	0.1000	0	110	70	130			
1,2-Dibromoethane	0.11	0.010	0.1000	0	106	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904359

06-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: MB-44287	SampType: MBLK	TestCode: EPA Method 8082A: PCB's								
Client ID: PBW	Batch ID: 44287	RunNo: 59230								
Prep Date: 4/11/2019	Analysis Date: 4/17/2019	SeqNo: 1994071 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.25								
Aroclor 1221	ND	0.25								
Aroclor 1232	ND	0.25								
Aroclor 1242	ND	0.25								
Aroclor 1248	ND	0.25								
Aroclor 1254	ND	0.25								
Aroclor 1260	ND	0.25								
Surr: Decachlorobiphenyl	1.7		2.500		67.2	24.8	102			
Surr: Tetrachloro-m-xylene	1.7		2.500		67.2	15.6	106			

Sample ID: LCS-44287	SampType: LCS	TestCode: EPA Method 8082A: PCB's								
Client ID: LCSW	Batch ID: 44287	RunNo: 59230								
Prep Date: 4/11/2019	Analysis Date: 4/17/2019	SeqNo: 1994072 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	4.1	0.25	5.000	0	81.0	25.9	120			
Aroclor 1260	3.9	0.25	5.000	0	78.4	38.4	134			
Surr: Decachlorobiphenyl	2.0		2.500		82.0	24.8	102			
Surr: Tetrachloro-m-xylene	2.2		2.500		86.0	15.6	106			

Sample ID: 1904503-001DMS	SampType: MS	TestCode: EPA Method 8082A: PCB's								
Client ID: BatchQC	Batch ID: 44287	RunNo: 59230								
Prep Date: 4/11/2019	Analysis Date: 4/17/2019	SeqNo: 1994094 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	3.7	0.25	5.000	0	73.4	32	148			
Aroclor 1260	3.7	0.25	5.000	0	74.4	29.2	163			
Surr: Decachlorobiphenyl	1.8		2.500		70.4	24.8	102			
Surr: Tetrachloro-m-xylene	1.4		2.500		56.4	15.6	106			

Sample ID: 1904503-001DMSD	SampType: MSD	TestCode: EPA Method 8082A: PCB's								
Client ID: BatchQC	Batch ID: 44287	RunNo: 59230								
Prep Date: 4/11/2019	Analysis Date: 4/17/2019	SeqNo: 1994095 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	4.0	0.25	5.000	0	79.2	32	148	7.60	25	
Aroclor 1260	4.3	0.25	5.000	0	86.4	29.2	163	14.9	23.5	
Surr: Decachlorobiphenyl	2.0		2.500		78.4	24.8	102	0	0	
Surr: Tetrachloro-m-xylene	1.4		2.500		57.2	15.6	106	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904359

06-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: rb	SampType: MBLK			TestCode: EPA Method 8260B: Volatiles, Table I						
Client ID: PBW	Batch ID: LF59020			RunNo: 59020						
Prep Date:	Analysis Date: 4/9/2019			SeqNo: 1985754		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
Acetone	ND	10								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	2.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	0.50								
2-Hexanone	ND	10								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	2.5								
Styrene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	1.0								
Tetrachloroethene (PCE)	ND	0.50								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	1.0								
Vinyl chloride	ND	0.40								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
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ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904359

06-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: rb	SampType: MBLK		TestCode: EPA Method 8260B: Volatiles, Table I							
Client ID: PBW	Batch ID: LF59020		RunNo: 59020							
Prep Date:	Analysis Date: 4/9/2019		SeqNo: 1985754		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Xylenes, Total	ND	2.0								
Acrylonitrile	ND	10								
Bromochloromethane	ND	2.0								
Iodomethane	ND	10								
trans-1,4-Dichloro-2-butene	ND	10								
Vinyl acetate	ND	10								
Surr: 1,2-Dichloroethane-d4	10		10.00		103	70	130			
Surr: 4-Bromofluorobenzene	9.3		10.00		93.3	70	130			
Surr: Dibromofluoromethane	11		10.00		113	70	130			
Surr: Toluene-d8	9.7		10.00		96.9	70	130			

Sample ID: 100ng lcsb	SampType: LCS		TestCode: EPA Method 8260B: Volatiles, Table I							
Client ID: LCSW	Batch ID: LF59020		RunNo: 59020							
Prep Date:	Analysis Date: 4/9/2019		SeqNo: 1985755		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.4	70	130			
Toluene	19	1.0	20.00	0	96.0	70	130			
Chlorobenzene	19	1.0	20.00	0	94.9	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	102	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	95.3	70	130			
Surr: 1,2-Dichloroethane-d4	9.4		10.00		93.5	70	130			
Surr: 4-Bromofluorobenzene	9.1		10.00		90.7	70	130			
Surr: Dibromofluoromethane	11		10.00		108	70	130			
Surr: Toluene-d8	10		10.00		99.6	70	130			

Sample ID: 1904359-001a ms	SampType: MS		TestCode: EPA Method 8260B: Volatiles, Table I							
Client ID: MW-5R	Batch ID: LF59020		RunNo: 59020							
Prep Date:	Analysis Date: 4/9/2019		SeqNo: 1985757		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	105	70	130			
Toluene	19	1.0	20.00	0	95.2	70	130			
Chlorobenzene	19	1.0	20.00	0	96.9	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	108	67.6	130			
Trichloroethene (TCE)	20	1.0	20.00	0	101	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		102	70	130			
Surr: 4-Bromofluorobenzene	9.4		10.00		93.7	70	130			
Surr: Dibromofluoromethane	11		10.00		115	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904359

06-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: 1904359-001a msd		SampType: MSD		TestCode: EPA Method 8260B: Volatiles, Table I						
Client ID: MW-5R		Batch ID: LF59020		RunNo: 59020						
Prep Date:		Analysis Date: 4/9/2019		SeqNo: 1985758		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	104	70	130	0.841	20	
Toluene	18	1.0	20.00	0	91.5	70	130	3.97	20	
Chlorobenzene	19	1.0	20.00	0	94.9	70	130	2.17	20	
1,1-Dichloroethene	21	1.0	20.00	0	105	67.6	130	3.11	20	
Trichloroethene (TCE)	20	1.0	20.00	0	101	70	130	0.195	20	
Surr: 1,2-Dichloroethane-d4	10		10.00		102	70	130	0	0	
Surr: 4-Bromofluorobenzene	9.4		10.00		94.4	70	130	0	0	
Surr: Dibromofluoromethane	11		10.00		114	70	130	0	0	
Surr: Toluene-d8	9.8		10.00		97.8	70	130	0	0	

Qualifiers:

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D Sample Diluted Due to Matrix
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E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904359

06-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: MB-44257	SampType: MBLK	TestCode: TABLE I PAH's by 8310								
Client ID: PBW	Batch ID: 44257	RunNo: 59135								
Prep Date: 4/10/2019	Analysis Date: 4/15/2019	SeqNo: 1991135	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	ND	3.0								
1-Methylnaphthalene	ND	3.0								
2-Methylnaphthalene	ND	3.0								
Benzo(a)pyrene	ND	0.070								
Surr: Benzo(e)pyrene	7.4		10.00		73.7	48.8	93.3			

Sample ID: LCS-44257	SampType: LCS	TestCode: TABLE I PAH's by 8310								
Client ID: LCSW	Batch ID: 44257	RunNo: 59135								
Prep Date: 4/10/2019	Analysis Date: 4/15/2019	SeqNo: 1991136	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	64	3.0	80.00	0	80.2	30.8	83.9			
1-Methylnaphthalene	67	3.0	80.20	0	83.5	32.8	84.4			
2-Methylnaphthalene	67	3.0	80.00	0	84.4	31.8	84.6			
Benzo(a)pyrene	0.45	0.070	0.5020	0	89.6	49.7	89.4			S
Surr: Benzo(e)pyrene	10		10.00		102	48.8	93.3			S

Qualifiers:

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D Sample Diluted Due to Matrix
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ND Not Detected at the Reporting Limit
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S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904359

06-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: MB	SampType: MBLK	TestCode: EPA Method 9060 TOC								
Client ID: PBW	Batch ID: R59019	RunNo: 59019								
Prep Date:	Analysis Date: 4/9/2019	SeqNo: 1985677 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Organic Carbon	ND	1.0								

Sample ID: LCS ST9060-18020 a	SampType: LCS	TestCode: EPA Method 9060 TOC								
Client ID: LCSW	Batch ID: R59019	RunNo: 59019								
Prep Date:	Analysis Date: 4/9/2019	SeqNo: 1985678 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Organic Carbon	5.0	1.0	4.850	0	104	90	110			

Sample ID: 1904091-011ADUP	SampType: DUP	TestCode: EPA Method 9060 TOC								
Client ID: BatchQC	Batch ID: R59019	RunNo: 59019								
Prep Date:	Analysis Date: 4/9/2019	SeqNo: 1985681 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Organic Carbon	ND	1.0						0	0	

Sample ID: 1904091-011AMS	SampType: MS	TestCode: EPA Method 9060 TOC								
Client ID: BatchQC	Batch ID: R59019	RunNo: 59019								
Prep Date:	Analysis Date: 4/9/2019	SeqNo: 1985682 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Organic Carbon	4.9	1.0	4.650	0	104	75	125			

Sample ID: 1904342-012bms	SampType: MS	TestCode: EPA Method 9060 TOC								
Client ID: BatchQC	Batch ID: R59019	RunNo: 59019								
Prep Date:	Analysis Date: 4/9/2019	SeqNo: 1985696 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Organic Carbon	32	1.0	4.650	27.59	102	75	125			

Sample ID: 1904342-012bmsd	SampType: MSD	TestCode: EPA Method 9060 TOC								
Client ID: BatchQC	Batch ID: R59019	RunNo: 59019								
Prep Date:	Analysis Date: 4/9/2019	SeqNo: 1985697 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Organic Carbon	33	1.0	4.650	27.59	118	75	125	2.35	20	

Qualifiers:

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D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904359

06-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: MB-44560	SampType: MBLK	TestCode: Total Phenolics by SW-846 9067
Client ID: PBW	Batch ID: 44560	RunNo: 59450
Prep Date: 4/26/2019	Analysis Date: 4/26/2019	SeqNo: 2002792 Units: µg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Phenolics	ND	2.5

Sample ID: LCS-44560	SampType: LCS	TestCode: Total Phenolics by SW-846 9067
Client ID: LCSW	Batch ID: 44560	RunNo: 59450
Prep Date: 4/26/2019	Analysis Date: 4/26/2019	SeqNo: 2002793 Units: µg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Phenolics	19	2.5 20.00 0 95.5 57.7 149

Sample ID: 1904359-001BMS	SampType: MS	TestCode: Total Phenolics by SW-846 9067
Client ID: MW-5R	Batch ID: 44560	RunNo: 59450
Prep Date: 4/26/2019	Analysis Date: 4/26/2019	SeqNo: 2002806 Units: µg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Phenolics	21	2.5 20.00 0 105 70.1 127

Sample ID: 1904359-001BMSD	SampType: MSD	TestCode: Total Phenolics by SW-846 9067
Client ID: MW-5R	Batch ID: 44560	RunNo: 59450
Prep Date: 4/26/2019	Analysis Date: 4/26/2019	SeqNo: 2002807 Units: µg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Phenolics	21	2.5 20.00 0 107 70.1 127 1.86 23.8

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904359

06-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: Ics-1 99.0uS eC	SampType: LCS		TestCode: SM2510B: Specific Conductance							
Client ID: LCSW	Batch ID: R59004		RunNo: 59004							
Prep Date:	Analysis Date: 4/9/2019		SeqNo: 1985996		Units: µmhos/cm					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	100	5.0	99.00	0	101	85	115			

Sample ID: 1904359-001d dup	SampType: DUP		TestCode: SM2510B: Specific Conductance							
Client ID: MW-5R	Batch ID: R59004		RunNo: 59004							
Prep Date:	Analysis Date: 4/9/2019		SeqNo: 1986005		Units: µmhos/cm					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	830	5.0						0.0121	20	

Qualifiers:

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D Sample Diluted Due to Matrix
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ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904359

06-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: MB	SampType: MBLK	TestCode: SM 4500 NH3: Ammonia								
Client ID: PBW	Batch ID: R59377	RunNo: 59377								
Prep Date:	Analysis Date: 4/23/2019	SeqNo: 2000051		Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	ND	1.0								

Sample ID: LCS	SampType: LCS	TestCode: SM 4500 NH3: Ammonia								
Client ID: LCSW	Batch ID: R59377	RunNo: 59377								
Prep Date:	Analysis Date: 4/23/2019	SeqNo: 2000052		Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	10	1.0	10.00	0	101	80	120			

Sample ID: 1904747-001BMS	SampType: MS	TestCode: SM 4500 NH3: Ammonia								
Client ID: BatchQC	Batch ID: R59377	RunNo: 59377								
Prep Date:	Analysis Date: 4/23/2019	SeqNo: 2000066		Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	10	1.0	10.00	0	101	75	125			

Sample ID: 1904747-001BMSD	SampType: MSD	TestCode: SM 4500 NH3: Ammonia								
Client ID: BatchQC	Batch ID: R59377	RunNo: 59377								
Prep Date:	Analysis Date: 4/23/2019	SeqNo: 2000067		Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	10	1.0	10.00	0	101	75	125	0	20	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904359

06-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: 1904553-001d dup	SampType: DUP	TestCode: SM4500-H+B / 9040C: pH
Client ID: BatchQC	Batch ID: R59181	RunNo: 59181
Prep Date:	Analysis Date: 4/15/2019	SeqNo: 1992451 Units: pH units
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
pH	7.03	H

Sample ID: 1904359-001d dup	SampType: DUP	TestCode: SM4500-H+B / 9040C: pH
Client ID: MW-5R	Batch ID: R59181	RunNo: 59181
Prep Date:	Analysis Date: 4/15/2019	SeqNo: 1992456 Units: pH units
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
pH	7.90	H

Sample ID: 1904610-001a dup	SampType: DUP	TestCode: SM4500-H+B / 9040C: pH
Client ID: BatchQC	Batch ID: R59181	RunNo: 59181
Prep Date:	Analysis Date: 4/15/2019	SeqNo: 1992479 Units: pH units
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
pH	7.78	H

Sample ID: 1904503-001e dup	SampType: DUP	TestCode: SM4500-H+B / 9040C: pH
Client ID: BatchQC	Batch ID: R59181	RunNo: 59181
Prep Date:	Analysis Date: 4/15/2019	SeqNo: 1992491 Units: pH units
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
pH	8.34	H

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904359

06-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: mb-1 alk	SampType: MBLK	TestCode: SM2320B: Alkalinity
Client ID: PBW	Batch ID: R59004	RunNo: 59004
Prep Date:	Analysis Date: 4/9/2019	SeqNo: 1985959 Units: mg/L CaCO3
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Total Alkalinity (as CaCO3)	ND	20.00

Sample ID: lcs-1 alk	SampType: LCS	TestCode: SM2320B: Alkalinity
Client ID: LCSW	Batch ID: R59004	RunNo: 59004
Prep Date:	Analysis Date: 4/9/2019	SeqNo: 1985960 Units: mg/L CaCO3
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Total Alkalinity (as CaCO3)	76.12	20.00 80.00 0 95.2 90 110

Sample ID: 1904368-003a dup	SampType: DUP	TestCode: SM2320B: Alkalinity
Client ID: BatchQC	Batch ID: R59004	RunNo: 59004
Prep Date:	Analysis Date: 4/9/2019	SeqNo: 1985975 Units: mg/L CaCO3
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Total Alkalinity (as CaCO3)	170.6	20.00 0.117 20

Sample ID: mb-2 alk	SampType: MBLK	TestCode: SM2320B: Alkalinity
Client ID: PBW	Batch ID: R59004	RunNo: 59004
Prep Date:	Analysis Date: 4/9/2019	SeqNo: 1985984 Units: mg/L CaCO3
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Total Alkalinity (as CaCO3)	ND	20.00

Sample ID: lcs-2 alk	SampType: LCS	TestCode: SM2320B: Alkalinity
Client ID: LCSW	Batch ID: R59004	RunNo: 59004
Prep Date:	Analysis Date: 4/9/2019	SeqNo: 1985985 Units: mg/L CaCO3
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Total Alkalinity (as CaCO3)	76.80	20.00 80.00 0 96.0 90 110

Sample ID: 1904455-001b dup	SampType: DUP	TestCode: SM2320B: Alkalinity
Client ID: BatchQC	Batch ID: R59004	RunNo: 59004
Prep Date:	Analysis Date: 4/9/2019	SeqNo: 1985988 Units: mg/L CaCO3
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Total Alkalinity (as CaCO3)	88.16	20.00 0.0454 20

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904359

06-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: MB-44221	SampType: MBLK	TestCode: SM2540C MOD: Total Dissolved Solids								
Client ID: PBW	Batch ID: 44221	RunNo: 59052								
Prep Date: 4/9/2019	Analysis Date: 4/10/2019	SeqNo: 1987474 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID: LCS-44221	SampType: LCS	TestCode: SM2540C MOD: Total Dissolved Solids								
Client ID: LCSW	Batch ID: 44221	RunNo: 59052								
Prep Date: 4/9/2019	Analysis Date: 4/10/2019	SeqNo: 1987475 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1040	20.0	1000	0	104	80	120			

Sample ID: 1904368-009ADUP	SampType: DUP	TestCode: SM2540C MOD: Total Dissolved Solids								
Client ID: BatchQC	Batch ID: 44221	RunNo: 59052								
Prep Date: 4/9/2019	Analysis Date: 4/10/2019	SeqNo: 1987486 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1980	20.0						0.760	10	*

Sample ID: 1904379-002ADUP	SampType: DUP	TestCode: SM2540C MOD: Total Dissolved Solids								
Client ID: BatchQC	Batch ID: 44221	RunNo: 59052								
Prep Date: 4/9/2019	Analysis Date: 4/10/2019	SeqNo: 1987491 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	793	20.0						2.37	10	*

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904359

06-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: MB-44436	SampType: MBLK	TestCode: SM 4500 Norg C: TKN
Client ID: PBW	Batch ID: 44436	RunNo: 59298
Prep Date: 4/18/2019	Analysis Date: 4/19/2019	SeqNo: 1996520 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Nitrogen, Kjeldahl, Total	ND	1.0

Sample ID: LCS-44436	SampType: LCS	TestCode: SM 4500 Norg C: TKN
Client ID: LCSW	Batch ID: 44436	RunNo: 59298
Prep Date: 4/18/2019	Analysis Date: 4/19/2019	SeqNo: 1996521 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Nitrogen, Kjeldahl, Total	10	1.0 10.00 0 101 80 120

Sample ID: 1904359-002DMS	SampType: MS	TestCode: SM 4500 Norg C: TKN
Client ID: MW-6R	Batch ID: 44436	RunNo: 59298
Prep Date: 4/18/2019	Analysis Date: 4/19/2019	SeqNo: 1996527 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Nitrogen, Kjeldahl, Total	10	1.0 10.00 0 102 75 125

Sample ID: 1904359-002DMSD	SampType: MSD	TestCode: SM 4500 Norg C: TKN
Client ID: MW-6R	Batch ID: 44436	RunNo: 59298
Prep Date: 4/18/2019	Analysis Date: 4/19/2019	SeqNo: 1996528 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Nitrogen, Kjeldahl, Total	10	1.0 10.00 0 101 75 125 1.38 20

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

Sample Log-In Check List

Client Name: GEI

Work Order Number: 1904359

RcptNo: 1

Received By: Erin Melendrez 4/5/2019 8:40:00 AM

Completed By: Erin Melendrez 4/5/2019 10:37:45 AM

Reviewed By: ENH

LB: IO 4/5/19

Handwritten signatures

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? Client

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
9. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐
10. Were any sample containers received broken? Yes ☐ No ☒
11. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
13. Is it clear what analyses were requested? Yes ☒ No ☐
14. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved bottles checked for pH: 16.3
(<2 or ≥ 12 unless noted)
Adjusted? NO
Checked by: IO 4/5/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____ Date: _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.1	Good	Yes			
2	0.9	Good	Yes			
3	0.1	Good	Yes			

**HALL ENVIRONMENTAL
ANALYSIS LABORATORY**

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel: 505-345-3975 Fax 505-345-4107

Analysis Request

Chain-of-Custody Record				Turn-Around Time:	
Client: <u>Carban Environmental / PSC</u>				<input checked="" type="checkbox"/> Standard	<input type="checkbox"/> Rush
Mailing Address: <u>333 Pro Rancho Blvd NE</u>				Project Name: <u>Sauvival County Landfill</u>	
<u>Stc 400, Pro Rancho, NM 87124</u>				Project #: <u>010041.18</u>	
<u>Phone #: (505) 867-6990</u>				Project Manager: <u>Mike Crepeau</u>	
<u>email or Fax#: bhellman@team-psc.com</u>				<u>mcrepeau@team-psc.com</u>	
QA/QC Package:				Sampler: <u>HY/BSB</u>	
<input checked="" type="checkbox"/> Standard				On Ice: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Accreditation: <input type="checkbox"/> Az Compliance				# of Coolers: <u>3</u>	
<input type="checkbox"/> NELAC <input type="checkbox"/> Other				Cooler Temp (including CF): <u>0.1°C, 0.9°C, 0.1°C</u>	
<input type="checkbox"/> EDD (Type)				HEAL No. <u>1904359</u>	
Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type
4/4/19	1010	Ag	TW-SR	Various	-001
4/4/19	1530	Ag	TW-6R	Various	-002
4/4/19	1626	Ag	TW-7R	Various	-003
4/4/19	1625	Ag	FB	3	-004
4/4/19	1017	Ag	Dupe	3	-005
—	—	Ag	FB	3	-006
Date:	Time:	Relinquished by: <u>[Signature]</u>		Received by: <u>Via: CDD</u>	Date: <u>4/5/19</u>
4/5/19	0840				0840
Date:	Time:	Relinquished by: <u>[Signature]</u>		Received by: <u>Via: CDD</u>	Date: <u>4/5/19</u>

if necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.



*Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com*

May 09, 2019

Mike Crepeau

Gordon Environmental/PSC
333 Rio Rancho Blvd. N.E., Suite 400
Rio Rancho, NM 87124
TEL: (505) 867-6990
FAX

RE: Sandoval County Landfill

OrderNo.: 1904705

Dear Mike Crepeau:

Hall Environmental Analysis Laboratory received 4 sample(s) on 4/12/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a light blue horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1904705**

Date Reported: **5/9/2019**

CLIENT: Gordon Environmental/PSC

Client Sample ID: MW-3

Project: Sandoval County Landfill

Collection Date: 4/12/2019 11:30:00 AM

Lab ID: 1904705-001

Matrix: AQUEOUS

Received Date: 4/12/2019 2:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 504.1: EDB/DBCP						Analyst: JME
1,2-Dibromo-3-chloropropane	ND	0.019		µg/L	1	4/22/2019 11:34:33 AM
1,2-Dibromoethane	ND	0.0095		µg/L	1	4/22/2019 11:34:33 AM
EPA METHOD 8082A: PCB'S						Analyst: TOM
Aroclor 1016	ND	0.25		µg/L	1	4/22/2019 1:31:16 PM
Aroclor 1221	ND	0.25		µg/L	1	4/22/2019 1:31:16 PM
Aroclor 1232	ND	0.25		µg/L	1	4/22/2019 1:31:16 PM
Aroclor 1242	ND	0.25		µg/L	1	4/22/2019 1:31:16 PM
Aroclor 1248	ND	0.25		µg/L	1	4/22/2019 1:31:16 PM
Aroclor 1254	ND	0.25		µg/L	1	4/22/2019 1:31:16 PM
Aroclor 1260	ND	0.25		µg/L	1	4/22/2019 1:31:16 PM
Surr: Decachlorobiphenyl	54.8	24.8-102		%Rec	1	4/22/2019 1:31:16 PM
Surr: Tetrachloro-m-xylene	51.2	15.6-106		%Rec	1	4/22/2019 1:31:16 PM
TABLE I PAH'S BY 8310						Analyst: TOM
Naphthalene	ND	3.0		µg/L	1	4/26/2019 3:15:50 PM
1-Methylnaphthalene	ND	3.0		µg/L	1	4/26/2019 3:15:50 PM
2-Methylnaphthalene	ND	3.0		µg/L	1	4/26/2019 3:15:50 PM
Benzo(a)pyrene	ND	0.070		µg/L	1	4/26/2019 3:15:50 PM
Surr: Benzo(e)pyrene	67.0	48.8-93.3		%Rec	1	4/26/2019 3:15:50 PM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Fluoride	0.73	0.50		mg/L	5	4/12/2019 9:53:52 PM
Chloride	82	2.5		mg/L	5	4/12/2019 9:53:52 PM
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	4/12/2019 9:53:52 PM
Phosphorus, Orthophosphate (As P)	ND	2.5		mg/L	5	4/12/2019 9:53:52 PM
Sulfate	63	2.5		mg/L	5	4/12/2019 9:53:52 PM
EPA METHOD 200.7: METALS						Analyst: ELS
Aluminum	0.14	0.020		mg/L	1	4/27/2019 11:33:27 AM
Barium	0.070	0.0020		mg/L	1	4/27/2019 11:33:27 AM
Beryllium	ND	0.0020		mg/L	1	4/27/2019 11:33:27 AM
Boron	0.23	0.040		mg/L	1	4/27/2019 11:33:27 AM
Cadmium	ND	0.0020		mg/L	1	4/27/2019 11:33:27 AM
Calcium	45	1.0		mg/L	1	4/27/2019 11:33:27 AM
Chromium	0.10	0.0060	*	mg/L	1	4/27/2019 11:33:27 AM
Cobalt	0.019	0.0060		mg/L	1	4/27/2019 11:33:27 AM
Copper	ND	0.0060		mg/L	1	4/27/2019 11:33:27 AM
Iron	2.2	0.10	*	mg/L	5	4/27/2019 11:35:16 AM
Magnesium	5.0	1.0		mg/L	1	4/27/2019 11:33:27 AM
Manganese	0.94	0.0020	*	mg/L	1	4/27/2019 11:33:27 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1904705**Date Reported: **5/9/2019****CLIENT:** Gordon Environmental/PSC**Client Sample ID:** MW-3**Project:** Sandoval County Landfill**Collection Date:** 4/12/2019 11:30:00 AM**Lab ID:** 1904705-001**Matrix:** AQUEOUS**Received Date:** 4/12/2019 2:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 200.7: METALS						Analyst: ELS
Molybdenum	0.0090	0.0080		mg/L	1	4/27/2019 11:33:27 AM
Nickel	0.020	0.010		mg/L	1	4/27/2019 11:33:27 AM
Potassium	4.3	1.0		mg/L	1	4/27/2019 11:33:27 AM
Silver	ND	0.0050		mg/L	1	4/27/2019 11:33:27 AM
Sodium	68	1.0		mg/L	1	4/27/2019 11:33:27 AM
Vanadium	ND	0.050		mg/L	1	4/27/2019 11:33:27 AM
Zinc	0.013	0.010		mg/L	1	4/27/2019 11:33:27 AM
EPA 200.8: METALS						Analyst: pmf
Antimony	ND	0.0010		mg/L	1	4/26/2019 4:24:18 PM
Arsenic	0.0085	0.0010		mg/L	1	4/26/2019 4:24:18 PM
Lead	0.0016	0.00050		mg/L	1	4/26/2019 4:24:18 PM
Selenium	ND	0.0010		mg/L	1	4/26/2019 4:24:18 PM
Thallium	ND	0.00050		mg/L	1	4/26/2019 4:24:18 PM
Uranium	0.0020	0.00050		mg/L	1	4/26/2019 4:24:18 PM
EPA METHOD 245.1: MERCURY						Analyst: JLF
Mercury	ND	0.00020		mg/L	1	4/30/2019 7:22:20 PM
EPA METHOD 8260B: VOLATILES, TABLE I						Analyst: DJF
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/16/2019 3:00:59 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/16/2019 3:00:59 PM
Acetone	ND	10		µg/L	1	4/16/2019 3:00:59 PM
Acrylonitrile	ND	10		µg/L	1	4/16/2019 3:00:59 PM
Benzene	ND	1.0		µg/L	1	4/16/2019 3:00:59 PM
Bromochloromethane	ND	2.0		µg/L	1	4/16/2019 3:00:59 PM
Bromodichloromethane	ND	1.0		µg/L	1	4/16/2019 3:00:59 PM
Bromoform	ND	1.0		µg/L	1	4/16/2019 3:00:59 PM
Bromomethane	ND	2.0		µg/L	1	4/16/2019 3:00:59 PM
2-Butanone	ND	10		µg/L	1	4/16/2019 3:00:59 PM
Carbon disulfide	ND	10		µg/L	1	4/16/2019 3:00:59 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	4/16/2019 3:00:59 PM
Chlorobenzene	ND	1.0		µg/L	1	4/16/2019 3:00:59 PM
Chloroethane	ND	2.0		µg/L	1	4/16/2019 3:00:59 PM
Chloroform	ND	1.0		µg/L	1	4/16/2019 3:00:59 PM
Chloromethane	ND	1.0		µg/L	1	4/16/2019 3:00:59 PM
cis-1,2-DCE	ND	1.0		µg/L	1	4/16/2019 3:00:59 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/16/2019 3:00:59 PM
Dibromochloromethane	ND	1.0		µg/L	1	4/16/2019 3:00:59 PM
Dibromomethane	ND	1.0		µg/L	1	4/16/2019 3:00:59 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/16/2019 3:00:59 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1904705**

Date Reported: **5/9/2019**

CLIENT: Gordon Environmental/PSC

Client Sample ID: MW-3

Project: Sandoval County Landfill

Collection Date: 4/12/2019 11:30:00 AM

Lab ID: 1904705-001

Matrix: AQUEOUS

Received Date: 4/12/2019 2:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES, TABLE I						Analyst: DJF
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/16/2019 3:00:59 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/16/2019 3:00:59 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	4/16/2019 3:00:59 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	4/16/2019 3:00:59 PM
1,2-Dichloropropane	ND	0.50		µg/L	1	4/16/2019 3:00:59 PM
Ethylbenzene	ND	1.0		µg/L	1	4/16/2019 3:00:59 PM
2-Hexanone	ND	10		µg/L	1	4/16/2019 3:00:59 PM
Iodomethane	ND	10		µg/L	1	4/16/2019 3:00:59 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	4/16/2019 3:00:59 PM
Methylene Chloride	ND	2.5		µg/L	1	4/16/2019 3:00:59 PM
Styrene	ND	1.0		µg/L	1	4/16/2019 3:00:59 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/16/2019 3:00:59 PM
1,1,2,2-Tetrachloroethane	ND	1.0		µg/L	1	4/16/2019 3:00:59 PM
Tetrachloroethene (PCE)	ND	0.50		µg/L	1	4/16/2019 3:00:59 PM
Toluene	ND	1.0		µg/L	1	4/16/2019 3:00:59 PM
trans-1,2-DCE	ND	1.0		µg/L	1	4/16/2019 3:00:59 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/16/2019 3:00:59 PM
trans-1,4-Dichloro-2-butene	ND	10		µg/L	1	4/16/2019 3:00:59 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/16/2019 3:00:59 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/16/2019 3:00:59 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/16/2019 3:00:59 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	4/16/2019 3:00:59 PM
1,2,3-Trichloropropane	ND	1.0		µg/L	1	4/16/2019 3:00:59 PM
Vinyl acetate	ND	10		µg/L	1	4/16/2019 3:00:59 PM
Vinyl chloride	ND	0.40		µg/L	1	4/16/2019 3:00:59 PM
Xylenes, Total	ND	2.0		µg/L	1	4/16/2019 3:00:59 PM
Surr: 1,2-Dichloroethane-d4	108	70-130		%Rec	1	4/16/2019 3:00:59 PM
Surr: 4-Bromofluorobenzene	97.6	70-130		%Rec	1	4/16/2019 3:00:59 PM
Surr: Dibromofluoromethane	112	70-130		%Rec	1	4/16/2019 3:00:59 PM
Surr: Toluene-d8	99.8	70-130		%Rec	1	4/16/2019 3:00:59 PM
TOTAL PHENOLICS BY SW-846 9067						Analyst: CLP
Phenolics	ND	2.5		µg/L	1	5/3/2019
EPA METHOD 9060 TOC						Analyst: DAM
Total Organic Carbon	6.1	1.0		mg/L	1	4/24/2019 6:02:10 PM
SM2510B: SPECIFIC CONDUCTANCE						Analyst: JRR
Conductivity	640	5.0		µmhos/c	1	4/15/2019 6:20:19 PM
SM 4500 NH3: AMMONIA						Analyst: OG

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1904705**

Date Reported: **5/9/2019**

CLIENT: Gordon Environmental/PSC

Client Sample ID: MW-3

Project: Sandoval County Landfill

Collection Date: 4/12/2019 11:30:00 AM

Lab ID: 1904705-001

Matrix: AQUEOUS

Received Date: 4/12/2019 2:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
SM 4500 NH3: AMMONIA						Analyst: OG
Nitrogen, Ammonia	ND	1.0		mg/L	1	4/29/2019 1:30:00 PM
TOTAL NITROGEN						Analyst: SRM
Nitrogen, Total	ND	1.0		mg/L	1	4/29/2019 4:17:00 PM
SM4500-H+B / 9040C: PH						Analyst: JRR
pH	7.86		H	pH units	1	4/15/2019 6:20:19 PM
SM2320B: ALKALINITY						Analyst: JRR
Bicarbonate (As CaCO3)	124.6	20.00		mg/L Ca	1	4/15/2019 6:20:19 PM
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	4/15/2019 6:20:19 PM
Total Alkalinity (as CaCO3)	124.6	20.00		mg/L Ca	1	4/15/2019 6:20:19 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: KS
Total Dissolved Solids	361	20.0		mg/L	1	4/18/2019 6:55:00 PM
SM 4500 NORG C: TKN						Analyst: OG
Nitrogen, Kjeldahl, Total	ND	1.0		mg/L	1	4/25/2019 7:00:00 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1904705**

Date Reported: **5/9/2019**

CLIENT: Gordon Environmental/PSC

Client Sample ID: MW-2

Project: Sandoval County Landfill

Collection Date: 4/12/2019 1:06:00 PM

Lab ID: 1904705-002

Matrix: AQUEOUS

Received Date: 4/12/2019 2:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 504.1: EDB/DBCP						Analyst: JME
1,2-Dibromo-3-chloropropane	ND	0.019		µg/L	1	4/22/2019 12:19:35 PM
1,2-Dibromoethane	ND	0.0095		µg/L	1	4/22/2019 12:19:35 PM
EPA METHOD 8082A: PCB'S						Analyst: TOM
Aroclor 1016	ND	0.25		µg/L	1	4/22/2019 2:04:18 PM
Aroclor 1221	ND	0.25		µg/L	1	4/22/2019 2:04:18 PM
Aroclor 1232	ND	0.25		µg/L	1	4/22/2019 2:04:18 PM
Aroclor 1242	ND	0.25		µg/L	1	4/22/2019 2:04:18 PM
Aroclor 1248	ND	0.25		µg/L	1	4/22/2019 2:04:18 PM
Aroclor 1254	ND	0.25		µg/L	1	4/22/2019 2:04:18 PM
Aroclor 1260	ND	0.25		µg/L	1	4/22/2019 2:04:18 PM
Surr: Decachlorobiphenyl	55.6	24.8-102		%Rec	1	4/22/2019 2:04:18 PM
Surr: Tetrachloro-m-xylene	51.6	15.6-106		%Rec	1	4/22/2019 2:04:18 PM
TABLE I PAH'S BY 8310						Analyst: TOM
Naphthalene	ND	3.0		µg/L	1	4/26/2019 3:41:22 PM
1-Methylnaphthalene	ND	3.0		µg/L	1	4/26/2019 3:41:22 PM
2-Methylnaphthalene	ND	3.0		µg/L	1	4/26/2019 3:41:22 PM
Benzo(a)pyrene	ND	0.070		µg/L	1	4/26/2019 3:41:22 PM
Surr: Benzo(e)pyrene	47.5	48.8-93.3	S	%Rec	1	4/26/2019 3:41:22 PM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Fluoride	ND	0.50		mg/L	5	4/12/2019 10:19:36 PM
Chloride	79	2.5		mg/L	5	4/12/2019 10:19:36 PM
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	4/12/2019 10:19:36 PM
Phosphorus, Orthophosphate (As P)	ND	2.5		mg/L	5	4/12/2019 10:19:36 PM
Sulfate	38	2.5		mg/L	5	4/12/2019 10:19:36 PM
EPA METHOD 200.7: METALS						Analyst: ELS
Aluminum	0.044	0.020		mg/L	1	4/27/2019 11:43:38 AM
Barium	0.079	0.0020		mg/L	1	4/27/2019 11:43:38 AM
Beryllium	ND	0.0020		mg/L	1	4/27/2019 11:43:38 AM
Boron	0.23	0.040		mg/L	1	4/27/2019 11:43:38 AM
Cadmium	ND	0.0020		mg/L	1	4/27/2019 11:43:38 AM
Calcium	42	1.0		mg/L	1	4/27/2019 11:43:38 AM
Chromium	0.026	0.0060		mg/L	1	4/27/2019 11:43:38 AM
Cobalt	ND	0.0060		mg/L	1	4/27/2019 11:43:38 AM
Copper	0.0081	0.0060		mg/L	1	4/27/2019 11:43:38 AM
Iron	2.3	0.10	*	mg/L	5	4/27/2019 11:45:30 AM
Magnesium	4.9	1.0		mg/L	1	4/27/2019 11:43:38 AM
Manganese	0.44	0.0020	*	mg/L	1	4/27/2019 11:43:38 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1904705**

Date Reported: **5/9/2019**

CLIENT: Gordon Environmental/PSC

Client Sample ID: MW-2

Project: Sandoval County Landfill

Collection Date: 4/12/2019 1:06:00 PM

Lab ID: 1904705-002

Matrix: AQUEOUS

Received Date: 4/12/2019 2:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 200.7: METALS						Analyst: ELS
Molybdenum	0.011	0.0080		mg/L	1	4/27/2019 11:43:38 AM
Nickel	0.012	0.010		mg/L	1	4/27/2019 11:43:38 AM
Potassium	4.2	1.0		mg/L	1	4/27/2019 11:43:38 AM
Silver	ND	0.0050		mg/L	1	4/27/2019 11:43:38 AM
Sodium	74	1.0		mg/L	1	4/27/2019 11:43:38 AM
Vanadium	ND	0.050		mg/L	1	4/27/2019 11:43:38 AM
Zinc	0.015	0.010		mg/L	1	4/27/2019 11:43:38 AM
EPA 200.8: METALS						Analyst: pmf
Antimony	ND	0.0010		mg/L	1	4/26/2019 4:26:25 PM
Arsenic	0.012	0.0010	*	mg/L	1	4/26/2019 4:26:25 PM
Lead	0.0013	0.00050		mg/L	1	4/26/2019 4:26:25 PM
Selenium	ND	0.0010		mg/L	1	4/26/2019 4:26:25 PM
Thallium	ND	0.00050		mg/L	1	4/26/2019 4:26:25 PM
Uranium	0.0013	0.00050		mg/L	1	4/26/2019 4:26:25 PM
EPA METHOD 245.1: MERCURY						Analyst: JLF
Mercury	ND	0.00020		mg/L	1	4/30/2019 7:24:36 PM
EPA METHOD 8260B: VOLATILES, TABLE I						Analyst: DJF
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/16/2019 3:30:03 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/16/2019 3:30:03 PM
Acetone	ND	10		µg/L	1	4/16/2019 3:30:03 PM
Acrylonitrile	ND	10		µg/L	1	4/16/2019 3:30:03 PM
Benzene	ND	1.0		µg/L	1	4/16/2019 3:30:03 PM
Bromochloromethane	ND	2.0		µg/L	1	4/16/2019 3:30:03 PM
Bromodichloromethane	ND	1.0		µg/L	1	4/16/2019 3:30:03 PM
Bromoform	ND	1.0		µg/L	1	4/16/2019 3:30:03 PM
Bromomethane	ND	2.0		µg/L	1	4/16/2019 3:30:03 PM
2-Butanone	ND	10		µg/L	1	4/16/2019 3:30:03 PM
Carbon disulfide	ND	10		µg/L	1	4/16/2019 3:30:03 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	4/16/2019 3:30:03 PM
Chlorobenzene	ND	1.0		µg/L	1	4/16/2019 3:30:03 PM
Chloroethane	ND	2.0		µg/L	1	4/16/2019 3:30:03 PM
Chloroform	ND	1.0		µg/L	1	4/16/2019 3:30:03 PM
Chloromethane	ND	1.0		µg/L	1	4/16/2019 3:30:03 PM
cis-1,2-DCE	ND	1.0		µg/L	1	4/16/2019 3:30:03 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/16/2019 3:30:03 PM
Dibromochloromethane	ND	1.0		µg/L	1	4/16/2019 3:30:03 PM
Dibromomethane	ND	1.0		µg/L	1	4/16/2019 3:30:03 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/16/2019 3:30:03 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1904705**

Date Reported: **5/9/2019**

CLIENT: Gordon Environmental/PSC

Client Sample ID: MW-2

Project: Sandoval County Landfill

Collection Date: 4/12/2019 1:06:00 PM

Lab ID: 1904705-002

Matrix: AQUEOUS

Received Date: 4/12/2019 2:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES, TABLE I						Analyst: DJF
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/16/2019 3:30:03 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/16/2019 3:30:03 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	4/16/2019 3:30:03 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	4/16/2019 3:30:03 PM
1,2-Dichloropropane	ND	0.50		µg/L	1	4/16/2019 3:30:03 PM
Ethylbenzene	ND	1.0		µg/L	1	4/16/2019 3:30:03 PM
2-Hexanone	ND	10		µg/L	1	4/16/2019 3:30:03 PM
Iodomethane	ND	10		µg/L	1	4/16/2019 3:30:03 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	4/16/2019 3:30:03 PM
Methylene Chloride	ND	2.5		µg/L	1	4/16/2019 3:30:03 PM
Styrene	ND	1.0		µg/L	1	4/16/2019 3:30:03 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/16/2019 3:30:03 PM
1,1,2,2-Tetrachloroethane	ND	1.0		µg/L	1	4/16/2019 3:30:03 PM
Tetrachloroethene (PCE)	ND	0.50		µg/L	1	4/16/2019 3:30:03 PM
Toluene	ND	1.0		µg/L	1	4/16/2019 3:30:03 PM
trans-1,2-DCE	ND	1.0		µg/L	1	4/16/2019 3:30:03 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/16/2019 3:30:03 PM
trans-1,4-Dichloro-2-butene	ND	10		µg/L	1	4/16/2019 3:30:03 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/16/2019 3:30:03 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/16/2019 3:30:03 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/16/2019 3:30:03 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	4/16/2019 3:30:03 PM
1,2,3-Trichloropropane	ND	1.0		µg/L	1	4/16/2019 3:30:03 PM
Vinyl acetate	ND	10		µg/L	1	4/16/2019 3:30:03 PM
Vinyl chloride	ND	0.40		µg/L	1	4/16/2019 3:30:03 PM
Xylenes, Total	ND	2.0		µg/L	1	4/16/2019 3:30:03 PM
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	4/16/2019 3:30:03 PM
Surr: 4-Bromofluorobenzene	95.0	70-130		%Rec	1	4/16/2019 3:30:03 PM
Surr: Dibromofluoromethane	112	70-130		%Rec	1	4/16/2019 3:30:03 PM
Surr: Toluene-d8	102	70-130		%Rec	1	4/16/2019 3:30:03 PM
TOTAL PHENOLICS BY SW-846 9067						Analyst: CLP
Phenolics	ND	2.5		µg/L	1	5/3/2019
EPA METHOD 9060 TOC						Analyst: DAM
Total Organic Carbon	15	1.0		mg/L	1	4/24/2019 6:53:21 PM
SM2510B: SPECIFIC CONDUCTANCE						Analyst: JRR
Conductivity	630	5.0		µmhos/c	1	4/15/2019 6:29:10 PM
SM 4500 NH3: AMMONIA						Analyst: OG

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1904705**Date Reported: **5/9/2019****CLIENT:** Gordon Environmental/PSC**Client Sample ID:** MW-2**Project:** Sandoval County Landfill**Collection Date:** 4/12/2019 1:06:00 PM**Lab ID:** 1904705-002**Matrix:** AQUEOUS**Received Date:** 4/12/2019 2:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
SM 4500 NH3: AMMONIA						Analyst: OG
Nitrogen, Ammonia	ND	1.0		mg/L	1	4/29/2019 1:30:00 PM
TOTAL NITROGEN						Analyst: SRM
Nitrogen, Total	ND	1.0		mg/L	1	4/29/2019 4:17:00 PM
SM4500-H+B / 9040C: PH						Analyst: JRR
pH	7.82		H	pH units	1	4/15/2019 6:29:10 PM
SM2320B: ALKALINITY						Analyst: JRR
Bicarbonate (As CaCO3)	144.8	20.00		mg/L Ca	1	4/15/2019 6:29:10 PM
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	4/15/2019 6:29:10 PM
Total Alkalinity (as CaCO3)	144.8	20.00		mg/L Ca	1	4/15/2019 6:29:10 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: KS
Total Dissolved Solids	353	20.0		mg/L	1	4/18/2019 6:55:00 PM
SM 4500 NORG C: TKN						Analyst: OG
Nitrogen, Kjeldahl, Total	ND	1.0		mg/L	1	4/25/2019 7:00:00 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1904705**

Date Reported: **5/9/2019**

CLIENT: Gordon Environmental/PSC

Client Sample ID: FB-2

Project: Sandoval County Landfill

Collection Date: 4/12/2019 12:01:00 PM

Lab ID: 1904705-003

Matrix: AQUEOUS

Received Date: 4/12/2019 2:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES, TABLE I						Analyst: DJF
Benzene	ND	1.0		µg/L	1	4/16/2019 4:58:06 PM
Toluene	ND	1.0		µg/L	1	4/16/2019 4:58:06 PM
Ethylbenzene	ND	1.0		µg/L	1	4/16/2019 4:58:06 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/16/2019 4:58:06 PM
Acetone	ND	10		µg/L	1	4/16/2019 4:58:06 PM
Bromodichloromethane	ND	1.0		µg/L	1	4/16/2019 4:58:06 PM
Bromoform	ND	1.0		µg/L	1	4/16/2019 4:58:06 PM
Bromomethane	ND	2.0		µg/L	1	4/16/2019 4:58:06 PM
2-Butanone	ND	10		µg/L	1	4/16/2019 4:58:06 PM
Carbon disulfide	ND	10		µg/L	1	4/16/2019 4:58:06 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	4/16/2019 4:58:06 PM
Chlorobenzene	ND	1.0		µg/L	1	4/16/2019 4:58:06 PM
Chloroethane	ND	2.0		µg/L	1	4/16/2019 4:58:06 PM
Chloroform	ND	1.0		µg/L	1	4/16/2019 4:58:06 PM
Chloromethane	ND	1.0		µg/L	1	4/16/2019 4:58:06 PM
cis-1,2-DCE	ND	1.0		µg/L	1	4/16/2019 4:58:06 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/16/2019 4:58:06 PM
Dibromochloromethane	ND	1.0		µg/L	1	4/16/2019 4:58:06 PM
Dibromomethane	ND	1.0		µg/L	1	4/16/2019 4:58:06 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/16/2019 4:58:06 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/16/2019 4:58:06 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/16/2019 4:58:06 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	4/16/2019 4:58:06 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	4/16/2019 4:58:06 PM
1,2-Dichloropropane	ND	0.50		µg/L	1	4/16/2019 4:58:06 PM
2-Hexanone	ND	10		µg/L	1	4/16/2019 4:58:06 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	4/16/2019 4:58:06 PM
Methylene Chloride	ND	2.5		µg/L	1	4/16/2019 4:58:06 PM
Styrene	ND	1.0		µg/L	1	4/16/2019 4:58:06 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/16/2019 4:58:06 PM
1,1,2,2-Tetrachloroethane	ND	1.0		µg/L	1	4/16/2019 4:58:06 PM
Tetrachloroethene (PCE)	ND	0.50		µg/L	1	4/16/2019 4:58:06 PM
trans-1,2-DCE	ND	1.0		µg/L	1	4/16/2019 4:58:06 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/16/2019 4:58:06 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/16/2019 4:58:06 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/16/2019 4:58:06 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/16/2019 4:58:06 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	4/16/2019 4:58:06 PM
1,2,3-Trichloropropane	ND	1.0		µg/L	1	4/16/2019 4:58:06 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1904705**

Date Reported: **5/9/2019**

CLIENT: Gordon Environmental/PSC

Client Sample ID: FB-2

Project: Sandoval County Landfill

Collection Date: 4/12/2019 12:01:00 PM

Lab ID: 1904705-003

Matrix: AQUEOUS

Received Date: 4/12/2019 2:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES, TABLE I						Analyst: DJF
Vinyl chloride	ND	0.40		µg/L	1	4/16/2019 4:58:06 PM
Xylenes, Total	ND	2.0		µg/L	1	4/16/2019 4:58:06 PM
Acrylonitrile	ND	10		µg/L	1	4/16/2019 4:58:06 PM
Bromochloromethane	ND	2.0		µg/L	1	4/16/2019 4:58:06 PM
Iodomethane	ND	10		µg/L	1	4/16/2019 4:58:06 PM
trans-1,4-Dichloro-2-butene	ND	10		µg/L	1	4/16/2019 4:58:06 PM
Vinyl acetate	ND	10		µg/L	1	4/16/2019 4:58:06 PM
Surr: 1,2-Dichloroethane-d4	109	70-130		%Rec	1	4/16/2019 4:58:06 PM
Surr: 4-Bromofluorobenzene	97.0	70-130		%Rec	1	4/16/2019 4:58:06 PM
Surr: Dibromofluoromethane	121	70-130		%Rec	1	4/16/2019 4:58:06 PM
Surr: Toluene-d8	102	70-130		%Rec	1	4/16/2019 4:58:06 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1904705**

Date Reported: **5/9/2019**

CLIENT: Gordon Environmental/PSC

Client Sample ID: Trip Blank

Project: Sandoval County Landfill

Collection Date:

Lab ID: 1904705-004

Matrix: AQUEOUS

Received Date: 4/12/2019 2:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 504.1: EDB/DBCP						Analyst: JME
1,2-Dibromo-3-chloropropane	ND	0.019		µg/L	1	4/22/2019 12:34:33 PM
1,2-Dibromoethane	ND	0.0095		µg/L	1	4/22/2019 12:34:33 PM
EPA METHOD 8260B: VOLATILES, TABLE I						Analyst: DJF
Benzene	ND	1.0		µg/L	1	4/16/2019 5:27:22 PM
Toluene	ND	1.0		µg/L	1	4/16/2019 5:27:22 PM
Ethylbenzene	ND	1.0		µg/L	1	4/16/2019 5:27:22 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/16/2019 5:27:22 PM
Acetone	ND	10		µg/L	1	4/16/2019 5:27:22 PM
Bromodichloromethane	ND	1.0		µg/L	1	4/16/2019 5:27:22 PM
Bromoform	ND	1.0		µg/L	1	4/16/2019 5:27:22 PM
Bromomethane	ND	2.0		µg/L	1	4/16/2019 5:27:22 PM
2-Butanone	ND	10		µg/L	1	4/16/2019 5:27:22 PM
Carbon disulfide	ND	10		µg/L	1	4/16/2019 5:27:22 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	4/16/2019 5:27:22 PM
Chlorobenzene	ND	1.0		µg/L	1	4/16/2019 5:27:22 PM
Chloroethane	ND	2.0		µg/L	1	4/16/2019 5:27:22 PM
Chloroform	ND	1.0		µg/L	1	4/16/2019 5:27:22 PM
Chloromethane	ND	1.0		µg/L	1	4/16/2019 5:27:22 PM
cis-1,2-DCE	ND	1.0		µg/L	1	4/16/2019 5:27:22 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/16/2019 5:27:22 PM
Dibromochloromethane	ND	1.0		µg/L	1	4/16/2019 5:27:22 PM
Dibromomethane	ND	1.0		µg/L	1	4/16/2019 5:27:22 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/16/2019 5:27:22 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/16/2019 5:27:22 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/16/2019 5:27:22 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	4/16/2019 5:27:22 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	4/16/2019 5:27:22 PM
1,2-Dichloropropane	ND	0.50		µg/L	1	4/16/2019 5:27:22 PM
2-Hexanone	ND	10		µg/L	1	4/16/2019 5:27:22 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	4/16/2019 5:27:22 PM
Methylene Chloride	ND	2.5		µg/L	1	4/16/2019 5:27:22 PM
Styrene	ND	1.0		µg/L	1	4/16/2019 5:27:22 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/16/2019 5:27:22 PM
1,1,2,2-Tetrachloroethane	ND	1.0		µg/L	1	4/16/2019 5:27:22 PM
Tetrachloroethene (PCE)	ND	0.50		µg/L	1	4/16/2019 5:27:22 PM
trans-1,2-DCE	ND	1.0		µg/L	1	4/16/2019 5:27:22 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/16/2019 5:27:22 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/16/2019 5:27:22 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/16/2019 5:27:22 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1904705**Date Reported: **5/9/2019****CLIENT:** Gordon Environmental/PSC**Client Sample ID:** Trip Blank**Project:** Sandoval County Landfill**Collection Date:****Lab ID:** 1904705-004**Matrix:** AQUEOUS**Received Date:** 4/12/2019 2:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES, TABLE I						Analyst: DJF
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/16/2019 5:27:22 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	4/16/2019 5:27:22 PM
1,2,3-Trichloropropane	ND	1.0		µg/L	1	4/16/2019 5:27:22 PM
Vinyl chloride	ND	0.40		µg/L	1	4/16/2019 5:27:22 PM
Xylenes, Total	ND	2.0		µg/L	1	4/16/2019 5:27:22 PM
Acrylonitrile	ND	10		µg/L	1	4/16/2019 5:27:22 PM
Bromochloromethane	ND	2.0		µg/L	1	4/16/2019 5:27:22 PM
Iodomethane	ND	10		µg/L	1	4/16/2019 5:27:22 PM
trans-1,4-Dichloro-2-butene	ND	10		µg/L	1	4/16/2019 5:27:22 PM
Vinyl acetate	ND	10		µg/L	1	4/16/2019 5:27:22 PM
Surr: 1,2-Dichloroethane-d4	111	70-130		%Rec	1	4/16/2019 5:27:22 PM
Surr: 4-Bromofluorobenzene	96.2	70-130		%Rec	1	4/16/2019 5:27:22 PM
Surr: Dibromofluoromethane	117	70-130		%Rec	1	4/16/2019 5:27:22 PM
Surr: Toluene-d8	97.3	70-130		%Rec	1	4/16/2019 5:27:22 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

1904705-001G MW-3

Collected date/time: 04/12/19 11:30

SAMPLE RESULTS - 01

L1089377

ONE LAB. NATIONWIDE.



Wet Chemistry by Method 4500CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Cyanide	ND		0.00500	1	04/23/2019 14:53	<u>WG1268641</u>

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

ACCOUNT:

Hall Environmental Analysis Laboratory

PROJECT:

SDG:

L1089377

DATE/TIME:

04/23/19 17:12

PAGE:

5 of 11

1904705-002G MW-2

Collected date/time: 04/12/19 13:06

SAMPLE RESULTS - 02

L1089377

ONE LAB. NATIONWIDE.



Wet Chemistry by Method 4500CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
Cyanide	mg/l		mg/l		date / time	
	ND		0.00500	1	04/23/2019 14:54	<u>WG1268641</u>

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

ACCOUNT:

Hall Environmental Analysis Laboratory

PROJECT:

SDG:

L1089377

DATE/TIME:

04/23/19 17:12

WG1268641

Wet Chemistry by Method 4500CN E-2011

QUALITY CONTROL SUMMARY

ONE LAB. NATIONWIDE



L1089377-01.02

Method Blank (MB)

(MB) R3404614-1 04/23/19 14:27

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Cyanide	U	0.00180	0.00180	0.00500

L1088577-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1088577-03 04/23/19 14:35 • (DUP) R3404614-3 04/23/19 14:36

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Cyanide	ND	0.000	1	0.000		20

L1089335-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1089335-04 04/23/19 14:50 • (DUP) R3404614-6 04/23/19 14:51

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Cyanide	U	0.000	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3404614-2 04/23/19 14:28

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Cyanide	0.100	0.0995	99.5	85.0-115	

L1089288-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1089288-02 04/23/19 14:41 • (MS) R3404614-4 04/23/19 14:42 • (MSD) R3404614-5 04/23/19 14:43

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Cyanide	0.100	ND	0.0859	0.0769	1	75.0-125			11.1	20

ACCOUNT:
Hall Environmental Analysis Laboratory

PROJECT:

SDG:
L1089377

DATE/TIME:
04/23/19 17:12



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.
Qualifier	Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 1904705
Pace Project No.: 30289539

Sample: 1904705-001H MW-3		Lab ID: 30289539001	Collected: 04/12/19 11:30	Received: 04/16/19 13:10	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.424 ± 0.520 (0.855) C:NA T:81%	pCi/L	04/30/19 23:20	13982-63-3	
Radium-228	EPA 904.0	0.724 ± 0.440 (0.825) C:74% T:76%	pCi/L	04/26/19 15:04	15262-20-1	

Sample: 1904705-002H MW-2		Lab ID: 30289539002	Collected: 04/12/19 13:06	Received: 04/16/19 13:10	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.947 ± 0.512 (0.517) C:NA T:93%	pCi/L	04/30/19 23:20	13982-63-3	
Radium-228	EPA 904.0	1.93 ± 0.630 (0.876) C:82% T:70%	pCi/L	04/26/19 15:04	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 1904705

Pace Project No.: 30289539

QC Batch: 338607

Analysis Method: EPA 903.1

QC Batch Method: EPA 903.1

Analysis Description: 903.1 Radium-226

Associated Lab Samples: 30289539001, 30289539002

METHOD BLANK: 1648220

Matrix: Water

Associated Lab Samples: 30289539001, 30289539002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.114 ± 0.354 (0.685) C:NA T:88%	pCi/L	04/30/19 22:51	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 1904705

Pace Project No.: 30289539

QC Batch: 338610

Analysis Method: EPA 904.0

QC Batch Method: EPA 904.0

Analysis Description: 904.0 Radium 228

Associated Lab Samples: 30289539001, 30289539002

METHOD BLANK: 1648223

Matrix: Water

Associated Lab Samples: 30289539001, 30289539002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.451 ± 0.363 (0.724) C:83% T:75%	pCi/L	04/26/19 15:02	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 1904705
Pace Project No.: 30289539

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: For Safe Drinking Water Act (SDWA) analyses, the reported Unc. is the calculated Count Uncertainty (95% confidence interval) using a coverage factor of 1.96. For all other matrices (non-SDWA), the reported Unc. is the calculated Expanded Uncertainty (aka Combined Standard Uncertainty, CSU), reported at the 95% confidence interval using a coverage factor of 1.96.

Gamma Spec: The Unc. reported for all gamma-spectroscopy analyses (EPA 901.1), is the calculated Expanded Uncertainty (CSU) at the 95.4% confidence interval, using a coverage factor of 2.0.

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

REPORT OF LABORATORY ANALYSIS

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904705

09-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: MB-44518	SampType: MBLK	TestCode: EPA Method 200.7: Metals								
Client ID: PBW	Batch ID: 44518	RunNo: 59462								
Prep Date: 4/24/2019	Analysis Date: 4/26/2019	SeqNo: 2003020	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Vanadium	ND	0.050								
Zinc	ND	0.010								

Sample ID: LLCS-44518	SampType: LCSLL	TestCode: EPA Method 200.7: Metals								
Client ID: BatchQC	Batch ID: 44518	RunNo: 59462								
Prep Date: 4/24/2019	Analysis Date: 4/26/2019	SeqNo: 2003021	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020	0.01000	0	146	50	150			
Barium	0.0022	0.0020	0.002000	0	111	50	150			
Beryllium	0.0021	0.0020	0.002000	0	104	50	150			
Boron	0.041	0.040	0.04000	0	103	50	150			
Cadmium	ND	0.0020	0.002000	0	94.9	50	150			
Calcium	ND	1.0	0.5000	0	103	50	150			
Chromium	ND	0.0060	0.006000	0	99.2	50	150			
Cobalt	0.0062	0.0060	0.006000	0	104	50	150			
Copper	0.0069	0.0060	0.006000	0	114	50	150			
Iron	0.023	0.020	0.02000	0	117	50	150			
Magnesium	ND	1.0	0.5000	0	103	50	150			
Manganese	0.0021	0.0020	0.002000	0	106	50	150			
Molybdenum	ND	0.0080	0.008000	0	93.4	50	150			
Nickel	ND	0.010	0.005000	0	117	50	150			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904705

09-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: LLLCS-44518	SampType: LCSLL	TestCode: EPA Method 200.7: Metals								
Client ID: BatchQC	Batch ID: 44518	RunNo: 59462								
Prep Date: 4/24/2019	Analysis Date: 4/26/2019	SeqNo: 2003021	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Potassium	ND	1.0	0.5000	0	118	50	150			
Silver	ND	0.0050	0.005000	0	95.8	50	150			
Sodium	ND	1.0	0.5000	0	87.6	50	150			
Vanadium	ND	0.050	0.01000	0	99.5	50	150			
Zinc	ND	0.010	0.005000	0	139	50	150			

Sample ID: LCS-44518	SampType: LCS	TestCode: EPA Method 200.7: Metals								
Client ID: LCSW	Batch ID: 44518	RunNo: 59462								
Prep Date: 4/24/2019	Analysis Date: 4/26/2019	SeqNo: 2003022	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.56	0.020	0.5000	0	111	85	115			
Barium	0.47	0.0020	0.5000	0	93.9	85	115			
Beryllium	0.48	0.0020	0.5000	0	96.6	85	115			
Boron	0.49	0.040	0.5000	0	98.1	85	115			
Cadmium	0.49	0.0020	0.5000	0	97.8	85	115			
Calcium	48	1.0	50.00	0	96.7	85	115			
Chromium	0.48	0.0060	0.5000	0	95.2	85	115			
Cobalt	0.46	0.0060	0.5000	0	92.7	85	115			
Copper	0.50	0.0060	0.5000	0	100	85	115			
Iron	0.49	0.020	0.5000	0	97.2	85	115			
Magnesium	49	1.0	50.00	0	98.8	85	115			
Manganese	0.47	0.0020	0.5000	0	94.8	85	115			
Molybdenum	0.48	0.0080	0.5000	0	96.3	85	115			
Nickel	0.47	0.010	0.5000	0	93.4	85	115			
Potassium	49	1.0	50.00	0	98.5	85	115			
Silver	0.10	0.0050	0.1000	0	102	85	115			
Sodium	50	1.0	50.00	0	100	85	115			
Vanadium	0.49	0.050	0.5000	0	97.8	85	115			
Zinc	0.46	0.010	0.5000	0	92.2	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904705

09-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: MB-44518		SampType: MBLK			TestCode: EPA 200.8: Metals					
Client ID: PBW		Batch ID: 44518			RunNo: 59490					
Prep Date: 4/24/2019		Analysis Date: 4/26/2019			SeqNo: 2004378		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								
Uranium	ND	0.00050								

Sample ID: LLLCS-44518		SampType: LCSLL		TestCode: EPA 200.8: Metals						
Client ID: BatchQC	Batch ID: 44518			RunNo: 59490						
Prep Date: 4/24/2019	Analysis Date: 4/26/2019			SeqNo: 2004380			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010	0.001000	0	86.9	50	150			
Arsenic	ND	0.0010	0.001000	0	97.1	50	150			
Lead	ND	0.00050	0.0005000	0	93.4	50	150			
Selenium	0.0010	0.0010	0.001000	0	102	50	150			
Thallium	ND	0.00050	0.0005000	0	86.6	50	150			
Uranium	ND	0.00050	0.0005000	0	94.2	50	150			

Sample ID: LCS-44518		SampType: LCS		TestCode: EPA 200.8: Metals						
Client ID: LCSW		Batch ID: 44518			RunNo: 59490					
Prep Date: 4/24/2019		Analysis Date: 4/26/2019			SeqNo: 2004382		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.024	0.0010	0.02500	0	94.3	85	115			
Arsenic	0.023	0.0010	0.02500	0	93.0	85	115			
Lead	0.012	0.00050	0.01250	0	93.5	85	115			
Selenium	0.024	0.0010	0.02500	0	94.3	85	115			
Thallium	0.012	0.00050	0.01250	0	93.4	85	115			
Uranium	0.012	0.00050	0.01250	0	92.2	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904705

09-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: MB-44626	SampType: MBLK	TestCode: EPA Method 245.1: Mercury
Client ID: PBW	Batch ID: 44626	RunNo: 59550
Prep Date: 4/30/2019	Analysis Date: 4/30/2019	SeqNo: 2006591 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	ND 0.00020	

Sample ID: LCS-44626	SampType: LCS	TestCode: EPA Method 245.1: Mercury
Client ID: LCSW	Batch ID: 44626	RunNo: 59550
Prep Date: 4/30/2019	Analysis Date: 4/30/2019	SeqNo: 2006592 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	0.0045 0.00020 0.005000 0 89.3 80 120	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904705

09-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: MB	SampType: mbk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R59133	RunNo: 59133								
Prep Date:	Analysis Date: 4/12/2019	SeqNo: 1990587	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								
Sulfate	ND	0.50								

Sample ID: LCS	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R59133	RunNo: 59133								
Prep Date:	Analysis Date: 4/12/2019	SeqNo: 1990588	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.51	0.10	0.5000	0	102	90	110			
Chloride	4.9	0.50	5.000	0	97.7	90	110			
Nitrogen, Nitrate (As N)	2.6	0.10	2.500	0	103	90	110			
Phosphorus, Orthophosphate (As P)	4.9	0.50	5.000	0	98.8	90	110			
Sulfate	9.8	0.50	10.00	0	98.2	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904705

09-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: MB-44462	SampType: MBLK	TestCode: EPA Method 504.1: EDB/DBCP								
Client ID: PBW	Batch ID: 44462	RunNo: 59320								
Prep Date: 4/22/2019	Analysis Date: 4/22/2019	SeqNo: 1997971 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromo-3-chloropropane	ND	0.020								
1,2-Dibromoethane	ND	0.010								

Sample ID: LCS-44462	SampType: LCS	TestCode: EPA Method 504.1: EDB/DBCP								
Client ID: LCSW	Batch ID: 44462	RunNo: 59320								
Prep Date: 4/22/2019	Analysis Date: 4/22/2019	SeqNo: 1997972 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromo-3-chloropropane	0.11	0.020	0.1000	0	112	70	130			
1,2-Dibromoethane	0.094	0.010	0.1000	0	94.2	70	130			

Sample ID: 1904705-001CMS	SampType: MS	TestCode: EPA Method 504.1: EDB/DBCP								
Client ID: MW-3	Batch ID: 44462	RunNo: 59320								
Prep Date: 4/22/2019	Analysis Date: 4/22/2019	SeqNo: 1997980 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromo-3-chloropropane	0.076	0.019	0.09434	0	80.5	65	135			
1,2-Dibromoethane	0.074	0.0094	0.09434	0	78.6	65	135			

Sample ID: 1904705-001CMSD	SampType: MSD	TestCode: EPA Method 504.1: EDB/DBCP								
Client ID: MW-3	Batch ID: 44462	RunNo: 59320								
Prep Date: 4/22/2019	Analysis Date: 4/22/2019	SeqNo: 1997981 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromo-3-chloropropane	0.095	0.019	0.09409	0	101	65	135	22.7	20	R
1,2-Dibromoethane	0.086	0.0094	0.09409	0	91.1	65	135	14.5	20	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904705

09-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: MB-44355		SampType: MBLK		TestCode: EPA Method 8082A: PCB's						
Client ID: PBW		Batch ID: 44355		RunNo: 59400						
Prep Date: 4/16/2019		Analysis Date: 4/22/2019		SeqNo: 2000931			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.25								
Aroclor 1221	ND	0.25								
Aroclor 1232	ND	0.25								
Aroclor 1242	ND	0.25								
Aroclor 1248	ND	0.25								
Aroclor 1254	ND	0.25								
Aroclor 1260	ND	0.25								
Surr: Decachlorobiphenyl	1.4		2.500		55.2	24.8	102			
Surr: Tetrachloro-m-xylene	1.1		2.500		45.6	15.6	106			

Sample ID: LCS-44355		SampType: LCS			TestCode: EPA Method 8082A: PCB's					
Client ID: LCSW		Batch ID: 44355			RunNo: 59400					
Prep Date: 4/16/2019		Analysis Date: 4/22/2019			SeqNo: 2000932		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	2.3	0.25	5.000	0	45.2	25.9	120			
Aroclor 1260	2.3	0.25	5.000	0	45.8	38.4	134			
Surr: Decachlorobiphenyl	1.2		2.500		48.4	24.8	102			
Surr: Tetrachloro-m-xylene	1.0		2.500		40.4	15.6	106			

Sample ID: LCSD-44355	SampType: LCSD	TestCode: EPA Method 8082A: PCB's								
Client ID: LCSS02	Batch ID: 44355	RunNo: 59400								
Prep Date: 4/16/2019	Analysis Date: 4/22/2019	SeqNo: 2000933			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	2.3	0.25	5.000	0	46.6	25.9	120	3.05	17.9	
Aroclor 1260	2.4	0.25	5.000	0	47.4	38.4	134	3.43	16.2	
Surr: Decachlorobiphenyl	1.2		2.500		47.6	24.8	102	0	0	
Surr: Tetrachloro-m-xylene	1.0		2.500		40.4	15.6	106	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904705

09-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: rb	SampType: MBLK			TestCode: EPA Method 8260B: Volatiles, Table I						
Client ID: PBW	Batch ID: LF59192			RunNo: 59192						
Prep Date:	Analysis Date: 4/16/2019			SeqNo: 1992833		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
Acetone	ND	10								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	2.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	0.50								
2-Hexanone	ND	10								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	2.5								
Styrene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	1.0								
Tetrachloroethene (PCE)	ND	0.50								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	1.0								
Vinyl chloride	ND	0.40								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904705

09-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: rb	SampType: MBLK	TestCode: EPA Method 8260B: Volatiles, Table I								
Client ID: PBW	Batch ID: LF59192	RunNo: 59192								
Prep Date:	Analysis Date: 4/16/2019	SeqNo: 1992833			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Xylenes, Total	ND	2.0								
Acrylonitrile	ND	10								
Bromochloromethane	ND	2.0								
Iodomethane	ND	10								
trans-1,4-Dichloro-2-butene	ND	10								
Vinyl acetate	ND	10								
Surr: 1,2-Dichloroethane-d4	11		10.00		111	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		100	70	130			
Surr: Dibromofluoromethane	11		10.00		108	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID: 100ng lcs	SampType: LCS	TestCode: EPA Method 8260B: Volatiles, Table I								
Client ID: LCSW	Batch ID: LF59192	RunNo: 59192								
Prep Date:	Analysis Date: 4/16/2019	SeqNo: 1992834			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	97.7	70	130			
Toluene	18	1.0	20.00	0	89.8	70	130			
Chlorobenzene	18	1.0	20.00	0	89.1	70	130			
1,1-Dichloroethene	18	1.0	20.00	0	91.0	70	130			
Trichloroethene (TCE)	16	1.0	20.00	0	80.6	70	130			
Surr: 1,2-Dichloroethane-d4	9.3		10.00		92.9	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		96.5	70	130			
Surr: Dibromofluoromethane	11		10.00		110	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

Sample ID: 1904705-002a ms	SampType: MS	TestCode: EPA Method 8260B: Volatiles, Table I								
Client ID: MW-2	Batch ID: LF59192	RunNo: 59192								
Prep Date:	Analysis Date: 4/16/2019	SeqNo: 1992837			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	105	70	130			
Toluene	19	1.0	20.00	0	95.9	70	130			
Chlorobenzene	19	1.0	20.00	0	94.2	70	130			
1,1-Dichloroethene	19	1.0	20.00	0	95.4	67.6	130			
Trichloroethene (TCE)	17	1.0	20.00	0	86.0	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		104	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		96.1	70	130			
Surr: Dibromofluoromethane	12		10.00		115	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904705

09-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: 1904705-002a msd		SampType: MSD		TestCode: EPA Method 8260B: Volatiles, Table I						
Client ID: MW-2		Batch ID: LF59192		RunNo: 59192						
Prep Date:		Analysis Date: 4/16/2019		SeqNo: 1992838		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.3	70	130	5.37	20	
Toluene	18	1.0	20.00	0	90.4	70	130	5.92	20	
Chlorobenzene	18	1.0	20.00	0	89.9	70	130	4.66	20	
1,1-Dichloroethene	18	1.0	20.00	0	92.1	67.6	130	3.53	20	
Trichloroethene (TCE)	17	1.0	20.00	0	83.2	70	130	3.34	20	
Surr: 1,2-Dichloroethane-d4	11		10.00		107	70	130	0	0	
Surr: 4-Bromofluorobenzene	9.8		10.00		97.5	70	130	0	0	
Surr: Dibromofluoromethane	12		10.00		116	70	130	0	0	
Surr: Toluene-d8	10		10.00		100	70	130	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904705

09-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: MB-44503	SampType: MBLK	TestCode: TABLE I PAH's by 8310
Client ID: PBW	Batch ID: 44503	RunNo: 59443
Prep Date: 4/24/2019	Analysis Date: 4/26/2019	SeqNo: 2002824 Units: %Rec
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Surr: Benzo(e)pyrene	13	20.00 66.5 48.8 93.3

Sample ID: LCS-44503	SampType: LCS	TestCode: TABLE I PAH's by 8310
Client ID: LCSW	Batch ID: 44503	RunNo: 59443
Prep Date: 4/24/2019	Analysis Date: 4/26/2019	SeqNo: 2002825 Units: %Rec
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Surr: Benzo(e)pyrene	13	20.00 67.0 48.8 93.3

Sample ID: LCSD-44503	SampType: LCSD	TestCode: TABLE I PAH's by 8310
Client ID: LCSS02	Batch ID: 44503	RunNo: 59443
Prep Date: 4/24/2019	Analysis Date: 4/26/2019	SeqNo: 2002826 Units: %Rec
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Surr: Benzo(e)pyrene	14	20.00 68.6 48.8 93.3 0 0

Sample ID: MB-44390	SampType: MBLK		TestCode: TABLE I PAH's by 8310							
Client ID: PBW	Batch ID: 44390		RunNo: 59443							
Prep Date: 4/17/2019	Analysis Date: 4/26/2019		SeqNo: 2004110		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	ND	3.0								
1-Methylnaphthalene	ND	3.0								
2-Methylnaphthalene	ND	3.0								
Benzo(a)pyrene	ND	0.070								
Surr: Benzo(e)pyrene	11		20.00		56.4	48.8	93.3			

Sample ID: LCS-44390		SampType: LCS		TestCode: TABLE I PAH's by 8310						
Client ID: LCSW		Batch ID: 44390		RunNo: 59443						
Prep Date: 4/17/2019		Analysis Date: 4/26/2019		SeqNo: 2004111			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	36	3.0	80.00	0	44.6	30.8	83.9			
1-Methylnaphthalene	36	3.0	80.20	0	44.3	32.8	84.4			
2-Methylnaphthalene	36	3.0	80.00	0	44.6	31.8	84.6			
Benzo(a)pyrene	0.28	0.070	0.5020	0	55.8	49.7	89.4			
Surr: Benzo(e)pyrene	12		20.00		59.2	48.8	93.3			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904705

09-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: LCSD-44390	SampType: LCSD		TestCode: TABLE I PAH's by 8310							
Client ID: LCSS02	Batch ID: 44390		RunNo: 59443							
Prep Date: 4/17/2019	Analysis Date: 4/26/2019		SeqNo: 2004112		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	34	3.0	80.00	0	42.3	30.8	83.9	5.32	34.8	
1-Methylnaphthalene	34	3.0	80.20	0	42.1	32.8	84.4	4.96	33	
2-Methylnaphthalene	34	3.0	80.00	0	42.4	31.8	84.6	5.15	33.3	
Benzo(a)pyrene	0.30	0.070	0.5020	0	59.8	49.7	89.4	6.90	33.2	
Surr: Benzo(e)pyrene	12		20.00		61.4	48.8	93.3	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904705

09-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: MB	SampType: MBLK	TestCode: EPA Method 9060 TOC								
Client ID: PBW	Batch ID: R59408	RunNo: 59408								
Prep Date:	Analysis Date: 4/24/2019	SeqNo: 2001260 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Organic Carbon	ND	1.0								

Sample ID: LCS ST9060-18020 a	SampType: LCS	TestCode: EPA Method 9060 TOC								
Client ID: LCSW	Batch ID: R59408	RunNo: 59408								
Prep Date:	Analysis Date: 4/24/2019	SeqNo: 2001261 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Organic Carbon	5.2	1.0	4.850	0	107	90	110			

Sample ID: 1904705-001fms	SampType: MS	TestCode: EPA Method 9060 TOC								
Client ID: MW-3	Batch ID: R59408	RunNo: 59408								
Prep Date:	Analysis Date: 4/24/2019	SeqNo: 2001265 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Organic Carbon	11	1.0	4.650	6.074	99.3	75	125			

Sample ID: 1904705-001fmsd	SampType: MSD	TestCode: EPA Method 9060 TOC								
Client ID: MW-3	Batch ID: R59408	RunNo: 59408								
Prep Date:	Analysis Date: 4/24/2019	SeqNo: 2001266 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Organic Carbon	11	1.0	4.650	6.074	101	75	125	0.560	20	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904705

09-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: MB-44708	SampType: MBLK	TestCode: Total Phenolics by SW-846 9067								
Client ID: PBW	Batch ID: 44708	RunNo: 59630								
Prep Date: 5/3/2019	Analysis Date: 5/3/2019	SeqNo: 2009947	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Phenolics	ND	2.5								

Sample ID: LCS-44708	SampType: LCS	TestCode: Total Phenolics by SW-846 9067								
Client ID: LCSW	Batch ID: 44708	RunNo: 59630								
Prep Date: 5/3/2019	Analysis Date: 5/3/2019	SeqNo: 2009948	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Phenolics	19	2.5	20.00	0	93.5	57.7	149			

Sample ID: LCSD-44708	SampType: LCSD	TestCode: Total Phenolics by SW-846 9067								
Client ID: LCSS02	Batch ID: 44708	RunNo: 59630								
Prep Date: 5/3/2019	Analysis Date: 5/3/2019	SeqNo: 2009949	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Phenolics	20	2.5	20.00	0	99.4	57.7	149	6.16	21.7	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904705

09-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: lcs-1 99.0uS eC	SampType: LCS		TestCode: SM2510B: Specific Conductance							
Client ID: LCSW	Batch ID: R59181		RunNo: 59181							
Prep Date:	Analysis Date: 4/15/2019		SeqNo: 1992495		Units: µmhos/cm					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	99	5.0	99.00	0	100	85	115			

Sample ID: lcsd-1 99.0uS eC	SampType: LCSD		TestCode: SM2510B: Specific Conductance							
Client ID: LCSS02	Batch ID: R59181		RunNo: 59181							
Prep Date:	Analysis Date: 4/15/2019		SeqNo: 1992496		Units: µmhos/cm					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	99	5.0	99.00	0	100	85	115	0.101	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904705

09-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: MB	SampType: MBLK	TestCode: SM 4500 NH3: Ammonia
Client ID: PBW	Batch ID: R59525	RunNo: 59525
Prep Date:	Analysis Date: 4/29/2019	SeqNo: 2005565 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Nitrogen, Ammonia	ND	1.0

Sample ID: LCS	SampType: LCS	TestCode: SM 4500 NH3: Ammonia
Client ID: LCSW	Batch ID: R59525	RunNo: 59525
Prep Date:	Analysis Date: 4/29/2019	SeqNo: 2005566 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Nitrogen, Ammonia	10	1.0 10.00 0 101 80 120

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904705

09-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: mb-1 alk	SampType: MBLK		TestCode: SM2320B: Alkalinity							
Client ID: PBW	Batch ID: R59181		RunNo: 59181							
Prep Date:	Analysis Date: 4/15/2019		SeqNo: 1992526		Units: mg/L CaCO3					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID: lcs-1 alk	SampType: LCS		TestCode: SM2320B: Alkalinity							
Client ID: LCSW	Batch ID: R59181		RunNo: 59181							
Prep Date:	Analysis Date: 4/15/2019		SeqNo: 1992527		Units: mg/L CaCO3					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	79.84	20.00	80.00	0	99.8	90	110			

Sample ID: lcsd-1 alk	SampType: LCSD		TestCode: SM2320B: Alkalinity							
Client ID: LCSS02	Batch ID: R59181		RunNo: 59181							
Prep Date:	Analysis Date: 4/15/2019		SeqNo: 1992528		Units: mg/L CaCO3					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	77.16	20.00	80.00	0	96.4	90	110	3.41	20	

Sample ID: mb-2 alk	SampType: MBLK		TestCode: SM2320B: Alkalinity							
Client ID: PBW	Batch ID: R59181		RunNo: 59181							
Prep Date:	Analysis Date: 4/15/2019		SeqNo: 1992550		Units: mg/L CaCO3					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID: lcs-2 alk	SampType: LCS		TestCode: SM2320B: Alkalinity							
Client ID: LCSW	Batch ID: R59181		RunNo: 59181							
Prep Date:	Analysis Date: 4/15/2019		SeqNo: 1992551		Units: mg/L CaCO3					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	77.60	20.00	80.00	0	97.0	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904705

09-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: MB-44387	SampType: MBLK	TestCode: SM2540C MOD: Total Dissolved Solids								
Client ID: PBW	Batch ID: 44387	RunNo: 59261								
Prep Date: 4/17/2019	Analysis Date: 4/18/2019	SeqNo: 1995274 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID: LCS-44387	SampType: LCS	TestCode: SM2540C MOD: Total Dissolved Solids								
Client ID: LCSW	Batch ID: 44387	RunNo: 59261								
Prep Date: 4/17/2019	Analysis Date: 4/18/2019	SeqNo: 1995275 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1020	20.0	1000	0	102	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904705

09-May-19

Client: Gordon Environmental/PSC

Project: Sandoval County Landfill

Sample ID: MB-44523	SampType: MBLK	TestCode: SM 4500 Norg C: TKN
Client ID: PBW	Batch ID: 44523	RunNo: 59470
Prep Date: 4/24/2019	Analysis Date: 4/25/2019	SeqNo: 2003281 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Nitrogen, Kjeldahl, Total	ND	1.0

Sample ID: LCS-44523	SampType: LCS	TestCode: SM 4500 Norg C: TKN
Client ID: LCSW	Batch ID: 44523	RunNo: 59470
Prep Date: 4/24/2019	Analysis Date: 4/25/2019	SeqNo: 2003282 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Nitrogen, Kjeldahl, Total	10	1.0 10.00 0 101 80 120

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

Sample Log-In Check List

Client Name: GEI

Work Order Number: 1904705

RcptNo: 1

Received By: Anne Thorne 4/12/2019 2:20:00 PM

Completed By: Anne Thorne 4/12/2019 2:58:33 PM

Reviewed By: JMM 4-12-19




Labeled by: JJC 4-12-19

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? Client

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☒ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
9. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐
10. Were any sample containers received broken? Yes ☐ No ☒
11. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
13. Is it clear what analyses were requested? Yes ☒ No ☐
14. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved bottles checked for pH: 10 2
(<2 or >12 unless noted)

Adjusted? NO

Checked by: JJC 4-12-19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.7	Good	Not Present			
2	1.4	Good	Not Present			

**GROUNDWATER MONITORING REPORT
SANDOVAL COUNTY LANDFILL
APRIL 2019 SAMPLING EVENT**

ATTACHMENT 7
NMED Correspondence

**GROUNDWATER MONITORING REPORT
SANDOVAL COUNTY LANDFILL
APRIL 2019 SAMPLING EVENT**

ATTACHMENT 7.1

Notification of Potential Exceedances
(05/22/19)



333 Rio Rancho Blvd. NE, Suite 400
Rio Rancho, New Mexico 87124
505.867.6990

May 22, 2019

Mr. George Schuman
Permit Section Manager
NMED Solid Waste Bureau
Harold Runnels Bldg – Room N2150
P.O. Box 5469 - 1190 St. Francis Drive
Santa Fe, NM 87502-5469

Re: Sandoval County Landfill – Groundwater Monitoring Results:
Notification of Potential Exceedances [01004118/0002]

Dear Mr. Schuman:

On behalf of our client, Sandoval County, Gordon Environmental/PSC is providing NMED Solid Waste Bureau (SWB) this correspondence summarizing the preliminary laboratory analytical results for groundwater samples collected at the Sandoval County Landfill (SCLF) on 04/4/19 from wells MW-5R, MW-6R, and MW-7R, and on 4/12/19 from wells MW-2 and MW-3.

TABLE 1
Parameters Exhibiting Established AML Exceedances

Well I.D.	Parameter	Analytical Result (mg/L)	Established AML (mg/L)	Regulatory Presumptive AML (mg/L)	Established UTLV (mg/L)
MW-2	Chromium	0.026	0.026	0.025	0.052
	Iron	2.3	1.43	0.75	6.654
	Manganese	0.44	0.15	0.15	0.304
	Arsenic	0.012	0.0057	0.005	0.0079
	Combined Radium	2.877	2.5	2.5	3.22
MW-3	Chromium	0.10	0.027	0.025	0.078
	Iron	2.2	0.91	0.75	6.135
	Arsenic	0.0085	0.0069	0.005	0.01
	Manganese	0.94	0.15	0.15	N/A
MW-7R	Fluoride	0.96	0.86	0.8	0.9776
	Nitrate	6.6	5.0	5.0	N/A

Notes:

N/A: UTLV not assigned for this parameter

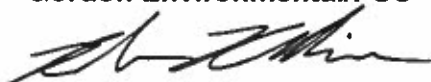
Bold italics indicates that Established UTLV has been met or exceeded

The preliminary results (received by Gordon Environmental/PSC on May 6 and May 9, 2019, respectively) summarized in **Table 1** indicate a potential exceedance of well/parameter-specific established assessment monitoring levels (AMLs) for chromium, iron, manganese, arsenic, and combined radium in well MW-2; chromium, iron, arsenic and manganese in well MW-3; and fluoride and nitrate in well MW-7R. It has been previously demonstrated that the presence of several total metals at this site is likely attributable to natural formation sediment suspended in the sample.

Consistent with the reporting requirements, Gordon Environmental/PSC will submit detailed results of the monitoring and analytical data for the 2019 sampling event to SWB on or before 07/11/19. In accordance with the requirements of 20.9.9.11.C(1) NMAC, a copy of this correspondence is also being provided to SCLF to be placed in the site's Facility Operating Record.

We appreciate the Bureau's review of the enclosed information. Please contact us with your questions or comments.

Very truly yours,
Gordon Environmental/PSC



Braden S. Belliveau, EIT
Project Engineer



Michael J. Crepeau, P.E.
Senior Project Manager

cc: Mr. Mark Hatzenbuhler, Director of Public Works, Sandoval County

**GROUNDWATER MONITORING REPORT
SANDOVAL COUNTY LANDFILL
APRIL 2019 SAMPLING EVENT**

ATTACHMENT 7.2

NMED Approval of Groundwater Monitoring Wells MW-6R and MW-7R Installation Report
(07/04/18)



**NEW MEXICO
ENVIRONMENT DEPARTMENT**



Solid Waste Bureau

1190 Saint Francis Drive, Room N-2150

P.O. Box 5469

Santa Fe, New Mexico 87502-5469

Telephone: (505) 827-0197 Facsimile: (505) 827-2902

www.env.nm.gov/swb/

SUSANA MARTINEZ
Governor

JOHN A. SANCHEZ
Lt. Governor

BUTCH TONGATE
Cabinet Secretary

J. C. BORREGO
Deputy Secretary

July 4, 2018

Received

JUL 09 2018

Mr. Mike Crepeau, P.E., Project Manager
Gordon Environmental/PSC
333 Rio Rancho Blvd NE, Suite 400
Rio Rancho, NM 87124

Gordon Environmental / PSC

Re: Sandoval County Landfill, Ground Water Monitoring Wells MW-6R and MW-7R
Installation Report

Dear Mr. Crepeau:

The Solid Waste Bureau (Bureau) has reviewed the Ground Water Monitoring Wells MW-6R and MW-7R Installation Report (Report) for the Sandoval County Landfill (Landfill), received on June 25, 2018. The Report summarizes field activities related to the installation of replacement monitoring wells MW-6R and MW-7R.

In a letter dated November 29, 2017, the Bureau gave specific approval for the installation of monitoring wells MW-6R and MW-7R, including a 40-foot screened interval and location. The installation of monitoring wells MW-6R and MW-7R and the associated Report comply with 20.9.9.9.E, F, and J NMAC.

Should you have any questions, please feel free to contact me at (505) 383-2078, or by e-mail at james.dyer@state.nm.us.

Sincerely,

James R. Dyer
Hydrologist

cc: Mr. Bert Sanchez, Sandoval County Landfill, 2708 Iris Road NE, Rio Rancho, NM 87144
Auralie Ashley-Marx, Chief, Solid Waste Bureau
George Schuman, Permit Section Manager, SWB
Paul Martinez, Enforcement Area I, SWB
Sandoval County Landfill Facility File

**GROUNDWATER MONITORING REPORT
SANDOVAL COUNTY LANDFILL
APRIL 2019 SAMPLING EVENT**

ATTACHMENT 8

Qualified Groundwater Scientist Certification

Attachment 8

Qualified Groundwater Scientist Certification

This is to certify that, to the best of my knowledge and belief, the attached Groundwater Monitoring Report for the April 2019 sampling event at the Sandoval County Landfill is accurate and complete. Based on the information provided in the attached Report, the following exceedances of the established assessment monitoring levels (AMLs) are noted:

1. **Chromium in Well MW-2.** The concentration of chromium in well MW-2 meets the established AML, but remains below the established UTLV. Comparison of historical total and dissolved chromium concentrations in well MW-2 indicate that chromium exists primarily in particulate form, likely as a suspended sediment. The chromium detection is, therefore, attributable to a source other than the landfill.
2. **Iron in Well MW-2.** The concentration of iron in well MW-2 exceeds the established AML, but remains below the established UTLV. Comparison of historical total and dissolved iron concentrations in well MW-2 indicate that iron exists primarily in particulate form, likely as a suspended sediment. The iron detection is, therefore, attributable to a source other than the landfill.
3. **Manganese in Well MW-2.** The concentration of manganese in Well MW-2 exceeds the established UTLV. Comparison of historical total and dissolved manganese concentrations in well MW-2 indicate that manganese exists primarily in particulate form, likely as a suspended sediment. The manganese detection is, therefore, attributable to a source other than the landfill.
4. **Arsenic in well MW-2.** The concentration of arsenic in Well MW-2 exceeds the established UTLV. Comparison of historical total and dissolved arsenic concentrations in well MW-2 indicate that arsenic exists primarily in particulate form, likely as a suspended sediment. The arsenic detection is, therefore, attributable to a source other than the landfill.
5. **Combined Radium in Well MW-2.** The concentration of combined radium in well MW-2 exceeds the established AML, but remains below the established UTLV. The April 2019 analytical result remains within historical dataset range for well MW-2, and is likely attributable to natural fluctuations in groundwater quality.
6. **Chromium in Well MW-3.** The concentration of chromium in well MW-3 exceeds the established UTLV. Comparison of historical total and dissolved chromium concentrations in well MW-3 indicate that chromium exists primarily in particulate form, likely as a suspended sediment. The chromium detection is, therefore, attributable to a source other than the landfill.
7. **Iron in Well MW-3.** The concentration of iron in well MW-3 exceeds the established AML, but remains below the established UTLV. Comparison of historical total and dissolved iron concentrations in well MW-3 indicate that iron exists primarily in particulate form, likely as a suspended sediment. The iron detection is, therefore, attributable to a source other than the landfill.

8. **Arsenic in Well MW-3.** The concentration of arsenic in well MW-3 exceeds the established AML, but remains below the established UTLV. Comparison of historical total and dissolved arsenic concentrations in well MW-3 indicate that arsenic exists primarily in particulate form, likely as a suspended sediment. The arsenic detection is, therefore, attributable to a source other than the landfill.
9. **Manganese in Well MW-3.** The concentration of manganese in Well MW-3 exceeds the established AML. Comparison of historical total and dissolved manganese concentrations in well MW-3 indicate that manganese exists primarily in particulate form, likely as a suspended sediment. The manganese detection is, therefore, attributable to a source other than the landfill.
10. **Fluoride in Well MW-7R.** The concentration of fluoride in downgradient replacement well MW-7R exceeds the established AML, but remains below the established UTLV. The April 2019 analytical result remains within historical dataset range for well MW-7, and is likely attributable to natural fluctuations in groundwater quality.
11. **Nitrate in Well MW-7R.** Nitrate was reported as detected at a concentration higher than the established AML, however a UTLV has yet to be established for well MW-7R. The April 2019 analytical result is likely a result of natural fluctuation in groundwater quality for this replacement well.
12. **Arsenic in Well MW-7R.** The concentration of arsenic in well MW-7R meets the established AML, but remains below the established UTLV. The April 2019 analytical result is within the historical dataset range for well MW-7R, and is likely attributable to natural fluctuations in groundwater quality.


Signature of Qualified Groundwater Scientist

Date: 06/21/19

Michael J. Crepeau, P.E.
Senior Project Manager
mcrepeau@team-psc.com
Gordon Environmental/PSC
333 Rio Rancho Blvd. N.E., Suite 400
Rio Rancho, NM 87124
(505) 867-6990